

Analysis of Socio-Economic Impact of Water-Based Tourism in Lagos State, Nigeria

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Abstract

This study examines the spatial distribution and respondents perceived issues and opportunities of water-based tourism sites in Lagos State using a mixed-methods approach. Primary data were collected through 200 structured questionnaires administered to residents within 10 km² radius of selected water tourism sites across five littoral Local Government Areas (LGAs) and Lagos Island, chosen for their recognized waterfront activity. GPS coordinates of these sites were mapped and analysed in ArcGIS 10.8, while a four-point Likert scale captured respondents' perceptions of site-related challenges and benefits. IBM SPSS Statistics 27 was used for descriptive analysis. Results reveal a predominance of male (63.5%) and youth (53.5% aged 21 - 40) respondents, with students forming the largest occupational group (74.5%), highlighting the appeal of these sites for leisure and recreation among young people. Spatial analysis shows that most water tourism sites are linearly distributed along the coast, especially in Eti-Osa LGA, reflecting the influence of geographic and socio-economic factors. Respondents identified moderate concerns about pick-pocketing but did not perceive kidnapping or car theft as significant threats, while economic opportunities such as community development, revenue generation, and business creation were strongly endorsed. However, persistent challenges-including inadequate infrastructure and limited amenities were noted as barriers for realizing the full potential of water-based tourism. The study concludes that strategic investment in infrastructure, security, and environmental management is needed to enhance the appeal and socio-economic impact of Lagos's water tourism sector, supporting sustainable growth and community well-being.

Keywords: Eco-Tourism, Tourists, Distribution, Economy, and Perception

1. Introduction

Tourism is widely recognized as a multifaceted recreational activity involving travel for leisure, business, or other purposes, often outside one's usual environment for a period ranging from 24 hours to one consecutive year (Folgado-Fernández et al., 2019; Gayle Jennings, 2007). Individuals become tourists when they leave their usual surroundings, where they live, to visit a different location without been engaged in any other type of activity aside from tourism. Regardless of how close or far this environment (destination) is, these people will normally engage in a variety of tourism activities (Camilleri,

2018).

It encompasses a broad spectrum of activities, from sightseeing and excursions to camping, and can be oriented towards both natural and artificial attractions such as mountains, beaches, and cultural landmarks (Sun & Liu, 2020). Importantly, tourism is not an isolated sector; it is closely linked with industries such as hospitality and transportation, creating a dynamic network of services that support travel experiences (Ndhlovu et al., 2024; Truong & Shimizu, 2017). The diversity of tourism forms such as natural tourism, ecotourism, and water tourism-reflects the varied motivations and interests of travelers, with each form offering unique interactions with the environment and local communities (Samal & Dash, 2023).

Water tourism, the focus of this study, is defined as travel to locations specifically to engage in water-based activities or to enjoy the ambiance of water-adjacent destinations such as lakes, rivers, or coastal areas (Zhu, 2023). This form of tourism includes both active pursuits like kayaking, sailing, and diving, as well as more passive experiences such as sunbathing, sightseeing, or staying at waterfront resorts (Hudson & Beedie, 2007). Water tourism is further enriched by the concept of nautical tourism, which merges boating and sailing with vacation activities, and is especially popular in regions with extensive coastlines or navigable waterways (Zhang & Tian, 2022). The appeal of water tourism lies in its ability to cater to a wide range of preferences-from adventurous sports to tranquil relaxation-while also providing opportunities for cultural exchange and economic development (Feng et al., 2023). In many parts of the world, water tourism is a rapidly growing segment, driven by the desire for unique experiences and the natural human affinity for water environments.

Studies of water tourism in both local and global contexts underscore its significant and multifaceted role in economic development, recreation, and environmental stewardship. Jennings (2007) highlights that water tourism not only enhances recreation and well-being but also incentivizes the sustainable management and protection of water resources by raising awareness and encouraging responsible use. In the Mediterranean and other coastal regions, research has shown that water-based tourism can drive the development of infrastructure, create employment opportunities, and stimulate local economies, while also presenting challenges related to environmental management, water equity, and carrying capacity (P'askova et al., 2024; Ricart et al., 2024). In Nigeria, and particularly in Lagos State, the economic impact of water tourism is increasingly recognized, with beach tourism and waterfront recreation serving as key drivers of revenue generation and community development (Kolawole & Okosodo, 2019; Oyebamiji et al., 2018). However,

persistent challenges such as pollution, inadequate infrastructure, and the underutilization of waterfronts continue to limit the sector's growth potential, echoing findings from other regions that emphasize the need for balanced strategies to harness the benefits of water tourism while mitigating its environmental and social impacts (Merem et al., 2018).

