

Environmental Impacts of River Tourism on the Environment

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Abstract

This study investigates the environmental impacts associated with river tourism. It employs a descriptive-analytical methodology grounded in library research. The results suggest that tourism ranks among the most pivotal activities in contemporary society, instigating significant alterations in landscapes while simultaneously affecting political, social, economic, and cultural dynamics. These changes also influence individual lifestyles and precipitate substantial shifts in the economic conditions, cultural practices, and traditions of local communities. The beneficial effects of the tourism sector encompass the safeguarding of natural attractions, the conservation, and maintenance of historical monuments and sites, enhancements to environmental quality, advancements in infrastructure and services, economic advantages, as well as the preservation and promotion of traditional arts and ancient customs. Moreover, it contributes to the revitalization of cultural identity and fosters a sense of national pride. Sustainable tourism has the potential to manage resources effectively by preserving environmental processes, biodiversity, and life-support systems while honoring cultural values. Furthermore, sustainable tourism signifies a transition towards a development model where planning and implementation are more closely aligned with local challenges, conservation of natural resources, and a reaffirmation of community values.

Key words: River tourism, Environmental impacts, Environment

Introduction

The tourism sector represents a major segment of the global economy and is recognized as an industry that exerts considerable influence across various cultural, social, and environmental aspects. Consequently, numerous countries are actively working to enhance their facilities and services to attract investment from tourism (Haag et al., 2010). This industry encompasses diverse elements and classifications that provide it with meaning; without these

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components, the concept of "tourism" would lack significance. The fundamental elements of this industry consist of tourist attractions, tourism facilities, and services. Moreover, conducting thorough and principled research is essential for achieving any form of advancement or development within this field; a critical aspect of any scientific inquiry is adherence to its theoretical foundations.

In his article *Evaluating and Prioritizing Ecotourism Attractions*, Janbaz Ghobadi (2015) assesses the potential offered by rivers in tourist-oriented villages within Chaharmahal and Bakhtiari Province. He concludes that the villages of Deh Cheshmeh, Horeh, and Atashgah present more favorable conditions for investment. Other articles referenced in this study align closely with this theme. Rezvani (2001) examined the economic utilization and tourism associated with rivers in Kermanshah Province and their effects on aesthetic characteristics. Their findings indicate that the aesthetic qualities of rivers serve as a primary attraction for tourists; however, unanticipated tourist presence alongside local economic activities has diminished the aesthetic quality of Kermanshah's rivers. For planning purposes, 19 tourist sites within this province were analyzed and ranked accordingly. Additionally, Omid Najafabadi et al. (1395) performed a comparative analysis regarding residents' perceptions of tourism impacts in rural regions (case study: villages within the Kalan River watershed in Malayer). This study focuses on

analyzing local perceptions concerning the effects of tourism within the Kalan River watershed area in Malayer.

Rivers have historically been significant locations that have captured human interest, serving dual roles as transportation corridors and sources of food, potable water, and irrigation for agriculture. Furthermore, their distinctive natural features have rendered rivers attractive destinations for recreation and leisure activities. This recreational potential has given rise to a form of tourism referred to as "river tourism."

It is crucial to implement policies and planning strategies aimed at reducing the negative consequences of tourism while enhancing its positive contributions to environmental quality and community welfare (Ghazani et al., 2018, p. 307). Environmental policies remain a fundamental component for policymakers in crafting effective and sustainable approaches to conserve natural resources. These strategies support the economic framework necessary for addressing pressing challenges such as sustainable tourism development, financial crises, and overall economic well-being (Kazemi et al., 2008, p. 143). Indeed, planning for sustainable tourism development is intrinsically linked to environmental conservation efforts; it encompasses a range of research initiatives and analyses conducted before decision-making processes that guide developmental trajectories (Shaw, 2002, p. 211). Thus, this study aims to investigate the environmental impacts of river tourism on the environment.

