



THE IMPACT OF TOURISM ON THE ENVIRONMENT: SUSTAINABILITY CHALLENGES AND THE LEGISLATIVE FRAMEWORK IN CROATIA

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Abstract: *Tourism, as one of the fastest growing economic sectors, has an increasingly strong impact on the environment, especially in countries with rich natural resources such as the Republic of Croatia. Although tourism contributes to economic development, employment and the promotion of local communities, it also causes a number of environmental problems, from pollution and spatial degradation to excessive construction and loss of biodiversity. The problems need to be understood and preventively addressed with the aim of long-term benefits for nature and the environment, as well as for future generations. The aim of this paper is to analyze the impact of tourism on the environment in Croatia through the prism of sustainability and the legal framework. The research is based on a qualitative analysis of relevant scientific and professional literature, legal regulations and existing statistical indicators. Special emphasis is placed on the role of protected areas and the importance of integrating ecological criteria into spatial planning and tourism development. The paper concludes that sustainable tourism development is possible only through a balanced cooperation between economic benefits and the protection of natural resources, with the legislative framework playing a key role. Guidelines for improving existing practices are proposed, which include stricter implementation of regulations, education of stakeholders and strategic spatial management.*

Keywords: *Tourism, Environment, Sustainable development, Spatial planning, Nature protection, Legislative framework*

1. Introduction

Tourism in the modern world is developing as one of the key economic activities with a significant impact on regional development, employment and international recognition of destinations. However, its development dynamics are often not aligned with the principles of sustainability, especially in countries like Croatia, which has sensitive and valuable natural resources. With the growth of tourist traffic, there are increasingly pronounced pressures on the environment: excessive urbanization, water and air pollution, biodiversity losses and irrational use of space (Jakovljević, 2020).

Given that the quality of the natural environment is one of the fundamental prerequisites for the competitiveness of the tourist offer, its preservation should not be seen as an obstacle, but as a strategic need. However, there is often a conflict between economic interests and environmental protection, which leads to spatial degradation and a long-term decrease in the attractiveness of tourist destinations (Ministry of Tourism and Sports of the Republic of Croatia, 2023).

The aim of this paper is to analyze the relationship between tourism and the environment in the Croatian context, with a special emphasis on the challenges of sustainable development and the

effectiveness of the existing legislative framework. The Republic of Croatia is currently working on harmonizing environmental protection measures with those of the European Union. This will greatly reduce the amount of environmental pollution. Just as the amount of pollution in various industrial processes is reduced, it is also necessary to reduce the amount of environmental pollution in terms of tourism. Tourism is a branch of the economy that is very important for the Republic of Croatia. Like any other branch of the economy, tourism causes certain damage to the environment. Such damage occurs in terms of pollution of nature and the environment with large amounts of waste, but also with the construction of certain facilities. When talking about tourist pollution in the Republic of Croatia, the focus is primarily on the coastal areas and the summer months. The impact of tourism on the environment throughout the year should not be forgotten, as the Republic of Croatia is a very important and attractive destination in Europe. This research is important in terms of preserving the environment and nature. With the strengthening of tourism as such an economic branch, it is absolutely normal that part of nature must be sacrificed for the construction of tourist centers. The key role of this work is to point out environmental problems and to set out possibilities for avoiding them. Through a review of the literature, legislation and current practice examples, the research question that is sought to answer is:

How does tourism affect the environment in Croatia, and to what extent do legislative measures contribute to the sustainable use of natural resources?

The structure of the paper follows a standard scientific format: the introduction is followed by a description of the methodology, theoretical framework, analysis of the impact of tourism on the environment, a review of existing protection measures, a discussion, and a conclusion.

1.1. Relevance of research

Global trends such as climate change, the increase in extreme weather events, the degradation of coastal ecosystems and the phenomenon of overtourism significantly increase the relevance of this topic. According to the UNWTO, tourism demand is growing by 3–4% annually, while at the same time the European Commission warns that Mediterranean destinations are among the most vulnerable to climate change, especially rising sea temperatures, coastal erosion and the threat to water resources. Croatia, as a highly seasonal destination with a high spatial concentration of tourism, faces pressures that go beyond the local context and require the urgent integration of sustainable policies.

1.2. Research problem

The research problem is based on the imbalance between intensive tourism development and limited environmental capacities. The key problem is the insufficient coordination of spatial planning, nature protection and tourism demand, which results in ecosystem degradation, pressure on infrastructure and impaired sustainability of destinations. The research questions the extent to which the legislative framework effectively regulates these pressures and whether it can ensure sustainable use of space.

2. Methodology

This work is based on qualitative methodology, specifically on the analysis of secondary sources. Scientific and professional works, legal documents, official statistical data and reports of relevant institutions in the field of tourism and environmental protection were used. The goal was to get an integrated insight into the relationship between tourism and the environment and to identify key challenges and guidelines for sustainable development.

The method of content analysis enabled the identification of dominant themes, attitudes and trends related to the impact of tourism on the environment, as well as the evaluation of the effectiveness of

legal and institutional mechanisms for nature protection. Although the research is not empirical in the narrow sense, it relies on reliable sources and relevant data that enable the construction of reasoned conclusions and recommendations.

