

BLUE ECONOMY, COMPLEX CHALLENGES: THE FUTURE OF MARINE TOURISM IN BANGLADESH

Mavi Ekonomi, Karmařık Zorluklar: Bangladeř'te Deniz Turizminin Geleceęi

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Öz

Bu arařtırma, Bangladeř'teki deniz turizminin fırsatlarını ve zorluklarını deęerlendirirken, aynı zamanda ekonomik, çevresel ve kültürel faydalar sağlama kapasitesine odaklanmaktadır. Mevcut kořulların ve potansiyelin nitel bir analiziyle, çevresel tehditler, altyapı yetersizlikleri, düzenleyici eksiklikler ve iklim zafiyetleri gibi ana engelleri belirlemeye çalışılmıştır. Çalışma sonucunda yasal düzenlemeler, altyapı iyileřtirmeleri, topluluk katılımı ve çevre korumayı kapsayan kapsamlı bir strateji önermektedir. Elde edilen bulgular sektörün tam potansiyelini açığa çıkarırken, deniz ekosistemlerini korumak için bütünleřik yaklaşımların gereklilięini vurgulamaktadır.

Anahtar kelimeler: Deniz Turizmi, Bangladeř, Topluluk Katılımı, İklim Deęiřiklięi, Çevre Koruma.

Abstract

This research assesses the prospects and challenges of marine tourism in Bangladesh, focusing on its capacity to drive economic, environmental, and cultural benefits. Utilizing a qualitative analysis of current conditions and potential, the research identifies key impediments, including environmental threats, infrastructural deficits, regulatory inadequacies, and climate vulnerabilities. It argues for a comprehensive strategy that encompasses legal reform, infrastructure enhancement, community engagement, and environmental conservation. The findings underscore the necessity for integrated approaches to unlock the sector's full potential while safeguarding marine ecosystems.

Keywords: Marine Tourism, Bangladesh, Community Engagement, Climate Change, Environmental Conservation.

Introduction

Bangladesh, strategically located along the Bay of Bengal, is on the horn of emerging as a key player in the growing global marine tourism industry. With its extensive 710-kilometer coastline, adorned with a attractive of marine resources and pristine landscapes, the country beckons tourists with promises of unique beauty and adventure. Marine tourism, encompassing activities along the coastline and within the maritime

domain, has emerged as a significant contributor to the national economy, offering a promising pathway for sustainable development. According to the World Bank, the tourism sector in Bangladesh contributed approximately 4.4% to the GDP in 2019, with marine tourism being a relatively untapped segment with significant growth potential (Nabi & Salimullah, 2022).

The economic impact of marine tourism in Bangladesh can be substantial. A report by the Bangladesh Parjatan Corporation (BPC) highlighted that the sector has the potential to grow by 7.5% annually, contributing significantly to employment and local economies. In Cox's Bazar alone, tourism revenue reached approximately \$15 million in 2020, despite the global downturn due to the COVID-19 pandemic. According to the World Travel & Tourism Council (WTTC), travel and tourism contributed 7.9% to Bangladesh's GDP in 2022, with marine tourism accounting for a significant portion (Bhuyan et al., 2022). The sector also plays a crucial role in poverty alleviation, particularly in coastal communities where alternative livelihood options are limited (Table-4).

However, as the potential of marine tourism in Bangladesh is explored, it is deemed crucial to introduce a foundational understanding of "resilience" – a term that plays a pivotal role in the sustainable development of this sector. Broadly defined, resilience refers to the capacity of a system, community, or environment to be withstood against disruptions and to be recovered from them (Hillmer-Pegram, 2014). This concept is particularly relevant to marine tourism in Bangladesh, as it is underscored by the sector's ability to navigate and thrive amidst challenges such as environmental degradation, climate change, and socio-economic pressures. A marine tourism industry that is resilient is one in which strategies ensuring sustainability and growth despite adverse conditions are adopted, highlighting the importance of strategic planning that incorporates environmental conservation, community engagement, and adaptive governance (Biggs, 2011; Jarratt & Davies, 2020).

Notwithstanding, the path to realizing this potential is fraught with obstacles. The development of infrastructure lags, with a limited number of internationally recognized accommodation facilities. Environmental stewardship remains a concern, with only 25% of coastal tourism enterprises adopting sustainable practices. The challenges extend to limited product diversification, inadequate marketing strategies, and the low capacity of local communities in terms of skills and training, compounded by the vulnerability of coastal regions to climate change impacts (Mohammed Mahabubur Rahman, 2009).

This study seeks to articulate a clear rationale by examining the untapped potential and inherent challenges of marine tourism in Bangladesh. It aims to bridge the identified gaps in literature by offering insights into sustainable development practices, community engagement strategies, and the integration of conservation efforts within the marine tourism sector.

By exploring the varied potential of marine tourism in Bangladesh, this paper contributes to the existing body of knowledge by proposing a holistic framework to navigate the identified obstacles effectively. The inclusion of community participation, detailed in nearly 30% of the local population in marine tourism areas being actively

engaged in tourism-related activities, underscores the importance of inclusive growth and sustainable development within this sector (Nobi & Majumder, 2019).

In the evolving landscape of Bangladesh's marine tourism, recent legal frameworks have set the stage for a future that balances growth with sustainability. At the forefront is the Bangladesh Tour Operators and Tour Guides (Registration and Operation) Bill, 2021, a pivotal legislation mandating registration and regulation for tour operators and guides. Complementing this is the Bangladesh Tourism Reserved Area and Special Tourism Zone Act, 2010, which underscores the development of protected tourism areas and special zones, potentially influencing marine tourism domains. While these legal instruments pave the way for structured development, they coexist with earlier policies such as the Bangladesh Tourism Policy, 2010 and The Bangladesh Tourism Board Act, 2010 (BTB Act 2010). Although broad, these earlier policies set foundational guidelines for sustainable tourism practices. The interplay of this framework with the Bangladesh Environment Conservation (Amendment) Act, 2010 (BEC Act 2010), illustrates a multi-faceted approach to managing marine tourism's environmental impacts. But the newly enacted The Marine Fisheries Act, 2020 does not explicitly mention or focus on marine tourism. However, the need for more targeted regulations specifically addressing marine tourism's unique challenges remains a crucial aspect for the sector's future trajectory.

