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Some Negative Implications of Tourism on the Environment

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Abstract: Tourism represents a sector with a rather low weight in Romania's Gross Domestic Product, compared to the potential it would have. the tourist potential is very high, but little capitalized: balanced relief forms (mountains, hills, plains), the Danube Delta, Black Sea beaches, many mineral waters or muds or thermal springs with therapeutic properties, floristic, faunal, speleological objectives, cultural, culinary, business tourism, etc. The National Institute of Statistics shows that as a share of Romania's GDP, tourism has evolved from 1.96% of GDP in 2014 to 2.98% in 2019, before the outbreak of the new SARS-CoV-2 coronavirus pandemic; for comparison with EU countries, according to Eurostat, in 2019, tourism generated 9.9% of the EU's gross domestic product, and for 2023, over 10%. According to the National Strategy of Romania for the development of tourism 2023-2035, the growth of foreign tourist arrivals in the period 2022-2025 is forecasted to be 35% per year, and for each of the following years, from 2026 to 2035, an increase of 5% is estimated. These ambitious goals, even if they do not reach the level of other countries in the world with highly developed tourism, can often conflict with the environment. Even now, with less developed tourism, there are still environmental problems generated in many areas (some even protected areas); we exemplify the Bucegi Natural

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Park (the protected area where the anthropogenic impact is maximum), other mountain areas, the Danube Delta, and even caves, where the latter represent extremely fragile ecosystems. The solution is to manage such tourist sites on the basis of a plan that protects protected sites and makes them useful for tourism. It is important to specify the method of protection as well as the factors responsible for achieving that protection, established in correlation with the nature and dimensions of the tourist objective; for small ones, like a cave, a lake, etc., management is simpler. These problems are complicated when dealing with a large protected area, such as the Danube Delta, a national park, or a natural park, in which the organization of tourism exploitation and environmental protection is more complex and involves several levels: local, regional, and national. The negative influences of tourism on the environment are often more difficult to notice, especially by non-specialists, or are noticed after a long period when the degradation of ecosystems is high. This work presents such examples in the case of touristic objectives of great interest but affected by tourist activities. Finally, there is no conflict between the economic interest of making a profit, the exploitation of such an area, and the need to protect the environment of that area because, if at some point, the tourist objective were to be destroyed or degraded, then tourists would not still come, because there would be nothing left for them to visit.

Keywords: overtourism; anthropogenic impact; environmental degradation generated by tourism

1. Defining the Problem

Tourism, being part of the tertiary sector of the economy, represents a more or less important component for the economies of different countries in terms of its share of this sector in achieving the Gross Domestic Product.

In the case of Romania, its share is still far below average, at the European Union level; on the other hand, in Romania's National Tourism Development Strategy 2023-2035[1], it is mentioned that a 5% annual increase in the number of foreign tourists is forecast, so that in 2035, there will be to be receipts of over 3 billion euros from international tourism[2]. Considering that, according to the same source, Romanian tourists going abroad currently spend more than foreign tourists visiting Romania, we can say that achieving the self-proposed objective would also lead to the reduction (perhaps cancelation) of the budget deficit in tourism section. However, several issues must be resolved. Among these, the poor exploitation of tourist potential stands out, almost all the tourist attractions are not exploited to their maximum capacity. Unfortunately, as far as natural tourist attractions are concerned, we can highlight another problem that must be taken into account: unprofessional exploitation through the practice of tourism that damages the respective tourist attraction or the qualities of the tourist area. This can have multiple causes, such as: attributing their exploitation to entrepreneurs who do not have the skills and knowledge necessary to maintain the tourist objective unaltered; the lack of know-how support for

[1] www.mmediu.ro.
[2] https://turism.gov.ro.

their scientific management, according to the concept of exploitation and sustainable development; problems in achieving effective prevention control and identifying irregularities in the operation of tourist attractions; problems regarding (un)coherent legislation in the tourism framework. We should mention from the start that a large increase in the number of tourists and a superior valorization of many natural tourist resources can be achieved through management that preserves the natural heritage; the notion of conservation of these natural tourist objectives is not necessarily in opposition to the development of tourism, if it is done intelligently.

