



## Sustainable Tourism at Parki Sea Beach, Chattogram: Evaluating Environmental Impacts and Strategic Management Approaches

Samrina Jamal<sup>1</sup>, Md. Saimon<sup>1</sup>, Sumana Podder<sup>2</sup>, Syed Hafizur Rahman<sup>3</sup> and Alak Paul<sup>\*</sup>

<sup>1</sup>Department of Geography and Environmental Studies, University of Chittagong, Chattogram, Bangladesh

<sup>2</sup>Master of Management, Crandall University, Moncton, New Brunswick, Canada

<sup>3</sup>Department of Environmental Sciences, Jahangirnagar University, Savar, Dhaka-1342, Bangladesh

### Abstract

Parki Sea Beach in Chattogram, Bangladesh, is swiftly becoming a favoured locale for domestic tourists. The unchecked expansion of tourism presents a considerable risk to its ecological viability. Notwithstanding its growing significance, the beach has not been comprehensively evaluated for long-term ecological integrity and sustainable development. This study assesses the environmental effects of tourism at Parki Sea Beach through a SWOT analysis, Internal Factor Analysis Summary (IFAS), and External Factor Analysis Summary (EFAS). It consolidates findings from interviews with guests and the local community to examine perceptions of sustainable tourism and post-visit behaviours. The results demonstrate that Parki Beach possesses significant potential for sustainable tourism growth, although it encounters numerous environmental and administrative obstacles. Principal issues encompass inadequate waste management, substandard infrastructure, and a lack of regulatory monitoring. Moreover, external factors like as climate change and increasing tourist numbers may further threaten the beach's natural environment. The SWOT analysis, in conjunction with the IFAS and EFAS matrices, underscores the pressing necessity for strategic measures to alleviate the adverse effects of unregulated tourism. This study advocates for the enhancement of infrastructure and lodging facilities, the execution of waste management techniques, and the engagement of the local community in conservation initiatives to strengthen sustainability. Consistent environmental evaluations and regulatory structures are essential to synchronise tourism development with ecological conservation. Through the implementation of strategic management practices, Parki Sea Beach can attain enduring sustainability, guaranteeing environmental preservation and economic advantages for the local population.

**Keywords:** *Coastal Domestic Tourism, SWOT, EFAS, IFAS, Sustainability*

### Introduction

Coastal tourism is one of the fastest-growing sectors in the global tourism industry, presenting economic opportunities while also raising considerable environmental and social concerns. Coastal regions, characterised by unique ecosystems, attract millions of tourists each year, substantially enhancing local and national economies. In 2018, global tourist numbers surpassed 1.4 billion, leading to a substantial rise in visitor traffic to coastal and maritime

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\*Corresponding Author: [Paul.alak@cu.ac.bd](mailto:Paul.alak@cu.ac.bd)

regions (UNWTO, 2019). The UNWTO's data demonstrate that tourism is the foremost global industry regarding economic profit and the number of participants involved (UNWTO, 2007). Despite the absence of consistent data regarding coastal tourism, it is regarded as one of the most quickly growing forms of tourism in recent decades. According to the WTO's data, of the world's 115 top destinations in 2000, 12 were coastal nations. By 2030, global tourist arrivals are projected to surpass 1.8 billion (UNWTO, 2012). The amount of domestic tourism is nearly fourfold more (UNWTO-UNEP-WMO, 2008). However, they are highly vulnerable to environmental degradation caused by over-tourism, pollution, and insufficient management practices. The increase requires the establishment of structured management strategies to ensure that tourism development does not compromise environmental sustainability (Gössling *et al.*, 2019). As a result, there is an increasing worldwide recognition of the imperative for sustainable tourism (ST) practices that align economic advancement with environmental preservation and social equity (UNWTO, 2020). The tourist sector has a rich history of sustainability initiatives, being one of the earliest industries to establish and implement principles for 'sustainable tourism,' alongside strategies and action plans (United Nations World Tourist Organisation, 1997).

Bangladesh is one of the few countries in South Asia that remains predominantly unexplored. Countries with broad and distinctive coastlines are considered more advantageous due to their valuable areas that can be leveraged for tourism, thereby promoting social and economic development at both local and regional levels (Liu 2003, 459-475). Coastal tourism in Bangladesh holds considerable potential, with over 700 km of coastline providing ample opportunities for both domestic and international tourism development. The coastal zone encompasses varied ecosystems, such as mangroves, sand dunes, coral reefs, and estuaries, making it an optimal region for eco-tourism and sustainable tourism initiatives. Despite this significant potential, only a few areas, such as Cox's Bazar and Saint Martin's Island, have been successfully developed as tourist attractions, leaving many others underutilised. Parki Sea Beach, located in the Anwara Upazila of Chattogram, is an appealing but underdeveloped coastal destination. This beach is situated at the confluence of the Karnaphuli River and the Bay of Bengal, providing a unique amalgamation of ecological richness and cultural intricacy. Nonetheless, it is a relatively obscure coastal tourism destination in Bangladesh, yet it holds considerable promise due to its natural beauty, accessibility, and diverse ecosystem.

