

## ECOLOGICAL PROBLEMS THAT CAN NEGATIVELY INFLUENCE THE PRACTICE OF MOUNTAIN TOURISM IN ROMANIA

Alexandru-Tiberius OANCEA, David-Ovidiu POPA, Gheorghe-Marian COVRIG, Elena COZAC

<sup>1</sup> University of Oradea, Faculty of Environmental Protection, 26 General Magheru St. 410048, Oradea, Romania

### RESEARCH ARTICLE

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#### Abstract

*The interaction between tourism and the environment is both strong and intense because tourism is an economic activity that takes place within the natural environment. A series of consequences result from this interaction, some having positive effects, others negative effects, and all of them lead to the relationship between the quality of the environment and the ways in which tourism modifies its components through its development.*

*Ecotourism is the best example for observing and analyzing the interdependence between tourism and the natural environment.*

*Excessive human intervention in the natural environment has led to environmental protection becoming a political priority in many countries, with many of the measures taken also being in the interest of tourism.*

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#Corresponding author: elena\_cozac@yahoo.com

### INTRODUCTION

Tourism, as an economic activity, is deeply embedded within the natural environment, and their interaction is both intense and multifaceted. This interconnection leads to a range of consequences—some beneficial and others detrimental—that ultimately shape the quality of the environment and how tourism modifies natural components through its expansion and evolution [1][2]. A prime example illustrating this complex interdependence is ecotourism, which serves as a model for sustainable interaction by emphasizing environmental preservation alongside tourism development [3][4].

The escalating human footprint on natural landscapes has compelled many nations to prioritize environmental protection policies. These measures are frequently aligned with the interests of tourism, reflecting a global recognition that preserving nature is essential not only for ecological reasons but also for maintaining tourism attractiveness [5][6]. In Romania, the practice of mountain tourism has flourished primarily because of the Carpathian Mountains, whose vast natural beauty and biodiversity offer ample opportunities for recreational activities [7][8].

The Carpathians attract tourists year-round, offering activities ranging from mountain hiking and climbing to winter sports such as skiing and snowboarding, alongside emerging trends like paragliding and mountain

biking. Among these, winter sports hold a particularly prominent position, thanks to favorable climatic and topographic conditions that provide significant natural potential for ski tourism development [9][10].

Mountain tourism is characterized by specific features: the capacity to sustain activities throughout all seasons, accessibility to major resorts and mountain massifs, a high degree of natural area conservation, and concentrated yet consistent visitor attendance in a limited number of destinations [11][12]. The introduction of tourism into these environments, however, inevitably involves infrastructural developments like roads and accommodation facilities, which alter the natural environment. These changes reflect the diverse expectations of tourists—many urban visitors seek untouched, pristine nature as an escape, yet require safe and comfortable access routes, thereby initiating environmental modifications [13][14].

The Romanian mountain tourism sector pursues several main objectives: scientifically and sustainably exploiting the Carpathian mountain range's tourist potential; developing and equipping existing resorts while establishing new ones; attracting foreign tourists to winter sports; expanding regional and international collaborations; strengthening tourism programs to increase daily revenue per visitor; and enhancing the overall profitability of mountain resorts [15][16].

## MATERIALS AND METHODS

Most tourists head to attractive tourist attractions and areas with recreational functions where tourist motivations are satisfied to a high degree. The mountain area is a tourist region that meets these requirements. As a result, overuse produces a series of negative effects with consequences on the practice of tourism.

In addition to the impact on the environment produced by tourists, it is also affected by human activities, which are present in the form of economic and daily activities of residents of mountain areas.

We must specify that sometimes nature, through various ecological catastrophes, can contribute to the degradation of the environment.

Following the analyses carried out during the field trip, we have observed several activities that can lead to environmental degradation with effects on tourism. What we could observe best is that the biotic component of the environment is the most affected, and this we can explain by its higher sensitivity compared to other components.

Tourists naturally gravitate toward scenic and recreationally rich areas where their motivations—whether adventure, relaxation, or nature appreciation—are met to a high degree. Mountain regions fulfill these desires, but the consequences of overuse can severely impact environmental integrity and, in turn, the sustainability of tourism activities [17][18].

## RESULTS AND DISCUSSIONS

Beyond tourism itself, the day-to-day economic and residential activities in mountain areas contribute additional environmental pressures. Furthermore, natural ecological events, such as storms and floods, sometimes accelerate environmental degradation, compounding human-induced impacts [14][12].

Field studies have shown that the biotic components of the mountain ecosystem—plants, animals, and micro-organisms—are particularly vulnerable due to their higher sensitivity to environmental disturbances compared to abiotic elements like soil and water [12].

### Examples of Environmental Disruption

#### Economic Activities

The modernization of wood harvesting techniques and the rapid development of

infrastructure—including forestry and public roads, power lines, communication towers, holiday homes, guesthouses, and ski centers—pose significant threats to the mountain landscape. While the presence of these elements alone does not threaten the environment, their abundance, pace of expansion, and intensity can cumulatively erode the distinctive character of the mountain scenery within a short time frame [22][23].