2. Negative Aspects of Harmful Tourism - Examples

Many consider tourism a cleaner economic activity with less impact on the environment. Things are not quite as they seem, and we will introduce some aspects of this activity that will reshape the views of those who are not familiar with them. Three different cases, but very relevant to the proposed theme, are analyzed below. We will present some less visible aspects of the effects of tourism that will reshape the views of those who are not familiar with it. Three cases very relevant to the proposed theme are analyzed below.

1. First of all, we will discuss a complex of ecosystems that constitute the macroecosystem, the Danube Delta, which is located in a proportion of about 90% on the territory of Romania. The Danube Delta was declared a Biosphere Reserve in 1991, due to its unique character and global importance[1]. The attractiveness of the Danube Delta from a tourist point of view is undeniable, the fauna, flora, and, above all, the landscapes are unique. However, the exploitation of the delta from a tourist point of view is, in many cases, catastrophic. Initially, until around 1950, this area was sporadically visited by tourists. Their numbers and activities did not pose any threat to the ecosystems. Then various violations of the Danube Delta began, through the implementation of destructive, aberrant economic activities, which we are not discussing here, such as the exploitation of reeds, the transformation of enormous areas into agricultural land, minerals exploitation, and the construction of various canals, dams, etc. After 1990, an often chaotic, wild form of tourism, without respect for the environment, began to be practiced in the Danube Delta Biosphere Reserve. This was possible because of permissive legislation or because of the corruption of authorities who did not intervene (Bleahu, 2004; 2019). Organized tourism should control the flow of tourists and channel it to destinations that can be visited in a way that does not lead to the disruption or destruction of ecosystems, i.e. the practice of ecological, sustainable tourism (ecotourism) (Turtureanu, 2006). Travel by sky-jets, motor

[1] https://ddbra.ro/.

boats or even rowing boats should be prohibited in sensitive areas. It is a sad fact that the media or social networks have brought to light almost every year numerous attacks on the environment in the delta: traveling at high speed on various canals, entering restricted areas with tourists, even motor boating through pelican colonies, and approaches of tourist boats beyond the legal distance to bird colonies. Such barbaric behavior should not exist here and in any country it would be severely punished. We believe that the authorities must not only monitor the way tourism is practiced; tourists should be warned, trained about the rules of behavior in the delta (and not only) and the negative consequences for fauna and flora if this behavior is violated. A serious thing, for which the tourists are not to blame, is the fact that accommodation spaces were built on the territory of the delta, often with dubious authorizations obtained or even without authorizations (!), in strictly protected areas. Of course, if these accommodations exist, then there are customers for them. Almost all of these numerous accommodation units, some of which operate illegally, were unfortunately built without any environmental impact study. These negative aspects are also possible due to the corruption of the central and local authorities, which did not intervene. Another more unusual type of tourism practiced is fishing and hunting tourism. It is also poorly monitored and controlled. We note here the monopoly created by the General Association of Fishermen and Sports Hunters, which is interested in selling hunting rights, especially to foreigners, without regard for the environment (Bleahu, 2019). We don't even know what they have in common with sport hunting and fishing; these activities are not sports!