Following this introduction, the paper is structured as follows: The next section provides a comprehensive review of the literature, laying the groundwork for understanding the current state of marine tourism in Bangladesh and identifying gaps in existing research. This is followed by a detailed examination of the methodologies employed in the study, emphasizing a qualitative approach to data analysis. The subsequent discussion section offers an in-depth analysis of Bangladesh's geographic and marine biodiversity, the interplay between the blue economy and marine tourism, and the pivotal role of ecotourism as a sustainable approach. The paper then transitions to an exploration of popular and emerging marine destinations within Bangladesh, alongside current trends, and statistical insights into the nation's tourism demographics. A critical analysis of the challenges confronting marine tourism paves the way for a set of targeted recommendations and strategies designed to foster sustainable growth in this sector. The conclusion synthesizes the key findings, emphasizing the strategic importance of marine tourism in Bangladesh's socio-economic landscape and advocating for a concerted effort towards its sustainable development.

Literature Review

To effectively address the gaps in the existing literature on marine tourism in Bangladesh, it is necessary to have an in-depth understanding of the several complicated aspects related to sustainable development in that sector. A meticulous examination of prior studies reveals insights into the economic, environmental, and social dimensions of marine tourism, underscoring the utilization of diverse theoretical frameworks and methodological approach. Previous investigations have shed light on the intricate relationship between marine tourism and sustainable development. Comprehensive literature reviews addressed this issues (Table 1).

Table 1. Synthesis of Research on Sustainable Practices in Marine Tourism.

Study Reference	Key Findings	Research Gaps
Bhuiyan and Darda (2021)	Explored the significance of aligning tourism with Sustainable Development Goals (SDGs), emphasizing the sector's potential in fostering economic growth while ensuring environmental stewardship.	Lacks comprehensive analysis on the integration of sustainability principles into marine tourism practices.
Islam and Sarker (2021); Yildirim (2022)	Advocated for the integration of sustainability principles into marine tourism practices, highlighting the necessity for a balanced approach that addresses economic viability, environmental preservation, and social equity.	Insufficient research on the adaptation of marine tourism to climate change impacts.
Islam and Shamsuddoha (2018); Mannan et al. (2020)	Highlighted the importance of community engagement and stakeholder participation for sustainable development in marine tourism.	Noted gap in research on climate change adaptation within the marine tourism sector.
Alam et al. (2021)	Pointed out the lack of research on climate change adaptation within the marine tourism sector.	Calls for studies focused on the development of comprehensive tourism-specific legal frameworks, ecotourism, and enhanced community engagement.
Hasan (2018); Pavel and Supinit (2017)	Suggested the potential for economic diversification in marine tourism through the lens of the blue economy.	The potential for economic diversification in marine tourism remains underexplored.
Kalam and Hossen (2018)	Emphasized the need for environmental awareness to promote sustainable tourism practices.	A lack of detailed studies on the effectiveness of environmental education programs in altering tourist behaviors.
Mondal (2017); Shamsuzzaman et al. (2017)	Advocated for integrated conservation strategies and the promotion of sustainable tourism practices.	Requires further research on the implementation and impact of integrated conservation strategies on marine biodiversity.
Nobi and Majumder (2019)	Discussed the future prospects of coastal and marine tourism, highlighting the importance of sustainable practices.	Gap in empirical studies examining the long-term impacts of sustainable practices

		on marine tourism development.
Sahabuddin et al. (2021)	Investigated tourist environmentally responsible behavior and satisfaction in Cox's Bazar, emphasizing the importance of sustainable environmental practices among tourists.	Need for more comprehensive strategies to enhance environmental responsibility among tourists and measure the impact on satisfaction and repeat visitation.
Forrest et al. (2023)	Explored the role of the diving sector in conservation and sustainable development within the blue economy, highlighting the potential for marine tourism to contribute to environmental and economic goals.	Further examination of the socio-economic benefits of integrating marine tourism with conservation efforts and the blue economy is needed.
Akram et al. (2023)	Focused on mangrove health and the challenges associated with mangrove management practices, relevant to coastal and marine tourism areas like the Sundarbans.	Research on effective mangrove management and restoration practices specifically tailored for tourism areas to enhance both ecological and tourism outcomes.
Kumar et al. (2022)	Highlighted the issue of microplastics pollution in the Sundarbans and its implications for marine life and tourism.	Studies on mitigation strategies for microplastics pollution in marine tourism destinations and their effectiveness in protecting marine ecosystems and tourism experiences.
Nawar et al. (2023)	Characterized microplastic pollution in the Pasur river of the Sundarbans ecosystem, emphasizing the ecological risks and potential impacts on tourism.	Research on public and stakeholder awareness of microplastic pollution in marine tourism areas and the development of policies and practices to reduce pollution.
Machnik (2021)	Discussed the core of ecotourism and its significance for sustainability in tourism, particularly relevant for marine areas in Bangladesh.	Investigation into the implementation of ecotourism principles in Bangladesh's marine tourism sector and their impact on conservation and local community well-being.
Martínez-Vázquez et al. (2021)	Addressed the challenges and research trends of the blue economy, including aspects relevant to marine and coastal tourism.	Need for studies on the integration of blue economy principles into marine tourism practices in Bangladesh and their impacts on sustainable development.

Beets and Rogers (2001)	Addressed the effectiveness of Marine Protected Areas (MPAs) is hindered by natural events and human activities, such as excessive fishing within their boundaries, leading to a decline in coral cover.	Need for fully functioning MPAs that prohibit fishing and other extractive uses.
Humphreys and Herbert (2018)	Highlights the intricate balance required between environmental conservation and socio-economic considerations in the management of MPAs.	Lack of universal solutions for MPAs management due to the diverse local contexts and challenges, suggesting a need for more tailored approaches.
Higham (2007)	Examines the growing interest in marine wildlife tourism and emphasizes the need for sustainable practices to protect marine biodiversity. It suggests using science to guide how tourists interact with marine wildlife, aiming to preserve marine tourism for the future.	Need for more empirical research to deepen our understanding of the impacts of tourism on marine wildlife and ecosystems, pointing to a gap in the current body of knowledge.
Lopes et al. (2017)	Highlights the potential conflicts between tourism-driven economic incentives and conservation efforts within MPAs.	Necessity for management strategies that harmonize the economic gains from tourism with the conservation objectives of MPAs.

Source: Compiled by Author.

The table presents a comprehensive examination of studies concerning sustainable marine tourism, underscoring the critical alignment with SDGs. It advocates for the integration of sustainability into tourism practices, the proactive involvement of local communities, and the adaptation to climate change impacts. It identifies significant research voids in areas such as the thorough integration of sustainability, climate resilience strategies, the economic potentials of the blue economy, the efficacy of environmental education, and the enduring effects of sustainable methodologies on marine tourism.

Methodology

This research utilizes a comprehensive approach that comprises a systematic assessment of existing literature and analysis of secondary data to develop a thorough understanding of marine tourism in Bangladesh. The qualitative methodology aims at examining the present scenario, challenges, and opportunities for development in the sector, offering valuable insights into sustainable practices, policy implications, and strategic development prospects.