The need for focused research on water tourism in Lagos is further established by empirical studies documenting both the opportunities and challenges in the state. Lagos, with its extensive coastline, lagoons, and rivers, is uniquely positioned to benefit from water-based tourism, yet faces obstacles related to environmental sustainability, urban planning, and equitable access (Akinyemi, 2024; Ndimele et al., 2024). Recent works have emphasized the importance of integrating GIS and spatial analysis to better understand the distribution and patronage of tourist sites, as well as the perceptions of residents and visitors regarding safety, infrastructure, and economic benefits (Mutgurum et al., 2020; Oyebamiji et al., 2018). Shiru et al. (2020) and Uduma-Olugu & Adebamowo (2015) collectively argue for a holistic approach that balances economic development with environmental stewardship and community engagement, ensuring that water tourism contributes positively to the social and ecological fabric of Lagos. Given this context, the present study aims to examine the perceptions of respondents regarding the issues and opportunities associated with water tourist sites in Lagos State. Specifically, the objectives are to analyze the socio-economic characteristics of respondents to water-based tourist sites, assess the spatial distribution and accessibility of these sites using GIS tools and evaluate the perceived benefits and challenges of water tourism from the perspective of both tourists and local residents of water-based tourism in Lagos. By addressing these objectives, the study seeks to contribute to the growing body of knowledge on sustainable tourism development and inform policy and planning efforts aimed at maximizing the potential of Lagos's aquatic resources for recreation, economic growth, and community well-being.

2. Materials and Methods

2.1 Study Area

Lagos State, Nigeria's smallest state with a land area of 3,580 Km², is geographically positioned between latitudes 6°17'18.5" and 6°37'14.7" North and longitudes 2°47'14.1" and 4°21'10" East (Figure 1). It borders Ogun State to the north and east, the Atlantic Ocean to the south, and shares its western boundary with the Republic of Benin.

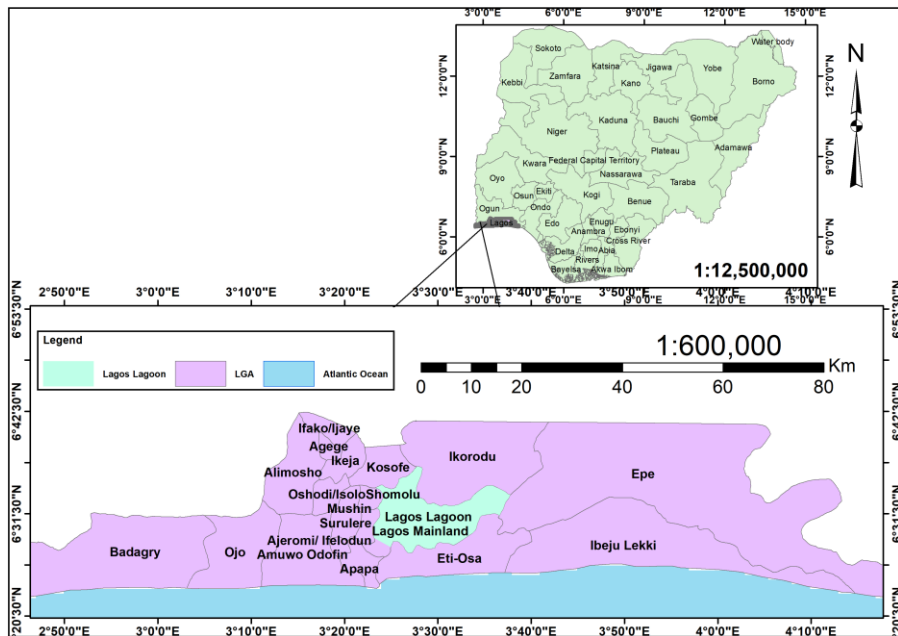


Figure 1: Study Area

This area is characterized by extensive lagoons, rivers, and creeks that offer immense potential for water-based tourism. Despite these natural endowments, many of Lagos' water tourism sites remain underutilized due to insufficient infrastructure, environmental challenges, and lack of investment (Shiru et al., 2020). Studies have shown that the landscape and water bodies, such as the Lagos Lagoon, are major assets for tourism, attracting both domestic and international visitors for activities like boat cruises, fishing, and water sports (Uduma-Olugu & Adebamowo, 2015; Uduma-olugu & Onukwube, 2012).

