

Tourism and the Mediterranean Environment

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Introduction

The arguments that shall be briefed are to an extent applicable to all countries where international tourism exists, but they are especially pertinent to small islands, because these tend to depend to a very large extent on tourism for foreign exchange inflows and employment.

Many governments, particularly that of islands, have attempted to maximize their island's potential to attract tourists, and embarked on a policy to develop this industry through promotion campaigns, building of hotels and other tourist facilities, and so on. It is for this reason that many small islands have a very large import bill, and income from tourism is regarded as a very important source of financing this bill, and thus being given priority. However, a characteristics of tourist trade is that while it is generally a good economic proposition, it often leads to abuse of the environment.

In practical terms, this should not take extreme points of view, and instead take a more integrated and a more responsible approach towards economic and environmental well-being. Environmental protection is considered as a good which is conducive towards economic well-being. It is the tourist industry which should be at the head of the queue demanding an end to environmental degradation.

The ecological dangers of tourism for small islands in the Mediterranean

Malta is perhaps better placed than most to understand the symbiotic, yet fragile, relationship, between tourism and the environment. We have here some 1139 inhabitants per square km, - more than seven times the population density of Sicily. The number of incoming tourism in 1994 has reached 1.4 million, and during the summer peak, the influx of visitors pushes the density up by 17 per cent to 1337. Some 20% of our island is built up, and is drowning in traffic - there is one vehicle for every 9 metres of road. Malta is indeed the most densely populated area in Europe. Here as perhaps nowhere else, the objectives of tourism have to be compatible with the limitations imposed by the carrying capacity of the physical environment.

Its economical benefits, however, are rewarding, amounted to Lm232.2 million in 1993, generating approximately 25% of total exports of good and services, the rest comes through light manufacturing industries and ship repair. However, tourism is a significant player in the cause of that degradation, it must be prepared to contribute its dues.

Allow me to recap briefly on the extent of such degradation. Severe eutrophication which affected the Adriatic coast few years ago are highly significant accidents for the Mediterranean. The most important nutrients responsible for eutrophication in the Mediterranean are nitrates derived from fertilizers used in agriculture and the organic matter, nitrates and phosphates in domestic sewage, detergents, and industrial wastewaters. Because the Mediterranean is naturally deficient in nutrients, inflows of these materials can be beneficial, especially to fisheries. Eutrophication usually creates a problem in confined bodies of water where currents are restricted; including the northern Adriatic Sea, gulf of Lyon, Izmir Bay, etc. This can lead to severe damages to touristic sector. This problem also exists on a local scale on many coastal embayments near municipal and industrial wastewater discharge points.

But apart from such events, which provoke immediate alarm and dismay, our sea is silently, every day, under threat. Discharges amounting to some 650 000 tons of hydrocarbons leak into the Mediterranean

each year - an amount equivalent to around 17 Exxon Valdez disasters. In spite of the MARPOL Convention for the contracting parties tankers are still discharge bilge and ballast waters from tankers into the sea. These oil discharges account for about 75% of the 650 000 tons per year of hydrocarbon pollution in the Mediterranean; land-based industrial and urban discharges account for most of the rest. About 30% of the oil spilled in the Mediterranean forms tar that is deposited on beaches, causing damage to tourism, local fisheries, coastal wildlife and marine ecosystems.

Although oil pollution is a major threat to Mediterranean coastal environment, due to significant pressure from at least 20-25% of the world's transport of oil carried by ship (amounting to 305 million tonnes), other types of maritime pollution are increasing in importance, where the growth of regional sea trade and the dumping of treated sludges and industrial residues has become more serious. Moreover, increased sea transport of industrial chemicals means a growing danger of accidental spills of large quantities of toxic chemicals. Because of the damage that these products and the associated pollution can cause to human health and natural ecosystems and because proper control mechanisms are lacking, the potential risks are significant.

The strains on our shared sea are mounting. A combination of tourism, urbanization and industrialization is contributing at an alarming rate to desertification and pollution of our shores. Some 15 000 kilometers of coastline are already beyond environmental repair. Some 58 oil ports, 512 refineries and some 64 thermal power plants are located on the Mediterranean coast. In addition coastal cities are facing demographic explosions - the population around the Mediterranean is estimated to double to an average of 160 million by the year 2025.