Table 2. Research methods at a glance.

Aspect	Description
Research Approach	Comprehensive qualitative methodology focusing on a systematic assessment of existing literature and secondary data analysis to understand marine tourism in Bangladesh.
Literature Review	Systematic literature review based on keywords like “marine tourism,” “sustainable tourism,” “Bangladesh marine ecosystems,” and “tourism policy in Bangladesh.” Utilized databases such as Scopus, Web of Science, Google Scholar, Elsevier, and JSTOR.
Inclusion Criteria	Included peer-reviewed journal articles, books, conference papers, government reports, legal documents, and credible industry publications from the past two decades.
Data Collection	Thematic analysis of selected literature to identify main themes, trends, challenges, and opportunities in Bangladesh’s marine tourism sector. Secondary data analysis of reports from government institutions, tourism boards, NGOs, and international organizations like UNWTO and the World Bank.
Data Analysis	Focused on tourism statistics, economic reports, environmental assessments, and policy documents relevant to marine tourism in Bangladesh. Employed data triangulation by cross-referencing findings from multiple data sources to identify historical trends, policy frameworks, and the economic and environmental effects of marine tourism.
Limitations and Future Directions	Acknowledged the qualitative approach’s limitation in broadly covering the economic or environmental effects of marine tourism, suggesting the integration of quantitative methods in future studies for a more comprehensive analysis.

Source: Created by Author.

The table summarizes the methodological framework used in this research, specifying the processes required for data collecting and analysis. The paper explains the detailed and systematic approach used to examine different aspects of maritime tourism in Bangladesh, highlighting the structured methodology to ensure comprehensive and insightful exploration of the subject matter. It provides a detailed explanation of the systematic and rigorous approach used to examine the various aspects of marine tourism in Bangladesh. The structured methodology employed ensures a thorough and enlightening study of the subject.

Discussion

Overview of Bangladesh’s Geography and Marine Biodiversity

Bangladesh is in the rich delta formed by the Padma, Meghna, and Jamuna rivers. Its strategic location along the northern Bay of Bengal gives it an exciting coastline that extends 710 kilometers. This coastline is rich in different marine species and habitats. This unique geographic location is home to the Sundarbans, the world’s largest mangrove forest. This forest not only sustains a remarkable variety of biodiversity,

including the renowned Royal Bengal Tiger, but also serves as a vital natural barrier against adverse climate conditions. The coastal and marine biodiversity of Bangladesh plays a crucial role in supporting the livelihoods of millions of people, particularly in industries such as fisheries, agriculture, and marine tourism.

Utilizing its vast natural and cultural resources, marine tourism in Bangladesh has become an attractive socioeconomic activity that can support a sustainable future. Bangladesh's marine tourist destinations, extending from the beautiful beaches of Cox's Bazar and Saint Martin's Island to the intricate water channels and rich wildlife of the Sundarbans, offer unique experiences that attract both local and foreign tourists (Pavel & Supinit, 2017). These regions highlight the delicate balance between human activities and environmental conservation, emphasizing the significance of sustainable marine tourism approaches that prioritize the protection of the environment, engagement with local communities, and preservation of cultural authenticity.

Historically, the coasts of Bangladesh have served as centers for trade and cultural interaction, developing into important locations for marine exploration and ecotourism. The transition from traditional exploitation to eco-friendly interaction with marine resources signifies an increasing awareness of the necessity of protecting these ecosystems for future generations. Marine Tourists are becoming more attracted to destinations such as Cox's Bazar, Sundarbans, and the historic port city of Chittagong due to their mesmerizing natural beauty and rich cultural legacy.

Aside from the commonly explored areas of Bangladesh's marine tourist destinations, there are lesser-known marine gems such as "Kuakata Beach", famous for its exceptional views of both sunrise and sunset, and "Sonadia Island", an attraction for birdwatchers and wildlife enthusiasts due to its sandy beaches and mangrove forests. "Nijhum Dwip" offers an idyllic environment characterized by its rich mangroves and animals, while "Maheshkhali Island" seamlessly combines cultural and natural marvels, including temples and various ecosystems.

Despite its increasing popularity, "St. Martin's Island" still retains quiet areas that highlight its unique coral beauty. "Char Kukri-Mukri" is a remote wildlife refuge that offers an exceptional opportunity to explore untouched mangrove habitats (Table-3). These less popular beauties offer a calm and genuine experience with Bangladesh's immense marine biodiversity and cultural legacy, offering perfect prospects for sustainable and diligent tourism.

Relationship Blue Economy and Marine Tourism

The interconnected relationship between the blue economy and marine tourism is crucial for achieving sustainable development, emphasizing the smart utilization of marine resources to promote economic development, create employment opportunities, and preserve the environment. The blue economy framework encompasses a wide range of economic activities that depend on the sea, such as tourism, maritime transport, energy production, and fisheries. Its main objective is to promote sustainable innovation and growth in the marine sector (Martínez-Vázquez et al., 2021). Marine and coastal tourism play a crucial role in this wide range of activities since they reap significant

advantages from the implementation of blue economy principles. These concepts emphasize the responsible management of the environment and the careful utilization of natural resources (Islam et al., 2018).

The nexus between the blue economy and marine tourism emphasizes an ecosystem-based approach, balancing economic development with ecological preservation. Integrating ecotourism into MPAs showcases this balance, aligning tourism growth with marine conservation and community engagement. As highlighted by Tegar and Gurning (2018) and Forrest et al. (2023) a sustainable, legal framework that focuses on biodiversity conservation and local participation is key. This approach not only boosts local economies but also aligns with the blue economy's sustainable ocean resource management goals, demonstrating marine tourism's significant contribution to both economic and environmental objectives.

Within the specific circumstances of Bangladesh, the interconnection between the blue economy and marine tourism is a fundamental element of the country's strategy for achieving sustainable development. The range of nautical activities outlined in Bangladesh's blue economy framework, which includes marine tourism, is considered crucial for the country's economic diversification and the creation of employment opportunities. Developing coastal tourism, beach resorts, and ecotourism sustainably offers a practical opportunity to strengthen the nation's economic resilience.

Exploring the Rich Tapestry of Bangladesh's Marine and Coastal Destinations

Bangladesh, with its extensive coastline along the Bay of Bengal, is home to a myriad of marine and coastal attractions that beckon tourists from around the globe. The BPC highlights an astonishing array of over 1,400 tourist destinations, among which the marine tourism sector shines prominently, especially at Cox's Bazar Sea Beach, Saint Martin's Island, and Kuakata Beach. These destinations offer not just breathtaking natural beauty but also a window into the rich cultural tapestry and ecological diversity of the region.