Theoretical Foundations

Definitions of Tourism and Tourist

When considering tourism, one typically envisions individuals visiting specific destinations for leisure activities such as sightseeing or socializing with friends and family. These individuals might engage in various recreational pursuits including sports, sunbathing (historically associated with open-air baths where people would enjoy sunlight before bathing), conversing, singing, cycling, participating in guided tours, reading, or simply enjoying their environment (Diego, 2021, p. 13). Tourism can be conceptualized as a complex set of phenomena and relationships emerging from interactions among tourists, service providers, governmental entities, and host communities during the processes of attracting and accommodating visitors. A tourist is defined as an individual who meets two criteria: firstly, they must have been away from their usual residence for less than one year; secondly, they must not engage in income-generating activities at their destination. To qualify as a tourist, an individual must leave their place of residence and remain at the new location for at least one day (Alvani, 2006, pp. 70-71).

Tourism represents a network of interactions between tourists, travel agencies, origin governments, host governments, and residents throughout the attraction and hospitality processes (Sherpa, 2021, p. 12). From a systemic perspective, tourism can also be analyzed as it consists of interconnected components working together to achieve defined objectives. Within this

industry framework, inputs are introduced into the system where they undergo transformation processes; following specific operations performed on these inputs, they are released from the system as outputs. The nature of these outputs can vary significantly—being either favorable or unfavorable—based on the types of inputs involved and the specific operations executed during their transformation. Thus, the tourism system is influenced by various factors arising from societal changes (Thoi, 2021, p. 9).

While an economic perspective on tourism may categorize it as a form of commercial hospitality—where hosts endeavor to provide exceptional experiences for guests while simultaneously benefiting from this hospitality—regional economic specialists recognize tourism as a pivotal element for resource establishment and development in underdeveloped regions (Akbari, 2010, p. 18).

Tourism Pillars

The degree of success in tourism development is contingent upon the quality and method of intervention of various influencing factors, which are essentially regarded as the pillars of tourism. These pillars encompass tourist attractions, as well as tourism facilities and services, each of which will be briefly addressed in the following sections.

The Role of Attractions as Pillars of Tourism

An attraction is defined as any phenomenon or motivating factor that generates interest at a destination, prompting individuals or groups to travel from various locations to engage with that tourism site. In tourism studies, attractions are

categorized into two main types: natural attractions and cultural attractions, each representing a wide array of phenomena. The presence of attractions serves as one of the most significant motivations for travelers to visit particular destinations. As compelling elements, tourism attractions possess distinctive characteristics that enable them to attract visitors from remote regions. The diversity, uniqueness, and overall appeal of an attraction directly correlate with its ability to draw in tourists, thereby expanding its influence. The importance of these attractions is underscored by the fact that the availability of lodging and dining services, souvenir outlets, and handicraft markets relies fundamentally on the existence of several primary attractions, which may either stand alone or be integrated with larger or smaller ones.

The Role of Facilities and Services as Pillars of Tourism

Tourism facilities and services are among the most essential forms of supply within the tourism industry, contributing significantly to revenue generation for local communities. Nonetheless, establishing effective tourism facilities and services requires prior investment in necessary infrastructure, which forms a substantial part of this sector. Key infrastructural elements include access routes (land, air, sea), drinking water and sewage systems, healthcare services and emergency medical care, energy provision, and communication networks (telecommunications, postal services, internet), all of which are vital for

fostering tourism development. A critical aspect of infrastructure development that merits attention in tourism activities is how these facilities are utilized by the host community. While many infrastructures are established with the primary goal of enhancing tourism, they also serve residents, facilitating cross-sectoral growth—especially in rural regions—and improving the overall quality of life for indigenous populations. Additionally, a well-planned and sustainable approach to developing tourism infrastructure can play a significant role in environmental conservation and mitigating pollution.

Classification of Types of Tourism

Tourism can be categorized into various forms based on several criteria, including the duration of travel, means of transportation, and types of facilities employed, as well as seasonal considerations and the organization of travel. Additionally, diverse motivations that initiate tourism flows play a crucial role in distinguishing these forms. The criteria for classifying different types of tourism have evolved; before World War I, it was challenging to categorize tourism according to social class. In contrast, contemporary classifications incorporate factors such as time, location, mode of transportation, motivation, and objectives. This approach ensures a comprehensive classification system that facilitates more effective planning in support of tourism development initiatives. (Fig 1)

