



Bibliometric Approaches in Tourism Management: Integrating Ecotourism, Sustainable Development, Protected Areas and the Coastal Zone

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ARTICLE INFO

Article history:

Accepted July 2023

Available online July 2023

JEL Classification

Q01, R11, Z32

Keywords:

tourism management, ecotourism, protected area, coastal zone management, sustainable development

ABSTRACT

In an era of globalisation, tourism has become a crucial economic driver, contributing significantly to global GDP and stimulating the development of other sectors. However, awareness of the negative impact of tourism on the environment and society has also grown. This study examines the increasing relevance of sustainable development in the tourism industry, with a focus on ecotourism and sustainable tourism management. The analysis is conducted through a bibliometric lens, tracking the evolution and interaction of these concepts in the academic literature. Through bibliometric analysis, the paper reveals developments and trends in research in this field, examining the contributions of researchers from across the globe. The results show how the themes of sustainable development and tourism are interlinked and how they have developed over time. This research contributes to current discussions on tourism and sustainable development by providing a comprehensive overview of the literature and identifying possible research directions. The results are intended to support policy makers, tourism managers and researchers in their efforts to promote more sustainable and responsible tourism.

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1. Introduction

In an increasingly interconnected world, tourism has become one of the largest and most dynamic industries in the global economy. Economically, tourism generates a significant proportion of the Gross Domestic Product (GDP) of many countries, provides employment opportunities and stimulates the development of other economic sectors. Despite its benefits, tourism can also have a significant negative impact on the environment and society. In this context, the concept of sustainable development, i.e., meeting the needs of the present without compromising the ability of future generations to meet their own needs, has become increasingly relevant.

Ecotourism and sustainable tourism management are approaches that seek to address this issue, focusing on minimising the negative impacts of tourism and maximising its benefits for local communities and the environment. These are the central themes of our study, which aims to analyse from a bibliometric perspective the evolution and interaction of these concepts in the literature.

Tourism, especially coastal tourism, faces issues related to resource management, conservation of protected areas, involvement of local communities and management of specific vulnerabilities. Over time, it has become clear that traditional approaches are not sufficient to manage these complex and interconnected issues.

Tourism management has begun to recognise the importance of sustainable development and ecotourism, which focuses on protecting and improving the environment and local communities. Protected areas, such as national parks and nature reserves, play an important role in this process, providing opportunities for tourism and recreation while preserving and protecting biodiversity. At the same time, the active involvement of local communities in managing tourism and natural resources can help reduce vulnerability and promote sustainable development.

Coastal zone management, with its specificity, requires integrative approaches that take into account the complexity and interdependence of ecological, socio-economic and cultural factors. The vulnerability of these areas to climate change, anthropogenic pressures and other threats underlines the need for effective and sustainable management.

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This paper aims to analyse these issues, using a bibliometric approach to review the literature and highlight developments and trends in the field. We will analyse the contributions of researchers from different disciplines and from different parts of the world to understand how these themes are interlinked and how they have developed over time.

In this context, our study aims to contribute to current discussions on tourism and sustainable development, providing a comprehensive overview of research in this field, identifying possible directions for future research. Our results could be useful for researchers, policy makers, tourism managers and other stakeholders in their efforts to promote more sustainable and responsible tourism.

2. Literature review

Tourism is a vital sector for many economies, responsible for generating a large share of gross domestic income and creating jobs. However, tourism, if not managed properly, can also have negative effects on the environment and local societies. In this respect, tourism management, ecotourism, site protection, and coastal zone management play a key role in the sustainable development of tourism.

Tourism management involves planning, organising, controlling, and promoting tourism activities. Its aim is to maximise the economic, social, and cultural benefits of tourism while minimising the negative impact on the environment. For example, tourism management may involve limiting the number of tourists in certain areas to prevent over-saturation and erosion, promoting off-peak tourism to ensure a steady source of income, and creating training programmes for locals to help them engage in the tourism industry. Studies by Hanafiah et al. (2021) and Heslinga et al. (2021) show that stakeholder engagement and visitor perceptions are key to the sustainable development of coastal tourism. In addition, they suggest that stakeholder analysis can improve governance processes and maximize benefits from tourism.