This approach is particularly suitable for works whose goal is to synthesize existing knowledge and direct the discussion towards the improvement of legislative and development practice in the context of sustainable tourism.

In addition to content analysis, a comparative method was used to compare the Croatian legislative framework with the practices of other Mediterranean countries (Slovenia, Portugal, Greece). The analysis included sources published in the period 2015–2025, accessible through the Hrčak, Google Scholar, UNWTO, Eurostat and official ministries. Data validation was carried out by triaging sources according to the criteria: scientific review, topicality, institutional credibility and data consistency. Statistical information was used exclusively from official sources (CZS, Eurostat, HAOP). This ensured the reliability and relevance of the data included in the analysis.

2.1. Methodological limitations

The research is based exclusively on secondary data sources, which limits the possibility of deeper insight into local specificities, perceptions of key stakeholders and real implementation challenges on the ground. Also, for some spatial-ecological indicators, only older or fragmented statistics are available, which may affect the completeness of the analysis. Despite these limitations, the inclusion of credible institutional sources (CBS, Eurostat, UNWTO, HAOP) and comparative international examples ensures a sufficient level of reliability for formulating conclusions and recommendations.

2.2. Papers goals

The general objective is to analyze the impact of tourism on the environment in the Republic of Croatia and assess the effectiveness of the legislative framework in the context of sustainable development.

The specific objectives of the work are:

1. To gain an integrated insight into the relationship between tourism and the environment
2. To identify key challenges and guidelines for sustainable development
3. To determine the impact of tourism on the environment
4. To determine environmental protection measures in the context of the legislative framework
5. To propose ways to improve the current situation

3. Theoretical framework and literature review

3.1 The concept of tourism and its development

Tourism as a concept has a very broad meaning. If we were to ask our interlocutors what tourism is and what it means to them, we would get a lot of different answers. Some people equate tourism with entertainment, leisure, travel outside the place of residence and the like. The very first accepted definition of tourism, both by the International Association of Scientific Tourism Experts (AIEST) and by all authors, contained the above-mentioned components. In order to understand tourism, it is necessary to divide it into two groups: the tourist himself, and then the tourism.

To begin with, let's clarify the term tourist. Before the term tourism, there was the tourist, or traveler, and then his activities appeared (Kostelić, 2016).

As interesting definitions of tourism, we select two: (Pirjevec and Kesar, 2002): *“A tourist is a voluntary, temporary traveler who travels for the purpose of satisfaction that can be provided by the*

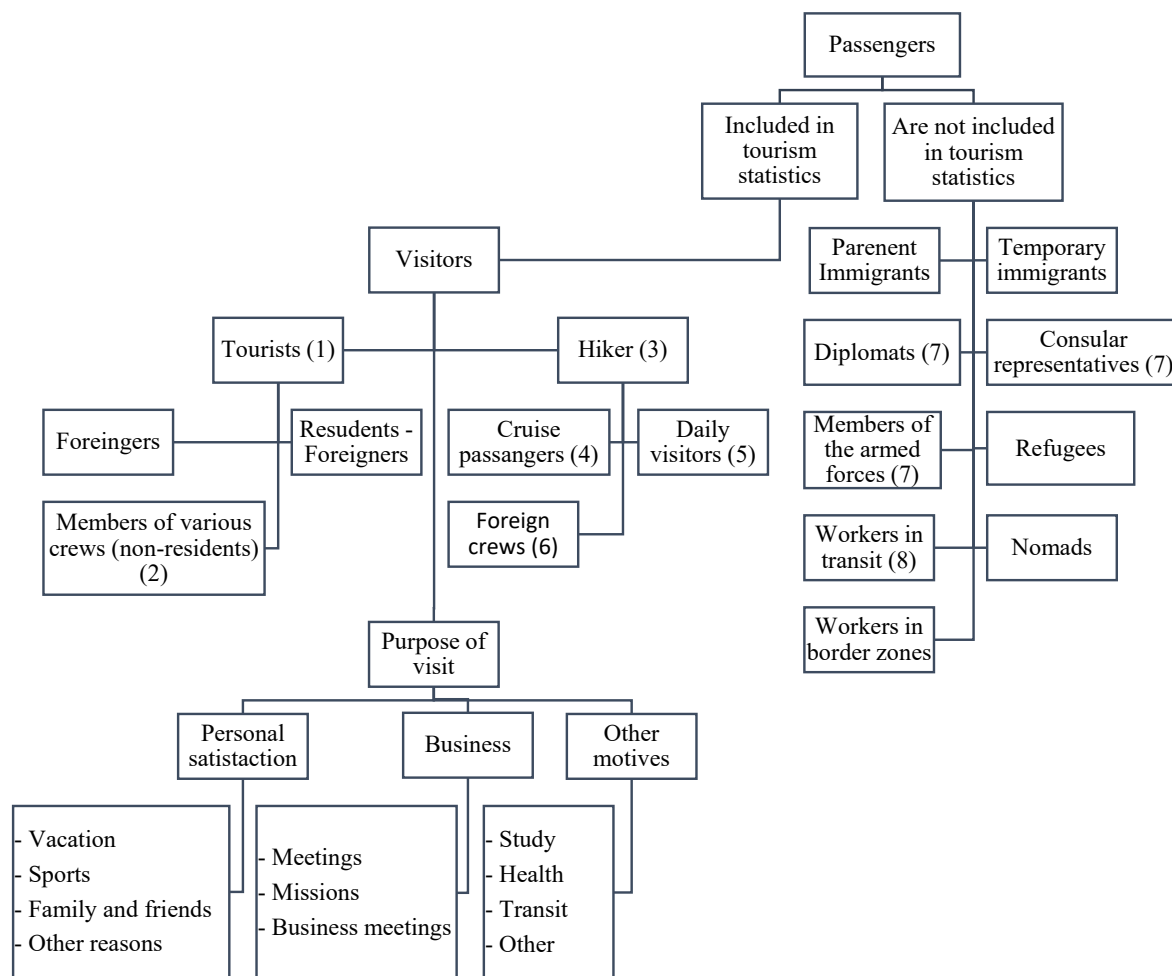
novelties and changes experienced on a relatively long and infrequent round trip". The definition of tourism published by Hunziker and Krapf in 1942 and recognized by AIEST is (Čvrlijak, 2010): *"Tourism is a set of relationships and phenomena that arise from the travel and stay of visitors to a place, if this stay does not establish permanent residence and if no economic activity is associated with such stay"*.