Parki Sea Beach is known for its scenic natural beauty, marked by the junction of the Karnaphuli River and the Bay of Bengal. The beach stretches for 20 kilometres and is flanked by an exotic "Jhau" (*Tamarix dioica*) forest, serving as a natural barrier against coastal erosion and a habitat for resident and migratory birds. Parki Sea Beach has a substantial influx of tourists owing to its proximity to major urban centres like Chattogram. Nonetheless, the expanding tourism sector considerably impacts the environment and natural resources (UNEP, 2005). This is especially relevant to developing countries where tourism growth is rapidly occurring in ecologically sensitive areas, with less consideration for environmental concerns (Aminu *et al.*, 2013). Bangladesh, a developing nation marked by high population density and a fragile ecosystem, confronts substantial concerns linked to the growth of an unregulated tourism industry. In the twentieth century, tourism was perceived as a 'clean' industry capable of creating national prosperity (Hanna *et al.*, 2015); nevertheless, the rise of mass tourism later raised concerns regarding environmental sustainability. Thus, the concept of sustainable tourism (ST)

has rapidly become a pivotal element in tourism development; it is especially vital for destinations that depend on natural resources as their main attraction (Larson & Herr 2008).

### ***Sustainable Tourism: A Global Perspective***

The advent of sustainable development signifies a synthesis of economic advancement with ecology. The World Tourism Organisation defines sustainable tourism as “tourism that fully considers its present and future economic, social, and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities.” This underscores the importance of reducing environmental effects, honouring local customs, and fostering the economic advancement of host communities. This concept emerged as pivotal in the global tourism sector (Yunis, 2003), tackling the environmental, social, and economic issues associated with mass tourism, and has become essential to global tourism policies and strategies focused on achieving long-term sustainability and mitigating the adverse impacts of tourism.

Four fundamental principles of sustainability have been identified: (a) the concept of comprehensive planning and strategy formulation; (b) the significance of safeguarding vital ecological processes; (c) the necessity of preserving human heritage and biodiversity; and (d) development predicated on the notion of long-term productivity sustainability for future generations (WCED, 1987). The World Tourism Organisation (WTO, 1998, p. 21) defines sustainable tourism (ST) development as fulfilling the requirements of current tourists and host regions while safeguarding and augmenting prospects for the future. This approach aims to manage resources effectively to satisfy economic, social, and aesthetic goals while preserving cultural integrity, fundamental ecological processes, biological diversity, and life support systems. Countries worldwide have adopted sustainable tourism practices by emphasising eco-tourism, community-based tourism, and cultural tourism. Costa Rica is distinguished for its dedication to environmental sustainability via eco-tourism. Approximately 25% of the nation's territory is safeguarded, and its tourism sector generates income through sustainable wildlife observation, nature-centric activities, and conservation initiatives (Honey, 2008). The development of eco-tourism in Costa Rica has yielded economic advantages while simultaneously safeguarding its natural resources.

Likewise, in Europe, nations such as Slovenia have garnered international acclaim for their sustainable tourism initiatives. Ljubljana, the capital of Slovenia, was designated the European Green Capital in 2016 due to its achievements in advancing green infrastructure, sustainable transportation, and environmentally conscious tourism (European Commission, 2016). The Slovenian tourist strategy for the period from 2022 to 2028 articulates the overarching aim that Slovenia will become a global green boutique destination for discriminating travellers in search of diverse and active experiences, tranquillity, and personal enrichment. Bhutan exemplifies sustainable tourism in Asia by implementing a high-value, low-impact tourism policy. Bhutan's tourism policy focuses on safeguarding its cultural legacy and natural beauty while generating cash through regulated tourism (Rinzin *et al.*, 2007). The nation imposes a compulsory daily levy on tourists, which is reinvested in local communities and environmental preservation. This strategy guarantees that tourism positively impacts the nation's sustainable development objectives. African nations, such as Kenya, have adopted sustainable tourism to preserve their abundant biodiversity. The Maasai Mara

National Reserve in Kenya hosts numerous community-based tourism initiatives that engage local Maasai communities in wildlife conservation and tourism endeavours (Manyara & Jones, 2007).

