

Sustainable Tourism: Utopia or Necessity? The Role of New Forms of Tourism in the Aegean Islands

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Tourism is a major activity in the Greek islands. Its development during recent decades has stopped the economic and demographic decline of the area. The paper develops a framework for the appraisal of tourism's sustainability in the Greek islands, and it is concluded that the conventional tourist model, based on sun, sea and sand (3S) has failed to promote sustainability due to the limited economic benefits for host communities and growing environmental pressures. The latest trend in Greece and elsewhere is a shift from mass tourism to more environmentally friendly and sustainable forms of tourism. Policies to change tourism patterns in the Greek islands will need to take into consideration their unique characteristics, their existing realities, and to be based on the exploitation of the local natural and cultural resources in order to develop new forms of tourism. The purpose of this paper is to identify types of new forms of tourism that are being developed in the Aegean Islands, and to evaluate their impact. Various practical examples are presented, together with the difficulties involved in their implementation. The initiatives are in fact so recent that it is difficult to assess their tangible results.

Introduction

Tourism is one of the most important, rapidly developing economic activities, especially since the last half of the 20th century (Fayos-Sola, 1996: 405; Koutsouris & Gaki, 1998). In Greece, and particularly in the Aegean archipelago, there are numerous small and medium-sized inhabited islands. For most of them, the basic economic activity for the past three decades has been tourism, which has influenced not only the economic life of the islands, but also their population structure and environmental conditions (Coccosis, 2001: 55–6; Haralambopoulos & Pizam, 1996: 504–6; Loukissas, 1982: 530–4; Mantoglou *et al.*, 1998: 87).

The fast and uncontrolled increase in tourist flows has caused significant negative impacts on the natural and built environment (Mathieson & Wall, 1982). In some cases, the phenomenon is so intense – and thus difficult to reverse – that, in combination with the low quality of services, it contributes to the continuous degradation of the tourist product and the reduction of profits for host communities and for the national economy. If this trend continues, the sustainability of the tourism industry is uncertain. This raises questions about the sustainability of the whole developmental process in the islands (Wall, 1997: 483), bearing in mind the principles of systems theory (Emblemsvang & Bras, 2000: 650; Nir, 1990: 77), since tourism is the most important activity of their economic system.

The emergence of new tourism destinations has increased the competition among

existing mass tourism destinations catering for sun, sea and sand (3S). There has also been an increased differentiation of tourist demand and a trend to new forms of active, special interest tourism (Maroudas & Tsartas, 1998: 601). These forms of tourism (such as agrotourism, cultural, conference, maritime, gastronomic, and nature tourism) are based on the unique characteristics and resources of each area (Lagos, 1998: 598; Mantoglou *et al.*, 1998: 87; WWF Hellas, 2000: 8).

In the last two decades the growth of environmental concern and policies has also encouraged the increase in environmentally friendly products and services. The terms 'sustainability' and 'sustainable tourism' are now prevalent in the literature and in most development programmes, even though there is much confusion about their meaning and denotation (Wall, 1997: 483).

The purpose of this paper is to identify initiatives that have involved the development of new forms of tourism in the Aegean Islands and to evaluate their sustainability in comparison with the previous pattern of conventional tourism. In the next section, a framework is developed to evaluate the sustainability of different forms of tourism. There follows a brief consideration of tourism developments that have taken place in the islands. The last section presents some of the initiatives to differentiate the tourism supply in the Aegean Islands.

Sustainability and New Forms of Tourism

A great problem in the literature is that there is no clear and operational definition of sustainable tourism. That leads to confusion about what sustainable tourism means in practice and about how it can be achieved (Swarbrooke, 1999: 13). Often sustainable tourism is thought to coincide with alternative forms of tourism and especially with ecotourism, which seems to be the most favoured and well known new form of tourism. This section seeks to clarify these terms and to define the way that they are used in the paper.

The World Tourism Organisation (WTO) defines sustainable tourism development as:

Development that meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems. (WTO, 2001)

This suggests sustainable tourism is a state of the tourist activity, although this definition needs more explanation and precision in order for it to be operational.

According to Swarbrooke (1999: 14), sustainable tourism differs in meaning from such terms as responsible tourism, alternative tourism, ecotourism, environmentally friendly tourism, minimum impact tourism, soft tourism and green tourism, even though it is related to them. While the majority of these terms are taken to imply tourism that is friendly to the environment, fewer are considered also to refer to tourism's economic and social impacts on host communities.

The inclusion of the term ecotourism in the above list is likely to cause most confusion since it is defined as 'environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to appreciate nature (and any

Table 1 Different forms and states of tourism activity

<i>Approach</i>	<i>Conventional tourism</i>	<i>New forms of tourismM</i>
Forms of tourism	<ul style="list-style-type: none"> • Sun, sea, and sand tourism (3S) 	Alternative forms of tourism <ul style="list-style-type: none"> • Agrotourism • Ecotourism • Cultural • Trekking • Nature
	Mountain (Winter) tourism	Special interest tourism <ul style="list-style-type: none"> • Conference • Business trips • Maritime • Religious • Health/spa • Educational • Sport • Adventure
Mode of organisation	<ul style="list-style-type: none"> • Mass tourism • Individuals • Social tourism • Second residence 	<ul style="list-style-type: none"> • Small groups of tourists • Individuals • Social tourism
Tourist behaviour	<ul style="list-style-type: none"> • Indifference • High consumption (depletion of resources) 	<ul style="list-style-type: none"> • Responsibility • Use of resources (not consumption)
State of tourism activity	Non-sustainable tourism	<ul style="list-style-type: none"> • Green tourism • Economically sustainable tourism • Sustainable tourism

accompanying cultural features) that promotes conservation, has low visitor impacts, and provides for beneficially active socio-economic involvement of local populations' (as proposed by Boo, 1990: xiv, and also accepted by Ceballos-Lascurain, 1993; Fennell, 1999; Yunis, 2001). But this definition suggests that we should classify ecotourism as a new form of tourism, alongside agrotourism, cultural tourism, conference tourism, and not as a state of the tourism activity. The confusion is due to ecotourism having been considered to be friendly to the environment and to host communities, and consequently it has been identified with sustainable tourism. While this can be true, it only applies if the activity is also economically and socially viable in a specific region. Table 1

presents a classification of the different forms and states of tourism activity used in the literature.