For Mediterranean islands, such as Malta, these inherent problems are amplified, particularly with the increased pressure from the growth of tourism as one of the main engines of island economics in the Mediterranean. A number of environmental dangers are specific to islands, which probably would have already existed in the absence of but which have been intensified by tourism, include (1) increase in demand for building (2) increase in demand for waste management (3) increase of environmentally dangerous products (4) extensive coastal environmental degradation.

Increase in demand for waste management

In many islands, one of the most dangerous environmental problem is disposal of human and domestic wastes, mostly caused by a system, which has not developed in line with the demands for the native population - a problem made worse with the onset of tourism. For this reason, the sewerage network in Malta is already very heavily taxed by the native population alone. The relatively large number of tourists, renders this problem even much worse. The outcome as in 1991, is that the sewerage problem has gone out of hand, with most of the beaches contaminated. The same can be said regarding household wastes. This is a very big problem in Malta, and tourism has of course accentuated it. One of the commonest sights in Malta are overfilled rubbish bins, and waste disposal areas within a short distance of residential centers, mostly filled with industrial trash.

Dangers to the coastal environment

Coastal pollution may be caused by a number of sources, including industrial effluents discharged into the sea; untreated sewage drifting along the coasts; discharges of oil and/or chemicals from ships either accidentally or deliberately (in the case of ship cleaning out bilges); exploration rigs putting oil into the water through cuttings from drilling muds; agricultural fertilizers and pesticides leaching out of the soil and reaching the sea and untreated waste dumped directly into the sea.

In many instances, development projects associated with tourism are on the coastal fringe. Their building and utilization often fails to take in to consideration the environmental requirements of the location. Apart from aesthetic considerations, the destruction of the fauna and flora of the area, this also leads to an increase of dumping of human waste into the sea.

It is important to note that the environmental dangers listed above would have probably existed in the absence of tourism. Tourism has intensified these problems but not created them.

Since tourism tends to have a large impact on the environment, the issue of sustainable development is of direct relevance to this type of economic activity. Moreover, since small islands are of themselves already fragile environmental wise, the issue becomes more important when island tourism is considered. "Nature allows very little margin of errors for people living on small islands".

How such degradation is to be avoided or minimized? If we adopt the definition of sustainable development as defined by the Bruntland Report (WCED 1987) which loosely interpreted states that no form of economic development can develop long-term unless the economy is linked with environment and society interactively. This is especially true of tourism, since in this sector of economic activity, long-term development is incompatible with environmental degradation, principally because tourism itself is dependent, to varying degrees, on beautiful natural surroundings, absence of health risks and stable social relations. The sustainable development objectives is an attempt to minimize the negative effects of change without allowing any one of the three elements just mentioned to change the detriment of the other.

Extreme natural resource exploitation triggered in particular by mass tourism is very common for Mediterranean islands. Cyprus and Malta face immediate water crises. In the case of Malta, high-cost desalination plants provide 50% of water requirements, which has escalated by the pressures coming from mass tourism. This has also brought about the urgent requirement of more power, which has accompanied the building of a new power generating station at the cost of irreversibly damaging an important coastal area. Malta and Cyprus are already using groundwater resources faster than they are being naturally replenished. The depletion of freshwater resources for domestic, industrial and agricultural purposes is likely to become the single most important environmental issue facing the Mediterranean countries, and in particular, their coastal areas and islands. Management, involving all aspects of planning, conservation, utilization and development of water resources is urgently required.

Sustainable & Integrated Approach

The attainment of sustainable tourism development implies a multi-disciplinary and integrated management approach. This is of course not an easy objective to attain since it requires fine-tuning of a large number of what may be termed sub-objectives related to economics, ecology, culture, resource base and so on. Since we are more concerned on the ecological aspect, we shall dwell the importance of linking **ecological consideration** with tourism sustainable development.