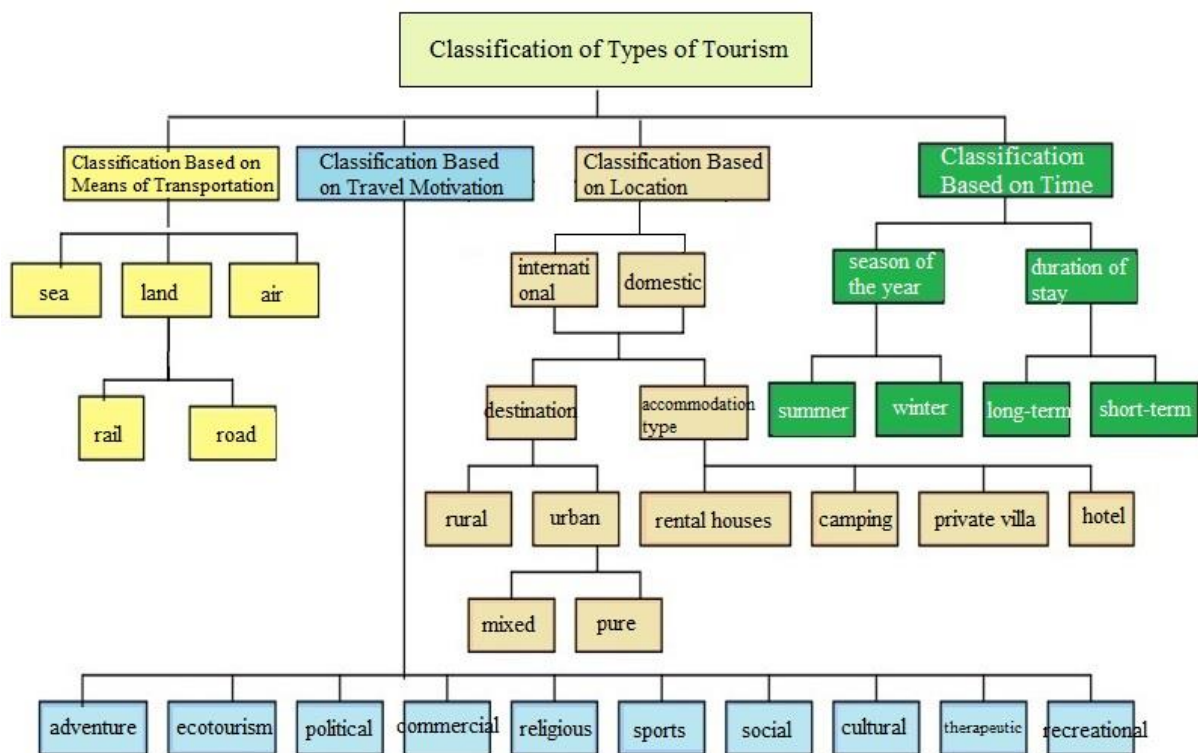


Fig 1. Diagram of the Classification of Types of Tourism

Classification of Tourism Based on Time

Duration of Stay: The classification of tourism according to the duration of stay, or the length of travel, allows for the differentiation between short-term tourism and long-term tourism.

Season of the Year: Additionally, the season can delineate two specific types of tourism: winter tourism and summer tourism.

Classification of Tourism Based on Location (Destination)

This classification divides tourism into two main categories: domestic and international. The choice of travel location or accommodation type selected by tourists defines a specific form of tourism. Accommodation options may include hotels, private villas, campsites, or rental properties. Additionally, it is essential to ascertain whether the travel destination is urban or rural, leading to

distinctions between urban tourism and rural tourism.

Rural Tourism: Lane (1994) characterized rural tourism as tourist activities that occur within rural settings. While this definition appears simple at first glance, a more detailed analysis reveals that certain terms within it warrant further examination. For example, it is crucial to clarify the scope and nature of tourism activities available in rural areas. Activities encompassed by rural tourism may include sightseeing excursions, water-based activities, aerial pursuits, land-based activities, sports events, exploratory ventures, cultural experiences, and skill development courses (Sabbaghi, 2015, pp. 10-12).