The increasing global focus on sustainable tourism is further endorsed by international frameworks such as the United Nations' 2030 Agenda for Sustainable Development. Sustainable tourism is emphasised as a crucial element in attaining the Sustainable Development Goals (SDGs), namely SDG 8 (decent job and economic growth), SDG 12 (responsible consumption and production), and SDG 14 (life below water) (United Nations, 2015). The 2030 Agenda for Sustainable Development includes SDG objective 8.9, which seeks to "devise and implement policies by 2030 that promote sustainable tourism, create employment, and enhance local culture and products." SDG objective 12.b emphasises the significance of sustainable tourism by aiming to "develop and implement tools to monitor sustainable development impacts for sustainable tourism that generates employment and promotes local culture and products." The global transition towards sustainable tourism is motivated by the necessity to alleviate the detrimental impacts of mass tourism while fostering enduring advantages for future generations (Dwyer, 2022).

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### ***Sustainable Tourism Practices in Bangladesh***

In 2023, tourism constitutes 3.0% of Bangladesh's total GDP. Studies indicate that sustainable tourism can yield greater economic benefits than traditional tourism, as it frequently promotes extended stays and increased expenditure by environmentally aware tourists (Yfantidou & Matarazzo, 2017). A highly effective sustainable tourism technique in Bangladesh is the advancement of community-based tourism (CBT). This enables local communities to oversee their resources while offering visitors genuine cultural experiences. The Sundarbans region has experienced numerous community-based tourism programmes that involve local residents in tourism activities, enabling them to present their culture and customs to visitors (Dey *et al.*, 2020). Such efforts aid in the preservation of local cultures while simultaneously generating revenue for communities. In regions of varying ecological richness, eco-tourism constitutes a crucial sustainable tourism strategy in Bangladesh. Examples include the Sundarbans and the Chattogram Hill Tracts (Kabir, 2015). Numerous eco-lodges and nature paths have been

created to offer guests the chance to discover the natural beauty of these regions while safeguarding local ecosystems.

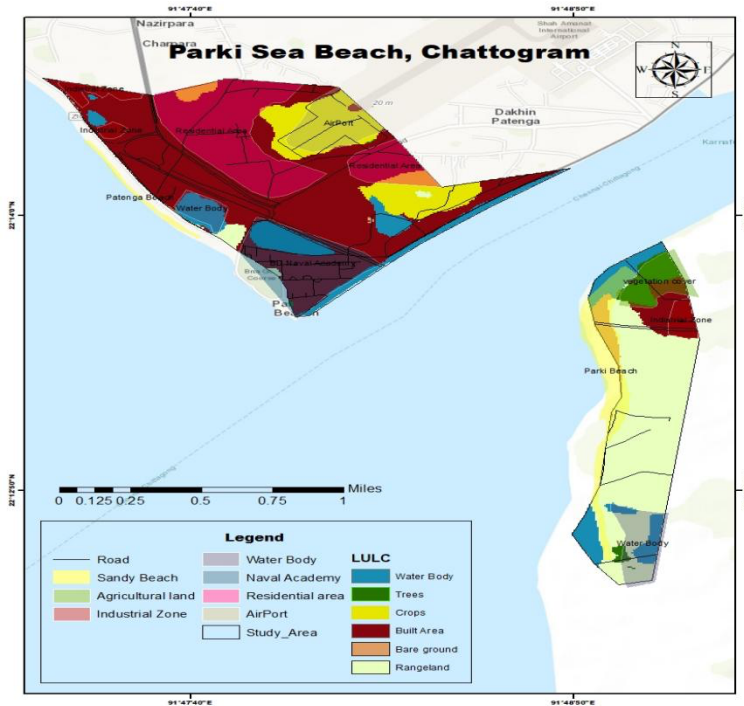
The preservation of cultural heritage is a crucial element of sustainable tourism practices, encompassing the promotion of traditional crafts, music, and local cuisine as essential components of the tourist experience. Events like handcraft fairs and cultural festivals attract tourists, assist local craftspeople, and maintain traditional skills (Kumar, 2009). The development of the Jatra festival, a traditional folk theatre, has drawn both local and international tourists while cultivating a sense of cultural pride among participants (Horaira & Devi, 2021). Numerous tour providers or guided excursions in the Sundarbans frequently highlight the significance of mangroves in safeguarding coastal regions from erosion and offering habitat for wildlife. Numerous hotels are currently adopting sustainable measures, like rainwater harvesting, solar energy utilisation, and trash segregation, to mitigate the environmental impact of tourism (Karmoker & Ahmed, 2022). The Ministry of Tourism and Civil Aviation has commenced the implementation of policies focused on sustainable tourism development, which includes the creation of protected areas (Rahman *et al.*, 2013) and the management of tourist activities in ecologically vulnerable regions. Research by Katalyst in 2010 indicates that the sector's inability to match the growth rate of other Asian countries is attributed to ineffective policy and planning, insufficient infrastructure development, environmental degradation, inadequate modern tourist amenities, a shortage of skilled labour, and deficient promotional and awareness initiatives. Bangladesh possesses diverse ecosystems, a rich cultural legacy, and an expanding tourism sector, necessitating the implementation of sustainable methods that advantage both local residents and the environment.