From this perspective, tourism activity can be divided into two major categories: conventional tourism and new forms of tourism. The term 'conventional tourism' is used in a similar way to that of 'conventional economics' (Turner *et al.*, 1994) in order to highlight the importance of the market, the pricing of resources used as inputs, and a lack of regard for the environment except insofar as it relates to the tourism product, and of various externalities. It is also preferred to the term 'mass tourism', as mass tourism indicates the way the activity is organised (mass, standardised, low cost, and controlled by tour operators) and not a form of tourism or a conceptual approach. New forms of tourism are divided into alternative forms and special interest forms (Varvaressos, 1998: 76). Special forms of tourism are defined by the special motives that induce travel, while alternative forms of tourism are related to the way the travel is organised (relative autonomy) and to the tourists' willingness to learn about the host area and to consume environmentally friendly products.

New forms of tourism may be either economically viable or environmentally friendly or both. All new forms of tourism do not have the same environmental impacts, even though they are considered more sustainable than conventional tourism. For instance, conference and sport tourism are characterised by the creation of high added value but also by high consumption of resources (available land, water and energy) and by the need for huge installations (big conference centres, hotel resorts, sports fields, swimming pools, marinas etc), that have irreversible impacts on the environment. Moreover, the profits for the local population are not certain as the economic leakages can be very high.

Conventional tourism is not considered to be sustainable, since many problems have been identified in its application up to this time (Butler, 1991; Mathieson & Wall, 1982; Swarbrooke, 1999). Scientists, politicians, planners, the media and the public generate more confusion due to their different uses of the terms 'sustainable development' and 'sustainable tourism'. It is a matter of question whether we could characterise as sustainable tourism, on the one hand, the activities in Calvia (with 120,000 hotel beds and millions of bed nights) where the main objective of the businesses, local authorities and the public is the reduction of water and energy consumption and the management of wastes and ecologically fragile areas; and, on the other hand, the activities in a national park, where the basic objective is the management of a few hundreds of visitors, and the protection of the vulnerable ecosystem. But, despite there being such a difference between these two examples in terms of the scale of the activity and the purpose of the intervention, this can be accepted as long as it is agreed that sustainable development and sustainable tourism may be regarded as a process for the improvement of the economic, social and environmental performance from a given state (different for each area), and not as a well pre-defined situation (the same for all areas). Every attempt which contributes to the reduction of environmental pressures and the maintenance of environmental balance, in combination with the improvement of economic and social conditions in the host area, can be characterised as sustainable because there are different levels of sustainability (Swarbrooke, 1999: 7). The sustainability spectrum varies (Hunter, 1997: 853; Turner *et al.*, 1994: 31) from very weak sustainability (greening – efforts to reduce

resource consumption and the production of wastes), to very strong sustainability (change in the model of development and in social behaviour) (Loinger, 1995: 10–15).

According to Inskeep (1991: 166), all types of tourism can be sustainable, under some conditions, such as that they respect the local society and environment of the area in which they are found. This is especially the case for the alternative forms of tourism developed in ecological sensitive areas and in areas with important cultural monuments that should be preserved and protected. Furthermore,

the position at WTO is that all tourism activities, be they geared to holidays, business, conferences, congresses, or fairs, health, adventure or ecotourism itself, must be sustainable. This means that the planning and the development of tourism infrastructure, its subsequent operation and also its marketing should focus on environmental, social, cultural and economic sustainability criteria, so as to ensure that neither the natural environment, nor the socio-cultural fabric of the host communities will be impaired by the arrival of tourists; on the contrary, local communities should benefit from tourism, both economically and culturally. Sustainability implies that enterprises, as well as the communities in which they operate, have something to gain from tourism. (Yunis, 2001)

Every action plan that seeks to move away from conventional tourism and to apply new forms of tourism is welcome, since it is contributing to the area's sustainability. On the other hand, it is considered as too utopian to believe that the development of economically sustainable tourism activities will have absolutely no environmental impact. Figure 2 shows that this change in the pattern of tourism development has at least three dimensions:

- improvement in the environmental performance of enterprises in the tourism industry, and the imposition of limits to tourism growth (green tourism);
- the development of special interest forms of tourism through exploitation of the natural and cultural characteristics of the area, which means that the increase in added value per capita that is created remains within the host area (special interest tourism); and
- the development of forms of tourism that have a low environmental impact and at the same time contribute to the preservation and exploitation of cultural heritage and the maintenance of population and economic activities in remote areas (alternative tourism).

In this proposed scheme in Figure 1 the effects of the socio-demographic system are not considered.

Changing the conventional tourism model is not an easy task because it is based on strong market mechanisms. However, it is not impossible, especially if we consider the recent changes in tourist preferences for vacations, the environmental awareness of consumers, and the development of environmentally friendly technologies.