- **Cox's Bazar: The Longest Beach Saga**

Renowned for holding the title of the world's longest uninterrupted sandy beach, Cox's Bazar stretches over 120 kilometers, presenting a mesmerizing blend of golden sands, rhythmic waves, and captivating sunsets. The allure of this beach is not just in its natural beauty but also in the robust infrastructural development that has significantly enhanced its accessibility and tourist facilities, making it a hub for over 3.5 million visitors annually. The expansion of the Cox's Bazar Airport and improvements in connectivity have played pivotal roles in this surge, contributing to a booming hospitality industry that caters to a diverse array of preferences, from luxury to budget-friendly options.

- **Saint Martin's Island: An Ecotourism Jewel**

Off the southeastern coast lies Saint Martin's Island, a serene ecotourism destination celebrated for its rich coral biodiversity and marine life. Despite its popularity, attracting over 100,000 visitors mostly from within the country, the island faces ecological challenges due to unregulated tourism activities. The emphasis on sustainable tourism

practices, including eco-friendly accommodations and responsible visitor behavior, is crucial to preserving this ecological treasure.

- **Kuakata: A Panoramic Paradise**

Kuakata, known for offering a unique vista where both sunrise and sunset can be observed, stands as a serene retreat nestled between mangrove forests and tranquil shores. It's not just the natural beauty that captivates visitors but also the cultural immersion into the lives of local fishing communities, adding a rich layer of experiential tourism.

- **Beyond the Beaten Path**

The narrative extends beyond these well-trodden paths to hidden gems like Sonadia Island, Nijhum Dwip, and Maheshkhali Island, each with its unique ecological and cultural imprints. Sonadia, for instance, is a haven for birdwatchers and conservation enthusiasts, while Nijhum Dwip's tranquility and biodiversity offer a perfect setting for eco-tourism initiatives.

- **Conservation and Community at the Heart of Development**

As we dig deeper into the exploration of these destinations, the importance of sustainable development and conservation becomes ever more apparent. Destinations like Char Kukri-Mukri and Teknaf Peninsula not only offer untouched natural beauty but also underscore the need for preserving these landscapes through responsible tourism practices. The engagement of local communities in tourism development, as seen in Hatia Island, presents a model for sustainable growth that benefits both the environment and the local populace.

- **Cultural and Ecological Synergy**

The intertwining of cultural heritage with natural beauty, as exemplified by Dublar Char Island and Kutubdia Island, offers a holistic tourism experience that celebrates the diversity of Bangladesh's coastal regions. The emphasis on minimal environmental impact and the promotion of local traditions and conservation efforts reflect a growing awareness and commitment to sustainable tourism practices.

- **A Mosaic of Opportunities**

In sum, Bangladesh's marine and coastal destinations present a rich mosaic of opportunities for tourists seeking both adventure and tranquility. The ongoing efforts to balance development with conservation, and to integrate community well-being into the tourism narrative, are key to ensuring the sustainable growth of this vibrant sector. As we chart the course for future tourism development, the stories of these destinations offer insights and inspiration for a path that respects and preserves the natural and cultural heritage of Bangladesh's coastal landscapes.

In the subsequent table, a comprehensive examination is provided, delineating the distinctive features, activities, and the critical interplay between tourism expansion and environmental preservation across various marine and coastal locales in Bangladesh, as previously elucidated.

Table 3. Overview of Key Marine and Coastal Tourism Destinations in Bangladesh

Spots	Location	Main Attractions or Characteristics	Tourist Activities	Ecological/Cultural Considerations
Cox's Bazar	Southeastern Coast	Longest uninterrupted sandy beach, golden sands, breathtaking sunsets	Beach activities, sunset viewing	Improved infrastructure, growth in hospitality industry
Saint Martin's Island	Off the southeastern coast	Coral haven, ecotourism destination	Snorkeling, diving, eco-friendly hotels	Sustainable tourism measures required to protect the ecosystem
Kuakata	Southwestern Coast	Magnificent sunrise and sunset views, sanctuary between mangroves	ATV rides, paragliding, nature walks	Cultural integration with fishing villages
Sonadia Island	Near Cox's Bazar	Birdwatching, natural sandy beaches, mudflats, mangroves	Conservation-focused tourism	Breeding ground for rare sea turtles, conservation priority
Nijhum Dwip	Off the coast	Mangrove forests, spotted deer	Eco-tourism activities	Emphasis on minimal environmental impact
Maheshkhali Island	Off the southeastern coast	Cultural and natural attractions, traditional temples, "Shutki" (dry fish) dish	Cultural and ecological learning	Sustainable development and local community involvement
Char Kukri-Mukri	Off the coast	Mangrove forests, wildlife sanctuary	Nature exploration, ecotourism	Conservation and protection priority
Teknaf Peninsula	Southernmost mainland	Diverse landscapes, adventure tourism	Hiking, wildlife viewing	Cultural immersion, outdoor adventures

Hatia Island	Off the coast	Idyllic beauty, fresh natural environment	Community-based tourism	Sustainable practices, community financial benefits
Dublar Char Island	Near the Sundarbans	Traditional fishing communities, Rash Mela festival	Cultural tourism	Respect for local customs and lifestyles
Kutubdia Island	Near Cox's Bazar	Pristine sea beach, compared to Cox's Bazar	Peaceful getaways	Lack of publicity and facilities, conservation potential
Kattoli Beach	Near Chittagong	Coastal resort with a mangrove forest	Enjoying coastal serenity	Natural protection against tidal surges
Bashbaria	Off the coast	Untouched beauty, biodiversity	Hiking, birdwatching	Eco-tourism destination potential
Guliakhali	Coastal terrain	Peaceful atmosphere, calm beaches	Leisurely walks, reflection	Undeveloped beaches, natural setting
Bashkhali Beach	Near Chittagong	Diverse scenery, adventure tourism potential	Nature expeditions	Emerging resort with adventure opportunities
Parki Beach	Near Chittagong	Relaxing alternative to Cox's Bazar, sandy coastline	Relaxation, enjoying coastal splendor	Serene atmosphere

Source: Created by Author.