Ecotourism is a form of tourism that focuses on protecting and preserving the environment and local culture. It aims to educate tourists about the importance of conservation, generate income for environmental protection projects and promote sustainable development of local communities. Ecotourism also requires careful management to ensure that tourism activities do not harm the ecosystems or communities they seek to protect. Sanggrangbano and Firmansyah (2020) and Setini et al. (2021) focus on developing ecotourism based on local wisdom and propose policy models for improving ecotourism performance. Sharma and Rao's (2018a, 2018b) work discusses the environmental impacts of tourism in developing countries. The authors stress the importance of sustainable practices in tourism to mitigate these impacts. VanInderstine (2019) explores the relationship between ecotourism and marine protected areas. They highlight the importance of tourism operators' perceptions and the development of ecotourism products based on sustainability indicators.

Protected areas, such as national parks and nature reserves, are particularly sensitive to the impact of tourism. Management of these areas involves balancing the need to protect the environment with the need to allow public access. This may involve limiting the number of visitors, restricting certain activities, implementing visitor education programmes, and involving local communities in the management of the area. Abidin et al. (2021a, 2021b) explores the role of biodiversity conservation in sustainability and environmental awareness in the mangrove ecosystem of southern Indonesia. The authors highlight the importance of conservation for maintaining ecosystem health and tourist attraction. The paper by Lu et al. (2022) focuses on tourism research in national parks and protected areas. The authors stress the importance of tourism for the conservation of protected areas, but also mention the risks associated with overtourism.

The management of coastal areas is also crucial as they are often popular tourist destinations. These areas are under constant pressure from real estate development, pollution, erosion, and other threats to fragile ecosystems. Coastal zone management should include habitat protection, resource use management, environmentally sensitive urban planning, and the promotion of sustainable tourism.

Lukoseviciute and Panagopoulos (2021) propose the use of management priorities from a tourist perspective and beach quality assessment as tools to support sustainable coastal tourism. Da Costa Cristiano et al. (2020) examine beach landscape management as a sustainable tourism resource in Fernando de Noronha Island (Brazil). They suggest that landscape management is crucial for the sustainable preservation of tourist attractions.

In the context of sustainable tourism development, these components of tourism management, ecotourism, protected areas, and coastal zone management need to be considered in an integrated manner. For example, ecotourism development in a coastal protected area should consider the impact on local ecosystems, the needs of local communities and economic potential. Wider issues such as climate change, biodiversity and social justice should also be considered. The work of Duan et al. (2022a, 2022b) bibliometrically reviews research on coastal and marine tourism from 1990 to 2020. The authors identified a significant increase in research in this area, demonstrating the increasing relevance of tourism studies to marine and coastal ecosystems.

Undeniably, tourism management is a complex and challenging research topic, but of crucial relevance in the context of sustainable development. In recent years, numerous studies have explored this topic, focusing on coastal tourism development in Romania and maritime spatial planning.

Stan et al. (2021a) examines synergistic perceptions of regulations oriented towards Romanian coastal tourism development in the context of maritime spatial planning. The authors highlight that regulations can play a significant role in encouraging sustainable and responsible coastal tourism, but this requires a synergistic approach involving various stakeholders from the public, private and civil society sectors. In a subsequent study, Stan et al. (2021b) assesses stakeholder perceptions of the environmental impact of coastal tourism in the Black Sea coastal area of Romania. Their results suggest that there is significant concern about the negative environmental impact of tourism, but this is not yet sufficiently reflected in tourism development strategies and policies. Aivaz et al. (2021a) explore the drivers for development triggered by the tourism-underwater cultural heritage-environmental protection trilogy in the context of maritime spatial planning. The authors suggest that this trilogy can provide significant opportunities for sustainable development but requires proper planning and management to ensure a balance between resource use and environmental and cultural heritage protection. In a subsequent study, Aivaz et al. (2021b) present considerations of public and private entities regarding tourism in the Romanian coastal zone in the context of maritime spatial planning. The authors point out that maritime spatial planning can provide an appropriate framework for managing the complexity of coastal tourism, involving various stakeholders in the decision-making process. These studies highlight the importance of maritime spatial planning for the sustainable development of coastal tourism and the protection of the environment and cultural heritage. At the same time, they highlight the need to involve various stakeholders in the decision-making process and to address synergistically the complexity of coastal tourism challenges and opportunities. These conclusions may be relevant not only for Romania, but also for other countries with an important coastal tourism sector.

