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## **THE ENVIRONMENTAL IMPACT OF TOURISM IN THE DURRËS REGION (ALBANIA)**

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### **Abstract**

*In this paper, we analyzed the environmental impact of tourism in the Durrës Region. Our focus will be on marine water quality, management of urban and tourist waste, uncontrolled urban development and pressure on protected areas. The methodology used includes secondary data from national and international institutional sources by reviewing scientific literature and national and international reports. Some of the conclusions of the study indicate a critical situation*



*regarding the bathing water quality, with over half of the stations classified as having very low quality. Waste management does not comply with the standards of sustainable tourism destinations and coastal development increases the risk of erosion and loss of identity. The importance of this study lies in the fact that it provides an integrated framework for policies and interventions that can guide local governments, businesses and communities towards a sustainable tourism model.*

*Keywords: Coastal tourism, environmental impact, water quality, waste management, urban development, protected areas, sustainable tourism*

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## **INTRODUCTION**

One of the most important contributors to Albania's Gross Domestic Product (GDP) and employment is Tourism. In 2024, INSTAT reported that more than 10 million tourists were registered in the country. According to the Ministry of Tourism and Environment (2023), the Durrës Region appears as one of the most frequented tourist destinations due to its geographical position, the length of its coastline and the ever-developing and improving tourist infrastructure. In addition to maritime tourism, this region also offers diverse cultural and archaeological destinations (UNWTO, 2023) such as the Durrës Amphitheater, the Ishmi Castle, the Clock Tower in Kavajë, the birthplace of Aleksandër Moisiu, the Church of St. Ndou in Rodon, and many others. However, during periods of high tourist influx, challenges such as environmental pollution and the congestion brought about by this influx require well-thought-out strategic interventions (NEA, 2024).

This study aims to analyze the environmental impact of tourism development in the Durrës Region. We believe that the increase in tourist flows reduces water quality, complicates urban waste management, degrades coastlines and exerts negative pressure on nature.

We believe that the increase in tourist flows reduces water quality, complicates urban waste management, degrades coastlines and exerts negative pressure on nature. The data is based on national and international sources such as the Albanian Institute of Statistics (INSTAT), the National Environment Agency (NEA), the Ministry of Tourism and Environment, and the World Tourism Organization (UNWTO).

Our paper aims to answer several questions such as:

- ✓ Impact of seasonal tourism on sea water quality in Durrës Region;
- ✓ Maintaining environmental standards in tourist areas of Durrës Region through urban waste management;
- ✓ Effects of urban development from tourism on coastal erosion and loss of public spaces in this region;
- ✓ Endangering protected areas and biodiversity from seasonal tourist influx;
- ✓ Raising awareness among tourists about preserving environmental quality through risk based inspections and awareness campaigns.

After this chapter where we presented the context and importance of our work, we will continue with the review of the literature based on national and international studies on the impact of coastal tourism on the quality of marine waters, waste management, environmental protection and areas of interest, and also biodiversity. The third chapter describes ‘the desk research’ approach, the sources used and the analysis that goes through three phases such as identification and selection of sources, thematic analysis and international comparison. In the following we present the main findings on the impact of seasonal tourism on water pollution, waste management, urban development and pressure on protected areas. We interpret these results in relation to hypotheses and international best practices. Finally, we recommend a package of integrated measures to reduce the environmental impact of tourism in the Durrës Region and to promote a sustainable coastal development model.

## LITERATURE REVIEW

In this study we reiterate the concept of sustainable tourism, aiming to reconcile the economic needs of tourism development with the long-term protection of the environment and the well-being of the community. Tourism is considered sustainable when it “takes full account of current and future economic, social and environmental impacts and addresses the needs of visitors, the industry, the environment and the host community” (UNWTO, 2005).

Environmental carrying capacity, which determines the extent to which natural resources can be used without causing irreversible damage to the ecosystem, is essential to determine the point at which the benefits of tourism turn into overload and degradation (Coccossis & Mexa,

2004). According to Holden (2016), tourism activities have significant environmental impacts such as marine water pollution, increased solid waste, coastal erosion, and destruction of natural habitats. In the Durrës Region, where tourism reaches significant numbers for the Albanian reality during the summer season, these effects are quite visible. (NEA, 2024).