In this paper, we consider as sustainable any form of tourism that, in a given area, alters the conventional tourist product so that it is a more economically profitable and/ or a more environmentally friendly product. The evaluation of

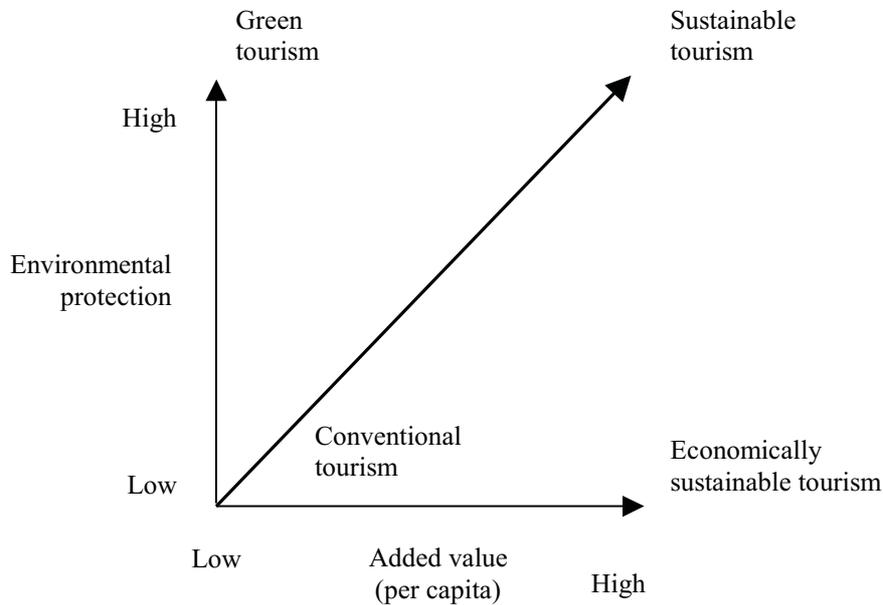


Figure 1 Model of change in the pattern of tourism development

tourism activity can be based on two criteria: first, the tourist performance per capita, which relates to the added value and the employment created per tourist, as well as the consumption of water and energy and the production of wastes per capita; and, secondly, the scale of the activity compared to the carrying capacity of the host area. Even if the performance per capita is improved, every area has its own environmental, social and economic limits that cannot be surpassed.

Impacts and Limitations of Conventional Tourism in the Aegean Islands

Chapter 17 of Agenda 21 points out that islands are a special case, both in terms of their environment and development, and that they have specific problems in relation to sustainable development planning (Gortazar & Marin, 1999). Islands demonstrate significant differences and particularities in comparison to continental areas in terms of their natural resources, economic development, society and culture, lifestyles, landscape, and human settlements (Coccosis, 2001: 54). They tend to be ecologically fragile and vulnerable. Their small size, limited resources, geographical dispersion and isolation are characteristics of insularity, and these are considered to be obstacles to the development of islands compared to continental areas (EURISLES, 1997; European Parliament, 1996). These are the reasons why islands are characterised as 'less favoured areas' in the European legislation, for which compensatory measures have been established. On the other hand, these specific characteristics make them attractive as tourist destinations (Coccosis, 2001: 54).

In Greece there are 112 inhabited islands, hundreds of uninhabited isles and a

Table 2 Tourist flows in the South Aegean

Geographical unit	Total number of beds	Annual number of nights spent in hotel establishments (1997)			Foreign tourists/ domestic tourists	Average duration of stay in hotel establishments (days), 1997		
		Total	Domestic	Foreigner		Total	Domestic	Foreigner
<i>Region of South Aegean</i>	214,959	14,782,963	1,455,741	13,327,222		7.78	3.69	8.84
Dodecanese	120,629	13,329,605	892,410	12,437,195	6.3	8.77	4.37	9.39
Agathonissi	0	3,004	432	2,572	2.45	7.02	3.48	8.46
Astipalea	297	2,176	1,425	751	0.56	4.01	4.11	3.85
Kalimnos	2,243	59,372	10,636	48,736	1.31	6.09	2.51	8.83
Karpathos	4,280	210,006	8,867	201,139	14.27	8.8	5.68	9.02
Kassos	32	606	536	70	0.21	4.3	4.58	2.92
Kos	35,115	4,158,247	152,324	4,005,923	10.94	9.76	4.27	10.26
Lipsi	205	1,268	393	875	2.38	4.58	4.79	4.49
Leros	1,845	9,811	5,695	4,116	0.36	4.76	3.76	7.58
Megisti	32	2,568	946	1,622	1.38	4.82	4.22	5.25
Nisiros	225	12,901	9,153	3,748	0.45	5.16	5.32	4.83
Patmos	2,182	45,567	23,012	22,555	0.74	3.79	3.33	4.4
Rhodes	73,080	8,802,027	673,558	8,128,469	5.76	8.69	4.5	9.42
Symi	678	21,459	5,244	16,215	1.64	4.16	2.68	5.06
Tilos	276	593	189	404	1.26	2.36	1.7	2.89
Cyclades	94,330	1,453,358	563,331	890,027	1.13	3.6	3.07	4.15

Table 2 (cont.) Tourist flows in the South Aegean

Geographical unit	Total number of beds	Annual number of nights spent in hotel establishments (1997)			Foreign tourists/ domestic tourists	Average duration of stay in hotel establishments (days), 1997		
		Total	Domestic	Foreigner		Total	Domestic	Foreigner
Amorgos	2,183	641	513	128	0.43	4.22	4.84	2.78
Andros	4,196	53,981	37,349	16,632	0.33	3.12	2.86	3.92
Antiparos	1,689	5,585	1,315	4,270	2.45	4.97	4.03	5.35
Thira (Santorini)	20,688	105,069	21,682	83,387	2.75	3.98	3.08	4.31
Ios	5,228	52,343	6,238	46,105	5.34	3.67	2.78	3.84
Kea	989	4,966	4,654	312	0.04	2.54	2.49	3.76
Kithnos	1,283	17,427	16,996	431	0.05	7.44	7.6	3.99
Milos	3,136	32,554	22,678	9,876	0.36	3.63	3.43	4.16
Myconos	13,785	704,518	155,532	548,986	2.53	3.91	3.04	4.25
Naxos	8,633	58,556	23,786	34,770	1.16	3.88	3.41	4.28
Paros	18,236	191,464	84,353	107,111	1.27	3.91	3.91	3.9
Serifos	1,455	9,176	7,196	1,980	0.21	3.31	3.15	4.06
Sifnos	3,190	13,108	9,665	3,443	0.28	2.95	2.79	3.5
Syros	3,966	104,760	87,869	16,891	0.16	2.91	2.82	3.49
Tinos	3,607	99,210	83,505	15,705	0.11	2.26	2.1	3.65

Source: National Statistical Service of Greece

coastline of around 15,000 km. The large number of islands, the country's geographical position in the Mediterranean Sea with favourable climatic conditions, and the area's rich history and ancient Greek civilisation (Buhalis & Diamantis, 2001; Chiotis & Coccossis, 1992) have led to the rapid development of tourism activity.

