SUSTAINABILITY IN TOURISM THROUGH ENVIRONMENTAL EDUCATION APPLIED TO ITINERARIES

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Abstract
The history of the relationship between man’s activities and the environment has not been a harmonious one, and tourism is no exception. This article gives a brief overview of the impacts caused by the tourism, on both the natural environment and built environments, establishing that the only way to avoid, or at least minimize these negative effects is to develop sustainable tourism, seeking socioenvironmental and economic balance. One of the ways of achieving this sustainable development is through environmental education and the theme of didactic itineraries, in particular, is discussed as a form of raising awareness among the tourists concerning the importance of preserving the natural and cultural environment.

Key words: Tourism itineraries; Environmental education; Sustainability

JEL Classification: L83, M14, Q01

I. TOURISM AND ITS ENVIRONMENTAL IMPACTS

Many classifications can be made with regard to the impact of tourism on the environment, but there is no doubt that they have all suffered from ineffective management of this activity, which has led to the externalization of negative impacts on the environment, and the abuse of the natural and cultural resources that support it. This has led to a loss of quality of the attractions and the overall image of the destinations, since the lack of an environmental rationality ends up affecting tourism itself.

In this sense, and following the description proposed by Roberto Boullón (1993), the effects are seen on the attractions, the businesses and the tourists themselves. The responsibility for this deterioration does not lie with the tourists alone, but also with those who plan and organize the activities. It also has repercussions on the tourist market itself, which is seen not only in the quality of the specific attractions, but also in the environments in which they are located, whether inside or outside a city. The absence of quality can influence the overall image of the destination, and alter it to such a point that it ends up creating an unpleasant image of the locale as a whole. And this does not exclude business managers within the sector who, due to this loss of quality, see their business profitability decrease, forcing them to readapt their offer or disappear from the market altogether. Considering the most common problems, and in particular, those generated in tourism centers, one of the major causes of alterations to these spaces is real estate speculation and construction, which generally have a faster pace than the communities in which they are located, and on occasions, generate enormous problems for the provision of services and the spatial segregation they create, with regard to the resident population. This article goes on to present some of the negative impacts produced by tourism on different aspects of the environment.

a) Vegetation: The vegetation is sometimes one of the attractions of a particular tourism location, whether for its abundance, its beauty, its rarity, etc., and it is affected by various tourism activities.
- The gathering of plants, flowers and mushrooms can lead to changes in the composition of the species or loss of quality.
- Inappropriate use of fire in protected areas, or other forest areas, can seriously damage both the ecosystems and the plant life.
- The deliberate cutting down of trees, for tent posts or firewood, damaging the younger species in particular.
- Excessive accumulation of garbage, besides having a negative visual impact and altering other aspects of nature, also alters the condition of the nutrients, depending on the type of garbage, and on occasions, can block the passage of air and light, leading to alterations in the vegetation.
- Traffic of pedestrians and vehicles, as well as rest or camping areas, lead to a loss of vegetation due to trampling, compacting, etc.
Other alterations may include changes in the level of vegetation cover, the variety of species, the growth rate and destruction of the habitat, caused by the exhaustion of the load capacity of a particular location, due to excessive number of tourists, the frequency of their visits or the type of activities practiced.

b) Quality of the water: Many studies mention the contamination of the water and its quality as a problem in beach locations, particularly in relation to their rankings. The problems relate to the water supply, and its quality for consumption and for recreational activities (swimming, diving, etc.).

The main problems associated with contamination are the disease-bearing agents found in residual waters that have not been properly treated, and which flow into beaches, lakes and rivers, and the problems which tourism contributes to through waste discharged from the tourism infrastructure.

The presence of petroleum derivatives, caused by the use of recreational vehicles, or spillage from ships and cruise liners in the ports, has decreased the oxygen levels and altered the color of the waters.