Cvijanović (2022) emphasizes the need to control tourist flows through digitalization and local taxes, as, according to him, in a study conducted in Dubrovnik (Croatia), mass tourism leads to infrastructure overload, marine water pollution, and increased water and energy consumption. In 2023, in Budva (Montenegro), pollution resulting from unauthorized tourist construction and lack of waste management was highlighted, threatening marine ecosystems. In this case, local government should cooperate with the central government for the proper implementation of environmental policies (Vujačić & Krivokapić, 2023). Papageorgiou et al. (2021) proposed the establishment of protected areas and the promotion of low-impact tourism in the Ionian islands (Greece) due to the degradation of natural areas due to intensive tourism, including deforestation and loss of diversity. In Albania, the National Strategy for Development and Integration 2022–2030 and the Tourism Strategy 2022–2026 emphasize the integration of sustainability criteria into tourism planning, including the use of environmental taxes, the establishment of green infrastructure, and the control of environmental impacts for new tourism projects (MTE, 2022).

Currently, Albania is expected to carry out environmental impact assessments for projects affecting coastal and protected areas (NEA, 2024), but implementation in practice often faces difficulties due to a lack of human resources and local control. The Municipality of Durrës has undertaken initiatives such as seasonal beach cleaning and awareness campaigns to protect the environment from tourist pollution, but the overloading of the sewage system, solid waste management and informal construction in coastal areas remain problematic. (Municipality of Durrës, 2023). The assessment and monitoring of tourism in national parks is carried out by the National Agency for Protected Areas, which controls tourist activities to avoid damage to biodiversity and native flora (NAPA, 2023).

According to Prendi and Murrja (2023), Balkan countries not part of the EU, including Albania, have shown mixed progress toward green economy goals—with advances in some green growth indicators but notable gaps in areas like resource productivity and policy responses.

According to Prendi and Gashi (2023), Albania has made notable progress in green growth indicators over the years, yet challenges such as waste, water pollution, and biodiversity loss remain pressing issues that require effective management.

## The Context of Durrës

Durrës was founded in the 7th century BCE. It has always been an important strategic point on the Adriatic coast for both trade and travel. According to Nase (2016), Durrës became one of the most important ports on the Egnatia Road during the Roman Empire and was visited by numerous merchants, travelers, and officials. It is one of the oldest cities in Albania.

During the communist period (1945–1990), Durrës tourism was limited and centralized mainly to domestic vacationers and vacationers from Eastern countries. Resorts and holiday homes were built on Durrës beach, but tourism was state-controlled and had no direct connection to international tourism (Kera, 2018).

After the 1990s, with the fall of the communist system and the development of free trade, Durrës experienced a significant increase in construction and private tourism. Hotels, bars, restaurants and other tourist establishments spread rapidly, without sustainable urban and environmental planning. In 2000, Durrës became one of the most preferred places for summer tourism, with influxes especially from Kosovo Albanians and emigrants (INSTAT, 2023).

In recent years there have been efforts to improve tourism infrastructure and to promote cultural and historical heritage, including restorations of cultural monuments and coastal promenades. Nowadays Durrës still faces challenges such as seasonality, coastal pollution and increasing urbanization (NEA, 2024; MTE, 2022).

The city of Durrës has seen a significant increase in accommodation capacity over the last decade. There were 350 registered structures and around 14,000 beds in 2023, concentrated on the coastline (INSTAT, 2024). The lack of an official system for classifying and certifying hotels and other establishments remains a challenge for standardization and quality of services (MTE, 2023).

Regarding transport, Durrës is the largest seaport in Albania, creating important connections with international tourists. The proximity of this city to the capital, Tirana, is also advantageous. In contrast, urban transport is characterized by fragmentation and lack of technological development (MTE, 2023).

According to the National Environment Agency (NEA, 2024), the coastline of Durrës, Cliff of Kavajë and Golem is most frequented during the summer season, bringing great environmental pressure, with pollution of marine waters from sewage discharges and tourist overload.

The cultural heritage of the city of Durrës is an untapped potential for the development of cultural tourism due to a lack of investment and promotion (UNESCO, 2022). Infrastructure development is a necessary strategy for the qualitative growth of tourism in Durrës.

## Hypotheses

From the reviewed literature and scientific research questions, we have raised the following hypotheses:

H1: Untreated or partially treated urban discharges significantly affect the quality of seawater in the Durrës Region, especially during tourist flows.