However, issues like pollution, inadequate facilities, and poor landscape management have hindered the full realization of the potential of these sites. Given Lagos' status as a major commercial and cultural center, there is a pressing need to study water-based tourism to identify barriers and opportunities for sustainable development. Enhancing water tourism could diversify the state's economy, boost revenue, create jobs, and improve the quality of life for residents, provided that challenges related to infrastructure and environmental management are addressed.

2.2 Methods

The study employed a mixed-methods approach integrating primary and secondary data collection, aligning with established methodologies in tourism research. Primary source of data were through questionnaire and the secondary

sources of data was obtained from wide consultation from academic publication (books, journals, annals, internet search and relevant literature from the University library). Primary data was gathered through 200 copies of structured questionnaire and were administered to respondents within 10 km² radius of water-based tourism sites in five Lagos Littoral Local Government Areas (Badagry, Amuwo Odofin, Apapa, Eti-Osa, Ibeju/Lekki) as well as Lagos Island. This purposive sampling strategy was used to select the five littoral Local Government Areas (LGA) based on the presence of recognizable water tourism sites, while Lagos Island was included due to its significant waterfront activity, notably the Unilag Lagoon Front. This method was used in line with that of Mutgurum et al. (2020), who mirror the spatial analysis frameworks used in Jos, Nigeria, where Global Positioning System (GPS) coordinates and Geographical Information System (GIS) was used to create geo-database mapping revealed by tourists sites distribution patterns. To examine respondents' perceptions about the issues and opportunities of water tourist sites in Lagos State, a four-point Likert scale (Strongly agree, Agree, Disagree, and Strongly disagree) was utilized. This methodological approach is well-established in tourism research and allows for nuanced measurement of attitudes and perceptions among diverse groups of tourists (Uduma-Olugu et al., 2013). GPS devices were used to obtain water tourist sites geographic coordinates, which were exported to Arc GIS 10.8 software as Excel (comma-delimited) files and converted to shape files method validated in Utah's Bonneville Salt Flats study for analyzing dispersed recreation patterns (Peterson et al., 2021). Spatial query and search was also used to test the data base. The spatial focuses on water-adjacent zones echoes the combined hydrological data with tourism infrastructure mapping to assess resource pressures.

Data analysis were analyzed using , International Business Machine (IBM) Statistical Package for Social Sciences (SPSS) version 27 generated descriptive statistics (frequencies, percentages, means, charts and ranking), the approach is in line with that of Ricart et al. (2024), who examined the Mauritius' tourism spending where SPSS was used to analyze the socio-demographic characteristics of the respondents in each tourist attraction. Financial constraints limited the sampling radius, the methodology aligns with Ricart et al. (2024) resource-efficient framework for coastal tourism studies, which prioritized localized data collection around high-impact zones. The integration of geospatial and survey data addresses calls in recent literature for multidimensional analysis of water-based tourism's socio-spatial impacts (Oyebamiji et al., 2018).

3. Results and Discussion

3.1 Socio-Demographic Characteristics of Respondents

The socio-demographic characteristics of respondents are revealed in Table 1. Majority of visitors (63.5%) are male, while 36.5% are female. This skew toward male participation may reflect cultural norms or safety perceptions influencing female visitation. As shown in Table 1, 53.5% of respondents are aged 21–40, followed by 40.5% under 20, indicating youth dominance in visitation. This finding aligns with those of Kolawole & Okosodo (2019) in Lagos, where coastal tourism sites like Elegushi Beach attract younger demographics seeking recreational spaces. The minimal representation of older age groups (6% aged 41–60) suggests these sites are perceived as leisure hubs for students and working-class youths. Findings on the ethnic groups reveal that 76% of visitors are Yoruba, 7.5% Igbo, 3.5% Hausa, and 13% from other groups. The dominance of Yoruba respondents underscores the need for inclusive marketing to broaden cultural engagement. Studies note that improving infrastructure (e.g., transport, security) could enhance accessibility for non-local tourists, boosting economic benefits like job creation and cultural exchange (Feng et al., 2023).