Forest management in many Romanian mountain areas has often been conducted without strict adherence to ecological principles. Premature clear-cutting, insufficient reforestation, and the use of outdated machinery have resulted in soil degradation and landscape aesthetics deterioration. Illegal logging continues to be a major issue, with extraction rates surpassing sustainable limits and causing severe biodiversity losses. Additionally, improper wood exploitation practices—such as leaving behind branches and sawdust—further degrade forest ecosystems and pollute waterways [24][25].

#### Natural Phenomena

Natural events such as strong winds can devastate large forest sections, especially when these stands have already been weakened by unsustainable logging practices. This phenomenon is particularly critical in conservation areas where biodiversity depends on mature, intact forest ecosystems [26][27].

#### Human Activities

Livestock grazing impacts biodiversity through both overgrazing and undergrazing. Consequences include soil erosion, compaction, and chemical alterations due to organic waste infiltrating groundwater systems. Unsuitable tourist behaviors—such as driving off-road on pastures, generating loud noises, creating unauthorized fire pits, and littering—also leave lasting damage on both visible and invisible aspects of the landscape. Poor visitor management exacerbates these issues, especially in sensitive Apuseni Mountain areas like Cabana Padiș, Valea Boga, and Cascada Răchitele [8][9].

Unauthorized construction projects lacking permits or respecting local architectural norms further disrupt the visual harmony of mountain landscapes, undermining both environmental and cultural values [30].

#### Hydrological Changes

Dam construction (e.g., Fântânele, Vidraru, Colibița lakes) has significantly altered aquatic ecosystems by fragmenting habitats and

shifting water regimes from flowing to lacustrine types. The absence of comprehensive pre-construction biodiversity data hampers accurate impact assessments. Furthermore, unregulated groundwater extraction on the Padiş plateau disrupts karst water circulation, while untreated domestic wastewater infiltrates karst systems, contaminating underground water sources often used for drinking [1][2].

#### Waste Pollution

Improper waste disposal, including the dumping of plastics and textiles into riverbeds, continues to threaten both aquatic environments and the aesthetic value of mountain landscapes. Traditional waste management practices, which involved burning or composting organic waste, have been supplanted by a consumer society heavily reliant on plastic packaging, leading to widespread pollution problems [3][4].

### CONCLUSIONS

Mountain tourism in Romania, particularly in highly frequented areas such as the Apuseni Mountains and Prahova Valley, is currently facing significant environmental challenges. Although some mountain regions still maintain a functional ecological balance despite tourist visitation, those with intense tourism traffic exhibit signs of environmental degradation caused by the cumulative effects of human activities related to tourism [5][6]. These impacts manifest in soil erosion, habitat fragmentation, pollution, and disruption of local biodiversity, which threaten the sustainability of these fragile ecosystems.

The growing pressure results primarily from several interconnected factors: increasing numbers of tourists attracted by natural and cultural heritage; infrastructure development to accommodate them; and sometimes inadequate management of tourism activities. These factors combined lead to habitat loss, disturbance of wildlife, and degradation of landscapes that were once pristine. Moreover, unchecked tourist behaviors such as littering, off-trail hiking, or uncontrolled camping exacerbate environmental stress, reducing the quality of natural resources that tourism depends upon.

Given this context, it is imperative to implement comprehensive and multidimensional strategies to mitigate tourism's environmental footprint and safeguard mountain ecosystems. One of the most effective approaches is managing visitor flows to prevent overcrowding in sensitive

areas. This can be achieved through zoning regulations, timed entry permits, and promoting alternative lesser-known destinations to disperse tourist pressure. Regularizing the movement and activities of tourists limits environmental wear and allows ecosystems to recover, balancing use and preservation [37].

In parallel, enhancing environmental education for tourists and local communities plays a critical role in fostering responsible behaviors. Raising awareness about the fragility of mountain environments, the importance of biodiversity, and the consequences of negative actions encourages more sustainable visitor conduct. Information campaigns, interpretive centers, and guided eco-tours can serve as platforms for educating tourists, while community-based programs empower residents to act as stewards of their natural heritage [8].

Furthermore, robust legislation and enforcement mechanisms are necessary to protect mountain environments effectively. Laws must regulate construction, waste management, forestry practices, and tourism operations, ensuring they conform to sustainability principles. Enforcement requires adequate funding, trained personnel, and collaboration between governmental agencies, NGOs, and local stakeholders to monitor compliance and impose penalties for violations.

Ultimately, maintaining the viability of mountain tourism as a sustainable economic activity depends on a holistic approach that integrates environmental conservation with socio-economic development. Protecting natural ecosystems ensures the long-term attractiveness of mountain destinations, supports local livelihoods, and contributes to broader goals of sustainable regional development. Only through coordinated, informed, and adaptive management can the balance between tourism growth and environmental protection be achieved, securing the future of Romania's mountain landscapes and communities.

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