Despite the significant potential for sustainable tourism at Parki Sea Beach, Chattogram, there exists a substantial deficiency of research on this subject in Bangladesh. This study aims to address the identified deficiencies by delivering a thorough examination of Parki Sea Beach as a sustainable tourism destination. This study assesses the strengths, weaknesses, opportunities, and threats of the beach through the combination of a SWOT analysis, Internal Factor Analysis Summary (IFAS), and External Factor Analysis Summary (EFAS) matrices. This study examines tourists' perceptions, attitudes, and post-visit behaviours, offering insights into the effective implementation of sustainable tourism practices at Parki Sea Beach.

## **Materials and Methods**

### ***Study Sites***

Parki Beach is a picturesque natural sandy beach in Bangladesh, situated between the Karnaphuli River and delta near Anwara, Chattogram. It is located 20 miles from the city of Chattogram, adjacent to the Karnaphuli River. This appealing natural urban beach measures approximately 15 kilometres in length and 300 to 350 feet in width. A 20-km coastline exotic green belt of “Jhau” (*Tamarix dioica*) forest, established by the government in 1993 to safeguard the beach, serves as an additional tourist attraction. The site began attracting tourists after the MV Crystal Gold, a 170-metre bulk carrier, was beached at Parki Beach after Cyclone Mora in May 2017. In August 2020, the beach was blocked in response to the COVID-19 outbreak in Bangladesh and subsequently reopened.



Map 1: Parki Sea Beach, Chattogram.

**Data Collection and Analysis**

A total of 135 respondents were interviewed via a questionnaire survey to evaluate tourists' impressions. Primary data were obtained by a semi-structured questionnaire, supplemented by field observations, to capture individuals' perspectives, experiences, and attitudes of sustainable tourism practices at Parki Sea Beach. The survey involved 135 participants at the beach, largely focusing on vacationers. Furthermore, local company proprietors and staff were questioned to gain a comprehensive insight into the local tourism dynamics. The collected data were processed and analysed utilising computer-assisted applications such as MS Excel and SPSS (Statistical Package for Social Sciences, version 17.0). Prior to drawing any conclusions, several variables were examined and verified, followed by the analysis of processed data utilising both qualitative and quantitative methodologies.

This research employed SWOT analysis to establish a strategy for sustainable tourism growth at Parki Sea Beach. This section employs descriptive qualitative research, a method that thoroughly and intricately delineates actual conditions. Data were acquired by observation, interviews, and documentation. The analytical method employed descriptive analysis and SWOT analysis. The data were examined via the SWOT analysis approach, which encompasses the internal factors of strengths and weaknesses, as well as the external factors of opportunities and threats confronting Parki Sea Beach. Internal factors were evaluated

using the IFAS (Internal Strategic Factor Analysis Summary) matrix, while external components were assessed through the EFAS (External Strategic Factor Analysis Summary) matrix. The SWOT analysis had three stages: (i) the computation of weight and score. The weight ranged from 0.00 to 1.00. Following the weighting process, a rating is assigned to each component to assess its significance. Subsequently, scoring was accomplished by multiplying weight and rating, (ii) strategies were predicted based on SWOT analysis, and (iii) the current location inside the SWOT quadrant was determined by subtracting the total for IFAS and EFAS. The value for the X-axis was derived by subtracting the cumulative values of strength and weakness. The Y-axis value was derived by subtracting the total sum of opportunities from threats.

## **Result Analysis**

### ***Tourists' perceptions and attitudes towards sustainable tourism initiatives***

Among the responses, 76.3% (103) were visitors, 11.9% (16) were local residents, 11.1% (15) were company owners, and 4.4% (6) were local employees. This convergence of travellers, residents, and business professionals provides a thorough understanding of the state of tourism in Parki Sea Beach. A substantial percentage of the questioned visitors, 41.5% (56), were aged 18-25, indicating a strong youthful demographic at the beach. Subsequently, 28.9% (39) belonged to the 26-35 age group, while 25.9% (35) were from the 36-45 age group. A majority of visitors, 67.2% (90), were local residents of Chattogram, indicating the beach's popularity among nearby settlements.