Findings further reveal that students comprise 74.5% of visitors, followed by employed (17.5%) and unemployed (4%) individuals. This highlights the role of water-based sites as affordable recreational spaces for students, while the employed minority suggests potential for growth in catering to working professionals. Research emphasizes that coastal tourism in Lagos generates revenue through entrance fees and small businesses, yet poor infrastructure and inadequate documentation limit its economic impact. For instance, Elegushi Beach contributes to job creation but lacks organized revenue collection systems (Kolawole & Okosodo, 2019). Addressing these gaps could amplify the role of tourism in Lagos' economy, particularly for youth employment.

Table 1: Socio-demographic Characteristics of Respondents

Variable	Frequency	Percentage
Sex		
Female	73	36.5
Male	127	63.5
Total	200	100
Age:		
0-20	81	40.5
21-40	107	53.5
41-60	12	6
Total	200	100
Ethnic group		
Hausa	7	3.5
Igbo	15	7.5
Yoruba	152	76
Others	26	13
Total	200	100
Occupation:		
Employed	35	17.5
Student	149	74.5
Unemployed	8	4
Others	8	4
Total	200	100

Source: Authors' Analysis (2023)

3.2 Distribution of Identified Water-Based Tourist Sites

The distribution of water-based tourist sites in Lagos is predominantly linear, following the coastline and reflecting the state's unique geographical position along the Atlantic Ocean. Table 2 presents the names and coordinates of water tourism sites.

The spatial distribution of water-based tourism sites within the study area as illustrated in Figure 4 illustrates. Using GPS technology, the locations of these sites were mapped and analyzed, revealing a concentration of popular destinations in the Eti-Osa LGA, which shares boundaries with Lagos Island-home to the University of Lagos and the Unilag Lagoon Front. This concentration is influenced by factors such as proximity to educational institutions, youth demographics, and accessibility, making Eti-Osa LGA a focal point for water-based tourism.

Table 2: Names and Coordinates of Water Tourism Sites

Water-based Tourism Sites	Latitude	Longitude
Elegushi Beach	6.4221 ⁰ N	3.4866 ⁰ E
Oniru Private Beach	6.4245 ⁰ N	3.4413 ⁰ E
Lekki leisure	6.4239 ⁰ N	3.4621 ⁰ E
Water view	6.4560 ⁰ N	3.4110 ⁰ E
Eleko Beach	6.4387 ⁰ N	3.8548 ⁰ E
Bar Beach	6.4217 ⁰ N	3.4329 ⁰ E
Ibeshe Beach	6.4281 ⁰ N	3.2501 ⁰ E
Kuramo Beach	6.4225 ⁰ N	3.4296 ⁰ E
Tarkwa Bay	6.4006 ⁰ N	3.3956 ⁰ E
Coconut	6.4404 ⁰ N	3.3346 ⁰ E
Unilag lagoon front	6.5216 ⁰ N	3.4002 ⁰ E
Atican Beach	6.4265 ⁰ N	3.5968 ⁰ E
Eko Tourist	6.4393 ⁰ N	3.5162 ⁰ E
Whispering Palms	6.4159 ⁰ N	3.0450 ⁰ E
Sultan Beach	6.4417 ⁰ N	2.9776 ⁰ E
Ikorodu Waterside	6.4427 ⁰ N	3.4384 ⁰ E
La Campagne Tropicana	6.3970 ⁰ N	4.1879 ⁰ E
Barracuda Beach Resort	6.4255 ⁰ N	3.6116 ⁰ E

Source: Authors' Field Survey (2023)