2. Another relevant example, from a mountainous area, regarding the negative effect of tourism on the environment is the case of the Bucegi Massif. The Bucegi Natural Park was established on their territory, a protected area of national interest corresponding to the Vth IUCN category[1]. Bucegi Natural Park was established in 1974 by Law no. 5/2000, was declared a protected area[2]. The need for this geographical space of inestimable floristic, faunal, geological, geomorphological, landscape value to be declared a protected area also resulted from the year-on-year increase in the number of tourists visiting the area. The geographical position of the Bucegi Mountains allows these mountains to be accessible to many tourists, the big cities, the source areas for tourists, such as Brasov, Ploiesti, Bucharest, as well as other smaller cities being located at close distances from the mountains. These mountains in Romania are the most visited by tourists. Therefore, overtourism is a major problem with its negative effects. Many areas of the Bucegi Natural Park are directly or indirectly affected by this phenomenon. Thus, due to the high demand for accommodation spaces of various categories, many constructions have appeared, some

[1] www.bucegipark.ro.
[2] Idem.

of which are even large (hotels) with dubious authorization or that do not comply with environmental standards. Many accommodation units do not have waste collection systemsor sewage. Illegal waste pits have been observed near such establishments. The construction of access roads for these numerous accommodation units has led to accelerated soil erosion. Some cabins, having no alternatives at the times, used firewood for heating, which led to the illegal clearing of some shrubs from the alpine plateau and the disappearance of the juniper vegetation area, which stops erosion (Figure 1). However, these shrubby areas play an extremely important ecological role, protecting not only the very vulnerable soil to erosion, but also the forests from avalanches and wind. In these deforested areas, even if there were no signs of erosion, secondary meadows appeared instead, with a much lower ecological value and a change in the floristic structure. A general problem in the Bucegi Natural Park is overtourism in the area of the alpine plateau; the old paths become much deeper, making them uncomfortable for tourists. They walk side by side and a new path is created that will have the same fate, etc. (Fig. 2).

Figure 1. The area around Babele Chalet, with reduced juniper vegetation and erosion. (Foto: Dorobăț M. L.)

Figure 2. Deep path, next to it another new path (Foto: Dorobăț M. L.)

In other countries, a compromise solution has been adopted, such as concreting or asphalting paths, and tourists are only allowed for tourists to walk on them. An illegal aspect is the use of ATVs, motorcycles, or all-terrain vehicles on alpine meadows or in other protected areas, with serious environmental consequences.

3. The third example considered in this exposition is represented by cavernous ecosystems, the deep underground environment (caves). They are connected to the surface underground environment (MSS, SSHs) (Dorobăț, 2016, 2020; Tone, et. al, 2014). These cave ecosystems are extremely fragile. On the other hand, some accessible caves were a big attraction over a century ago and were visited by many tourists out of sheer curiosity or for the beauty they represent. Most of them are inaccessible for tourists, people's access being difficult, dangerous or, in some places, even impossible. From the perspective of tourist visits, there are developed caves and undeveloped caves. Unfortunately, the experience in Romania and in many other countries has shown that a "free", unguarded cave is subject to destruction and devastation. The most attractive features of a cave are especially its speleothems. Speleogenes (balconies, hieroglyphs, curtains, etc.) result from the dissolution of limestone that generates underground cavities, and speleothems result from the deposition of calcium carbonate dissolved in water, generating stalactites, stalagmites, columns, curtains and cave pearls (pisolites) (Bleahu, 2019; Dorobăț, 2012; 2013). These speleothems are often destroyed by individuals with difficult-to-understand behavioral problems, so caves should have a well-established protection regime. According to Emergency Ordinance 236/2000, regarding the conservation of other assets of the natural heritage, Article 31 also refers to caves; are classified into three categories, class A, B and C. Thus, class A includes caves of exceptional scientific or landscape value not yet affected by human intervention and requiring strict protection and conservation measures; class B includes caves important in terms of size, geographic location, resource rarity and potential; and class C includes caves that do not meet the conditions to be included in classes A and B. It is mentioned in the emergency ordinance that "caves in class A cannot be subjected to any development or changes of natural factors. They can be the subject of scientific explorations or ecological tourism based on authorization and within the limits established by regulations and management plans. Class B caves can be the object of speleological explorations, scientific research, or ecological tourism based on the authorization issued by the Romanian Academy. They can also be subject to economic and social exploitation, such as tourism, groundwater abstraction, speleotherapy and other similar uses that do not affect the natural environment of the cave. Class B caves can be kept in custody by natural or legal persons under the conditions provided by this emergency ordinance. Although the legislative intentions appear to be sound, the implementation in practice must also be effective. Moreover, there are some controversial, ambiguous expressions. In this normative act regarding category C caves, the principle of biodiversity protection must be adapted for them (everything must be saved); should be transformed into the principle of heritage geodiversity to be preserved and returned intact to future generations, even if the caves. seemingly lifeless are fragile ecosystems that host many living things, and their