*Most visitors' come here from the surrounding areas of Chattogram, using it as a peaceful escape from the hustle of urban life. On weekends, the number of tourists spikes double, as it's just a 30-40 minute drive from the city centre. The beach has become increasingly popular among young people, compared to just 3-4 years ago when it wasn't this crowded – (Participant 9, local businessman)*

*We come here often for refreshment, as this beach is comparatively less crowded and soothing. Also, the scenic beauty of this beach area works as a treatment for our mental health – (Participant 35, Tourist from Chattogram)*

Regarding visit frequency, 23.7% (32) were first-time visitors, whereas 31.9% (43) indicated they visit Parki Sea Beach sometimes, generally once annually. A notable 35.6% (48) reported visiting the beach many times annually, indicating a dedicated and recurring visitor demographic. This demographic profile underscores the varied array of visitors to Parki Sea Beach, which is crucial for formulating sustainable tourism plans.

### ***Visitors' satisfaction and experience***

In total, 29.6% (40) of tourists assessed their experience at Parki Sea Beach as great, 36.3% (49) as decent, and 11.9% (16) expressed dissatisfaction. The overall satisfaction of tourists at Parki Sea Beach indicated a predominantly pleasant experience. A notable 69.9% (93) observed environmental effects attributable to tourism in the coastal region.

*Compared to the nearby urban beach Potenga, Parki is much more enjoyable, offering a quieter, family-friendly atmosphere with fewer crowds. – (Participant 4, tourist from Chattogram)*

*We live in this locality and visit Parki multiple times a year. The beach has faced environmental challenges in recent years since it became a popular tourist spot. But the authorities don't seem to be addressing these issues seriously. – (Participant 19, tourist from Chattogram)*

Concerning facilities, 61.7% (82) deemed the amenities adequate, while 38.3% (51) contested this view. Feedback regarding cleanliness was varied, with 44.4% (60) expressing satisfaction and 31.1% (42) indicating dissatisfaction. 42.5% expressed satisfaction with safety and security, while 27.6% did not. Accommodations and dining alternatives received the lowest satisfaction ratings, with more over half (52.6%) expressing dissatisfaction with the available choices. Responses about beach management and environmental conservation activities were polarised, with over 35.8% (48) expressing satisfaction, while over 30% indicated dissatisfaction.

*We usually leave the area right after sunset because there's not enough lighting along the beach and the front part of the road. Also, the lack of tourist police makes us feel unsafe staying here after evening – (Participant 2, tourist from outside Chattogram)*

*Parki is a fantastic destination to revisit, but it lacks family-friendly hotels or resorts that are safe, affordable, and conveniently close to the beach. The better accommodations are mostly in the city centre, which makes it less appealing to stay here for more than a day or two. – (Participant 40, tourist from outside of Chattogram)*

Improvements in amenities, security, environmental management, and accommodation services are urgently required to enhance the overall experience at Parki Sea Beach.

### ***Tourists' opinions on sustainable tourism practices***

In response to enquiries regarding the significance of environmental sustainability in selecting a trip destination, 76.9% (103) of visitors deemed it important or very important, reflecting a distinct inclination towards eco-friendly travel options.

*Parki could be an incredible destination if properly maintained. Its scenic beauty is unique and sets it apart from other beaches in Chattogram. – (Participant 11, visitor from outside of Chattogram)*

With 67.4% (91) of respondents either in agreement or strong agreement on Parki Sea Beach's potential as an eco-tourism destination, this serves as a favourable indicator for future development. The 17.8% (24) neutral responses and 14.9% (20) disagreements (disagree and strongly disagree) underscore the necessity for enhanced awareness and communication regarding the beach's ecological and cultural significance, which could be remedied through improved marketing of eco-tourism advantages and environmental education.

*We always try to be mindful of nature when we visit, but the management here is really disappointing. It's difficult to find dustbins around, which makes it hard to dispose of waste properly. – (Participant 8, tourist from Chattogram)*

*Occasionally, NGOs organise workshops on sustainable tourism practices here, but these events are quite rare and ineffective sometimes. – (Participant 3, Local Employee)*

Of the travellers surveyed, 55.6% (75) expressed a willingness to engage in or endorse sustainable tourism activities, whilst 29.6% (40) showed reluctance. Regarding their

assessment of sustainable practices, 39.6% regarded sustainable tourism as extremely important, while 37.3% deemed it important, indicating a predominant understanding of the necessity for sustainability; conversely, 12% perceived it as less significant.

### ***Tourists' post-trip behaviours and intentions***

When enquired about the possibility of returning to Parki Sea Beach, 65.9% (89) of respondents (49.6% likely and 16.3% certain) indicated a willingness to revisit, demonstrating a robust indication of tourist satisfaction. The 22.3% (19.3% probably not and 3% definitely not) who are unlikely to return may signify areas for enhancement, especially in addressing their dissatisfaction factors.