The number of tourists at particular times has led to a lack of supply and water shortages in the reservoirs of many cities or tourism locations.

c) Quality of the air. Except on very specific occasions, no significant impacts have been recorded, and those that have are linked to increased noise levels in certain restricted areas, caused by the higher circulation of private vehicles or the increase in air traffic close to the airports.

d) Fauna: Hunting, wildlife watching and photography of species are important tourism activities, which generate different levels of impact. The measurement of the effects caused by disturbances to the wildlife, such as the extinction of species, has not been documented in general terms: it focuses mainly on mammals and birds, ignoring other species.

Many of the studies are only carried out in protected areas. The impacts on emigration, changes in the feeding habits, reproductive behavior and adaptations to the change of habitat have not been recognized, except for very specific species. Although this analysis is based mainly on the impacts caused by tourists, it should be emphasized that the construction of basic or support infrastructure generates irreversible alterations due to displacement of the soil, such as, its impermeability, changes in the circulation of water and alterations to the landscapes. On the other hand, bearing in mind the impacts of tourism on the urban centers, some of these are mentioned, which can be classified as follows:

Architectural contamination: often, the integration between the infrastructure of tourism locations or places and the characteristics of the natural environment has failed, provoking clashes between the built environment and the natural characteristics of the area. Loss of landscape quality due to urbanization and behavior: urbanization and the way in which the urbanization of a tourism sector is organized depends on the different landscapes. This varies depending on whether they are coastal environment (linear), along valleys and scenic routes or inland areas, however, the landscape is often altered, or modified, which could produce saturation due to infrastructure overload and imbalance, particularly in terms of the image. Infrastructure overloading: this occurs when the intensity of visits is greater than the planned capacity of the infrastructure. This in turn, leads to contamination and possible health consequences. Segregation of local population: the spatial separation of tourism areas from the rest of the tourism center or the surrounding areas, can sometimes lead to social segregation. Traffic congestion: this has become one of the major consequences of the development of some tourism centers; the increase in traffic congestion and excess traffic. Issues related to access and the number of car parks. Waste disposal: Hotel facilities and support services, as well as private residences, are the main sources of waste disposal in many places with tourism development. Behind this, the presence of a society is identified which, as it makes use of the environmental resources as attractions, also becomes the receiver of its own waste. This waste can affect the historical and cultural heritage in an indirect way (for example: visual contamination, smell, etc). Awareness of the impacts leads to a change in social and business attitudes, giving rise to so-called alternative tourism, which we can define as: tourism which practices sustainable activities, respect for the natural and social environment and the values of a community, and allows a positive exchange of experiences between residents and visitors; and where the latter have an attitude which is truly participatory in their experience of the travel. To understand alternative tourism it is necessary to view it from the perspective of sustainable tourism.

II. THE SHIFT TOWARDS A SUSTAINABLE TOURISM

Firstly, we should stress that the overall objective is to achieve social equity, which is based on the premise that tourism should generate distribution of both the costs and the benefits. There can be no well-balanced process of tourism development if the economic differences in society increase, or if this produces excessive benefits for certain social groups or territories, while others become marginalized or impoverished. On the other hand, environmental sustainability involves conservation of and respect for the natural resources and values that form the basis of
the tourism activity, and whose existence must be guaranteed for the future, in order to sustain the activity and ensure enjoyment of the environment for future generations. Finally, economic efficiency means tourism must be, above all, an activity which generates income for society, as well as jobs which are dignified, and if possible, qualified. This includes not only private profits, but also an increase in benefits for the community as a whole. All this means, in short, promoting tourism which respects the environment, avoiding the deterioration of our natural and cultural capital, but at the same time, seeking to include local communities in the development and promoting, among business managers, the idea that sustainability is profitable business. In short, sustainable tourism can be defined as economic activity which produces goods and services that, respecting the physical limitations of the space in which they are developed and the psyche of the inhabitants and other players, are dedicated to those who choose to move temporarily and voluntarily outside their place of habitual residence, without forming part of the labor market of the destination, whether or not for the purpose of recreation (Capece, G. 1997). With regard to international documents, the Lanzarote Charter (Canary Islands, 1995), produced by the participants of the World Conference on Sustainable Tourism, stated that As a powerful instrument of development, tourism can and should participate actively in the sustainable development strategy. A requirement of sound management of tourism is that the sustainability of the resources on which it depends must be guaranteed. We should not necessarily take the view that sustainable tourism requires protected, virgin areas or that it is related exclusively to certain types of tourism, such as ecotourism, rural tourism, adventure tourism, etc. Sustainable tourism is viable, whether for a product which is generally massive and destructive, like the beaches, or for whale watching. The concept does not depend on what is produced or sold, but rather, on how it is produced, with what and with whom it is produced, and how it is marketed. (Capece, G. 1997:71) The changes in attitudes currently taking place in the tourism industry at a global level began at the end of the 1980s. Interest grew in the contribution of tourism to environmental problems, followed by an appeal to this same tourism to help resolve the problems. This change, according to Capece G. (1997) can be attributed to four causes:

1) The growing influence of organized conservation and environmental movements.

2) The tourists, who demand quality.

3) Increased awareness among tourists concerning their effect on the environment.

4) Economic factors.

There is a growing idea that the environment forms part of the concrete products and services (sites with high environmental quality, hotels with alternative forms of energy, restaurants with ecological products, non-polluting forms of transport, among others) and that these can provide an opportunity for the development of highly profitable activities. This is associated with the existence of a market which demands this types of product, which is why nowadays, products are provided and promoted as a guarantee of harmonious surroundings in terms of the landscape and the environment. In one way or another, it is recognized that there is a need to encourage the business sector to assume the environmental costs or limit their damage to the environment. In this regard, tourism organizations should bear in mind the Code of Ethics as a starting point for the development of models for better administration. The environmental protection plans of companies which provide tourism services should include all fields and aspects related to the activity. They should be aimed at better environmental conduct, through: conservation and valorization of the tourism attractions, management of visitors, continual reduction of contamination; saving of resources (such as energy or raw materials); greater efficiency in the processes to achieve better quality products and ongoing compliance with the environmental legislation. Today, therefore, tourism companies should know how to improve the quality of their products and services, with an awareness of their relationship with the environment. From this point of view, it is possible to distinguish two areas on which the set of relationships between tourism and the environment can be established. On one hand, the effects or impacts of tourism on the environment, and on the other, the effect of the environmental situation on the competitiveness of the different destinations. The relationships initiated between tourism and the environment interact in a vicious circle and determine success or failure in the market, and the improvement or degradation of the local environment. Environmental degradation may not be the only cause of loss of competitiveness of a destination, though it can be an effect of this. In fact, the loss of competitiveness of a destination can lead to a process of environmental degradation. On a global scale, the environmental requirements are becoming increasingly demanding, tourists are becoming more selective and expert, and products related to the environment will be more successful than others. Therefore, those products which do not meet the minimum environmental standards can be expected to decrease their level of competitiveness considerably. In relation to the above, it can be said that:

a) in non tourism areas a model of tourism development is implemented that guarantees compatibility of tourism with the local environment (social and culture characteristics, natural resources, traditional economic activities, etc.)

b) in tourism destinations, those processes are encouraged which, meeting the needs of the consumers, incorporate at the same time, measures, projects, plans, etc. which revalorize the local environment. But to achieve sustainable tourism development, it is essential that the opposing interests, of both private and public
players, are “eliminated” through the “signing of collaboration and cooperation agreements” between all those involved, but this can only be possible with knowledge and a keen awareness of the environmental problems generated by the activity. This is where environmental education comes in, ensuring that private interests are subordinated to a common interest relating to the protection of the natural and cultural environment.