Urban Tourism: Presently, urban tourism is a common phenomenon in cities worldwide—both large and small. Urban environments typically feature a diverse range of attractions including

historical sites, cultural landmarks, shopping districts, music venues, parks, restaurants, and other urban amenities. Many of these attractions were originally established to cater to local populations; however, their popularity among tourists has subsequently enhanced their significance. Moreover, cities function as vital entry and exit points for tourists entering a country or region while providing a base for exploring nearby areas. In contemporary contexts, hospitality establishments and other tourism-related services form an integral component of urban landscapes; thus necessitating ongoing development and revitalization efforts in targeted urban regions. Generally speaking, cities can be categorized into three types based on their tourist offerings: first are those that provide recreational opportunities with pleasant weather conditions—such as sunny beaches; second are complexes that have been legally established for leisure purposes; third are cities distinguished by their artistic, scientific, historical, or religious significance.

Types of Urban Tourism: Within the realm of urban tourism, tourists are motivated either by the desire to explore urban attractions to connect with family and friends in the city, or by a combination of these motivations. However, it seems that two distinct forms of urban tourism can be identified.

Pure Urban Tourism: This form of urban tourism involves tourists traveling solely to a specific city, where they remain for the entirety of their visit, engaging exclusively with the attractions within that city. Some scholars characterize this as

sedentary urban tourism (Nurzada, 2021, p. 58).

Mixed Urban Tourism: In contrast, mixed urban tourism encompasses tourists whose objectives extend beyond merely visiting attractions or socializing with acquaintances; they also seek to venture into nearby small towns, villages, and rural areas surrounding the primary city. This form of urban tourism generally entails a longer stay, with the majority of time spent in the initial city. Some researchers describe this as migratory urban tourism.

Classification of Tourism Based on Transportation

Travel is generally facilitated through various modes of transportation—land, air, or sea—which can give rise to distinct forms of tourism categorized as land tourism (including road and rail), air tourism, or sea tourism.

Classification of Tourism Based on Travel Motivation

The motivations and objectives behind tourism can also be utilized to classify different types of tourism, resulting in categories such as recreational, therapeutic, cultural, and educational tourism. A brief overview of some key types follows.

Recreational Tourism: This category encompasses individuals or groups who embark on journeys primarily for leisure purposes—such as vacations, relaxation, and enjoying climates that differ from their usual environment. The inclination to travel for recreation and utilize annual leave is often correlated with factors such as income levels, educational attainment, population density, urbanization rates, duration of holidays, and

available leisure time. Additionally, considerations like round-trip travel costs, hotel rates, food and beverage expenses, and shopping expenditures significantly affect the selection of a city or country for accommodation. Recreational tourism is typically organized by travel agencies within each nation.

Therapeutic Tourism: This category encompasses individuals and groups who travel primarily to take advantage of climate change for medical or therapeutic purposes. Such purposes may include utilizing mineral waters or engaging in recovery treatments.

Cultural and Educational Tourism: This form of tourism aims to familiarize participants with cultural and artistic heritage as well as customs and historical sites for educational or research purposes.

Social Tourism: Social objectives are central to this type of tourism; it often involves anthropological or sociological considerations. Visits to friends and family also fall under social tourism.

Sports Tourism: Defined as any travel motivated by participation in sports activities, sports tourism includes endeavors like skiing, hiking, mountaineering, cycling, hunting, swimming, sailing, competing in sports events, or spectating at competitions. Such travel can be undertaken individually or collectively.

Religious Tourism: Among the most prevalent forms globally, religious tourism attracts numerous visitors each year to religious sites such as pilgrimage locations and sacred places.

Commercial Tourism: Significant trips categorized under business tourism include those taken by individuals attending trade shows or factory visits. Typically during business travels, accommodations are predetermined by companies that cover associated costs. The frequency of business travel tends to correlate with economic relationships between nations.

Political Tourism: Travel intended for participation in international conferences or political gatherings—such as congresses or seminars—as well as national celebrations or special events (including funerals of political leaders) is classified as political tourism (Khan, 2007, pp. 18-20).

Ecotourism: First introduced by Hetzer in 1965, the concept of ecotourism encompasses several principles including minimal environmental impact; respect for indigenous cultures; consideration for local communities; favorable economic outcomes for host populations; and overall tourist satisfaction.