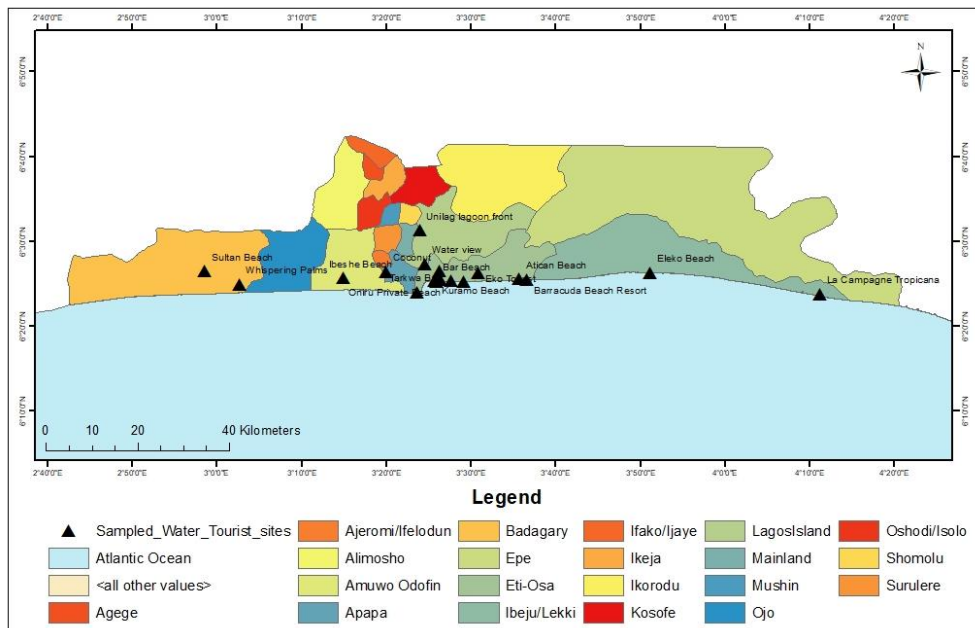


Figure 4: Spatial Distribution of Water Tourist Sites

Source: Authors' Analysis (2023)

On the other hand, sites like Ibeshe and Unilag Lagoon are more dispersed in the Northern part of the State, while the Southern coastal areas, including Atican Beach and Kuramo Beach, exhibit closely situated attractions. The eastern corridor features Eko Tourist Beach and Eleko Beach, which are more spread out, and in the Western region, sites such as Coconut Beach, Sultan Beach and Whispering Palms are scattered. This spatial distribution is consistent with findings from Ndimele et al. (2024) and Uduma-Olugu & Adebamowo (2015), who observed that the majority of Lagos's water-based attractions are aligned along the coastline, driven by natural landscape features and the recreational appeal of the waterfront.

The coastal orientation of Lagos' water-based tourist sites is not only a product of geography but also of urban development and socio-economic factors. The linear pattern along the Atlantic seaboard is reinforced by the presence of major lagoons-such as Lagos, Lekki, and Epe-and the city's extensive network of rivers and creeks, which provide natural settings for tourism and recreation, which is also noted by Uduma-Olugu & Adebamowo (2015). Despite the high potential for tourism, many waterfronts remain underutilized due to inadequate tourism infrastructure, environmental degradation and competing land uses, as highlighted by Akinyemi (2024) and Merem et al. (2018). Nevertheless, the concentration of water-based tourist sites in accessible and economically vibrant areas like Eti-Osa suggests that targeted investment in infrastructure could further enhance the ambience and functionality of these destinations. This is seen by recent government efforts to boost water-based tourism as a means of stimulating the local economy, generate revenue by the local government area and creating employment opportunities (Edema, 2024). Consequently, the spatial distribution of water-based tourist sites in Lagos underscores the interplay between natural geography, urban development, and socio-economic dynamics, shaping both the challenges and opportunities for sustainable tourism development in the region.

3.3 Perceptions of Issues and Opportunities, Effects of Sampled Water Tourist Sites

Respondents' perceptions of water tourist sites in Lagos revealed that there is a complex interplay of concerns and opportunities, reflecting both the challenges faced by these destinations and their untapped potential. Table 3 displays the respondents' perceptions about the issues and opportunities of water tourist sites. Pick-pocketing is perceived as a moderate issue (mean score 2.73), more severe crimes such as kidnapping (2.45) and car theft (2.92) are not considered significant threats by most visitors or residents around the sites. This relative sense of safety was echoed by Uduma-olugu & Onukwube

(2012), despite concerns about petty crime such as pick pocketing, fighting among each other which the broader security issues of Lagos' waterfronts.