damage, even unintentional, endangers the existence of these living things. The principle of biodiversity also applies perfectly to caves, as long as they have a part of life, a specific fauna. This is represented by: troglobiont species, which are strictly related to underground habitats, live only there; troglophilous species, which live above ground but also in underground habitats; trogloxen species (subtroglophiles, cave guests), are species that periodically live in underground habitats, such as caves or even at the entrance, but they cannot live exclusively in such habitats (Sket, 2008). We will exemplify some consequences of tourist visits to caves that may seem harmless, but are less visible aspects, but they harm the environment and the cave itself, i.e. the tourist objective itself. Thus, the movement of cultists through caves, in the places where faunal elements, such as bats, are hosted, can lead to the flight of these animals from the respective cave. It is indicated that the movement of tourists is prohibited in areas where animals are present. Another strange problem at first sight, but present is the fact that algae appear on the walls of the caves (the color of the walls in these areas is green) (Figure 3 a, b, c). Perhaps this seems inexplicable, since photosynthesis is not possible in caves, where there is no light. However, the movement of tourists along the galleries requires lighting. The electric light obtained in this way is sufficient for the algae to appear on the walls in time. As a countermeasure, to avoid the appearance of algae, sensors have been installed so that the light is only turned on for a short period of time, only while tourists are in the area. It seems that even a short period of time with light is enough for algae to appear on the walls.

Figure 3. a. b. Algae on the walls of the Ialomicioara Cave (Bucegi Natural Park), c. Algae on the walls of the Bats' Cave (Liliecilor Cave) (Buila-Vânturarița National Park)

Source: (Foto: Dorobăț, M. L.)

During the year there are periods of very intense tourism, when from morning to evening there are dozens of groups that successively enter the caves, especially during vacation

periods. The impact on the cave environment is significant. Another aspect through which tourism, beyond a certain limit, is harmful, is in the case of the Scarișoara Cave; here is a special case, cave speleothems are made of ice. In fact, we are dealing with a fossil glacier sheltered underground. When the number of tourists is too high, the air temperature in the cave increases. Part of the ice speleothems that are accessible to tourists is starting to melt. To avoid this, it is necessary to limit the number of tourists who enter the cave, in order to preserve the microclimate. In fact, before 1990, this was done, and we consider that the same should be done today. In fact, these fragile underground ecosystems (caves) can be protected by closure, secrecy (their position being secret), by arrangement, and by custody (Bleahu, 2019). The last two are also compatible with tourist activities. The only cave in Romania arranged at an international level is the Urșilor Cave (Bears' Cave) in Bihor County.

3. Conclusions

Although tourism seems like an activity that would have a less important impact on the environment at first sight, things are not quite this. Some aspects of the impact of tourist activities on the environment are hidden, less visible, but their effects over time are serious. However, tourism practiced responsibly (supervised by professional decision-makers) and environmental protection are not antagonistic things. The tourist's interest is to preserve the tourist objective that is worth visiting; once destroyed, it no longer attracts tourists. Collaboration between environmental scientists and tourism employees is essential for managing tourist attractions and sustainable development in this field. Romania can intelligently and superiorly capitalize on natural tourism objectives, and it also has specialists in tourism and environmental protection who can solve the abovementioned problems.

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