Tourism development in Greece is for its greatest part based on islands where the 3S model has been applied for many years (Mantoglou *et al.*, 1998: 87). Conventional tourism in the islands is largely based on organised charter flights for foreign tourists (mass tourism). Domestic tourists also form an important part of the market, and they largely travel individually. Finally, there are also many visitors who own secondary residences in the islands, particularly in the islands close to big urban centres (Egina, Kea, Andros, Spetses, Kythnos, Serifos, Syros) which are gradually becoming integrated into the metropolitan system and zone of influence as areas for recreation and secondary housing (Coccossis, 2001).

Various indicators, such as the size and the amount of tourist accommodation and the number of tourists, demonstrate the importance of islands for Greece's tourism development. As much as 54% of Greece's tourist accommodation is concentrated in six prefectures, four of them being insular. Furthermore, 73.8% of Greece's tourist accommodation is situated in 12 out of the country's 52 prefectures, and nine of the 12 are insular (NSSG, 1999). In the Aegean Islands there is 27.6% of the total hotel beds in Greece (597,855 beds); in Crete there is 19.6% and in the Ionian Islands 10.2%. In total, islands contribute 57.3% of the hotel beds of the whole country. Moreover, the 65.0% of the total tourist nights spent are accounted for in insular prefectures (32.7% in the Aegean Islands; 61.4% of which are in Rhodes; 21.8% in Crete and 10.6% in the Ionian Islands).

Even in a rather homogeneous region such as the Region of South Aegean the pattern of tourism development is different for each island. These differences concern the scale and the form of tourism development. For example, big hotels and foreigner tourists are concentrated in a few islands (Rhodes, Kos, Santorini (Thira), Mykonos, Paros), while domestic tourists visit all of the islands and stay in rooms to let (Table 2).

Conventional tourism has helped to halt previous economic problems and population losses through the creation of new jobs, which to an extent balanced the loss of jobs in agriculture and manufacturing, and through increases in the domestic product and income (Coccossis, 2001: 55; Lagos & Gkrimpa, 2000). The fact that many people are occupied in the tourism sector led to population growth and to a reduction of the out-migration rate that had been very high in the Aegean Islands over previous decades (Sophoulis & Assonitis, 1998: 141) (Table 3).

The percentage of workers in the tourism sector compared to all sectors is very high, especially in the Cyclades and Dodecanese (the Region of South Aegean) where it was 11.97% in 1981 and 26.08% in 1991, compared with 3.69% and 4.95% in Greece as a whole (Coccossis & Tsartas, 2001: 216). Furthermore, according to Buhalis and Diamantis (2001: 146), in most cases the tertiary sector (mainly tourism) generates over 50% of the regional product of the islands, although the multiplier effect increases the impact of tourism and stimulates the entire economy both regionally and nationally. The data indicate that, particularly in the Region of South Aegean, tourism is almost the only economically dynamic activity (and thus could be depicted as a monoculture).

Table 3 Area, population and tourist growth in the prefectures of the Aegean archipelago

	Total area (km ²)	Total population					Total number of tourists			Total nights spent	
		1951	1971	1981	1991	2001*	1981	1991	1999	1999	
Greece	131,957	7,632,801	8,768,641	9,740,417	10,259,900	10,939,605	10,332,301	9,700,693	60,256,902		
Lesvos	2,154	154,795	114,802	104,620	105,082	108,294	35,983	62,172	685,150		
Samos	778	59,709	41,709	40,519	41,965	43,574	46,424	59,877	1,088,960		
Chios	904	66,823	53,948	49,865	52,184	52,290	23,089	26,792	213,248		
Dodecanese	2,714	121,480	121,017	145,071	163,476	190,564	735,314	1,051,164	16,111,383		
Cyclades	2,572	125,959	86,337	88,458	94,005	111,181	180,179	247,751	1,593,711		
Crete	8,336	462,124	456,642	502,165	540,054	601,159	953,898	1,147,458	13,116,526		

Source: National Statistical Service of Greece; Annual socio-economic magazine NOMOI 2001. * Provisional data

Table 4 Main indicators for the insular prefectures

	Natural population movement per 1000 inhabitants		GDP per capita (% of the country's average) (million drs)		Deposits per capita (million drs)		Income per capita (% of the country's average) (million drs)	
	1998	2001	2001	1998	1998	1999		
Greece	-0.16	100	100	1.57	100			
Lesvos	-3.93	84	84	1.63	80			
Samos	-6.52	100	100	1.91	88			
Chios	-4.67	83	83	1.91	97			
Dodecanese	5.53	127	127	1.78	88			
Cyclades	-0.29	102	102	2.22	103			

Source: Annual socio-economic magazine NOMOI 2001

Economic growth is positively related to the intensity and the duration of tourism development, which varies among the insular prefectures of Greece. In the Dodecanese, the prefecture with the greatest number of tourists, almost all indicators (e.g. demographic, economic, and other welfare indicators) are higher than the national average, classifying it among the most developed prefectures in the country (Table 4).

On the other hand, there have been many changes that negatively affect the sustainability of the Aegean Islands. The most important negative impacts are related to: (1) the inability to invest the profits coming from tourism activity in order to increase the physical capital and the local production capacity; (2) the reduction in quality and quantity of natural and cultural capital; and (3) the relatively low educational level of employees (human capital) in the area because conventional tourism offers few opportunities for employees to obtain skills or for the application of innovation (Maroudas & Tsartas, 1998: 606). The main reasons for the emergence of economic problems are the low added value per tourist (mainly due to the oligopolistic tourist market, the low tourist expenditure, the high level of competition among destinations offering the same product (3S), and the instability of demand due to external factors), the leakage of income from the local economy and the transfer of surplus value from the area to origin countries (Aisner & Pluss, 1983: 247; Deprest, 1997: 28–30).