In order to fully understand the definitions, it is necessary to analyze them in more detail. A tourist is a person or traveler who has decided to change their place of permanent residence, of their own free will. The desire to change their place of residence occurs for various reasons, such as major changes in life, but also changes in working conditions. In the modern era, people work a lot and are "nailed" to the job that provides them with their livelihood. This is precisely why life, for the vast majority of people, comes down to going to work and returning home. It is precisely because of the monotony of life and the constant repetition of the same actions that a person has a desire for change, no matter if it is only for a day or two or even a few months. It is precisely these changes that psychologically "charge" a person's batteries, provide entertainment, novelty, and ultimately satisfaction. It is important to note that a tourist is a person who does not travel too often, but rather travels for several days away from their home or place of residence. This type of travel is called a round trip because the tourist returns to their starting point or place of permanent residence during the journey (Kostelić, 2016).

The definition of tourism states that tourism is a set of phenomena and relationships, which means that tourism is not and cannot be a phenomenon of one meaning, but a combination of several contents such as hospitality industry, travel agencies, stores, recreation, entertainment and the like. From one point of view, tourism can be travel, and from another, even a temporary stay in a place that as such becomes a tourist destination. It is said that (Pirjevec and Kesar, 2002): *"every tourist is a traveler, but not every traveler is a tourist"*. In order for a traveler to become a tourist, and thus his tourism to take place, it is necessary to go outside his place of permanent residence and temporarily stay for a certain period at a tourist destination that is interesting to him. The tourist destination at which the tourism takes place must be rich in anthropogenic and natural resources, which are also the reason for coming to that destination (Pirjevec, 1998).

The World Tourism Organization has published the most comprehensive and concise classification of tourists and travelers, which is visible in Graph 1. The published classification clearly shows who is considered a tourist and the purpose of the trip, who is just an excursionist, and who is not a tourist at all. As an explanation of tourism, it is important to mention the definition of a tourist by the Croatian National Bureau of Statistics, which reads: (Prijevec and Kesar, 2002) *"A tourist is any person who spends at least one night in a catering establishment or other accommodation facility outside their place of residence, for the purposes of vacation or recreation, health, studies, sports, religion, family, business, public missions and meetings"* (Prijevec and Kesar, 2002).

Graph 1. Passenger classification according to World Tourism Organization (WTO)



- (1) Visitors who stay at least on night in the country they are visiting.
- (2) Foreign air and ship crews using accommodation in the country they are visiting.
- (3) Visitors who do not stay overnight in the country visited, although there is the possibility of visiting for a day or more and who return to their ship or train to sleep over.
- (4) Commonly included in excursionists. Separate classification of these visitors is not recommended.
- (5) Visitors arriving and departing on the same day.
- (6) Crews who are not residents of the country they are visiting and who stay for only one day.
- (7) Passengers traveling from their home country to another country and vice versa.
- (8) Passengers who do not leave the transit area of airports or seaports.

Source: Created by the author based on: <https://zir.nsk.hr/islandora/object/unipu%3A2691/datastream/PDF/view> (Dundara, 2018)

The historical development of tourism dates back to ancient times, although many authors associate the development of tourism with the development of industrial civilization. Records of many people’s travels date back to ancient times, but these trips do not really have tourist characteristics, but remain only on the journeys of travelers. Barkart and Medlik, as well-known British tourism theorists, say that the beginning of real tourism was on July 5, 1841, when the first organized trip took place. Thomas Cook then organized a trip from Leicester to Loughborough for 570 people, by rail. The reason for such a trip was the congress of the Anti-Alcoholic Society. From those beginnings to the present day, tourist trips have developed together with the economic development of tourist markets, so that today they have taken on global proportions (Jovanović, 2016).