III. ENVIRONMENTAL EDUCATION

Although it is difficult to pin down environmental education to a single definition, given the diversity of approaches and concrete practices, we can start with the proposal of the International Congress on Environmental Education and Training, which took place in Moscow in 1987, “environmental education is an ongoing process in which individuals and the communities become aware of their environment and learn the knowledge, values, skills, experience and the determination that enables them act, individually and collectively, to resolve present and future environmental problems”. Based on this definition, we can consider the most important characteristic in environmental education, namely “... environmental education consists of that which is aimed at resolving concrete problems. It means that individuals... clearly perceive the problems hindering individual and collective well-being, explain their causes and determine the means of resolving them”. (UNESCO, 1980). Therefore, the challenge of environmental education is to promote a new relationship between human society and its surroundings, in order to offer current and future generations a fairer personal and collective development, which is equitable and sustainable, and which can guarantee the conservation of the physical and biological support on which it is sustained. Education cannot be divorced from the environment in which it takes place. Learning is a process of building knowledge, which takes place in connection with the social and natural environment. Also, it is developed in double sense, that is to say, each person learns and teaches at the same time; it lasts a lifetime; and it takes place in different contexts. These characteristics indicate an important fact: the environment is educational in itself. Environmental education is, above all, education for action. It increases our knowledge and awareness of the impacts of human activity on the environment, but with the ultimate objective of improving our ability to contribute to resolving the problems.

Tourism, sustainability and environmental Education

Establishing the relationship between tourism and environmental education in actual practice, beyond merely theoretical debate, is a very complex process which involves the joint effort of agents associated with the sector and public policies that incorporate objectives of harmony with the environment and a long term perspective. This is a process that goes beyond environmental education itself, involving a process of readaptation and vitalization of activities and spaces. And this is where the situation to be analyzed arises: How can this reciprocal relationship be contributed to? How does tourism contribute to the principles of environmental education? How does education enrich tourism in general? How can this same tourism begin a process of exchange for the creation of a new type of tourist? How can recreational, sports or cultural activities associate themselves with the training of a person who is more responsible in relation to his surroundings, a person who demands environmental quality?. These and other questions are linked to the possible generation of attitudes and perceptions among the tourists, and occur not only in the destination itself, but are also transferred to the tourists’ places of origin. Some authors defend the importance of culture, and changes in society’s way of being and doing, such as shifts in paradigm that transform the current model. And sometimes contributing to this, tourism awakens “new ways of seeing the world” which move beyond the “soda can collecting” campaigns, and point to a more embracing view of the environment, with a discovery of new realities. Thus, tourism can act as a trigger for situations that can turn into “good practices” (do not litter, take care of the trees, etc.) or new demands that force the market to take control measures.

IV. ELEMENTS OF ENVIRONMENTAL EDUCATION APPLIED TO TOURISM

The elements to bear in mind for generating environmental conduct in the context of environmental education, and which are linked to the proposals of tourism, are:

- Having in mind a concrete addressee for each theme and adjusting the messages and strategies for this market.

- Establishing clear relationships between objectives, subjects, means, goals, etc., with the methodology and means to reach these ends.

- Bearing in mind all the aspects of the visitor or tourist: his place of origin, age, travel motivation, emotions and experiences and opportunities of participation

- Generating a favorable climate for learning, which is not forced, and where those analyzing the problems are the subjects themselves, but as part of the recreational activity

- Developing a wider sense that may be applied to all the objects and realities in such a way that the subjects can analyze any expression of society.

To achieve this, it is necessary to establish a series of principles for environmental education which are in line with the development of a project, and which are linked to the training of the professional responsible for it. These principles may take the form of the definition of different functions, the assignment of
groups of tasks at the level of training, and the definition of general thematic areas which are linked to the specific training of the guides, conduct in the job itself, use of resources, etc. For the planning of tourist products which include the environment as a further dimension of their development, there must exist a group of people who perceive this dimension. The environmental crisis has led to a need to train professionals who are specialized in environmental protection and conservation. This training has, however, failed to reach a true holistic understanding of the environmental situation. The suggested environmental training of those who are in some way linked to the tourism offer includes:

- Identification of the environmental problems, at both global and day-to-day levels.
- Incorporation of a sense of responsibility towards the environment.
- Ability to form tourism flows.
- Generation of attitudes in accordance with the project.
- Creativity in carrying out their tasks.

