

Tourism Suitability at Batu Pengantin Beach, Kemujan

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ABSTRACT

Batu pengantin beach in Kemujan, Karimunjawa has a new and interesting natural coastal place, which is interesting because it is one of the tourist destinations in the north of the north island, resulting in tourists only knowing the tourist recreation. The study aims to combine current conditions with the collaboration tourism suitability of the region as an evaluation, and will certainly become a prospect for the future of marine tourism. The results show that the location of the Batu Pengantin beach is not appropriate (TS) with a value of 1.79 in terms of land suitability for the beach recreation category. Recreation is still likely to be improved, but for sports tourism and fishing tourism, the categories have been saturated or dense. Innovations are needed to make beach tourism locations really still natural.

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1. INTRODUCTION

Batu Pengantin Beach is a beach managed by the Central Java Provincial Government and located in Jepara. It has one function as a marine tourism (Mussa et al., 2025; Yuliasuti et al., 2023). Even so, it is very natural that housing, trade, industry, factories, schools, and play areas stand in the area. As the main location of tourism, especially marine tourism, this beach is one of the most popular beaches with the people of only a few societies and restricted for many societies and surrounding areas for beach recreation, and fishing tours available, so that it has an average number of visitors reaching no other one until three people per day (Kргыз et al., 2025).

The right strategy to increase tourist attractions without damaging the ecology. Implement carrying capacity so that the number of visitors does not exceed environmental capacity (Lu et al., 2024; Singh & Hari Narayanan, 2023). Tourists seek authentic experiences, so community involvement in cultural attractions supports long-term appeal. Thus, sustainable marine tourism will be difficult to realize without the active participation of local communities. Additional education of tourists and the public about the importance of reducing carbon footprints, such as using environmentally friendly transportation, or zero-waste tourism. The marine tourism sector is designed to increase economic growth, overcome boredom, improve people's welfare, eradicate poverty, promote alternative building tourism, and overcome unemployment. Marine tourism development is inseparable from the role of the community and local government as regulators. This role can be implemented in various forms of marine tourism service business (Fithor et al., 2021).

The number of visitors to Batu Pengantin Beach is still relatively low, even though this area has attractive natural potential. This is caused by several factors, including the beach's biophysical conditions, which do not fully support recreational activities, such as unsuitable water quality and

quite high levels of abrasion (Ceolotto et al., 2025). The location's access is also limited due to inadequate transportation facilities and road signs.

The development of Batu Pengantin Beach is also hampered by limited tourism support infrastructure, such as public facilities, parking areas, accommodation, and information centers for tourists. Apart from that, the area management pattern has not been optimally integrated between the Government, community, and business actors, so the development program is still running partially (Kastolani et al., 2022). Ecological factors in the form of coastal erosion and the lack of wave-blocking vegetation further strengthen the obstacles to sustainable use of the area. Therefore, the tourist attraction of Batu Pengantin Beach cannot yet compete with other coastal destinations in the northern region of Java. This tourism object has the potential to be developed because most natural attractions offer natural beauty that is still natural and interesting. In fact, the potential of these natural tourism objects has not been developed optimally (Qin & Guo, 2025; Shang et al., 2025). The younger age group has relatively more free time and tends to use their free time to travel to natural attractions, namely marine tourism (Kırgız et al., 2025; Li et al., 2025).

This condition has become a valuable component, including ecosystems, communities, and socioeconomic risks under pressure from marine dynamics on climate change, which are classified as vulnerable. Vulnerability is the magnitude of the function of change and the impacts and variations of climate change (Tubridy et al., 2022).

2. RESEARCH METHOD

The marine tourism sector is built to increase economic growth, overcome boredom, improve people's welfare, eradicate poverty, promote alternative building tourism, and overcome unemployment. Marine tourism development is inseparable from the role of the community and local government as regulators. This role can be implemented in marine tourism service businesses (Pongponrat, 2022). Research of location as one of all beaches at <https://maps.app.goo.gl/VCM5wrTZPFpwi4eK7> will connect to maps and, with analysis of coverage, prepare for open land on the beach. Furthermore, this method differentiates between ecological suitability and infrastructure readiness. Ecological suitability is determined by natural parameters such as water quality, beach width, substrate, and abrasion-resistant vegetation. In contrast, infrastructure readiness is determined by the availability of tourist facilities, transportation access, public facilities, and the management capacity of the community and local government. This distinction is important to ensure that tourism development recommendations emphasize ecological conservation aspects and pay attention to human and infrastructure readiness to support the sustainability of tourist destinations.

This tourism object has the potential to be developed because most natural attractions offer natural beauty that is still natural and interesting. In fact, the potential of these natural tourism objects has not been developed optimally (Kalagy et al., 2025; Qin & Guo, 2025). The younger age group has relatively more free time and tends to use it to travel to natural attractions, namely marine tourism (Geukes et al., 2024).

Research data was obtained through a combination of several methods, adjusted to the characteristics of each parameter. Field surveys and direct observations are used to measure the physical condition of the beach, such as beach width, substrate type, presence of vegetation, tourist facilities, and level of environmental cleanliness, and the results of previous research, especially those related to socioeconomic aspects and the number of tourist visits (Meyer et al., 2025).