The rationale behind the selection of specific marine tourism destinations in Bangladesh, as detailed in Table 3, including Cox's Bazar, Saint Martin's Island, Kuakata Beach, and the Sundarbans, along with sites like Sonadia Island, Nijhum Dwip, and Maheshkhali Island, is grounded in their substantial representation of the country's marine tourism potential. These destinations have been chosen due to their pronounced ecological diversity, cultural significance, and the unique challenges and opportunities they offer for sustainable tourism development. Destinations such as Cox's Bazar, known for having the world's longest natural sandy beach, and the Sundarbans, designated as a UNESCO World Heritage Site for its biodiversity and conservation needs, serve as exemplars of the complex interplay between tourism growth and environmental preservation. Kuakata Beach, renowned for its panoramic views of both sunrise and sunset, exemplifies the integration of cultural heritage within tourism experiences, yet faces challenges in sustainable infrastructure development. Additionally, sites like Char Kukri-Mukri, Teknaf Peninsula, Hatia Island, Dublar Char Island, and Kutubdia Island

are highlighted for their contributions to community-based tourism, a crucial element of sustainable tourism practices. These destinations, along with others focused on eco-friendly tourism, are included to provide a comprehensive perspective on the intricacies involved in sustainably managing marine tourism.

Current Tourist Statistics and Demographic Trends in Bangladesh

Bangladesh is rapidly becoming a tourist destination because of its diverse landscapes and rich cultural history. Despite being in its initial stage, marine tourism possesses significant potential for both the social and economic development of the country. An in-depth comprehension of current statistics and demographic trends, particularly in the specialized field of marine tourism, is essential for ensuring its ongoing growth.

Table 4. Overview of Tourism Sector Performance in Bangladesh (2019-2023): International and Domestic Tourist Arrivals with Economic Impact.

Year	International Tourist Arrivals	Domestic Tourist Arrivals	Revenue Generated	Notable Trends
2019	> 4 million	16.00 million	3.60 million USD	High international tourist influx, contributed approximately 4.4% to the GDP.
2020	Significant decrease (86%)	Significant decrease due to pandemic	108.88 million USD	Major decline due to pandemic, tourism revenue in Cox's Bazar alone reached approximately \$15 million.
2021	0.11 million	13.21 million	207.51 million USD	Significantly lower than pre-pandemic levels due to ongoing COVID-19 pandemic.
2022	0.53 million	20.00 million	Not specified	Possible increase in overall arrivals compared to 2021, data suggests recovery.
2023	0.53 million	2.12 million	Not specified	292% growth from previous year, recovery to pre-pandemic levels, majority were business travelers, foreign job holders, or non-resident Bangladeshis

Source: Data are the author's own compilation based on the research findings.

This table presents the data in a uniform format, denominated in millions, providing a clear and succinct summary of the performance of the tourism sector in Bangladesh over

the designated time period. Most of these tourists came from nations such India, the UK, the US, Australia, Canada, the UAE, China, Saudi Arabia, Italy, Turkey, Russia, and Japan. Despite this positive trend, the majority of visitors were either business travelers, foreign job holders, or non-resident Bangladeshis, indicating that destination tourism still requires enhancement. This suggests that there is still scope for improvements in terms of marine tourism.

Experiencing Marine Tourism: Activities and Opportunities

Current State of Marine Tourism Activities

Currently, marine tourism in Bangladesh centers around key locations like Cox' Bazar, Saint Martin's Island, and the Sundarbans, renowned for their natural beauty and biodiversity, including coral reefs and mangrove forests. Popular activities include diving and snorkeling around St. Martin's Island's vibrant coral reefs and near Teknaf's underwater shipwrecks, attracting both novices and experienced divers. Boat tours exploring the Bay of Bengal and the Sundarbans offer dolphin watching, birdwatching, and serene views of the world's largest mangrove forest. Emerging water sports such as kayaking, paddleboarding, and surfing are gaining traction in Cox's Bazar and Kuakata, although still in developmental phases. Homestay programs and village tours in areas like Cox's Bazar and Maheshkhali provide immersive cultural experiences, yet these initiatives require further development to fully engage local communities and showcase their traditions (Table-5). However, the infrastructure supporting these activities faces challenges, including limited accessibility, the need for enhanced environmental protection measures, and a lack of facilities and services meeting international standards.

Future Potential and Opportunities for Marine Tourism

The potential for expanding marine tourism in Bangladesh is significant, offering opportunities to develop new activities and enhance existing ones. Marine parks, for instance, provide controlled diving experiences, enabling tourists to explore underwater ecosystems. Establishing such parks in Cox's Bazar could offer educational tours and underwater photography opportunities, drawing on models like the Great Barrier Reef Marine Park in Australia and the Ras Mohammed National Park in Egypt.

Water sports tourism like kite surfing and windsurfing could transform destinations into adventure hubs. Cox's Bazar, with its favorable wind conditions and vast beaches, is well-suited for these activities, mirroring the success of renowned destinations like Maui in Hawaii and Tarifa in Spain.

Scientific tourism, integrating research and conservation with the tourism experience, offers educational value and supports environmental sustainability. Saint Martin's Island, with its rich marine biodiversity, could host programs where tourists participate in coral reef conservation and marine research, similar to initiatives in the Galapagos Islands or the Coral Restoration Foundation in the Florida Keys.

Moreover, introducing eco-friendly water sports around Saint Martin's Island, such as stand-up paddleboarding and kayaking, can enable tourists to explore the area's natural

beauty without harming its delicate ecosystems, aligning with global trends towards sustainable and low-impact tourism activities.

Underwater tourism in Bangladesh is on the cusp of a promising future, building upon its existing foundation in Cox’s Bazar and Saint Martin. While activities such as scuba diving and snorkeling are already in operation, there is an opportunity to expand the offerings by drawing inspiration from successful examples around the world. For instance, destinations like the Maldives have capitalized on their stunning marine environments, offering a wide array of underwater experiences (Novera et al., 2022). The Maldives attracts tourists with activities such as night diving to witness bioluminescent marine life, wreck diving around sunken ships, and underwater photography and videography workshops. These activities cater to different interests and skill levels, making the Maldives a global hub for underwater tourism.

In the near future, Bangladesh can emulate this success by introducing similar activities, including submersible tours, marine biology tours, cruise tour, underwater archaeology expeditions, coral restoration programs, and underwater walks. By developing underwater tourism and cruise tour, Bangladesh can attract more visitors, boost the local economy, and contribute to environmental conservation efforts. The allure of vibrant coral reefs and encounters with marine giants like manta rays and whale sharks can position Cox’s Bazar and Saint Martin as premier underwater tourism destinations, both domestically and internationally.

Integrating Homestay Programs and Community-Driven Ecotourism into Bangladesh’s lesser-known marine destinations like Kuakata, Sonadia, Nijhum Dwip, Char Kukri-Mukri, Kutubdia, and Guakhali presents a unique opportunity to enrich the marine tourism experience while supporting sustainable development and local empowerment. Homestay programs offer an authentic glimpse into the maritime culture and traditions of these coastal communities, benefiting local economies by channeling tourism revenues directly to host families and their communities.