For this, two basic tools are necessary: information and equipment. The more, better quality information the operators, professionals and workers in general can obtain from the system, the more they will develop critical capacity. And as this occurs, the environmental dimension will become incorporated into their daily lives, and enable them to act, including in their work. Special mention should be made of the equipment, which is usually one of the most serious problems in communities where tourism is still an incipient, small-scale activity. The development of equipment enables a higher capacity to manage the environmental education, from all the kinds and from tourism. Many businesses have learned how to avoid these obstacles, gambling on the creativity of simple products which incorporate novel educational alternatives. Within this context, the different forms in which the interpretation takes place are also considered. This is fundamentally a strategy for valorizing the heritage and preserving and publicizing the goods. For this reason, it contributes both directly and indirectly to environmental education, in its widest sense, and is, in practice, linked to the multiple tourism practices. In many places, it has been successfully applied as a tool for creating a sense of belonging among the community itself, and for modifying public actions. It needs to be pointed out that interpretation is not only a more active and personal form of guiding the tourist, but implies much more than that. It involves a process of learning and valorization which is linked to a raising of awareness and strengthening of identity. Based on tourism and the institutions associated with it, the appropriate environment should be created that will generate a theory of environmental interpretation, linked to environmental education. However, based on the activities themselves, mechanisms for revalorization can be established not only for the heritage, but also for the relationship between society and nature. Thus, interpretation can be used as a tool for creating tourism itineraries, whether directly linked to environmental problems or to traditional trips.

V. TRIPS AS DIDACTIC ITINERARIES

Bearing in mind the wide range of different modes of tourism that include short trips, a very common option within the tourism system is indicated, and one which is linked to the didactic strategies that are capable of bringing the subjects closer to the environment, developing sensibilities, building concepts, applying interdisciplinary working methods and promoting positive attitudes. The trips carried out in certain walks could be interpreted as didactic trips. These consist of prearranged trips to an area, whose characteristics are interpreted by the visitors, with the aim of increasing their knowledge of the most significant aspects and processes of the natural and cultural heritage, or the sights of a place, through direct systematic and recorded observation, attempting to raise awareness and favor the development of respectful, responsible learning attitudes. Throughout the trip, activities are carried out which rely on support materials and which are designed by the tourist centers or by those responsible for the place visited. The first printed itinerary for mass use appeared in 1976 (El Bosc de la Santiga, Can Deu). It was conceived as a set of materials, all of which had in common the fact that they were structured around one or several pre-planned short trips, with the objective of studying different aspects in a more or less interdisciplinary way. Their design may have been the result of an isolated act or a response to a complex planning, in which several itineraries are interconnected and the elements within them are hierarchically arranged and complement one another. Two groups can be seen: Self-guides and guided or directed. The first kind is based on the design of a central package of important information, with descriptive comments about the elements, places, processes, services and facilities, and complementary information about the duration, risks and permission required. There are also experiments in which the guide lets the tourists carry out the trip experience alone, providing support information, in which the experience consists of evaluating their discoveries. In the case of the latter, the guide as educator offers complementary education and promotes recreational proposals in the itinerary. In terms of the structure, itineraries can be classified as open or closed. Open itineraries enable multiple observations and different points of view, and they are flexible, adapting to different didactic strategies. Closed itineraries are more focused, with concise information. They are programmed, following certain times and forms and the achievements are conditioned by the elements of the journey and the previously indicated observations. In each case, the project and motivation, the characteristics of the group and the quantity of information available for achieving the goals all play a very important role. This is related
to the layout itself of the tourism circuits, both in the selection of attractions and the information available about each one, in the overall interpretation and also in the plan of the itineraries themselves. This is also supported by environmental education, the choice of the best and more balanced combinations for generating an attractive product and one which, in turn, is environmentally appropriate. According to Roberto Boullón (1993), when planning the layout of circuits in natural areas, the following need to be considered:

• How will the attractions be selected, in accordance with the most representative elements of the heritage, data from qualified informants (travel agents, guides, citizens, biologists, ecologists, etc.) and a field trip to observe the area. It may be that this sector is already included within an itinerary, which means that observations will be made about its capacity to adapt to a trip in which informal elements of environmental education can be established, associated with the revalorization of the heritage itself or these resources, or the relationships between the different elements. It is also necessary to consider the changes in these attractions throughout the year, as this may require a significant variation or readaptation to the itinerary.

• Conditioning: it is necessary to determine the best form of approach, the best paths, and the infrastructure needed in the observation and concentration areas. The latter are associated with the administrative offices, staff quarters, interpretation and information centers and in some cases the accommodation itself.

• Defining the Circuit: this indicates the duration of the trip and the means of transport used. In this last case, the selection of the mode of transport is in itself a situation to bear in mind within a project which tends to contribute to the environmental education of the tourist.

• Circuit layout: this is also linked to the mobility, and the starting and finishing point of the itinerary. The design, number of stops, locale and duration will depend on the type of route, the landscape, the demand, the transport and the number of attractions or significant elements. This can also apply to trips in urban areas, and for this, it is necessary to include studies on the environmental situation in the main attractions, and their capacity to withstand a determined number of visits, and the need to equip them with other elements that will enable value, in a more direct but complementary way, the elements related to their environmental valorization. Another element is to analyze the best form of approaching the resources, so that the visitor perceives situations or objects that lead him to reflect on the valorization of the heritage, harmony with the environment, the functioning of the town or city and respect for different cultures. These may be implicit in the attraction, though this does not necessarily mean the tourist can discover them without the help of a guide, or signs. When planning an itinerary, it is necessary to consider the treatment given to the information offered to the tourists, such as brochures, trip guides, place guides, souvenirs, etc. It is also important to establish control points to assess whether the proposal is allowing the tourist to discover the characteristics and unique features of the environment visited and whether the objectives of the environmental education (in its different forms) are being fulfilled. As pointed out earlier, environmental education is a much wider and more complex process, however, in the case of recreational and tourist activities, it is possible to teach respect for other cultures, other forms of social organization, other resources or other ways of seeing the world. Within this context one can:

• Propose tracks with environmental connotations, which display written notices and signposts linked to.
• Organize trips that specifically highlight environmental situations, in the mark of a visit.
• Look for examples of waste management during the journey or at the Tourism Bureau, or in the parks and walks, taking note of their importance.
• Develop or contact services that have an environmental management program within the company, whether planned or already in practice.
• Re-use recovered places, pointing out the advantages of the process of change.
• Explain the general objectives of the theme parks their scientific projects and their alternatives.
• Develop products associated with the practice of sports, which are in harmony with the environment and which can show and point out situations associated with the environment.
• Design leaflets and products that show symbiosis with the environment.

The essential task of environmental education is to allow the space to explain and justify itself, in such a way that the importance of conservation becomes clear for those who live in the area and those who will visit it. When this concrete space is assumed as heritage, a process begins which leads to the recognition of its importance.

VI. FINAL CONSIDERATIONS

Considering the impacts that tourism is currently generating and those which it will produce in the future, and considering the growth trends of the activity, we believe that it is vitally important to incorporate environmental education as an extremely effective tool, which is capable of causing changes in the attitudes and behavior of people (whether tourists or those who offer tourism and hotel services), not only for avoiding the negative effects of the activity on the area where it is developed, but also in the places of origin of the tourists, since environmental education plays a key role in the transformation of today’s strongly consumerist society, creating a more harmonious society and one that is in harmony with the environment.
VII. REFERENCES