The main reasons for revisiting were the beach's picturesque allure (79.3%), followed by its accessibility (71.9%) and opportunities for leisure (69.6%). Additional characteristics such as a family-friendly environment (69.6%), quality of facilities (38.5%), and cultural or traditional experiences (32.6%) were also significant. Furthermore, 20.7% cited environmental conservation as a motivator for revisiting, while 27.4% expressed interest in supporting eco-friendly initiatives.

To promote return visits, the majority of respondents recommended enhancements in dining facilities (86.7%) and lodging alternatives (81.5%). The 64.2% of individuals inclined to promote Parki Sea Beach underscores that favourable visitor experiences lead to advocacy. Word-of-mouth marketing is crucial for tourism, and utilising these contented tourists could attract additional first-time travellers.

### ***SWOT (Strength, Weakness, Opportunity, and Threat) Analysis for Parki Sea Beach***

A complete SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis was undertaken to assess Parki Sea Beach's viability as a sustainable tourism destination and to comprehend the environmental ramifications of heightened visitor activity. This SWOT analysis integrates an evaluation of the urban beach's strengths and weaknesses alongside an examination of the opportunities and dangers presented by the surrounding environment (Table 1).

**Table 1:** SWOT Analysis of Parki Sea Beach, Chattogram, Bangladesh

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#### **Strengths:**

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1. Provides a breathtaking natural scenery, merging vistas of the confluence of the Karnaphuli River and the Bay of Bengal, rendering it a preferred destination for travellers in search of serenity and natural splendour.
  2. Fosters a rich environment, inhabited by numerous species of crabs and both resident and migratory birds, hence augmenting the beach's appeal as an eco-tourism destination.
  3. Located roughly 28 kilometres from Chattogram, Parki Sea Beach is readily accessible, rendering it an ideal destination for both day excursions and extended visits.
  4. A 20-kilometre coastal green belt of "Jhau" (*Tamarix dioica*) forest that functions as a natural barrier against coastal erosion and wind damage.
  5. The imminent completion of the Karnaphuli tunnel and forthcoming infrastructural advancements would improve accessibility to the Anwara region, home of Parki Sea Beach.
  6. A plentiful, youthful, and promising workforce, essential for bolstering the expanding
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tourism sector.

7. The presence of regional foods and customs that embody the area's cultural history.
8. Situated in proximity to multiple other tourist attractions, providing guests with a diverse range of experiences within a brief distance.

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### **Weaknesses:**

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1. The lack of sufficient lodgings and dining facilities restricts the beach's capacity to serve an increasing influx of visitors and may lead to environmental deterioration.
2. In comparison to other tourism locations in Bangladesh, Parki Sea Beach is comparatively under-promoted, leading to restricted awareness among prospective tourists.
3. The coastal ecosystem is adversely affected by insufficient maintenance, resulting in the accumulation of refuse left by visitors.
4. The absence of safety and security measures, including inadequate illumination, lifeguards, and security officers, creates concerns regarding the safety of tourists.
5. Lacking in fundamental conveniences, like restrooms and changing facilities.
6. The lack of effective legislation, adequate beach management, and enforcement of tourism activities has resulted in environmental degradation and harm to the coastal ecology.

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### **Opportunities:**

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1. Emphasising sustainable tourism practices presents significant potential for the development of Parki Sea Beach as an ecotourism destination.
2. Engaging the local community in tourism initiatives might augment the economic advantages for inhabitants.
3. The accessibility and proximity of construction materials such as wood and brick confer a logistical advantage for the development of tourism facilities and infrastructure.
4. An opportunity exists to engage with non-governmental organisations (NGOs) and environmental groups to cultivate sustainable tourism practices that will enhance the beach's reputation as a responsible and sustainable destination.
5. There exists a substantial possibility to enhance visitor services such as lodging, dining, recreational activities, and transportation amenities.
6. The increasing interest of the local populace in visiting Parki Beach offers a significant potential to engage with a burgeoning market of domestic tourists.
7. Presents several commercial prospects, especially in tourism-related industries, which can stimulate economic development and generate employment for the local populace.

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### **Threats:**

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1. The closeness of shipbreaking enterprises and the continuing embankment building near the beach present a substantial risk of heavy metal pollution in the sea.
  2. The natural beauty is jeopardised by insufficient resource management and the absence of effective conservation strategies.
  3. The indiscriminate felling of Jhau trees by people is causing accelerated beach erosion, as the depletion of these trees diminishes the natural barrier that safeguards the beach sands.
  4. Inadequate planning and mismanagement may result in overcrowding and a decrease in
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visitor satisfaction.

5. Elevated marine pollution resulting from inadequate waste disposal measures, endangering the beach's ecosystem and overall environmental integrity.