Tourism today is completely different and is determined by the motives of tourist trips. Historical development was also important for the emergence of today’s tourism in order to make people as

travelers psychologically interested in tourist trips. Today's tourist motives are completely different and even tourists themselves cannot accurately determine what interested them in a particular tourist destination. A common case when deciding to travel is an unfulfilled desire, but also an escape from boring everyday life, a desire to change their place of residence, but also to rest and have fun. Thanks to today's technology and the possibilities of the media and other sources, tourists can review their tourist destinations in advance, research and learn something about them, which has greatly increased the demand for various tourist destinations. What humans need most is a vacation, everybody achieves it in some way, but we can all agree that the environment and natural beauties are a very good place for a tourist destination. This leads us to the question of how tourism affects the environment and what its negative impacts are (Jovanović, 2016).

3.2 Tourism in Croatia: historical development and context

Tourism in Croatia has a long tradition, especially in coastal areas. The first forms of organized tourism appeared at the end of the 19th century, when health resorts and bathing areas were developed in continental and coastal areas (Stubičke toplice, Opatija, Dubrovnik). The first hotels that could accommodate tourists in Croatia began to be built around 1959. That was when tourism in Croatia began to appear more seriously, and with it, supply and demand became greater. Health resorts became more attractive and better organized, and religious centers were upgraded. The coastal part of Croatia aroused the interest of tourists only at the end of the 19th century.

After World War II, there was an intensive development of mass tourism, especially during the so-called "golden age" from 1965 to 1975 (Jakovljević, 2020).

During this period of 10 years, there was a strong investment in infrastructure and accommodation capacities (hotels, apartments, camps), but often without sufficient attention to environmental protection. Precisely because of such a large scale of investment in tourism, this period is called the "golden age" and thus even greater interest in Croatia as an interesting tourist destination in the Mediterranean is achieved. The largest arrival of foreign tourists was recorded from 1987 until the independence of the Republic of Croatia (10.5 million tourists) (Jakovljević, 2020).

Figure 1 shows an example of a very well-known tourist destination today. It shows what Krk looked like at the beginning of the 20th century and what the attractive beach in Malinska looked like back then (Jakovljević, 2020).

Figure 1. The beginnings of Croatian tourism



Source: *Turizam kao pokretač rasta i razvoja Republike Hrvatske | EFOS REPOZITORIJ* (Jakovljević, 2020)

The rapid development, especially when looking at the Adriatic coast, resulted in numerous environmental and spatial problems. Problems arise in the form of concreting the coast, excessive use of natural resources and pressure on local communities. After the independence of the Republic of Croatia and the stabilization of political conditions, tourism became one of the main drivers of the national economy. At the same time, the need for sustainable development, the integration of environmental protection into tourism policies and better legal regulation of spatial planning is increasingly being expressed (Rudež and Marić, 2014).

4. Impact of tourism on the environment

4.1 Spatial degradation and pressure on infrastructure

One of the main factors of tourism is space. People live in space, but also shape it according to their way of life. All human activities take place in space, which certainly brings negative impact or damage to the environment. Both in history and today, human activities are irrational, underdeveloped and harmful to space. Today, considering the quantity, the degree of development, the method of development and the number of people, the damages are increasing, more intensely and more frequently (Španjol, 1997).

The development of tourism, especially mass tourism, significantly affects the spatial structures and functionality of infrastructure systems. In the context of Croatia, tourist activity is mostly concentrated along the Adriatic coast, which leads to pronounced seasonal pressure on space and infrastructure. This concentration results in uneven development, but also overloading of urban and natural spaces during the summer months. According to the Central Bureau of Statistics, Croatia recorded 20.6 million tourist arrivals and more than 108 million overnight stays in 2023, confirming an exceptionally high level of tourism activity (CBS, 2024). Such high tourism intensity generates proportionally greater pressures on spatial resources, the environment and infrastructure, especially in coastal counties. Intensive construction of accommodation facilities, roads, marinas and other tourist facilities often takes place without a long-term spatial strategy, which causes the visual identity of the landscape to be disrupted and natural habitats to be lost. Urbanization of the coastal area, as a result of tourist demand, contributes to spatial fragmentation and negatively affects local communities through gentrification and increased costs of living (Ministry of Tourism and Sports of the Republic of Croatia, 2023). Seasonal pressure is particularly pronounced in terms of water consumption: in Dubrovnik, according to data from the local utility company, consumption in the period June–September is as much as 3.1–3.3 times higher than in the rest of the year (Water Supply and Drainage Dubrovnik, 2022), which creates a burden on the local water supply system.

4.2 Changes in natural resources and ecosystems

Tourism is a sector of the economy that faced harmful and irrational use of space earlier than others, according to Vukonić (Vukonić, 1994): “*space is a part of the tourist product and without quality space there is no tourism*” (Vukonić, 1994).