Gössling et al. (2018) focus on coastal and ocean tourism, highlighting its importance to local and global economies, but also its potential negative environmental impacts.

Sustainable tourism is not only about protecting the environment, but also about promoting equitable economic and social development. It involves creating decent jobs for local people, protecting human and cultural rights, supporting local economies, and ensuring that the benefits of tourism are distributed fairly. McKinley et al. (2019a, 2019b) and Mejjad et al. (2022) investigate the coastal tourism industry and propose a research agenda for a blue economy in Peru. They focus on the socio-economic and environmental pressures and impacts of coastal tourism.

In conclusion, sustainable tourism development is a complex process that requires an integrated approach that considers economic, social and environmental aspects. Tourism management, ecotourism, protected areas, and coastal zone management are all vital components of this process and must be properly managed to ensure a sustainable future for tourism.

3. Research Methodology

Following the analysis, we have made a co-occurrence mapping. Co-occurrence, also called semantic network, refers to the connections between keywords. In the co-occurrence mapping process, each keyword was approached as a unit of analysis using the full count method. In the study, certain constraints were set in the analysis, such as imposing a minimum of 10 occurrences of a keyword as a limiting factor. Thus, out of 743 articles selected from the SCOPUS database, we identified 5151 co-occurrences, with only 131 keywords exceeding the minimum number of occurrences threshold.

The analysis of each keyword was performed using VOSViewer software, which calculated the linkages, total strength of linkages and co-occurrences of the keyword with other keywords. Connections indicate the co-occurrence between one element (e.g., a keyword) and another, while total connection strength represents the total cited references between one element and the others. Likewise, occurrences denote the number of articles in which the keyword appeared. Among the keywords with the most co-occurrences we have tourism 179 (933), tourism management 185 (768), article 55(590), ecotourism 92(527). The number in brackets indicates the strength of the linkage.

As can be seen in Figure 1, keyword co-occurrences were also represented by the network visualization. According to Figure 1, the 5151 keywords formed 5 groups: group 1 (red), group 2 (green), group 3 (blue), group 4 (yellow) and group 5 (purple). The size of the circles and texts in each group indicates the intensity of their co-occurrence with other keywords, while the distance between items and the lines joining them illustrate the connections and interdependencies of the keywords. The keywords in each cluster were also analysed to determine the thematic distinctiveness of the cluster based on the distinctive topic of those keywords.

4. Findings

The concepts of tourism, tourism management, ecotourism, protected areas and coastal zone management are closely interlinked and have a significant influence on the sustainable development and management of the environment and its resources.

Here is a brief description of the connections between these terms:

- **Tourism** – Tourism is a global industry involving travel for personal or business purposes. It includes a wide range of activities, from visiting tourist attractions, attending cultural events, to spending time in nature.
- **Tourism Management** – Tourism management refers to the effective coordination and management of all aspects of the tourism industry, including the planning, development, and promotion of tourist destinations, as well as maintaining positive interaction between tourists and the local environment.
- **Ecotourism** – Ecotourism is a type of tourism that focuses on visiting and appreciating nature in a sustainable way with minimal impact on the natural environment. It promotes environmental conservation, tourist education and the well-being of local communities.
- **Protected Areas** – These are areas of nature protected by law from unsustainable human intervention. They can be national parks, nature reserves, nature monuments, etc. Protected areas are often popular ecotourism destinations because of their natural diversity and beauty.
- **Coastal Zone Management** – Coastal zone management involves the conservation and sustainable management of coastal areas. This includes protecting biodiversity, preventing erosion and pollution, and coordinating human activities (including tourism) to minimise environmental impacts.