Community-Driven Ecotourism, involving local residents in the development and management of tourism activities, ensures sustainable growth beneficial to the local population. This approach can include guided nature walks, cultural tours, and participation in local conservation efforts, highlighting the ecological and cultural richness of destinations like Kuakata’s panoramic beaches and Sonadia’s biodiverse habitats.

Table 5. Current and Future Activities in Marine Tourism in Bangladesh.

Present Activities of Marine Tourism	Location	Future Activities of Marine Tourism	Location
Beach activities (swimming, sunbathing, etc.)	Cox’s Bazar, Kuakata, St. Martin’s Island	Marine parks (controlled diving, educational tours)	Cox’s Bazar
Jet skiing	Cox’s Bazar, Kuakata, St. Martin’s Island	Water sports tourism (kite surfing, windsurfing)	Cox’s Bazar

Boat tours	Bay of Bengal, Sundarbans	Scientific tourism (research, conservation programs)	Saint Martin's Island
Diving and snorkeling	St. Martin's Island, Teknaf	Eco-friendly water sports (stand-up paddleboarding, kayaking)	Saint Martin's Island
Dolphin watching, birdwatching	Sundarbans	Submersible tours, marine biology tours	Cox's Bazar, Saint Martin
Kayaking, paddleboarding, surfing	Cox's Bazar, Kuakata	Underwater archaeology expeditions, coral restoration programs	Cox's Bazar, Saint Martin
Homestay programs, village tours	Cox's Bazar, Maheskhali	Underwater walks, cruise tours	Cox's Bazar, Saint Martin
Parasailing	Cox's Bazar	Integrating Homestay Programs and Community-Driven Ecotourism	Kuakata, Sonadia, Nijhum Dwip, Char Kukri-Mukri, Kutubdia

Source: Created by Author.

In the above table, current and future activities of marine tourism are shown, providing a better understanding of the potential.

Challenges Facing Marine Tourism in Bangladesh

Environmental Degradation

The Sundarbans face significant environmental threats from increased tourism activities. A study revealed that microplastics were found in all fish samples collected from the Sundarbans, indicating a severe risk to marine life and tourists (Nawar et al., 2023). Additionally, unsustainable fishing practices have resulted in a 50% decline in Hilsa shad populations over the past two decades, compromising both livelihoods and the attractiveness of the region for tourism, as reported by the World Wildlife Fund in 2022 (Kumar et al., 2022).

Moreover, a study by Akram et al. (2023) highlighted the destruction of over 200 hectares of mangroves due to a shrimp farm project, underscoring the critical need for balanced development. These challenges underscore the urgent need for immediate action to ensure a sustainable future for this vital ecosystem. Environmental degradation in the Sundarbans is exacerbated by unsustainable tourism practices, inadequate waste management, and insufficient conservation measures. The presence of microplastic contamination not only harms marine life but also poses risks to tourists. The decline in fish stocks further impacts local livelihoods and reduces the appeal of the region for tourism.

Infrastructural Deficiencies

The infrastructural deficiencies significantly compromise the tourist experience in Bangladesh's marine tourism sector, particularly in destinations such as Cox's Bazar and St. Martin's Island. These areas suffer from inadequate facilities, unreliable utilities, and poorly maintained access routes, with the situation further exacerbated by the threat of coastal erosion. The transportation network, characterized by dilapidated roads and unreliable ferry services, notably to St. Martin's Island, severely limits accessibility and hampers tourism sectors.

Furthermore, the lack of government investment and planning, coupled with insufficient private sector engagement, has resulted in substandard accommodation, unreliable power supply, and neglected maintenance of access routes. Coastal erosion, especially in Cox's Bazar where rates can reach up to 0.5 meters annually, poses a direct threat to beachfront tourism infrastructure, highlighting the urgent need for comprehensive infrastructure development and coastal protection measures (Roy et al., 2021). Remote destinations such as Nijhum Dwip, Maheskhali, and Sonadia Island suffer from a lack of well-structured roads and boat services, compounding accessibility issues. Basic amenities such as clean water and sanitation are often lacking, and frequent power outages in areas like Kuakata Sea beach deter the development of comfortable accommodations.

Regulatory Fragmentation

Bangladesh's marine tourism potential is hampered by a complex web of regulations spread across various government bodies. The Ministry of Civil Aviation and Tourism (MCAT) sets national policies, while the BTB drives promotional efforts. However, environmental oversight falls under the Department of Environment (DoF), and fisheries-related aspects are managed by the Ministry of Fisheries and Livestock (MFL). Local authorities further complicate the picture with their own rules. This fragmentation leads to inefficiencies and inconsistencies. Marine tourism operators face delays and confusion due to overlapping permitting processes, where approvals might be needed from multiple agencies. Environmental regulations might conflict as both the DoF and the BTB have a say, potentially leading to differing interpretations of impact assessments. Additionally, potential clashes might arise between the MFL aiming to protect resources and the BTB seeking to promote tourism activities. This disjointed regulatory framework ultimately creates a challenging environment for both the sustainable development of marine tourism and the protection of Bangladesh's precious marine ecosystems. Furthermore, weak enforcement mechanisms permit the continuation of illegal fishing and unsustainable practices, threatening marine ecosystems.

Safety and Security Concerns

Safety and security challenges in key tourist destinations can take various forms, each impacting the tourist experience. Common issues such as pickpocketing and bag snatching in crowded areas, alongside scams by individuals posing as tour operators, are prevalent. Additionally, the lack of appropriate safety measures on boats, including inadequate life jackets or overloading, poses significant risks to passenger safety. In coastal regions, the absence of trained lifeguards and clear safety signage further increases the risk of drowning or accidents. Addressing security incidents with sensitivity and accuracy is crucial, especially considering reports from tourist destinations worldwide, including some areas in Bangladesh.

Socio-economic Disparities

Rapid tourism development can precipitate socio-economic imbalances, manifesting as increased living costs and resource pressures on local communities, exemplified by the situation in St. Martin's Island. This development often emphasizes immediate economic benefits, at the expense of the long-term welfare and sustainable development of local populations. Such disparities highlight the critical need for equitable distribution of tourism benefits and the inclusion of community perspectives in tourism planning processes to ensure sustainable growth that benefits all stakeholders.

Workforce Skill Gap

The marine tourism sector in Bangladesh fights with a critical workforce skill gap, particularly evident in areas such as hospitality management, tour guiding, and environmental conservation. This scarcity of skilled professionals directly affects the industry's ability to offer high-quality services. A survey by the BTB also highlighted the limited participation of women in the sector, which not only hampers their economic empowerment but also limits the industry's diversity and innovation potential (Asia & Pacific Dept, 2023). Furthermore, local communities often feel sidelined by decision-making processes and the economic benefits of tourism, leading to feelings of exclusion and resentment.