Tourism needs the environment to use, and therefore requires its quality and cleanliness. We can safely conclude that the environment is under a great deal of pollution due to tourism itself. Since tourism is based on the natural beauty of the environment, it is necessary to implement environmental protection measures in order for tourism to be as long-lasting and successful as possible (Španjol, 1997).

Tourism is not usually the biggest polluter of the environment, but only if the communal infrastructure is well-designed. In Croatia, a large part of tourist destinations still have unresolved basic communal problems (Kružić, 2010).

Plitvice Lakes National Park illustrates the level of pressure on protected areas: in the peak season, the daily number of visitors reaches up to 12,000, which exceeds the recommended sustainability capacities and creates pressure on ecosystems (JU NP Plitvice Lakes, 2022).

The plan and care for the protection of the natural environment must be at the very top of the thinking in spatial planning. As tourism develops, it exploits space, and therefore the environment, untouched nature, and in this way reduces the opportunities and natural wealth which is also the main fuel of tourism. Today, the problem is not the overall lack of space, but the problem is the lack of space for a specific purpose, precisely because space is being used for the wrong purpose. Tourism endangers and pollutes space in a very specific way. Precisely because of its dispersion, scope, but also the need for the most beautiful and ecologically preserved parts, tourism endangers space even more than industrial processes (Španjol, 1997).

Furthermore, economic and social goals must be considered account when planning an area. This rule is one of great importance when it comes to tourist areas. An individual must never approach the process of creating their own physical structures alone, no matter how attractive and economically acceptable they may seem. One-sided implementations carry great danger because they lead to a large number of mistakes and failures. Tourist centers, instead of using their natural wealth as fuel in a large number of tourist facilities, often replace space with expensive infrastructural buildings. The most favorable example of this is when green areas intended for recreation are reduced, and the need for them increases, resulting in a serious shortage of similar spaces that is ultimately almost impossible to compensate for (Španjol, 1997).

Today's tourism is increasingly based on human contact with nature and its full experience. This approach applies to the wealthier classes of America, Japan and Europe. The increase in standards and the higher level of education of the population result in the development of tourism in some countries completely unknown to tourists, such as the Maldives, Gambia, Seychelles and others. Much more pronounced and popular tourism trends than the Mediterranean are in Oceania, the Caribbean, the Far East, Africa, both because of the exotic landscape and climatic advantages, and because of the preservation of the environment (Klarić, 1987). This type of tourism image can and should be an example, but also proof that more measures should be taken and cannot be based only on the protection of spatial development. Measures should be taken to protect the entire space, and these are based on ecology. The most developed European countries in tourism, such as Greece, Spain, Italy and the like, are faced with the problem of a lack of environmentally friendly spaces. These countries have degraded a large part of their urban and natural spaces themselves, even to the point where they cease to be a tourist attraction. Judging by this, the future of tourism investments should be carefully considered. Considering all aspects, developing spatial plans, limiting the construction of infrastructure leads to the improvement and longevity of tourist offers. It can be concluded with full responsibility that countries with preserved overall space and ecologically stable nature have a secure tourist future (Španjol, 1997).

All tourism activities significantly impact ecosystems and natural resources, especially when development is not based on sustainability. Croatia is a country of rich biodiversity and diverse natural landscapes, from the mountain regions to the Adriatic coast. It is precisely on this richness that tourism can have long-term consequences if natural resources are not used rationally (Cetina, 2022).

Among several significant problems, it is important to mention the excessive use of water, especially on islands, where the availability of water for drinking and hygiene is limited. During the tourist season, the demand for fresh water exceeds the needs of the local and tourist population many times over, and this is where problems arise. Water sources are depleted, changes in hydrological cycles occur, and vulnerability for a drought are increased. The construction of tourist infrastructure is increasingly using chemicals, which also further burden the soil and groundwater (Kuri and Gogi, n.d.).

To prevent the degradation of ecosystems and natural resources, it is necessary to find a balance between environmental protection and tourism. Such activities include the principles of ecological sustainability in planning, visitor education, controlling the number of tourists in sensitive areas, and implementing innovative technologies to minimize negative environmental impacts (Ministry of Tourism and Sports of the Republic of Croatia, 2023).

4.3. Summary of key findings of the analysis

Analysis of available sources and the legislative framework indicates several dominant patterns:

1. Spatial degradation of the coast – the greatest pressures are related to apartment development, expansion of accommodation capacities and loss of the coastal zone as a natural resource.
2. Excessive water consumption during the tourist season – in some island communities, consumption increases by up to four times, which directly increases the vulnerability of the water supply system.
3. Increased waste – tourist-intensive destinations record 30–50% more waste during the season compared to the rest of the year.
4. Pressures on protected areas – national parks and nature parks often exceed their carrying capacity, which endangers ecosystems and disrupts the visitor experience.
5. Insufficient implementation of regulations – although the legislative framework is relatively well developed, the practice of supervision, sanctioning and implementation planning often lags behind.
6. Uneven seasonality – more than 85% of tourist traffic is concentrated in the period June–September and approximately 90% in the coastal area, which generates a pronounced spatial-temporal imbalance.