In general, all these concepts, as shown in Figure 1, intersect in one way or another. Tourism, especially ecotourism, often takes place in protected areas or on coasts, which requires effective management of these areas to protect the environment and ensure a positive experience for tourists. Tourism management and coastal zone management need to work together to promote sustainable tourism and environmental conservation.

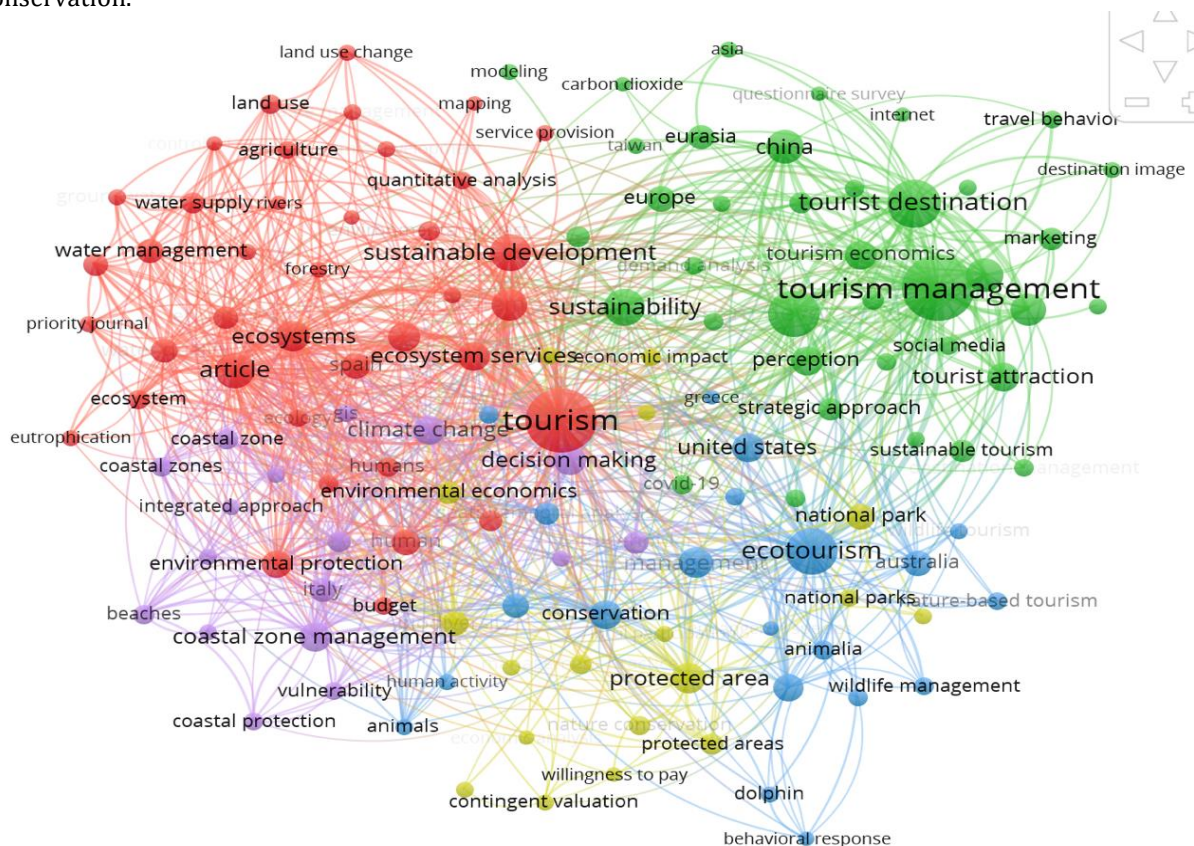


Figure 1. Connection between tourism, tourism management, ecotourism, protected areas, coastal zone management

Cluster 1 (red) is dominated by the following keywords: tourism, sustainable development, ecosystem, article, quantitative analysis.

Tourism is a multi-billion-dollar global industry that contributes significantly to national economies, employment, and infrastructure development. However, despite its economic benefits, tourism can also have a considerable impact on the environment and local ecosystems. In an era where sustainable development has become a global priority, it is essential to understand how tourism affects ecosystems and how it can contribute to a more sustainable tourism model.

