



Policy of Disaster Mitigation and Post-Disaster Sustainable Tourism in Indonesia: Case Study of Tanjung Lesung Marine Tourism Banten

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ABSTRACT

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Tanjung Lesung was a coastal tourist destination identified as a national strategic project for provincial economic development. It is located in Banten, Indonesia, and became a difficult-to-revive tourist attraction after the tsunami disaster in 2018 and the COVID-19 pandemic. Strategic steps are needed to ensure optimum promotion and development of sustainable tourism policies. The research objects were the community around Tanjung Lesung, the Regional Government, and other stakeholders related to developing post-tsunami marine tourism in Tanjung Lesung. The method used was mixed-method research with quantitative and qualitative data analysis techniques. The study results showed a significant effect between tourism mitigation, tourism security, and sustainable tourism policies on marine tourism development in Tanjung Lesung. Furthermore, qualitative data show that the tsunami disaster and the COVID-19 pandemic have contributed negatively to developing marine tourism potential in Tanjung Lesung. Therefore, several efforts are needed to reduce these impacts. Tourism mitigation efforts need to minimize the impact of risks and improve the ability to adapt to disaster threats. Furthermore, a sense of security needs to be created for tourists while enjoying marine tourism destinations, and sustainable tourism policies need to be implemented to reduce the negative impacts of tourism. Therefore, several policy recommendations must be implemented: First, crisis management policies; Second, environmental and climate mitigation policies; Third, infrastructure and spatial planning policies; Fourth, sustainable tourism development policies; and Fifth, education and disaster response policies for tourism businesses, communities, and tourists.

1. INTRODUCTION

Disaster mitigation in the tourism sector is an effort to reduce the negative impact of disasters on tourist destinations aimed to reduce human suffering, economic damage, and the psychological impact of natural disasters on the tourism sector [1-3]. The tsunami that occurred in the coastal area of Tanjung Lesung on December 22, 2018, caused by the eruption of Anak Krakatau located in the Sunda Strait caused many casualties. A total of 426 people died, 7,202 were injured, and 23 people went missing. In addition, the tsunami also decimated most of the infrastructure in the Tanjung Lesung tourist area [4]. This affected the interest of tourists visiting Tanjung Lesung. Tanjung Lesung is a coastal tourist destination identified as a national strategic project for provincial economic development as a Special Economic Zone [5, 6]. The region also faces challenges related to coastal erosion and the potential impact of natural disasters, all of which require mitigation measures to protect infrastructure and ensure the safety of both residents and visitors [7, 8]. This condition

worsened when the COVID-19 pandemic almost paralyzed the tourism sector. Findings from Beh and Lin's [9] study on the ASEAN tourism industry indicated a bidirectional causal relationship between COVID-19 and tourist arrivals at the 95% significance level, meaning that international tourism was severely affected by the COVID-19 outbreak [9].

As the tourism industry recovers from the tsunami and COVID-19 pandemic, it is critical to implement supportive policies at the government level. The Indonesian government can work with the industry and other stakeholders to create new rules and policies for tourism industry management and marine tourism disaster mitigation. Tourist policy must promote sustainability, as this notion significantly influences sustainable tourist development through destination management and social responsibility [10]. Consequently, stakeholders must be involved in the development of sustainable tourism policies [11]. Post-disaster rebuilding involves challenges like mental health support, housing reconstruction, job shortages, coordinating multiple stakeholders, and addressing communication difficulties [12].

The research mapping results of several studies related to post-disaster tourism development are: First, the study conducted by Usman Khalid and Sasidaran Gopalan entitled “COVID-19 economic policy response, resilience, and tourism recovery” illustrates that while economic stimulus packages can help improve tourism recovery from the COVID-19 pandemic, their effectiveness depends on the country’s level of resilience [13]. Second, the study conducted by Haigh [14] emphasizes the importance of a participatory approach in cultural tourism planning to ensure that policy outcomes are in line with the needs and aspirations of local communities.

Third, the study conducted by Ha [2] aimed to enhance the role of disaster management in international tourism with the ultimate goal of reducing human suffering, economic damage, and the psychological impact of natural disasters on international tourism. The Fourth study conducted by Schönherr et al. [15] provides an understanding of the role of sustainable tourism policies in influencing changes and recovery in tourism after a crisis and how tourism organizations around the world react to these challenges by developing and implementing policies oriented towards sustainable tourism.

Therefore, the present study tries to examine the relationship between tourism mitigation, tourism security, and sustainable tourism policies towards the development of marine tourism in Indonesia, especially in the coastal area of Tanjung Lesung, Banten Province. This study provides an overview of the importance of disaster mitigation, tourism security, and sustainable tourism policies in developing marine tourism in Indonesia, especially in the coastal area of Tanjung Lesung, Banten Province. These findings will also provide important insights for policymakers and apply globally relevant lessons and best practices, especially for coastal areas vulnerable to tsunamis and other natural disasters, and contribute to improving regional disaster resilience, especially in the marine tourism sector.