These findings form the basis for a discussion on the sustainability of the system and indicate the need for stronger management of tourist flows, especially in sensitive areas.

5. Environmental protection measures in the context of tourism

Nature protection and tourism have, throughout history, begun to develop in parallel with the development of urbanization, transport and industrialization. Going back to history and the development of tourism in history, we can consider the cause-and-effect relationship between the proclamation of the first national park in the world, Yellowstone (USA), and the organization of the first tourist trip around the world in 1872. Since ancient times, the proclamation of natural resources as protected areas has contributed to the development of tourism, proving that tourism is actually closely linked to nature and the natural environment. It is precisely ecologically valuable and naturally attractive phenomena, parts or objects of nature that are placed under protection, and they constitute highly sought-after tourist motives (Španjol, 1997).

It is unquestionable that tourism certainly has a harmful effect on nature and the natural environment in several ways:

- the quantity or number of tourists visiting the tourist destination,
- technical and organizational measures (excessive, unplanned, uncontrolled, spontaneous and irrational construction, increased hydro and air pollution, increased load on the infrastructure of the local community and disruption of the tourist-environmental balance),
- unintentional damages caused by tourists.

All this pollution brings multiple aesthetic and physical damage and greatly changes the naturalness, but also the value of the space. Any destruction of the environment and natural resources brings great ecological damage to tourism. Tourism is thus left without the main condition for development and

without a natural base. It is precisely because of such phenomena that the man asks himself whether nature should still be left untouched and unchanged or whether it should be systematically but rationally exploited. No one can give an answer to this. The fact that tourism has become an increasingly important economic force in a world based precisely on cultural and natural resources hides the solution to this question. In the tourism industry, there must be communication and compromise, as well as economic and ecological connections. By planning tourism in this way, the environment can minimize the loss of its naturalness where it is impossible to avoid it (Španjol, 1993).

Tourism has been called the “industry of the 21st century” by renowned authors. This is actually true, because tourism as an activity is highly recognized in the world and brings great economic benefits, the primary task is to spatially reduce and ecologically distribute the rate of development and growth, and mitigate its adverse effects.

Nature protection is not just a matter for the local community or a single tourist destination, but much broader. We know that environmental pollution of the sea, soil, water and air knows no boundaries and can therefore have a global impact, both on the economy and tourism of surrounding countries. Therefore, according to Vukonić (Vukonić, 1994): *“Tourism must constantly balance and seek the optimum in the development process, between ecological needs and the need to protect natural resources on the one hand, and the creation of conditions for a life suitable for humans on the other”* (Vukonić, 1994).

The Environmental Protection Act and the Nature Protection Act, as well as other laws and legal regulations, clearly prescribe special measures for the preservation of natural values when it comes to tourist destinations and their planning. The laws also clearly specify the spatial development of tourist centers, accommodation facilities and attractive entertainment facilities. It is important to note in the Nature Protection Act that tourism workers should be included in the supervision of protected natural objects (NN 118/18; NN 127/19).

The protection of natural objects places great importance on the ecology and ecological future of tourist areas. Areas protected by state authorities have clearly defined plans for the construction and exploitation of natural resources so as not to destroy the natural balance in any way. As it has been said that tourism and the environment are closely linked, without the protection of natural centers, tourism would not make sense, which is why countries have introduced protections such as national parks, nature parks, etc. (Španjol, 1997). In the Republic of Croatia, according to the current Nature Protection Act, a total of 746 objects are protected, of which 410 objects with a total area of 817.383,34 ha, which makes up 9,30% of the area of the entire Republic of Croatia (Ministry of Economy and Sustainable Development of the Republic of Croatia, 2022).

Specially protected natural objects are divided into 9 categories, as can be seen from Table 1.

Table 1. Categories of protected natural objects in the Republic of Croatia

1.	National parks	8
2.	Nature parks	12
3.	Strict reserves	2
4.	Special reserves	79
5.	Regional park	2
6.	Natural monument	79
7.	Significant landscape	81
8.	Park – forest	27
9.	Monument of park architecture	120

Source: <https://mingo.gov.hr/o-ministarstvu-1065/djelokrug-4925/zastita-prirode/zasticena-podrucja/1188> (Ministry of Economy and Sustainable Development of the Republic of Croatia, 2022)

Each of the protected objects individually requires a special approach and a method of organization that depends on its spatial and ecological characteristics. In particular, special approaches apply to spatial objects (Španjol, 1997).

5.1 Legislative framework and implementation

The legislative framework for environmental protection in the context of tourism in Croatia is based on national regulations coordinated with the *acquis communautaire*, as well as on international conventions which Croatia implements as a member of the international community. Key legal acts include the Environmental Protection Act, the Sustainable Waste Management Act, the Nature Protection Act, and the Spatial Planning Act, which together form the basis for regulating the impact of tourism on the environment (NN 118/18; NN 98/19; NN 155/23; NN 67/23).