This cluster focuses on the quantitative analysis of the impact of tourism on ecosystems and how sustainable development principles can be integrated into the tourism industry.

Cluster 5 (purple) consists of the keywords: coastal zone management, coastal protection, vulnerability, climate change, budget control.

Coastal zone management and protection is a major challenge in the context of current climate change. Sea level rise, severe storms and coastal erosion are just some of the problems facing coastal communities. Moreover, these problems are exacerbated by the inherent vulnerability of these areas, which are inhabited by millions of people and host a wide variety of essential ecosystems.

Effective coastal zone management requires an integrated approach that considers both climate change issues and the socio-economic needs of local communities. In this respect, budget control is key. To implement effective coastal protection measures, significant investments are needed. However, financial resources are often limited, especially in developing countries where the risk of climate change is greatest.

It is therefore necessary to set clear priorities for coastal protection measures and allocate funds effectively. This involves carrying out detailed risk and vulnerability assessments, identifying coastal areas most exposed to climate hazards and implementing solutions tailored to the local context.

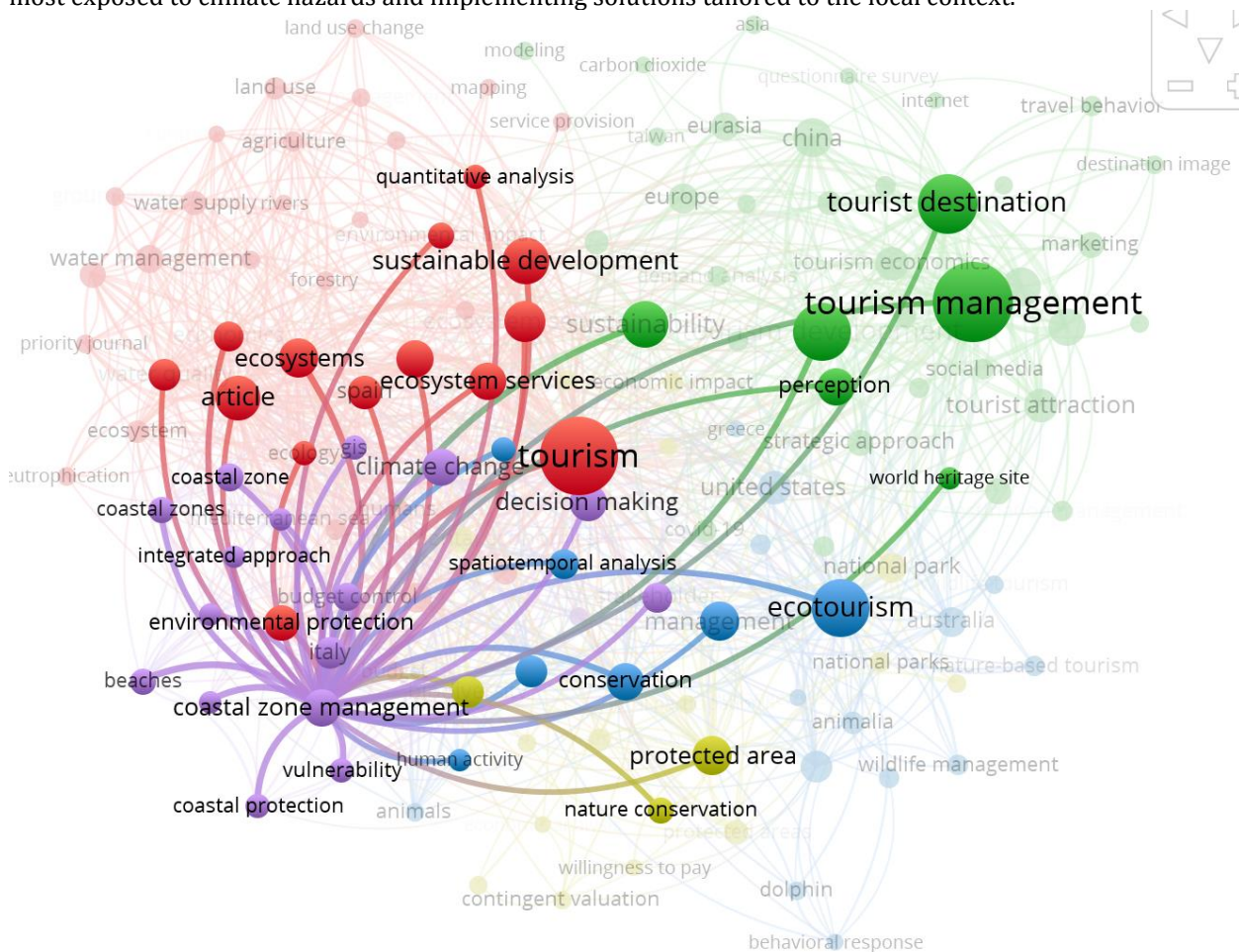


Figure 6. Connection between coastal zone management, coastal protection, vulnerability, climate change, budgetary control

At the same time, it is essential to develop long-term strategies for coastal zone management. Climate change is a long-term global phenomenon and its impact on coastal zones will intensify in the coming years. It is therefore necessary to take preventive measures, build climate resilient infrastructure and promote sustainable practices that reduce pressure on coastal ecosystems and contribute to their resilience.

These measures may include, for example, the restoration and conservation of natural coastal habitats, which play a key role in protecting shorelines against erosion and storms. There is also a need to develop and implement regulations that limit development in vulnerable coastal areas and promote the sustainable use of marine resources.

Another important component of coastal zone management is awareness and involvement of local communities. People need to understand the risks associated with climate change and be involved in the decision-making process to ensure that solutions are adopted that are accepted and supported by the community.

In conclusion, effective coastal zone management in the context of climate change is a complex challenge that requires an integrated and sustainable approach. This involves setting clear priorities,

allocating resources efficiently, developing long-term solutions and actively involving local communities. By addressing these challenges proactively and responsibly, we can protect and conserve these valuable areas for ourselves and for future generations.