Environmental problems have also appeared because of the construction of large-scale infrastructure, the urbanisation and congestion resulting from increased tourist numbers, the exteriorisation of the operational costs of hotels, and increases in energy and water consumption and in the production of solid wastes. These are the main factors that jeopardise the sustainability of the tourism sector as well as of the whole development process.

In a report of the Greek National Tourism Organisation and the Centre of Planning and Economic Research (GNTO & CPER, 1994: I.3.2 – translation), the economic problems of the tourism sector are clearly identified:

The Greek tourist product is not reviving, remaining at the status quo. The competitiveness is achieved by continuous reductions in prices. The revenues are also reduced and in many cases the price of the tourist product does not even cover the costs. This is what has happened in many areas in Greece, over the last fifteen-year period.

This conclusion comes out of the analysis of economic data at a national level (expenditure per capita, the GDP generated from tourism and how it compares with other tourist destinations in Europe and elsewhere in the Mediterranean).

Unfortunately, despite the considerable qualitative information indicating the limits to the positive effects of conventional tourism and the sustainability problems, there are no comparable statistical data. This problem also relates to the economic (e.g. the tourist expenditure, the income multiplier etc.) and environmental parameters (e.g. the quantity and consumption of drinking water, the quality of bathing water etc.) at the island level.¹ Such data are essential for the appraisal of the situation and for the evaluation of the policies that are adopted.

Certainly, there are data indicating the increasing tourist pressure on the islands (Figure 2), which do indicate the presence of environmental problems and threats to the sustainability of the system. Analysing these data, it can be

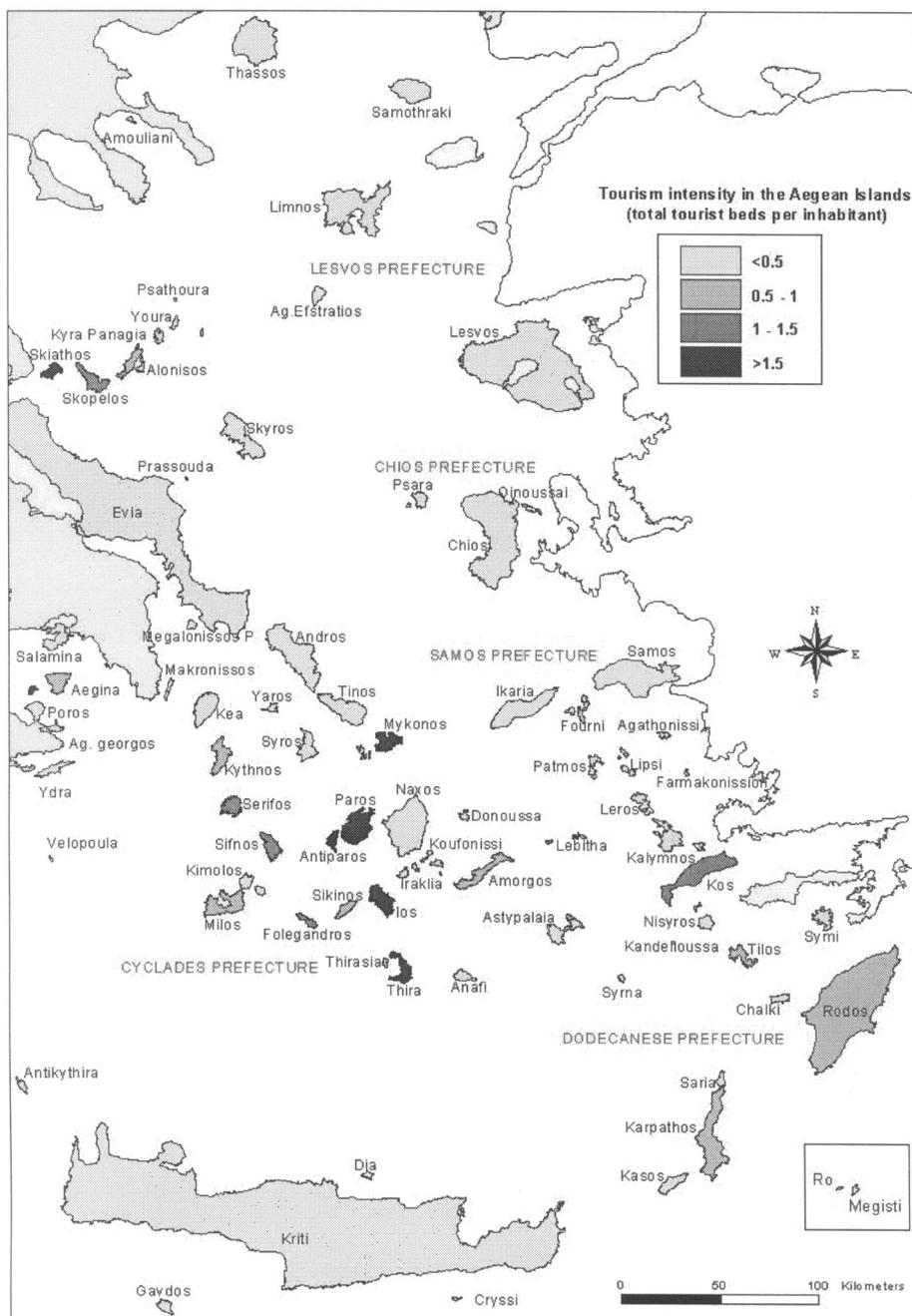


Figure 2 Tourism intensity in the Aegean Islands

Table 5 Tourism pressure indicator (beds/surface area and beds/inhabitant)