H2: Urban and tourist waste management system unsuitable for a coastal destination with high visitor intensity negatively impacts the tourist image and experience.

H3: Uncontrolled urban development on the coastline of this region leads to erosion, loss of public space and degradation of natural habitats.

H4: Seasonal tourist flow significantly increases the risk to protected areas and biodiversity.

H5: The level of compliance with environmental standards is lower in the absence of risk-based inspections and awareness campaigns among tourists and the community.

## METHODOLOGY

Our study employs secondary research (desk research). It is based on the collection, review and analysis of existing data and sources that observe the impact that tourism has on the environment of the Durrës Region. The desk research approach was selected due to the exploratory nature of our study, the lack of systematized primary data, and the ease of conducting comparative analysis of information obtained from different sources.

The main sources used include: The main sources used include: Institutional reports from the National Environment Agency (NEA), the Ministry of Tourism and Environment, and the Municipality of Durrës; Official statistical data from the Institute of Statistics (INSTAT) on tourist movements and accommodation structures; Academic publications and studies in the fields of sustainable tourism, environmental protection and urban planning; International reports from organizations such as UNWTO and UNESCO on global standards for assessing the environmental impact of tourism in coastal areas.

The research in our paper is based on the principles of desk research and is structured according to three analytical phases. The first phase involves identifying and selecting sources. In this step, we raised research questions such as: which institutions and organizations are most reliable in producing data on tourism and the environment in the Durrës Region? Can up-to-date documents be found that reflect the impact of seasonal tourism on the environment? Helping in answering these research questions was official literature and statistics from official domestic and international institutions such as INSTAT, the National Environmental Agency, the Ministry of Tourism and Environment, the Municipality of Durrës, as well as organizations such

as UNWTO and UNESCO. For timeliness and analytical reliability, documents from 2020 onwards were selected.

In the second phase, we analyzed and categorized the collected materials according to themes. The research questions we raised were: what are the most obvious impacts that tourism has on the environment of the Durrës Region? Does the environmental situation worsen during the summer season? For this, it was necessary to analyze data on the pollution of bathing waters, the increase in the amount of urban waste, the intensive use of land and the pressure on public infrastructure. In order to make the analysis clear and comparable over the years, all data were organized according to the main themes.

The third phase was carried out through the comparison and summary of the findings. The research questions we sought to answer are: do the conclusions of our study for the Durrës Region match the experiences and practices around the world? What shortcomings and challenges does the environmental management of tourism show? As a result, we compared similar Mediterranean coastal countries such as Croatia, Greece and Spain and managed to identify efficient models of management and monitoring of tourism impacts on the environment. This entire study phase was necessary for a more detailed analysis and for the preparation of the recommendations of this study.

## ANALYSIS OF RESULTS

During the 2024 tourist season, the quality of bathing waters in Albania was low compared to the European average. The assessment used two microbiological indicators of the Bathing Water Directive, *Escherichia Coli* and *Intestinal Enterococci*, at 119 monitoring points (EEA, 2025a). Only 16.0% of these monitoring points were classified as “excellent”, 49.6% as “good”, 11.8% as “sufficient” and 22.7% as “poor”. No monitoring point was left “unclassified”. In the European Union, over 85% of bathing waters were rated “excellent” and 96% exceeded the minimum standard. This highlights the gap in Albania's situation and the need to take more measures to treat polluted waters and manage discharges, especially in coastal areas where rainwater mixes with wastewater (EEA, 2025b).

Albania was ranked among the countries with a low percentage of “excellent” quality waters according to the EEA assessment for the summer season 2024. This highlights the need for structural measures in wastewater treatment and discharge management (EEA, 2025). In the Beqaj et al. (2025) study it is shown that, in the treatment plant in Durrës, the efficiency achieved for some indicators such as BOD  $\approx$  86.5% and COD  $\approx$  80.7%, remains below the values predicted in the objectives such as BOD  $\approx$  95.7% and COD  $\approx$  88.3%. According to them,

investments in the network and increased operational control are necessary to reduce the microbial load on the coastline.