Coastal management must be formulated on a regional Mediterranean scale and not limited to protected, designated areas. We must choose the same directives as did the European Union with its latest Directive on the Protection of habitats to safeguard not just isolated areas, but for instance, migratory route and wetlands which are staging posts in the spread of biodiversity.

Co-operation among Mediterranean coastal states on the protection of the Mediterranean basin and of its complex ecosystems is urgently required. Decisions for planning and control of common environmental resources are more effective if taken on a basis of reliable and up-to-date information, required to cover the role of documenting environmental conditions and changes with the best precision and efficacy available.

Many environmental problems arising from tourism are associated with lack of long-term planning and monitoring exercises. With proper planning - which implies taking a long term view of environmental use and misuse - and with proper monitoring of activities affecting the environment, the problems can be reduced. This of course applies to abuse both by natives and by tourists, to islands and the larger land masses.

The argument is of special significance to small islands in view of their small size and higher degree of dependence on tourism. It should be noted here that planning and monitoring exercises need to be

financed; tourism may be the main funder since it is often one of the most important sources of finance for small islands.

Conventional Tools

Computer-based data management has become an essential component of all disciplines of modern coastal zone management. There are complicated interaction between the physico-chemical characteristics of the sea and the creatures that live in it, and between the sea and its boundaries, which require data to be accessible to a multi-disciplinary research community. The design and maintenance of an efficient data handling, processing and banking system that will allow quick and easy access to reliable marine data present a major challenge.

Much of the technology now requires to implement new policies for the protection of coastal environments will be applied by in situ applications. However if the industrial base in the Mediterranean is to continue to expand then a programme of increased vigilance will also be required.

- combating marine pollution since it can detect real time deliberate operational illegal discharge of contaminants in seawater.
- informative in assessing the increase of coastal water temperature due to an increase in the number of power plants along the NW Mediterranean shore.
- informative by assessing the increase in magnitude of land-based wash out into the sea due to the increasing urban development along the coastal zone.
- The establishment of an environmental information system requires the storage of many kinds of information in order to provide a comprehensive description of the area under consideration.
- Data, accompanied by ground truth data can prove to be a timely and cost-effective mechanism for mapping land cover types along the coastal fringe;
- cover-type information can provide a database for monitoring temporal changes inland-use/land-cover spatial patterns. This data may prove to be useful in developing region-wide land-use planning
- The early detection and control of pollution events in the marine environment significantly improves predictions on its future progress. Location, nature, aerial extent, and behavior of the oil slick over subsequent periods of time are the types of information necessary for an effective response to a pollution event.

Conclusions

Tourism, as well as being guilty of degradation of the natural environment, actually stands out as one of the best hopes for an environmentally-happier future in the Mediterranean. But there are no easy answers to sustainable tourism. One possibility to preserve the Mediterranean is cooperation on a regional scale. There should be a true partnership of all interested parties working together in the spirit of collaboration, not confrontation. This requires a compact network of institutions which, through an interdisciplinary approach, ensures a vision encompassing a larger time and space context in terms of managing and sustaining our patrimony.

Tourism must involve itself more in the future planning of major development projects in the Mediterranean. this industry has a leading role in actively influencing the planning process to take into account its requirements. It may wish to become an active player as developing indicators of sustainability for coastal resources, by consideration of environmental, economic, social, cultural and political factors. It is a unique industry in that it has to take an interest in all these coordinates.

The Contracting Parties to the Barcelona Convention have now agreed that it is important that the concerns of sustainable development may be pursued so that the environment and the economy can be considered together. They have proposed a far-reaching strategy with ambitious targets for attaining

“sustainable development” in the Mediterranean by the year 2025. With some 80% of the sea’s pollution emanating from land-based sources, it is a logical step to include sustainable development in the Convention, which is likely to be brought inside the legal framework of the Barcelona Convention.

The environment is tourism’s base; this debate on safeguarding the environment is therefore crucial for tourism. Our region has experience in adapting new demands and should be ready to take up this new challenge of sustainability. With the Mediterranean at the vertex of the world’s destination, that challenge is the most difficult one facing this sea, and at least in part, also this conference.