The Ministry of Economy and Sustainable Development, the Ministry of Tourism and Sports, and local and regional self-government units play a central role in implementing the legislative framework. Key implementation instruments include environmental impact assessments (EIAs) and strategic environmental assessments (SEAs), which are mandatory for all major tourism projects, such as the construction of hotels, marinas, golf courses, and tourist resorts (Ministry of Economy and Sustainable Development of the Republic of Croatia, n.d.-a; n.d.-b).

Despite a relatively developed legislative framework, challenges remain in the areas of implementation and supervision. Lack of capacity at the local level, insufficient cooperation between institutions and frequent deviations from spatial development plans hinder the effective implementation of the law. Tourism projects are often approved with exemptions or in procedures that do not include adequate assessment of environmental impacts. Control mechanisms are also often insufficient, allowing for unsanctioned violations such as excessive construction or interventions within protected areas (Šibensko-kninska županija, 2020; Ministry of Physical Planning, Construction and State Property of the Republic of Croatia, 2017).

In addition to national instruments, EU directives also play an important role, in particular the Habitats Directive (92/43/EEC) and the Birds Directive (2009/147/EC), which oblige Member States to conserve biodiversity and establish and manage the Natura 2000 network (Croatian Agency for Protection and Nature, 2020). Croatia is obliged to coordinate tourism activities with the conservation of areas within this network, with particular attention to ecological assessment and public participation (Croatian Agency for Protection and Nature, 2020).

The legislative framework of the Republic of Croatia, which is in line with the framework of the European Union, clearly sets out guidelines for environmental protection in the context of tourism. Any strict adherence to the legislative framework greatly helps in preserving nature and the environment. When determining possible environmental damage caused by tourism, the application of measures from the legislative framework is considered. Penalties, as such, can be an extremely important factor in the task of preventing the degradation of natural resources.

5.2 Specially protected areas and their significance

Specially protected areas (SPAs) include national parks, nature parks, strict and special reserves, natural monuments and significant landscapes, representing not only biological and landscape value, but also an important resource for the development of sustainable tourism (Croatian Agency for Protection and Nature, 2025).

Croatia has a total of 8 national parks and 12 nature parks, which together form a network for the preservation of natural heritage (Ministry of Economy and Sustainable Development of the Republic of Croatia, 2021a; 2021b). Additionally, a large part of the territory is included in the Natura 2000 ecological network, which covers 36.8% of the land territory and 9.3% of the sea under national

jurisdiction, ensuring an additional level of protection for the population and species (Croatian Agency for Protection and Nature, 2023).

These areas often attract large numbers of visitors due to their exceptional natural beauty and diversity, but this creates challenges related to preserving their authenticity and ecological balance (Croatian Agency for Protection and Nature, 2023). Tourism in protected areas must be carefully planned to preserve their primary function – the protection of natural processes and biodiversity. The Nature Protection Act provides for specific management plans for each area, which define the maximum carrying capacity of the area, the regimes of use, educational and interpretative activities, and the way of managing visitors. Such plans enable the development of tourism that does not disrupt natural values, but integrates them into the visitor experience (NN 127/19).

A good example of harmonizing tourism and environmental protection is the Plitvice Lakes National Park, where a system of visitor control, spatial guidance, education and waste and infrastructure management is implemented in accordance with the principles of sustainability. Similarly, in the Telašćica Nature Park and the Velebit Nature Park, visitor infrastructures have been developed that reduce pressure on ecosystems through information centers, marked trails, and restrictions on navigation or visiting sensitive sites. However, in many cases, problems arise due to insufficient control, inadequate funding of management bodies, and pressure from investors on the edges of protected areas. Therefore, it is necessary to continuously invest in management capacities, involve local communities in decision-making, and promote ecotourism as a form of tourism that contributes to nature protection and local development (Čančar, 2024).

Ultimately, specially protected areas represent the foundation for the development of high-quality and long-term sustainable tourism in Croatia. Their protection should not be an obstacle to development, but rather a guideline for building tourism that is in line with natural laws and the needs of future generations (Perić, 2019).

6. Discussion

6.1 Sustainability of tourism in the Croatian context

The results presented in the previous chapter clearly indicate the dominant patterns of tourism pressures on the environment, and the following discussion interprets these findings in the context of the legislative framework, management measures and international experiences.

The sustainability of tourism in Croatia is increasingly recognized as a key challenge, but also an opportunity to redefine a tourism model that would be aligned with environmental, social and economic goals in the long term. The traditional model of Croatian tourism relies on mass seasonal tourism, high concentration of people on the Adriatic coast, and a strong dependence on growth in arrivals and overnight stays as the main measure of success. Such a model, although economically significant, creates increasingly pronounced environmental and social pressures. In the context of the environment, the sustainability of tourism in Croatia implies harmonizing tourism activities with spatial capacities, rational management of natural resources, and minimizing negative impacts on ecosystems and biodiversity. Issues such as overbuilding, pollution, waste management, and overloaded infrastructure require integrated responses that link spatial planning, environmental standards, and the social responsibility of stakeholders (Ministry of Tourism and Sports of the Republic of Croatia, 2023).