<i>Geographical unit</i>	<i>Total number of beds/km²</i>	<i>Total number of beds/inhabitant</i>
Kassos	0.48	0.03
Astipalea	2.09	0.16
Anafi	2.58	0.36
Kimolos	2.91	0.13
Megisti	3.50	0.08
Tilos	4.39	0.52
Chalki	5.01	0.33
Nisiros	5.43	0.24
Sikinos	5.48	0.93
Sxinoussa	7.46	0.28
Kea	7.68	0.33
Andros	10.53	0.40
Amorgos	11.02	0.71
Symi	11.67	0.26
Lipsi	12.83	0.29
Kithnos	12.93	0.80
Karpathos	14.21	0.65
Serifos	15.77	0.83
Tinos	17.32	0.39
Naxos	17.92	0.43
Milos	19.25	0.61
Kalimnos	20.23	0.13
Folegandros	23.64	1.16
Cyclades	32.89	0.76
Leros	33.05	0.22
Sifnos	36.68	1.11
<i>Region of South Aegean</i>	38.64	0.68
Ios	38.67	2.27
Antiparos	39.42	1.30
Syros	43.64	0.18
Dodecanese	44.10	0.63
Rhodes	52.05	0.62
Patmos	57.39	0.65

Table 5 (cont.) Tourism pressure indicator (beds/surface area and

<i>Geographical unit</i>	<i>Total number of beds/km²</i>	<i>Total number of beds/inhabitant</i>
Paros	81.84	1.25
Koufonissi	110.53	1.72
Kos	120.18	1.16
Mykonos	154.25	1.36
Santorini (Thira)	253.37	1.60

Source: National Statistical Service of Greece

seen that there are marked pressures on some islands, such as Mykonos, Kos, Santorini, Paros, Ios and Rhodes, but the data are insufficient to draw firm conclusions about the overall level of sustainability. There is also useful information showing that some small islands, such as Patmos, Syros, Antiparos, and Koufonissi, are experiencing relatively high pressures despite tourism activity not being so important.

Efforts to Differentiate the Tourism Supply

The problem of the sustainability of tourism in Greece has been recognised since the early 1990s, and this has led to some dispersed efforts to differentiate the tourist product, more at the local rather than the national level, but without any strategic plan. In order to promote sustainable tourism, effort has been directed to supply high quality, differentiated tourist products instead of mass and standard tourist services. The latter refers to services – basically accommodation, catering, and entertainment – that are low cost and low added value, and that involve poorly educated employees and that freely consume natural resources. By contrast, the former refers to an integrated product, based on the endogenous characteristics of the area, that has high added value, attracts tourists of a high educational level, incorporates recent research and innovation techniques, employs skilled employees and has high environmental standards.

The efforts in various islands to move away from the conventional model and towards new tourist products are discussed next, and are classified in the three categories presented earlier. The first category is the greening process, where efforts are made to reduce the environmental impacts of tourism establishments. The second category involves forms of special interest tourism, where the economic profits are bigger, but not the environmental benefits. Finally, the third category of alternative forms of tourism involves activities that are more profitable for the local economy than conventional tourism and also more environmentally friendly.

First category: Green(-ing) tourism

Even though tourism's negative impacts in insular environments have been identified several times, either in the scientific literature or at a political level, the actions taken to promote the greening of tourism activity in the Greek islands have been limited. These actions involved both the private and the public sectors.

As far as the private sector is concerned, there have been few attempts at the greening of companies by applying one of the environmental management systems, such as ISO 14000 (International Organisation for Standardisation) or EMAS (Eco-Management and Audit Scheme). In Greece, there is only one hotel (located on the mainland) that possesses the EMAS certification (INEM, 2002). According to the Hellenic Organisation for Standardisation, there are nine hotels in Greece (all of them situated in Crete) that have been certified with ISO 9001, which relates to the quality of service; and four of them also possess ISO 14001 certification (HOS, 2002).

Other actions have been taken that do not relate to the procedures of a specific standard. In 1992, Grecotel, the largest hotel company in Greece, with 22 four- and five-star hotels mostly situated in the islands, became the first hotel group in the Mediterranean to establish an environmental and cultural department (Buhalis & Diamantis, 2001). Furthermore, some hotels have taken steps to reduce their consumption of resources (mainly water and energy) by using the financing opportunities for the upgrading of old hotels contained within the Law for Development. Moreover, steps have been taken to use non-chloride cleaning products in order to reduce toxic wastes, and to use large packages of food so as to reduce solid wastes, etc.

As far as the public sector is concerned, many projects have been introduced since 1987 for the protection of the environment by both regional and local authorities, financed by the European Structural Funds. Specifically, many sewerage networks and plants have been constructed in insular areas to treat wastewater and thus to reduce sea pollution. However, there are few projects involving the management and recycling of solid wastes (Arapis *et al.*, 1996; EC Structural Funds, 1995).

Finally, the application of Local Agenda 21 plans, which can contribute to the reduction of environmental pressures, was not successful in Greece. In the insular regions, it was applied only in Zakynthos, for the management of solid wastes.

It can be concluded that environmental issues are not a high priority for either the public or private sectors, despite the many complaints expressed about mismanagement from tourists and tour operators.

Second category: Development of special interest tourism

Some distinctive forms of special interest tourism in the Aegean Islands are now examined.

Conference tourism

This specialist form of tourism is quite developed in such islands as Rhodes, Kos and Crete, where there are hotels with appropriate facilities for this kind of tourism (usually luxury, large-scale units) (Lagos & Gkrimpa, 2000). It is not far removed from conventional tourism as far as its negative environmental impact is concerned, due to the substantial infrastructure, low consumption of local products, and lack of connection to the local culture. The advantage of conference tourism is that it can be applied throughout the year, and especially in the off-season, and thus its importance for hoteliers and local employment is great.

The existence of small-scale conference infrastructure on other islands, such as

Santorini, Samos, Chios, Lesvos and Limnos, has helped in the development of this type of tourism, which is smaller in scale and better adapted to the environment. In many cases, the construction of conference centres was based on the renovation of old buildings, which has helped in maintaining the local traditional architectural style, contributing to the conservation and reuse of the cultural heritage and built environment.