5. Conclusions

In the context of globalisation and the exponential growth of tourism, our study sought to investigate the role and importance of sustainable development in this industry, with a particular focus on ecotourism and sustainable tourism management. The results highlight not only the significant contribution of tourism to global economies, but also its negative impact on the environment and local societies.

Bibliometric analysis of the literature has shown a distinct shift in recent years towards a more sustainable and responsible approach to tourism. The concepts of sustainable development, ecotourism and sustainable tourism management have begun to emerge with increasing frequency, suggesting a growing recognition of the need to minimise the negative impacts of tourism while maximising the benefits to local communities and the environment.

Coastal tourism has been identified as an area where these approaches are particularly relevant, due to the unique challenges of conserving protected areas, managing resources and engaging local communities. Our study highlights that traditional approaches are not sufficient to manage these complex and interconnected issues. Instead, a sustainable development model that incorporates ecotourism principles is needed.

Protected areas, such as national parks and nature reserves, have been highlighted as key components of this model. They provide opportunities for tourism and recreation, while preserving and protecting biodiversity. At the same time, the active involvement of local communities in managing tourism and natural resources is crucial for reducing vulnerability and promoting sustainable development.

In coastal zone management, integrative approaches are needed that consider the complexity and interdependence of ecological, socio-economic and cultural factors. The vulnerability of these areas to climate change, anthropogenic pressures and other threats underlines the need for effective and sustainable management.

Based on bibliometric analysis, our study suggests that research in tourism and sustainable development is interconnected and evolving. Researchers from different disciplines and parts of the world are contributing to this discussion, which suggests a global recognition of the importance of this issue.

In conclusion, our study aspires to contribute to current discussions on tourism and sustainable development, highlighting the need to promote more responsible and sustainable tourism. The results of our research may be useful for policy makers, tourism managers, researchers, and other stakeholders, giving them a more comprehensive picture of research in this field and suggesting possible directions for future research. Specifically, we highlight the need to put the principles of sustainable development and ecotourism at the heart of tourism discussions.

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