### ***IFAS and EFAS Matrix***

This study evaluated the sustainable tourism potential of Parki Sea Beach using a SWOT analysis, with findings categorised into Internal Factor Analysis Summary (IFAS) and External Factor Analysis Summary (EFAS) matrices. These matrices offer a systematic analysis of the internal strengths and weaknesses, along with the external opportunities and challenges that impact the growth of this seaside destination (Tables 2 and 3).

#### ***Internal Factor Analysis Summary (IFAS)***

A matrix of internal elements detailing strengths and weaknesses that influence the sustainability of tourism sites (Table 2). Internal analysis is highly useful for evaluating tourist sites. The strong aspect of building Parki Sea Beach for sustainable tourism is present; however, weaknesses reflect a score of 1.32. The internal components provide a strong internal strength score of 3.62 for Parki Sea Beach, Chattogram, signifying a substantial basis for future development. The weakness score signifies the necessity for prompt interventions to enhance facilities and administration in order to fully capitalise on the beach's potential.

**Table 2:** Matrix of IFAS

<b>INTERNAL FACTORS</b>	<b>VALUE</b>	<b>VALUE</b>	<b>VALUE</b>
<b>STRENGTHS</b>	<b>WEIGHT</b>	<b>RATING</b>	<b>SCORE</b>
			<b>(WEIGHT x RATING )</b>
Stunning natural landscapes and views	0.25	4	1
Potential destination for ecotourism	0.12	4	0.48
Accessible Location	0.15	4	0.60
Coastal Green Belt as a natural barrier	0.12	3	0.36
Ongoing infrastructure developments nearby	0.08	3	0.24
Availability of a youthful labour force	0.08	3	0.24
Cultural and traditional heritage	0.10	3	0.30
Proximity to other tourist attractions	0.10	4	0.40
<b>SUBTOTAL</b>	<b>1</b>		<b>3.62</b>
<b>WEAKNESSES</b>			
Limited Accommodations and Dining Options	0.25	1	0.25
Under-Promotion	0.08	2	0.16
Inadequate Maintenance	0.15	1	0.15
Lack of Safety and Security	0.13	1	0.13
Insufficient Amenities	0.24	2	0.48
Poor Regulation and Management	0.15	1	0.15
<b>SUBTOTAL</b>	<b>1</b>		<b>1.32</b>

#### ***External Factor Analysis Summary (EFAS)***

The opportunity and threat factors can profoundly affect the evolution and detriment of future tourist locations. The opportunity aspect of the external matrix exhibits a value of 3.33, while the threat value is 2.72 (Table 3). The EFAS Matrix reveals a dual situation, wherein a high opportunity score signifies the possibility for sustainable tourist development at Parki Sea

Beach, but the threat score underscores the risks associated with sustainable tourism development if these challenges are inadequately managed.

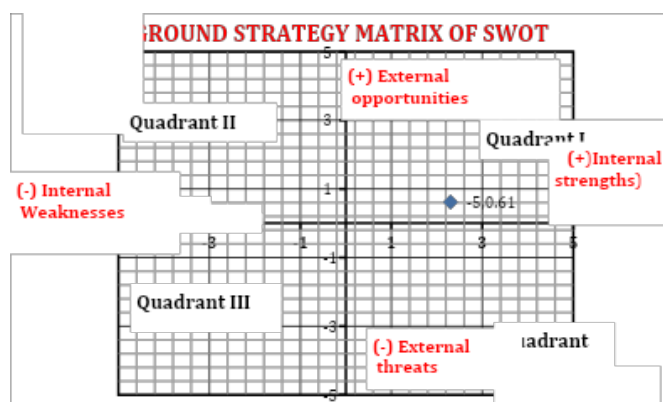
**Table 3:** Matrix of EFAS

<b>EXTERNAL FACTORS</b>	<b>VALUE</b>	<b>VALUE</b>	<b>VALUE</b>
<b>OPPORTUNITIES</b>	<b>WEIGHT</b>	<b>RATING</b>	<b>SCORE</b>
			<b>(WEIGHT x RATING)</b>
Sustainable Tourism	0.22	3	0.66
Economic benefits of local community	0.25	4	1.00
Availability of construction materials	0.05	2	0.1
Collaborations with NGOs and environmental groups	0.05	2	0.1
Expansion of Tourist Services	0.18	4	0.72
Growing Domestic Tourism Market	0.15	3	0.45
Employment scopes	0.10	3	0.3
<b>SUBTOTAL</b>	<b>1</b>		<b>3.33</b>
<b>THREATS</b>			
Environmental Contamination	0.16	2	0.32
Inadequate resource management	0.18	3	0.54
Erosion Due to Deforestation	0.12	1	0.12
Poor planning and mismanagement	0.33	4	1.32
Inadequate waste disposal initiatives	0.21	2	0.42
<b>SUBTOTAL</b>	<b>1</b>		<b>2.72</b>