Maritime tourism

A large project for the construction of marinas in the islands, in order to increase the number of yachts in the area year-round, was not successful. In many islands though, smaller projects have taken place to improve existing docks and provide yacht accommodation.

The Minister of the Aegean is trying to invigorate maritime tourism, particularly for the small islands with few or no inhabitants, by securing finance from various European Programmes (e.g. Interreg) to develop small-scale infrastructure for yachts. The objective of the project is to attract more tourists with specific interests in sailing and at the same time to create the conditions to lengthen their stay in the islands. These efforts aim to offer more activities, away from the ports, to watch the unique flora and fauna and to admire the unspoiled landscape. For this purpose, the Minister has established offshore sailing races (Aegean Regatta) among the small islands of the Aegean archipelagos in order to attract more visitors. During the races, many cultural events are organised for the participants and for local people and tourists.

Sea sport tourism

Even though Greece has an unquestioned comparative advantage in this form of tourism, no major initiatives have been undertaken. In Paros, where the wind and wave conditions are favourable, surfers gather every summer and take part in formal and informal races. Scuba diving is developing, although the National Archaeological Service does not give its permission, in order to restrict the illicit trade of antiquities. Myconos, Paros, Rhodes, Kos and Kalymnos are the islands in the South Aegean with scuba diving schools.

Religious tourism

There are a great number of religious monuments (churches and monasteries) on many islands (Tinos, Patmos, Lesvos, Chios, Paros, Amorgos) that are part of the national cultural heritage and attract visitors from all over the country (Lagos & Gkrimpia, 2000). Additional benefits from this form of tourism include its off-season pattern of visitation, the increased demand for the consumption of local products, and the contribution to preserving tradition.

Therapeutic (health) tourism

This is based on the great number of hot springs (spas) in many islands (e.g. Ikaria, Kythnos, Lesvos, Rhodes, Kos) (Didaskalou, 2000). The lack of modern facilities and absence of joint promotion with natural and healthy lifestyles has resulted in a comparatively small number of tourists. Moreover, most of these hot spring locations have not diversified their product, and as a result the number of visitors is declining (Didaskalou, 2000).

Educational tourism

The University of the Aegean and the funding potential from the EU for the development of educational tourism has encouraged summer schools in Lesvos, Serifos, and Milos, and summer camps in Pserimos and Kasteloriso. Moreover, on their own initiative Norwegian students visit Lesvos every year and study on the island from April to October.

Third category: Development of alternative tourism activities

This category includes forms of tourism related to natural and cultural resources, and there are a large number of examples.

Agrotourism

This was one of the first alternative forms of tourism to be applied systematically in Greece, using European funding for rural development. Almost two-thirds of agrotourist accommodation in Greece is located in the islands (NSSG, 1999). In the Aegean, there are three agrotourist holdings in the Cyclades and 14 in the Dodecanese. However, most agrotourist holdings are in the islands of the North Aegean (56 in Lesvos, 16 in Chios, and 39 in Samos) (Hellenic Ministry of Agriculture, 2002).

The outcomes often sought from agrotourism are: (1) to complement and to raise farmers' income, (2) the improvement of living and working conditions of rural residents, (3) to boost the production of local agricultural and handcraft products, (4) the protection of the environment, (5) the conservation, promotion and the uses of cultural and architectural heritage, and finally (6) the development of a different form of tourism. But in fact the new accommodation facilities have been constructed near to rural areas, and without offering any services, products or activities on the farm, as they were supposed to. The tourists do not stay on farms and do not gain experiences of the farmers' everyday lives. In most cases, there is not even food included in the proposed services, or when it is, the products are not from the farm. Basically, this accommodation was never agrotourist, and it has just operated as a complement to hotels and rooms to let. These assertions have been confirmed by research in Lesvos, where there are the most agrotourist holdings of all insular areas. The results show that, even if the agrotourism programme appears successful in terms of income improvement and farmer willingness to maintain their agricultural activity, most agrotourist holdings in Lesvos operate in the shadow of mass tourism. The customers and the products are the same, and there is no connection with agricultural production, local products, or environmental and cultural landscape conservation. Agrotourism in Lesvos is conventional tourism operated by farmers, but not agrotourism (Gousiou *et al.*, 2001).

Cultural tourism

Today, efforts to develop cultural tourism aim to expand from inactive archaeological tourism at world-famous sites, to the active exploration of aspects of local contemporary culture: local cuisine, settlements, and traditional activities and customs. In many islands there are thematic museums based on a special natural or cultural characteristic of the area, or a traditional activity. Examples are the olive museums (Andros, Lesvos), soap and ouzo museums (Lesvos),

museums of industrial and mine activity (Syros, Milos), and maritime museums (Chios, Crete, Andros, Symi) (Carley & Antonoglou, 2000).

Ecotourism

Ecotourism and activities related to nature, especially in protected areas (Ramsar and Natura 2000 sites), were very successful by the early 1990s. The most famous and developed areas in Greece are the forest of Dadia, the Prespes, Kerkini and Plastira lakes, the mountain of Pindos and the deltas of many rivers (e.g. Evros, Nestos, Galikos etc.) (Koutsouris & Gaki, 1998). The main activities in these areas are bird-watching, canoeing, kayak, climbing, mountain bike and trekking (WWF Hellas, 2000).

Until now, the exploitation of natural resources has led to varying results in the islands. A very well-known paradigm is the gorge of Samaria in Crete, which is a protected area, according to the UNESCO's monument list. There are hundreds of visitors every day during the summer, walking and littering for seven hours in the gorge, often having no previous information about the duration of the visit and the hot weather conditions. This activity destroys the natural environment, while at the same time the tourists themselves cannot enjoy their excursion.

The situation is almost the same in the island of Rhodes. In the Valley of Butterflies (a protected area of the Natura 2000 network), thousands of butterflies gather in a unique ecosystem. This phenomenon, even if it is a matter for protection, has become a tourist resource. Many tourists visit the area every day in order to admire the unique environment, and they impact on the special fauna and its habitat.