Climate Change Vulnerability

Bangladesh's geographical positioning renders it particularly vulnerable to climate change impacts, such as rising sea levels and the increased frequency of natural disasters, which pose significant threats to marine tourism. The integration of climate resilience and adaptive measures into tourism planning and infrastructure development is crucial for safeguarding the sector. Rising sea levels, predicted to increase by 1 meter by 2100 according to Palmer et al. (2020) threaten coastal communities and tourism infrastructure. Additionally, the intensification of storms and natural disasters like cyclones and floods further disrupts tourism activities, highlighting the urgent need for comprehensive strategies to mitigate these risks and ensure the long-term sustainability of the tourism sector.

Table 6. Challenges, Implications, and Examples Impacting Marine Tourism in Bangladesh.

Challenge	Implications	Examples
Environmental Degradation	Risk to marine life and tourist safety; impacts local livelihoods and reduces the appeal of tourism regions.	Microplastic contamination in the Sundarbans; 50% decline in Hilsa shad populations; destruction of over 200 hectares of mangroves due to shrimp farming.
Infrastructural Deficiencies	Compromises the tourist experience; limits accessibility and hampers the tourism sector.	Inadequate facilities and unreliable utilities in Cox's Bazar and St. Martin's Island; coastal erosion threatening beachfront tourism infrastructure.
Regulatory Fragmentation	Leads to inefficiencies and inconsistencies in marine tourism management.	Complex web of regulations across various government bodies; overlapping permitting processes; potential conflicts in environmental regulations.
Safety and Security Concerns	Affects the tourist experience and poses significant risks to safety.	Pickpocketing, scams, inadequate safety measures on boats; lack of trained lifeguards and clear safety signage.
Socio-economic Disparities	Can lead to increased living costs and resource pressures on local communities.	Situation in St. Martin's Island, where rapid tourism development emphasizes immediate economic benefits over long-term welfare.
Workforce Skill Gap	Affects the industry's ability to offer high-quality services.	Scarcity of skilled professionals in hospitality management, tour guiding, and environmental conservation.
Climate Change Vulnerability	Poses significant threats to marine tourism through rising sea levels and increased frequency of natural disasters.	Threat to coastal communities and tourism infrastructure; disruption of tourism activities due to storms and natural disasters.

Source: Created by Author.

Global Implications of Marine Tourism Insights from Bangladesh

The comprehensive analysis of marine tourism in Bangladesh conducted in this study not only delineates the sector's landscape within a developing nation but also illuminates broader themes and challenges that are pertinent to marine tourism destinations worldwide. By navigating through the environmental, economic, and social dimensions integral to sustainable development in marine tourism, this research uncovers insights with far-reaching implications, serving as a pivotal reference point for destinations seeking sustainable growth.

Firstly, the environmental challenges and conservation strategies discussed here mirror global concerns about preserving marine biodiversity and ecosystems in the face of increasing tourist activity. The establishment of MPA and the implementation of eco-

friendly practices, as seen in Bangladesh's efforts to preserve the Sundarbans mangrove forest, resonate with global urgencies to safeguard marine biodiversity against the impacts of tourism and climate change. These efforts highlight the universal necessity for environmental stewardship in marine tourism development, emphasizing practices that can be adapted and implemented across diverse geographical contexts.

Economically, this study highlights marine tourism's potential as a socio-economic catalyst, exemplified by Cox's Bazar's transformation into a major tourist hub. The infusion of infrastructural developments, promotion of local crafts, and enhancement of tourist services in Bangladesh presents a blueprint for economic revitalization that holds relevance for marine destinations globally. It showcases how sustainable tourism infrastructure investments and local economy stimulation can achieve a balance between economic growth and ecological and social sustainability.

Socially, the emphasis on community engagement, equitable benefit sharing, and cultural preservation underscores the vital role of participatory tourism development. The inclusivity seen in the development strategies for Saint Martin's Island illustrates how tourism can benefit local populations without undermining their cultural heritage, offering a scalable model for achieving social sustainability in marine tourism sectors around the world.

The insights derived from Bangladesh's marine tourism sector advocate for a collective journey towards sustainable development, transcending national boundaries and aligning with global sustainability goals. This study contributes to the global dialogue on marine tourism by emphasizing the interconnectedness of environmental conservation, economic development, and social equity. It invites a global exchange of ideas and strategies, fostering a collaborative effort towards a sustainable and equitable future for marine tourism worldwide. The narrative woven through the examination of Bangladesh's approaches to overcoming its sector's challenges enriches the collective knowledge base, encouraging marine tourism destinations to adopt innovative and inclusive pathways to sustainability. This ensures the preservation and appreciation of the planet's marine heritage for future generations, positioning this study as a cornerstone for strategic planning in sustainable marine tourism development across diverse global contexts.

Recommendations and Strategies for Marine Tourism in Bangladesh

To effectively enhance Bangladesh's marine tourism sector, a comprehensive approach addressing infrastructure, environmental sustainability, regulation, community engagement, climate resilience, and service quality is essential.

Table 7. Challenges, Implications, and Examples Impacting Marine Tourism in Bangladesh.

Strategy	Socio-Economic and Environmental Impacts	Feasibility	Approximate Costs	Case Studies/Examples
Infrastructure Development	Enhanced accessibility and safety; protection of vital tourism infrastructure from erosion.	Feasibility studies for implementation; detailed cost estimates.	Ranges from a few million to several hundred million USD (Haas, 2022; Lagarense & Walansendow, 2016; Wibawa et al., 2020).	Coastal reinforcement in the Netherlands for sustainable practices.
Environmental Conservation	Long-term sustainability; enhanced tourism attractiveness.	Economic analysis of conservation measures.	Tens of thousands to millions of USD (Bhuiyan & Bhuiyan, 2023).	Great Barrier Reef's conservation funding model for ROI insights.
Community Engagement Programs	Empowerment and socio-economic benefits; equitable benefit-sharing.	Analysis of community-based tourism feasibility.	Tens of thousands to several million USD (Saxena et al., 2020).	ASEAN region's successful community-based tourism initiatives.
Regulatory Framework Enhancement	Streamlined tourism management; consistent policy enforcement.	Simplification of permit processes; one-stop regulatory body.	Potentially in the range of millions of USD (Rahman, 2022).	Singapore's approach to managing tourism-related permits and regulations.
Climate Change Adaptation	Mitigation of climate change impacts; safety during natural disasters.	Adaptation and resilience-building measures.	From modest to significant investments, potentially millions (Bhuiyan & Darda, 2021).	-
Destination Diversification	Alleviation of pressure on popular tourist sites; enhanced tourism experience.	Promotion of lesser-known destinations; specialized packages.	A few thousand to several hundred thousand USD (Bhuiyan et al., 2020).	Costa Rica's eco-diversity strategy; Galapagos Islands' eco-tours.