Table 1. Assessment of coastal water quality

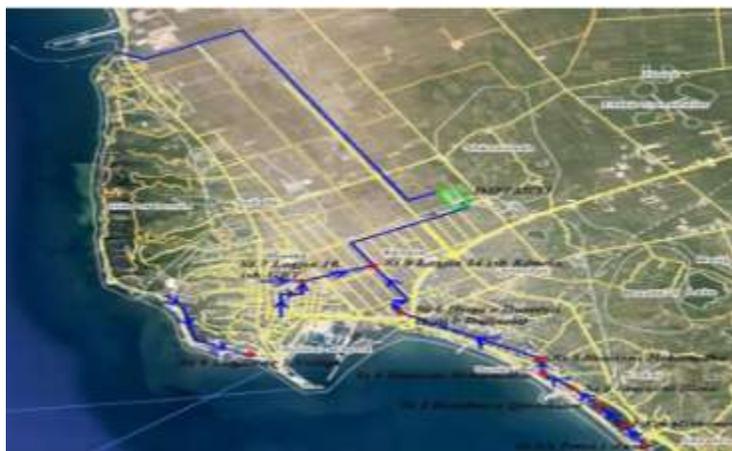
Categories	Year	Year	Year	Year	Year	Year	Year	Year
	2016	2017	2018	2019	2020	2021	2022	2023
A – Excellent Quality	5%	33%	66.7%	71.5%	90.5%	38%	28.5%	0%
B – Good Quality	33%	33%	23.8%	0%	0%	47.7%	48%	33.4%
C – Sufficient Quality	19%	24%	0%	19%	0%	4.8%	9.5%	14.3%
D – Poor Quality / Immediate measures	43%	10%	9.5%	9.5%	9.5%	9.5%	14%	52%

Source: National Environmental Agency

Coastal waters in the Durrës Region are mainly polluted by untreated urban discharges. The local treatment plant does not work at optimal efficiency, causing health risks and image damage in the most frequented areas such as Plepa, Kavajë Cliff, Currila, etc.. According to the 2023 national monitoring, the situation on the beaches of Durrës and Lalzi Bay has significantly deteriorated (Table 1).

On these beaches, 52% of the stations were classified as “D – poor quality”, showing microbial overload from urban discharges at 11 out of 21 points in Durrës District, including the discharge at Porto-Romano and behind the canal at Plepa as seen in Figure 1 (NEA, 2023; cit. in Çibuku, 2024).

Figure 1. The sewer system



Source: Beqaj et al., 2025

As reflected in Table 2, the beaches of the Durrës coastline for 2023, according to bacteriological results, are assessed as: category B - good quality for 7 monitoring points, category C - sufficient quality for 3 monitoring points, and category D - poor quality for 11 monitoring points.

Table 2. Durrës beaches by pollution categories

No. of Stations	Station	FC 90% - Rate 250	IE 95% - Rate 100	Categorie
1	Currila 1 Beach	391	205	C
2	Currila 2 Beach	209	153	B
3	Zhiron Beach	950	763	D
4	Dajlani Bridge	581	447	D
5	Filadelfia Beach	295	280	D
6	Teuta Beach	264	234	C
7	Gostivar Beach	313	188	C
8	Apollonia	302	205	B
9	The Railway (Police)	267	180	B
10	Adriatic Hotel	169	121	B
11	Iliria Beach	182	105	B
12	Iliria near Blloku	174	152	B
13	Ministry of Internal Affairs	117	155	B
14	Tropikal Complex	253	200	D
15	Behind the canal (Plepa)	2887	2682	D
16	The Cliff of Kavajë	928	880	D
17	Hoti Bar and Hotel	374	387	D
18	Benilva Beach	301	361	D
19	Andi Hotel	358	269	D
20	Xixa Hotel	501	329	D
21	Xhardino Complex	514	576	D

Source: National Environmental Agency, 2024 report

### Urban and tourist waste management

Urban and tourist waste in Durrës is managed by private operators. This management takes up a large part of local finances. In the “Budget for the Citizen 2022-2024” fund, the budget foreseen by the Municipality of Durrës for 2022 reached 1.04 billion lekë, which constitutes 28% of the budget, marking an increase of almost threefold compared to 2021. This

increase came as a result of the costs of the transfer to the Sharra Landfill in Tirana and improvements in the infrastructure of waste collection points. This document also presents operational objectives such as the weekly collection frequency which is 7 times a week in the city and 3 times in the administrative units with a service coverage of about 93%. The local regulatory framework, decision no. 42 dated 09. 05. 2022, clearly defines the provisions of cleaning, street washing and urban waste management in the Durrës Region. Regarding the budget, the 2023 monitoring report presents the financial fulfillment and serves as a planner for the next cleaning service for the tourist season.