However, there are some successful examples of ecotourism, even if they are recent and not very well known. An example is bird watching in Lesvos. In this island there are many wetlands and two salinas, where there are many rare bird species. Numerous tourists with a special interest in birds visit the island just to watch and photograph them during the low tourist season. These tourists travel individually or in small groups during the birds' migration period (March to May and October to November). They are aware and sensitive about environmental protection. This kind of vacation contributes to prolonging the tourist season, and thus it improves the profits from the tourist activity, while at the same time it does not demand specific large-scale infrastructure (Spilanis, 1995).

There are similar patterns in South Crete, where tourism is not developed compared to its northern part, as tourists travel there only for the purpose of watching dolphins and whales. They travel by small boats, studying these species that are rare in the Mediterranean Sea.

Finally, another successful example of ecotourism is practised in Lesvos by the Natural History Museum of the Petrified Forest. The main objective of the museum is to protect and increase awareness of the Petrified Forest. Many activities are organised by the museum for the development of ecotourism and geotourism: there is a network of trails, called 'lava trails', and conferences are organised about the geology. Finally, there are also some educational and research activities, in collaboration with various overseas universities (Zouros, 1996: 179–92).

Trekking activities have been developed in various islands (Lesvos, Chios, Kea, Andros, Syros, Amorgos, Naxos, Folegandros and Serifos). There are paths

with the necessary signs and specific guidebooks to help tourists to discover the 'hidden' beauties of the islands.

While there are many success stories, there are also problems in the development of ecotourism. In Greece, most of the successful examples are in rural and mountainous areas of the mainland or in protected areas (WWF Hellas, 2000). This has contributed to the development of 'weekend tourism', with visitors coming from big urban centres. In one study (Tsartas *et al.*, 2001: 39, 41) it was shown that for mountaineering tourism the greatest part of the demand comes from the two large urban centres of the country (about 43.0% of tourists come from Athens and Thessaloniki). For ecotourism the percentage of travellers from the two larger urban centres was 48.0%.

Since the islands are geographically remote and far away from the mainland, travelling to them is rather expensive and difficult, especially in winter due to bad weather conditions, and thus this form of tourism is much less likely to succeed there. Moreover, most of the islands are so small that there is practically no hinterland. There are no ecosystems such as big mountains, forests, wetlands, rivers, and lakes, where many alternative forms of tourism (such as climbing, rafting, and canoeing) take place. Thus, the potential for the development of such forms of tourism in the islands is limited.

One can conclude that the 'coexistence' of mass and alternative tourism is rather difficult in the limited geographical area of an island. For the moment, mass tourism 'allows' the development of some nature activities that enrich its product, but this does not permit a change in the development pattern and the emergence of real alternative tourism products.

Conclusions

Tourism in Greece and especially in the islands is a major activity. Its development over recent decades has stopped the economic and demographic decline of the area. However, it seems that nowadays the current tourism model based on 3S tourism does not fulfil the tourist demand, and there is a need to change (Lagos, 1998: 593; Mantoglou *et al.*, 1998: 87, 90) in order to continue to generate profits for the local society. On the other hand, pressure from the tourism activity on the environment downgrades the natural and cultural resources of the islands, on which their sustainable development depends.

In order to solve or at least reduce the problems of mass tourism, the policy proposed here is the application of new forms of tourism. However, these forms are not always economically and environmentally sustainable. While most of them have been applied successfully in the mainland, they cannot be applied successfully in the islands as easily due to their unique characteristics (geographical, demographic, economic etc).

There are only limited data for the islands in Greece on which to evaluate their sustainability level, but the efforts that have been undertaken until now for sustainable tourism development can be classified in three categories: the greening of the activity, the development of special interest tourism, and the development of alternative forms of tourism. These forms of tourism have emerged relatively recently in the Aegean Islands, and they are developing without a strategic plan at either national or local levels, so it is difficult to

produce tangible results. Furthermore, it is impossible to distinguish between the effects of the different forms of tourism as they are interrelated and no specific survey has been undertaken.

The fact that there is an international trend towards these forms does not necessarily mean that they can be applied in all cases and in every location, without taking into account the local realities and characteristics. The ultimate goal is sustainable development; within this concept the tourism activity should encourage sustainable tourism. Since strong sustainability (both environmental protection and economic development) is a very difficult and long-term task, it seems sensible that it should be accomplished by taking small steps. The first feasible step is the greening of the tourism sector in all areas and in all forms of tourism. This will lead to the improvement of environmental conditions. The second step is the improvement of economic performance.

This means that islands which are already developed as tourist destinations should adopt tourism development strategies with an emphasis on encouraging the control of the tourist activity, while upgrading the quality of services and the environment. In those islands where tourism is not yet a major activity, some forms of alternative tourism can be implemented. This is easier in the bigger islands, such as Lesbos, Chios, and Ikaria, than in the small ones.

It seems that mass tourism can coexist more easily with special interest forms of tourism than with alternative ones, as the hinterland in the islands does not lend itself to the development of markedly different tourism patterns. On islands where the tourism pressure is already high, greening the activity has to be the priority, as well as drawing on the local characteristics in order to develop forms of special interest tourism. The change of the actual tourism pattern to a more sustainable one will be easier if appropriate planning mechanisms are established.

Strategies for tourism need to be based on local particularities and natural and socioeconomic characteristics, taking into account the intensity and the type of tourism development (Mantoglou *et al.*, 1998: 93). These strategies have to reflect the dynamics of tourism development, setting specific objectives for the development of tourism in each island in the context of its general goals of sustainable development (Coccosis, 2001). A new development model is needed that will integrate the islands' particularities in the wider regional planning process and that will facilitate the implementation of tourism strategy and policy based on special interest tourism (Lagos, 1998: 593).

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Note

1. The efforts made by the network EURISLES to set a database for all the European islands (EURISLES, 2002), and by the Laboratory of Local and Island Development of the University of the Aegean for the Greek Islands (GRISLES) cannot overcome the lack of data.

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