The city of North Coastline on Java Island, with 60 percent of Indonesia's population residing on Java, is directly affected by the ocean. This condition has become valuable, including ecosystems, communities, and socioeconomic risks under pressure from marine dynamics on climate change, which is classified as vulnerable. Vulnerability is the magnitude of the function of change and the impacts and variations of climate change (Yulianda, 2021). Scoring of compatible tourism suitability will make a score for open beach for natural resources, such as those shown in Table 1.

Table 1. Criteria Conformity Source Power Category Beach Tourism

Parameter	Weight	Category	Score
Type beach	0.200	Sand white	3
		Sand white mix fractions coral	2
		Sand black, steep	1
		Mud, rocky, steep	0
Beach width (m)	0.200	> 15	3
		10 – 15	2
		3 < 10	1
		< 3	0
Basic materials waters	0.170	Sand	3
		Coral sandy	2
		Sand muddy	1
		Mud, mud, sandy	0
Depth waters (m)	0.100	0-3	3
		> 3-6	2
		>6-10	1
		>10	0
Brightness waters (%)	0.100	>80	3
		>50-80	2
		20-50	1
		<20	0
Speed current (cm/ sec)	0.080	0-17	3
		17-34	2
		34-51	1
		>51	0
Slope beach (o)	0.080	<10	3
		10-25	2
		>25-45	1
		>45	0
Closing the land beach	0.010	Coconut, land open	3
		Shrub, thicket, low, savanna	2
		Thicket tall	1
		mangroves, settlements, ports	0
Dangerous biota	0.005	No There is	3
		Sea urchins	2
		Sea urchins, stingrays	1
		Sea urchins, stingrays, lionfish, sharks	0
Availability of fresh water / Distance to fresh water sources (Km).	0.005	<0.5	3
		>0.5-1	2
		1-2	1
		>2	0

Source : Yulianda , 2019 (Yulianda et al., 2018)

Information :

Amount = (Score x Weight) = Very appropriate with IKW value ≥ 2.5
 = Appropriate with value $2.0 < IKW < 2.5$
 = No in accordance with value $1 < IKW < 2.0$
 = Absolutely not, according to < 1

Bobot = Parameter value

Skor= Value

3. RESULTS AND DISCUSSIONS

White sand is an attraction compared to the beach, but the forced situation makes visitors become potluck, attracting tourists to the island in the peak season. Of course, strategic identification is the key to good management (Lee & Li, 2019). Surely, it will affect the survival of the surrounding residents. At this time, it has not focused on satellite imagery for managing the region's carrying capacity; it will also be planned later with the support of satellite imagery.

(Mazaya et al., 2019) Policies already exist from the previous year but need to be evaluated and improved in accordance with existing land suitability, (Ishak, 2022) analysis of tourist visits is necessary as a tool for management without building a new location, the economic value is uncertain but the relationship between the Government and the Government should raise the topic of monetary value other than income, waste certainly becomes an absolute tourism undertaking with parties Third (Fauziah & Karjo, 2023), managers focus on location security and convenience. The results of field research show that the discussion still needs to be linked to previous research findings to obtain a stronger theoretical footing. Based on the analysis, the dominant factors that

cause Batu Pengantin Beach to be categorized as "unsuitable" are its extreme location, limited tourist support facilities, low-quality environmental cleanliness, and a lack of abrasion-resistant vegetation such as mangroves. It should be more organized regarding infrastructure and tourist facilities, even though it faces similar ecological challenges. Unsuitable to make a new policy brief recommendation with the Government. Thus, the position of Batu Pengantin Beach is still in the early stages of development and requires serious intervention to be aligned with other coastal destinations on the island of Java. In this result, 1,790 (not a suitable value during 2025 until making a new challenge) is shown in Table 2.

Table 2. Conditions are currently with scoring

No	Parameter	Mark
1	Type beach	Sand black
2	Beach width (m)	52
3	Basic materials waters	Sand
4	Depth waters (m)	0-5
5	Brightness waters (%)	33%
6	Speed current (m/ second)	0.013
7	Slope beach (o)	8
8	Closing the land beach	land open
9	Dangerous Biota	No There is
10	Availability of fresh water / Distance to fresh water sources (Km).	0.037

Source: Field analysis, 2025

4. CONCLUSION

Results provide an important foundation for policymakers, particularly the Provincial Government of Central Java, in formulating sustainable coastal tourism development strategies. The identification of Batu Pengantin Beach as an area with increasing visitor numbers but water conditions that do not meet the recreational category highlights the urgent need to diversify tourism activities. Alternative tourism models, such as culture-based ecotourism or environmental education programs, should be considered viable options. These recommendations can serve as policy input for opening new tourism locations and as evaluation material for coastal spatial planning to minimize ecological degradation. From an academic perspective, this research contributes to the growing body of literature on coastal tourism suitability assessment in the northern coastal region of Java. By linking ecological parameters, visitor dynamics, and spatial policy considerations, the study offers an integrative analytical framework that can be adopted in future research. Furthermore, it enriches scholarly discussions on transforming coastal destinations from mass recreation models to more adaptive and sustainable ecotourism approaches in response to climate change and environmental pressures.

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