Table 3. Waste management methods

Method	The main benefit	The main limitation
Container 1.1 m <sup>3</sup>	Low cost, flexible	Aesthetics/smell, contamination
Individual bin 120–240 L	PAYT, best division	Requires discipline/space
Three-fraction Eco-island	Increase recycling	Contamination in season
Semi-subterranean 3–5 m <sup>3</sup>	Purity, rarer frequency	Crane truck, excavations
Subterranean 3–5 m <sup>3</sup>	Very high aesthetics	High CAPEX, flood risk
“Smart” sensor	Reduces trips by 10–30%	IT/management required
Stationary compactor	Lower cost/ton for businesses	Space & service

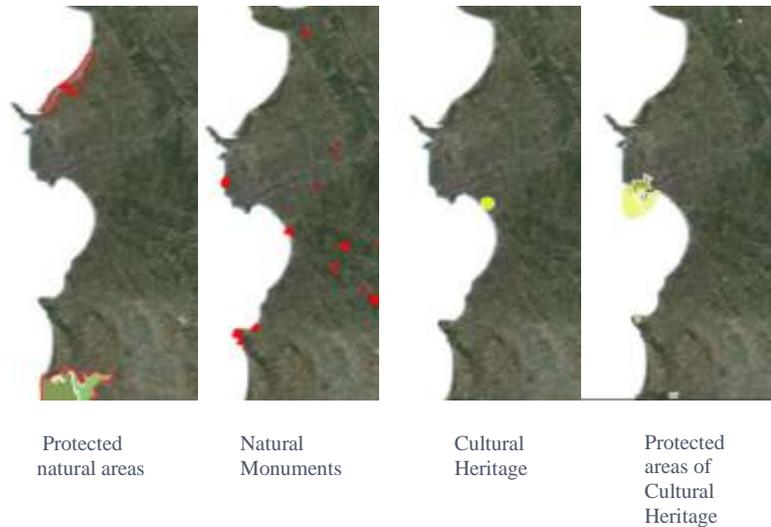
Source: Municipality of Durrës

Waste management in urban areas with high population density in the Durrës Region is mainly done through roadside containers with a capacity of 1.1 m<sup>3</sup> that are placed in common areas in residential blocks. This reduces the aesthetic, hygienic and perceptual aspect for visitors to a tourist coastal city. These open and overloaded containers negatively affect the image of the place and cause visual and olfactory pollution. Furthermore, their presence favors the gathering of insects and stray animals, increasing the sanitary risk. Failure to separate waste at source contaminates recyclable waste, reducing the effectiveness of the recycling process and increasing the amount of waste in final disposal. This creates a need for alternative methods of waste collection and management, especially in areas of high tourist flow. Table 3 reflects some of the applicable methods and the advantages they present.

### Urban development near the coast and its control

Tourism on the Albanian coast is growing rapidly while the planning of controls are somewhat weak, driving erosion, loss of public space on beaches, and habitat fragmentation. (European Commission, 2024; Fernández-Enríquez et al., 2025; Phys.org/AFP, 2025).

Figure 2. Protected areas



Source: National Agency for Protected Areas

In the Durrës – Lalz Bay segment after the 1990s, the increase in construction and changes in land use have led to the receding of the coastline and increased risk of erosion/flooding. In the Plepa - Golem segment, a “wall effect” appears that narrows the beach and increases the seasonal load on sewers and services (Xhafa & Hasani, 2013; Fernández-Enríquez et al., 2025; Phys.org/AFP, 2025). In the Porto Romano – Ishmi Gorge segment, uncontrolled combinations of industrial and urban areas are observed, which violate the natural habitat of the lagoon that extends along this coastline. Panoramic constructions and roads dug into the dry clay slope in the Currila - Kallm segment increase the risk of landslides and sediments descending to the beach. The Volga - Dajlani Bridge coastline displays high residential and commercial density with high flow at seasonal peaks and a lack of space between buildings and the shore.

The problems in protected areas and biodiversity along the Albanian coast (see Figure 2) come from rapid urbanization, conversion of dune and lagoon habitats, pollution from sewage and waste, seasonal tourist flows that increase eutrophication, disappearance of psammophyte vegetation and hydromorphological pressure, and high plastic macrolitter loads associated with terrestrial sources. (WFD, 2021; UNEP-WCMC/Protected Planet, 2025; Danubio, M., et al., 2023).