The social dimension of sustainability includes preserving local identity, culture and the quality of life of the population. Rising real estate prices, gentrification and the conversion of residential spaces into short-term rental space are significantly changing the structure of local communities, especially in larger cities such as Dubrovnik, Split or Rijeka. This leads to an erosion of authenticity and a decrease in local participation in shaping the tourist offer (Čaldarović, Vukić and Klempić Bogadi, 2018).

On the other hand, Croatia has a lot of potential for developing sustainable forms of tourism, such as ecotourism, cultural tourism, agritourism and cycle-tourism. Continental Croatia, for example, offers unused capacities for dispersing tourist flows, which can contribute to more balanced development and relief of the coast. Also, involving local communities, educating tourism workers and raising awareness of visitors about the importance of environmental protection are key steps in this direction (Farena, 2018).

Efforts to steer tourism towards sustainability have also been recognized at the strategic level through documents such as the Strategy for Sustainable Tourism Development by 2030, which envisages measures to reduce the ecological footprint of tourism, digitalize destination management, promote the circular economy and improve the quality of life of local populations. However, concrete implementation continues to encounter obstacles in the form of political fragmentation, lack of capacity and resistance to change in a sector accustomed to short-term profits. The sustainability of tourism in the Croatian context is therefore not only a matter of environmental policy, but a comprehensive challenge that requires a transformation of growth models, a change in the perception of success in tourism and a long-term vision based on a balance between people, nature and the economy (Ministry of Tourism and Sports of the Republic of Croatia, 2023).

6.2 Suggestions for improvement

The structured recommendations for implementing sustainable tourism management are as follows:

1. Management measures
 - Introduce digital visitor tracking systems in the busiest destinations, modeled after the Slovenian “Slovenia Green” model.
 - Establish stricter controls on the implementation of spatial plans at the local level.
2. Spatial planning measures
 - Limit the expansion of construction zones in the coastal zone.
 - Introduce mandatory assessments of carrying capacity before approving major tourism projects.
3. Environmental measures
 - Introduce systems for charging water and energy consumption according to actual consumption in tourist facilities.
 - Strengthen surveillance in protected areas, including daily limits on the number of visitors.
4. Educational and socio-economic measures
 - Implement educational campaigns for tourists and local communities on sustainable behavior.
 - Encourage diversification of the tourist offer outside the high season and off the coast.

In order to ensure the long-term sustainability of tourism in Croatia and mitigate negative environmental impacts, it is necessary to implement comprehensive reforms that include strategic planning, institutional strengthening and a change in the approach to tourism development (Ministry of Tourism and Sports of the Republic of Croatia, 2023).

Suggestions for improvement can be viewed through several key areas of action:

- Diversification of tourism offers and spatial redistribution,
- strengthening institutional and management structures,
- introduction of sustainability criteria in spatial planning,
- economic instruments to encourage sustainable practices,
- education and awareness of all stakeholders,

- digitalization and smart destination management,
- monitoring and evaluation of the impact of tourism.

Ultimately, improving the sustainability of tourism in Croatia requires a shift from a quantitative growth model to a qualitative development model. Success should not be measured solely by the number of overnight stays or arrivals, but by the long-term conservation of resources, the quality of life of local residents and visitor satisfaction. Such an approach can enable Croatia to become a leader in sustainable tourism in the Mediterranean (Ministry of Tourism and Sports of the Republic of Croatia, 2023).

6.3 Examples of good practice from the European Union

- Slovenia – Slovenia Green Model: destination certification, strict carrying capacity, digital visitor management systems.
- Portugal – Algarve Sustainable Tourism Plan: coastal construction restrictions, water resource protection and inland diversification.
- Greece – Santorini Management Plan: daily visitor restrictions and cruise ship control.

A comparison with the European Union guidelines shows that the Republic of Croatia has a good legislative framework, but insufficient implementation and limited digitalization of tourism flow management.

7. CONCLUSION

Tourism is one of the key drivers of economic development in Croatia, but its increasing spatial concentration, seasonality and intensity create significant challenges for the environment and local communities. Analysis of the environmental impact of tourism shows that without appropriate regulation and management, tourism can lead to permanent damage of natural resources, ecosystems and the quality of life of the population. Areas with high ecological values, but also limited capacities to accommodate large numbers of visitors, are particularly at risk.

Although the legal framework in Croatia formally ensures environmental protection, its implementation in practice often lags behind real needs. Lack of institutional capacity, inconsistent enforcement of regulations and occasional lack of political contribution allow practices that are not in line with the principles of sustainable development to continue. On the other hand, positive examples of the management of special protected areas, the development of alternative forms of tourism and the growing awareness of the need for sustainability indicate the potential for a change of direction.

Sustainability of tourism in the Croatian context should not be seen as a constraint on development, but as a foundation for its long-term stability and resilience. The key to success lies in coordinating economic interests with ecological responsibility, an even spatial distribution of tourism activities, the involvement of local communities and the application of innovative solutions for resource management.

For the future of Croatian tourism, a change in paradigm is of crucial importance. From quantitative growth towards quality, sustainability and resilience. Only such an approach can ensure that tourism continues to be an important element of national identity and economic strategy, but without endangering the natural foundations on which it rests.

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