Adventure Tourism: A rapidly expanding segment within the tourism industry is adventure tourism. This type involves tourists engaging physically in often hazardous activities such as wild animal hunting or challenging expeditions in remote locations including rock climbing or white-water rafting.

Rural Tourism: Rural tourism covers a range of types including river-based ecotourism practices that have gained recognition globally as well as within Iran. Activities categorized under ecotourism can also be integrated into rural tourism

frameworks based on regional capabilities. River ecotourism represents one of five fundamental resources for rural tourism; a significant number of tourists engage in recreational activities such as swimming and fishing while traveling. Consequently, effective planning for river ecotourism within the context of rural tourism is crucial.

The Tourism Industry and Its Relationship with Information and Communication Technology

The integration of information technology into tourism distribution systems has emerged as a crucial driver for the industry by allowing timely access to information about facilities and accommodations at tourism destinations across all distribution phases at any moment. A notable function of this technology within the tourism sector is its ability to mitigate the degradation of certain tourist sites. Additionally, it plays a significant role in reducing environmental and social conflicts (Karmi, 1999, pp. 57-58).

Information and Communication Technology (ICT) enhances organizational capabilities in resource management, boosts productivity, transforms operational processes, recovers products, and fosters engagement with various stakeholders including consumers, suppliers, public sector entities, and related groups. Furthermore, ICT empowers organizations to expand geographically while coordinating activities on regional, national, and global scales. It supports operational development and facilitates integration, growth, learning, and advancement. Most importantly, ICT

aids in expanding and sustaining organizational competitiveness and competitive advantages. The proliferation of ICT alongside its influence on tourism has led to the introduction of a new concept called electronic tourism, which will be elaborated upon subsequently.

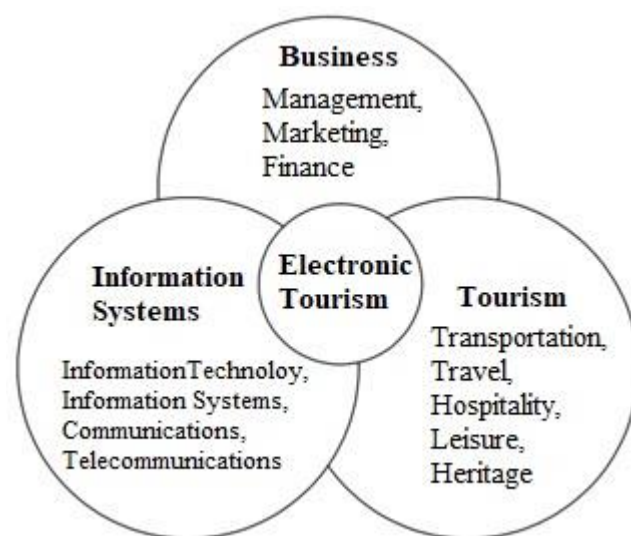


Fig 2. (Corbin, 2012, p. 98)

Impacts of the Tourism Industry

The tourism sector invariably induces changes. To optimize the benefits derived from this industry, it is crucial to first gain a comprehensive understanding of the impacts it generates. Subsequently, efforts should be made to mitigate negative consequences while amplifying positive outcomes.

Positive Impacts (Opportunities)

The positive effects of the tourism industry can generally be categorized into three main areas:

1. Economic Effects: These effects include generating foreign currency revenue, creating jobs, ensuring equitable income distribution, increasing the speed at which money circulates within the

economy, enhancing national and per capita income levels, improving the balance of payments situations, promoting handicraft industries and export products, as well as fostering overall national development.

2. Cultural and Social Effects: This category encompasses cultural exchanges that enrich public culture; it facilitates familiarity with diverse customs and traditions from various nations; promotes local cultural activities; enhances general knowledge among community members; and strengthens both national unity and international connections.

3. Environmental Effects: These effects relate to improving environmental quality to meet tourists' needs while preserving historical sites and cultural heritage through necessary construction and development initiatives.