In Durrës, reducing the environmental impact of tourism depends on the coordination of three actors: local government (regulations, contracting services, risk-based inspections, data transparency), businesses such as HORECA and tourism operators (waste prevention, source separation, water/energy efficiency, environmental standards) and the community/tourists

(responsible behavior, reporting violations, participation in citizen monitoring) (European Commission, 2024; OECD, 2024; UNWTO, 2004/2016).

The situation of environmental inspections in coastal areas presents significant gaps in frequency, coordination and use of technology, which we have summarized in Table 4.

Table 4. Situation in coastal areas, gaps and recommended measures

Aspect	Current situation	Gaps	Recommended measures	Reference
Frequency of inspections	Infrequent inspections, often reactive and not risk-based	Lack of periodic planning and proactive monitoring	Planning inspections based on risk and priority sectors	European Commission, 2024
Methodology	General controls, lack of risk-based approach	Lack of clear standards for risk-based inspections	Definition of protocols and indicators for quality control	UNEP, 2022
Institutional coordination	Fragmentation between agencies, local units and the inspectorate	Lack of mandatory cooperation mechanisms	Creation of a joint coordination structure between institutions	European Commission, 2024
Data transparency	Partial and unconsolidated reporting on violations and sanctions	Lack of public platforms for data access	Development of online platforms for data publication	European Commission, 2024
Technologies used	Minimal use of sensors and satellite imagery	Lack of integration of modern technologies	Using emission sensors and satellite imagery for monitoring	UNEP, 2022; WFD, 2021

## CONCLUSIONS

Our study was based on the desk research method to analyze the impact of tourism on the coastal environment of Durrës Region. From the analysis conducted, we noted that tourism exerts a high pressure on the quality of marine waters, the management of urban and tourist waste, the spatial structure of development, as well as on protected areas and biodiversity.

Very few of the Albanian coastal waters are considered to be of excellent quality according to EU standards and in the Durrës Region half of the monitoring stations resulted in poor bathing water quality for 2023. The ineffective functioning of the water treatment plant leads to a significant increase in the microbial load in these waters.

Urban and tourist waste management, although it constitutes a large item in the local budget, relies mainly on the use of open containers in common public spaces. This creates serious aesthetic, hygienic and perception problems for visitors to Durrës tourist sites. Also, waste recycling is almost invisible, highlighted by its lack of separation at source.

After the 1990s, there has been uncontrolled urban development that has led to significant degradation of the coastal strip. Construction near the coastline has contributed to its receding, the reduction of the beach area and the fragmentation of dune habitats and erosion. The sewage infrastructure is quite overloaded, leading to flooding of coastal areas during rainfall.

Rapid and extensive urbanization has significantly increased the pressure on protected areas and biodiversity. Pollution from sewage and waste, as well as seasonal tourist flows, have increased eutrophication and the load of plastic macrolitter.

Environmental inspections are irregular and awareness campaigns for the community and tourists are almost absent. There is a lack of commitment to increasing the culture of respecting environmental regulations and preserving the quality of the tourist environment.

## **RECOMMENDATIONS**

The environmental situation in the Durrës Region is not the most desirable. Based on our study, we recommend a series of integrated measures.

A modernization of the network for polluted waters with separate rainwater/wastewater, control of short-term spills and increase in the efficiency of their treatment plant should be carried out. Monitoring and assessment of water quality on beaches should be transparent and periodic, with rapid response protocols. Waste management should be reformed with semi/subterranean containers in tourist areas, source separation and deposit-return for packaging, periodic waste audits and contracts with performance indicators. A major improvement would be brought by integrated coastal zone management, beach restoration and blue-green infrastructure, and ecological corridors to protected areas. Inspections should be periodic and risk-based, with increased laboratory capacity and an open data platform (complaints, fines, compliance). Awareness of local residents and tourists should be achieved through continuous campaigns and a variety of understandable and well-intentioned forms.

Special attention should also be paid to environmental certification for businesses with correct and rigorous controls.

## LIMITATIONS

This study has certain limitations. The analysis is primarily based on existing literature reviews rather than on original empirical data. As a result, the findings may be subject to the biases and constraints of the reviewed sources, potentially limiting the generalizability of the conclusions

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