### *Grand Strategy Matrix Analysis*

The outcomes from the IFAS and EFAS matrices were employed to ascertain the strategic location of Parki Sea Beach inside the Grand Strategy Matrix Analysis. This matrix delineates the optimal strategy course by analysing internal strengths and weaknesses alongside external opportunities and risks confronting the company. The internal factors provide a strength score of 3.62 and a weakness score of 1.32, resulting in a horizontal axis (X-axis) value of 2.3 (computed as 3.62 - 1.32). The external opportunity score of 3.33 and the threat score of 2.72 yield a vertical axis (Y-axis) value of 0.61, derived from the calculation 3.33 - 2.72.

Based on the coordinates (2.3, 0.61), Parki Sea Beach is located in Quadrant I of the Grand Strategy Matrix (Figure 1). Quadrant I often signifies that the firm possesses a robust strategic position, marked by considerable internal strengths and extensive external potential. The robust internal capabilities and substantial external potential indicate that the beach is well-positioned to implement growth strategies.



**Figure 1:** Grand strategy matrix of SWOT analysis.

## Discussion

The findings indicate that the incorporation of sustainable practices is essential for the future of tourism in Parki Sea Beach. The escalating global inclination towards sustainable tourism and heightened visitor consciousness indicates a feasible trajectory ahead. The increase in local visitors at Parki Sea Beach corresponds with global trends indicating a surge in domestic tourism, particularly considering post-pandemic travel restrictions. The substantial local visitor demographic highlights the increasing demand for economical and accessible domestic tourist sites, hence diminishing dependence on international tourist influx. The data reveals a predominantly favourable impression of sustainable tourism initiatives among tourists at Parki Sea Beach. A considerable number of respondents acknowledged their awareness of the environmental consequences of their actions and expressed a willingness to participate in sustainable tourism practices. The robust evidence of repeat visitation is a favourable omen for the future of tourism at the site, generating a ripple effect wherein returning visitors attract new tourists, potentially fostering long-term sustainability if handled effectively.

The strategic analysis utilising SWOT, IFAS, EFAS, and the Grand Strategy Matrix indicates that Parki Sea Beach possesses significant potential for becoming a tourist hub and fostering sustainable tourism development, particularly owing to its natural allure and local appeal; however, it must confront infrastructural deficiencies and environmental challenges to fully actualise this potential. Prospectively, Parki Sea Beach holds significant potential, particularly with strategic investments in infrastructure, community involvement, and environmental preservation, establishing it as a premier eco-tourism destination and favourably impacting the local economy. Despite robust local interest in the beach, considerable efforts are required to improve amenities and advocate for sustainable practices.

This study elucidates the general tourism views and sustainable tourism possibilities of Parki Sea Beach; nonetheless, it is crucial to recognise certain limitations inherent in this research. This study encompasses only a particular timeframe; nonetheless, seasonal variations, tourism patterns, and local dynamics may affect the results. Secondly, environmental alterations or hazards (such as the effects of climate change and pollution) were not thoroughly evaluated,

which may affect both tourism and local ecosystems over time. Future studies may encompass environmental alterations and tourist dimensions of this region. Based on the findings, numerous solutions are suggested to improve the sustainability and development of Parki Sea Beach as a tourist destination:

- A. Urgent expenditures are necessary to enhance lodging, food amenities, bathrooms, and changing areas.
- B. Local communities ought to participate in tourism initiatives, guaranteeing that the economic advantages derived from tourism directly bolster their livelihoods.
- C. Enhancing tourist safety by improving lighting, deploying lifeguards, and increasing security staff to uphold Parki Sea Beach's reputation as a family-friendly and secure location.
- D. Establishment of a specialised tourism management entity for Parki Sea Beach to ensure effective planning, maintenance, and development of the region, emphasising the equilibrium between tourism expansion and environmental sustainability.
- E. Ongoing environmental evaluations to alleviate risks include coastal erosion, industrial pollution, and the degradation of the natural green belt. Authorities must enforce stringent environmental restrictions and embrace sustainable tourist practices to safeguard the local ecosystem.
- G. Continuously evaluate the carrying capacity of Parki Sea Beach to guarantee that forthcoming tourism endeavours do not exceed the local environment and resource limits.
- H. Initiate public education programs to promote sustainable tourism practices, ecological preservation, and biodiversity conservation.

## Conclusion

This study offers a framework for enhancing the sustainability of tourism amenities at this beach, assisting planners and decision-makers in developing more effective efforts. By confronting difficulties and leveraging the identified positive attitudes, stakeholders may foster a more sustainable future for Parki Sea Beach, safeguarding its ecological integrity and the welfare of local populations.

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