From an economic standpoint, key positive impacts of tourism include generating foreign income streams for governments; boosting gross national product; serving as a significant source of employment; and enhancing social services. Broadly speaking, the positive impacts of tourism can be summarized as follows: safeguarding natural attractions; preserving historical sites; enhancing environmental conditions; developing infrastructure; providing economic advantages; promoting traditional arts; revitalizing cultural identity along with national pride; and facilitating cultural exchanges (Alvani, 2006: 126).

Negative Impacts (Threats)

When assessing the negative consequences of

tourism development on local cultures within host communities, some scholars have highlighted the commodification of local culture—whereby residents tailor their cultural offerings to suit tourist preferences. The concept of "cultural mimicry" also arises in this context; it describes a situation where elements from tourists' cultures become templates for local practices leading to uncritical imitation by residents. Additionally, health-related issues have gained increased attention as a significant social impact in recent years (Corbin, 2012: 103). The adverse environmental impacts associated with tourism can generally be classified into three major categories:

1. Resource Consumption: This includes depletion of natural resources such as water and soil; alterations in regional ecosystems; and damage to plant life and wildlife.

2. Behavioral Changes: This refers to shifts in social behaviors that may result in societal harm.

3. Pollution: This encompasses various forms including water pollution; air pollution; noise pollution; and visual pollution (Corbin, 2012: 111).

Assessment of Environmental Dimensions Affecting River Tourism

During the 1970s and 1980s, growing concerns over environmental issues—such as air pollution, water contamination, and endangered species—prompted public awareness and government action in both the United States and Europe. Concurrently, discussions surrounding sustainability aimed to address some of the most pressing environmental problems (Ashok et al., 2017, p. 42). The concept of

sustainable development emerged in the 1980s with an acknowledgment that unrestricted economic growth could lead to detrimental environmental and social consequences, thereby challenging existing growth models (Chapple, 2016, p. 258). The global perspective on our collective environmental future has reached a critical juncture; as articulated in the Brundtland Report, discussions on global environmental issues and sustainability have become central to both local and international social and political discourse (Kothari, 2004, p. 461). Following this report in 1987, sustainable development embarked on a transformative journey toward becoming a recognized paradigm of development in contemporary society. Consequently, since the 1990s there has been a transition from mass tourism towards a more sustainable development approach within the tourism sector.

In terms of environmental considerations, sustainability pertains to an ecosystem's ability to sustain vital functions and processes over time—particularly its biodiversity. In essence, sustainability reflects "the equilibrium between activities and their supporting environment wherein both coexist without experiencing harmful adverse effects." While consensus on a precise definition of sustainability remains elusive, the Brundtland Report emphasized that sustainable development "addresses present needs without hindering future generations' capacity to meet their own." Sustainable tourism encompasses managing resources effectively so

that environmental processes are preserved alongside biodiversity while honoring cultural values. It also represents a shift towards developmental practices that prioritize local concerns, conservation of natural resources, and alignment with community values.

To mitigate negative impacts associated with tourism while maximizing benefits for environmental quality and community welfare is imperative. Environmental policies have consistently served as a foundational agenda for policymakers striving to develop effective strategies for preserving natural resources while enabling economic systems to tackle emerging challenges such as sustainable tourism initiatives, financial crises, and overall economic well-being. The planning process for sustainable tourism development is intrinsically linked to efforts aimed at environmental preservation; it necessitates extensive research activities and analyses before decision-making processes that shape developmental trajectories.

Conclusion

River landscapes are profoundly influenced by human activities. In many countries today, there is an expectation that river corridors will be restored through regulations that combine flood protection with ecological habitat restoration efforts. Human activities—including urban development, highway construction, surface mining, dam building, and power generation—often proceed without consideration for the visual quality of the landscape. This decline in quality is not only

concerning but also poses significant risks. Landscapes should be viewed as valuable natural resources. Human interference compromises the integrity of these landscapes as interconnected systems and reduces their diversity, leading to a diminished capacity to meet the varied expectations that users have for these environments. Furthermore, water resources are a crucial element for rural tourism, including river ecotourism, which draws many travelers to rural regions for recreational purposes. As such, effective planning for river ecotourism is vital. Simultaneously, with the growth of tourism in developing nations like Iran, environmental, economic, cultural, and social repercussions may emerge; consequently, as tourism capacity increases, greater emphasis on the preservation of natural resources becomes imperative.

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