Table 3: Perceptions on Issues and Opportunities of Water-based Tourist Sites

S/No	Question	Strongly agree	Agree	Disagree	Strongly disagree	Mean	Decision
1	Pick pocketing	9	18	20	1	2.73	Has impact
2	Kidnapping	4	14	28	1	2.45	No impact
3	Car theft	2	16	29	0	2.92	No impact
4	Increase in price of goods	18	21	7	0	3.24	Has impact
5	Foster community development	15	22	8	1	3.11	Has impact
6	Source of revenue	26	18	2	0	3.47	Has impact
7	Business opportunity for individuals	28	27	2	0	3.46	Has impact
8	Relaxation Benefit	27	18	2	1	3.48	Has impact
9	Income generation	23	22	0	1	3.46	Has impact

Source: Authors' Analysis (2023)

However, these findings also highlight the need for targeted interventions to address minor security issues. Moderate levels of theft can negatively impact visitor satisfaction and the overall reputation of these sites. Ijeomah et al. (2019) similarly identified security lapses as a recurring theme in user feedback, suggesting that improvements in policies and site management could further enhance the attractiveness of Lagos' water-based destinations. Beyond safety, respondents highlighted several economic and social opportunities associated with water-based tourism. The increase in the price of goods (mean score 3.24) was seen as having a notable impact, reflecting the influence of tourism-driven demand on local markets. More positively, respondents strongly agreed that water tourist sites foster community development (3.11), serve as significant sources of revenue (3.47), and create business opportunities for individuals (3.46). These perceptions are well-supported by broader research, which underscores the economic multiplier effects of tourism on local economies (Gössling et al., 2012; P'askova et al., 2024). For example, the development of inland water transportation and tourism in Lagos has shown to create jobs, stimulate entrepreneurship, and provide alternative income streams for residents, for instance petty trading

(Saheed et al., 2023). The strong agreement on the relaxation benefits (3.48) and income generation potential (3.46) further reinforces the idea that water-based tourist sites are valued not only for their economic contributions but also for their role in enhancing quality of life, offering spaces for leisure, socialization, and stress relief.

Despite these recognized benefits, respondents point to persistent challenges that limit the full realization of Lagos' water-based tourism potential. Key issues include inadequate infrastructure, limited recreational facilities and environmental concerns such as pollution and poor landscape management. For instance, Shiru et al. (2020) have documented the underutilization of Lagos' waterfronts due to a lack of functional transport, poorly designed leisure areas, and insufficient amenities. Addressing these gaps through urban renewal, improved planning, and landscape architectural interventions is critical for unlocking the latent value of these sites. These findings suggest that with strategic investment in infrastructure, security and environmental management, Lagos' water-based tourist sites could become vibrant hubs for recreation, economic growth and cultural exchange, benefiting both local communities and the broader state economy.

4. Conclusion and Recommendation

The socio-economic profile of the respondents in Lagos' water-based tourist sites revealed predominantly young, male demographic, with students forming the largest occupational group. This pattern highlights the popularity of coastal tourism sites as affordable recreational spaces for youths and working-class individuals seeking leisure opportunities. The dominance of a particular ethnic group suggests the need for more inclusive marketing strategies to attract a diverse range of visitors. While safety concerns such as pick-pocketing are acknowledged, more severe crimes like kidnapping and car theft are not perceived as significant threats, indicating a relatively secure environment that could be further improved through targeted policy making and management. Respondents also recognize the economic and social benefits of water tourism, including community development, revenue generation, and business opportunities, which support livelihood diversification and local entrepreneurship. However, persistent infrastructural deficiencies, environmental degradation, and limited recreational facilities remain major barriers for maximizing the sector's potential.

Spatial analysis reveals that water tourist sites in Lagos are predominantly distributed in a linear pattern along the Atlantic coastline, with a notable concentration in areas characterized by accessibility and vibrant socio-economic activities. This distribution reflects the interplay between physical geography, social geography and urban development, with lagoons,

rivers, and creeks providing attractive settings for tourism. Despite this natural advantage, many waterfronts remain underutilized due to poor infrastructure and environmental challenges, limiting their appeal and functionality. To unlock the latent value of these sites, strategic investments in tourism infrastructure, environmental management and security are essential. It is recommended that Lagos State intensifies efforts to upgrade transport and tourism facilities in each site so as to improve accessibility and enhance a lasting tourist's experience. Additionally, implementing sustainable environmental policies to address pollution and landscape degradation will ensure the long-term viability of water tourism, fostering economic growth and enhancing community well-being.

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