Service Quality Improvement	Elevated tourist experience; improved professionalism and customer service.	Quality assurance programs; professional training.	Tens of thousands to millions of USD (Rani et al., 2020).	-
Private Sector Engagement	Stimulation of green investments; leveraging private expertise and efficiency.	Incentives for sustainable practices; PPPs for project funding.	Variable, depending on incentive structures and investments .	Ecotourism resorts in Costa Rica as successful PPP examples.
Research and Monitoring	Sustainable development; adaptive management strategies.	Ongoing research; environmental and social impact assessments.	Significant investment, potentially millions of USD over time.	-
Awareness and Education	Fostering responsible tourism behaviors.	Educational campaigns and activities.	From relatively low-cost local initiatives to extensive campaigns.	-

Source: Created by Author.

The economic assessments outlined in Table 7, addressing impacts, feasibility, and associated costs for sustainable tourism development at selected marine destinations in Bangladesh, are underpinned by a rigorous evaluation of pertinent literature, government financial records, and industry standards. Approximate costs were estimated through a synthesis of budget allocations from the Bangladesh Tourism Board and Ministry of Finance, illuminating past and planned expenditures on tourism infrastructure, environmental conservation projects, and community development programs. These reports offer a benchmark for estimating the costs associated with similar future initiatives. This foundation is enriched by insights from comparative analyses of similar destinations within South Asia and globally, adjusted for Bangladesh's economic context, and supplemented by academic research on sustainable tourism economics. Studies focusing on the economics of sustainable tourism development have been reviewed to understand the cost implications of adopting various sustainability practices. This literature has helped formulate a cost model that considers initial investment and ongoing operational expenses. This multifaceted methodological approach ensures that the financial projections presented in Table 7 are grounded and reflect the specific socioeconomic and environmental contours of Bangladesh's marine tourism sector.

In summary, the sustainable development of Bangladesh's marine tourism sector requires a multifaceted strategy that includes infrastructure upgrades, environmental conservation, regulatory improvements, community engagement, climate resilience,

destination diversification, service quality enhancement, private sector involvement, research and monitoring, and awareness and education. By adopting and adapting successful global practices to the local context, Bangladesh can ensure the growth of its marine tourism sector, providing economic benefits while preserving its marine heritage for future generations.

Conclusion

In synthesizing the insights garnered from the exploration of marine tourism in Bangladesh, it becomes evident that while the sector is replete with vast opportunities, it is concurrently besieged by a myriad of challenges. The country's rich coastal and marine environments, epitomized by destinations like Cox's Bazar and Saint Martin's Island, offer a fertile ground for sustainable economic development, environmental conservation, and the preservation of cultural heritage. Positioned to become a noteworthy contributor to the global marine tourism market, Bangladesh stands on the brink of harnessing significant socio-economic advantages and deepening the human connection to the natural world.

Yet, the journey towards realizing this immense potential is obstructed by pressing concerns such as environmental degradation, infrastructural shortcomings, fragmented regulatory frameworks, and the looming menace of climate change. These issues not only highlight the complexities inherent in marine tourism development but also underscore the urgent need for a holistic and strategic approach that meticulously balances growth with sustainability.

The literature review identified critical gaps, particularly in the implementation of sustainable practices, a scarcity of empirical research, and a management focus that inadequately addresses the unique challenges of marine tourism. Addressing these gaps is imperative to advancing the sector and is central to the multifaceted strategy proposed in this paper.

Recognizing the gap in empirical studies and the need for a robust management focus, this paper advocates for comprehensive research initiatives aimed at evaluating the efficacy of sustainability practices within marine tourism in Bangladesh. Such studies would not only fill the existing empirical void but also inform management strategies that are specifically tailored to address the sector's challenges. Further, an emphasis on management research could uncover innovative approaches to governance, community involvement, and environmental stewardship, thereby elevating the sector's overall resilience and capacity for sustainable growth.

To effectively navigate the challenges detailed herein, this paper proposes a strategic amalgamation of legal, infrastructural, and community-centric solutions. The call for the development of a legal framework tailored to the intricacies of marine tourism aims to provide a solid foundation for sectoral growth by standardizing licensing, setting environmental benchmarks, and ensuring active community participation. Moreover, the emphasis on infrastructural enhancements seeks to address the dire need for sustainable, climate-resilient transportation and accommodation options, alongside measures for coastal protection.

The pivotal role of community engagement in this strategy cannot be overstated. By fostering a sense of ownership and ensuring equitable benefit-sharing among local populations, the proposed approach aims to make communities active stakeholders in the development process. Coupled with rigorous environmental conservation efforts, these measures are designed to safeguard the ecological and cultural assets of Bangladesh's coastline, promoting a sustainable and thriving future for marine tourism.

In conclusion, overcoming the challenges facing marine tourism in Bangladesh requires a concerted effort that bridges identified gaps through targeted research and strategic actions. By integrating legal reforms, infrastructure development, community engagement, and environmental conservation, Bangladesh can unlock the full potential of its marine tourism sector. Adopting this comprehensive strategy will contribute to socio-economic development and ensure the sector's long-term sustainability and resilience, establishing Bangladesh as a distinguished global marine tourism destination.

Achieving sustainable growth in Bangladesh's marine tourism industry necessitates a holistic approach that balances environmental, economic, and social well-being. Environmental protection and climate resilience are fundamental for a sustainable tourism environment. Embracing sustainable practices not only attracts responsible tourists but also enhances the sector's economic viability. Social sustainability, through community empowerment, supports job creation, nurtures ownership, and uplifts communities. Furthermore, cultural preservation enriches tourism and strengthens the industry's appeal. Recognizing these interconnected aspects will enable Bangladesh to harness the full potential of marine tourism, positioning it as a leading and responsible marine tourism destination.

This analysis underscores the sector's potential to drive sustainable growth, anchored in environmental preservation, economic development, and social equity. The synergy between these dimensions is crucial for the holistic development of marine tourism, serving as a model for the global sector. Initiatives such as conserving the Sundarbans and establishing marine protected areas demonstrate a commitment to environmental stewardship. Infrastructure improvements and the promotion of local culture support sustainable livelihoods and present an inclusive economic growth model. Empowering communities in tourism development ensures equitable benefit sharing and fosters social well-being. Bangladesh's journey towards integrating sustainability pillars offers valuable lessons for global destinations pursuing sustainable growth in marine tourism, ensuring the industry's future vibrancy and resilience.

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