2. LITERATURE REVIEW

2.1 Disaster mitigation and tourism security

Tourism disaster mitigation refers to the actions and strategies implemented to reduce the potential impact of disasters on the tourism industry and its destinations. It involves proactive measures such as planning, developing disaster-resilient infrastructure, educating and training local communities, and creating strategies to minimize risks and increase their ability to adapt to disaster threats. The goals of tourism disaster mitigation include minimizing economic losses, loss of life, and environmental damage that may occur due to a disaster. It also includes increasing awareness and knowledge about disasters among tourists and stakeholders in the tourism industry, so that they can act more effectively before, during, and after a disaster, especially in coastal areas after a tsunami [16-18] because tourism disaster mitigation is a factor that contributes to tourists' security perceptions in visiting tourist destinations.

Empirical studies have shown that tourism security perceptions influence tourism decision-making, tourism preferences, tourism behavioral intentions, satisfaction, and tourist loyalty [19, 20]. Therefore, there needs to be a model

that can provide information regarding tourism safety [21]. There are several mitigation steps that can be taken to minimize the impact of risk and increase the ability to adapt to disaster threats: First, an ecosystem and coastal protection-based system; Second, an early warning system; Third, community-based disaster education and vigilance; Fourth, regulations in the provision of infrastructure and buildings; and Fifth, a resilient post-disaster recovery system [16].

Tourism-related activities are believed to have a negative impact on the environment, requiring an appropriate management scheme. The planning procedures for sustainable tourism activities need to be implemented based on the active involvement of multiple actors with conflicting goals and interests to achieve common ground in the principles of tourism governance that prioritizes the balance between economic, social, and environmental aspects [22, 23]. Therefore, sustainable tourism policies are needed as an effort to reduce the negative impacts of tourism and the tensions created by the complex interactions between tourists, the environment, and host communities [10]. Furthermore, there are key factors in developing marine tourism potential: Tourism policies and planning, risk management, infrastructure development, human resource development and management, coastal conditions (depth, beach width, sea current speed, safe waters), natural ecology, and community involvement [24-28].

2.2 Sustainable tourism policy

Sustainable marine-based tourism requires support from the main stakeholders, namely the government as a policy maker, because it contains the concept of preservation and natural heritage, economy, and education and is based on community empowerment. Tourism development policy must be connected to community and environmental development simultaneously and sustainably [29]. Sustainable tourism has economic, environmental, social, and cultural dimensions and has also been associated with society and the environment [30-32].

The research results show that the disaster mitigation process refers to structural and nonstructural mitigation actions, such as infrastructure development, increasing public knowledge about disaster mitigation, creating disaster evacuation routes, and strengthening regulations [33]. Although the natural potential of the beach is believed to increase the tourism market, there are still several obstacles, namely the field of promotion, strengthening tourism products, and creating a tourism-aware community. The root cause of the three obstacles is the need for more public awareness of coastal nature and government protection of tourism potential worth selling to domestic and foreign communities related to marine natural disaster mitigation.

The United Nations Environmental Program (UNEP) and UNWTO describe sustainable tourism as tourism that responsibly considers its economic, social, and environmental effects, both now and in the future, while meeting the needs of visitors, the industry, the environment, and local communities [34, 35]. Within the tourism sector, the Sustainable Development Goals (SDGs) focus on promoting economic growth, generating employment, fostering green consumption and production, supporting a circular economy, conserving water resources, and advancing inclusive social development [36, 37].

Our research addresses disaster mitigation and tourism security by focusing on the sustainable development implications of coastal-based tourism, where comprehensive studies are scarce. By analyzing the complex relationships between disaster mitigation, tourism security, and sustainable tourism policy development in different countries, our research provides valuable insights for policymakers and stakeholders looking to address the challenges of developing coastal tourism with environmental and social sustainability.

3. DATA AND METHODOLOGY

The method used in this research is a mixed-method approach. First, the research team conducted a survey using a quantitative analysis approach and SEM software to determine the extent of the influence of tourism mitigation, tourism security, and sustainable tourism policy on the development of maritime tourism potential in Tanjung Lesung, Banten, Indonesia. Furthermore, this research also used direct observation in the field and in-depth interviews with eleven informants to deepen the potential for marine tourism development and the policies needed. Data from observations and interviews were then analyzed with the help of Atlas IT software to get an overview of sustainable marine tourism development policies. This method is appropriate because it will deliver more evidence to study a certain research problem [38]. In addition, this method triangulates data sources as a way to find convergence between the qualitative and quantitative methods [39].

3.1 Hypothesis

Therefore, this scientific work intends to discuss the correlation further and influence tourism mitigation (X1), tourism security (X2), and sustainable tourism policy (X3) on the development of maritime tourism potential (Y).

3.2 Sampling procedure

This study was conducted on 35 respondents from the local community and visitors to the Tanjung Lesung area. The informants interviewed were three tourism managers, from the Banten Provincial Tourism Office, the Banten Provincial Disaster Management Agency, tourism experts or academics who focus on tourism, visitors, the community, and the Pandeglang Regency Regional House of Representatives. The respondents had diverse characteristics, especially in terms of education, as described in Table 1. Educational characteristics will influence judgments or understanding related to mitigation, tourism safety, and sustainable policies in post-tsunami tourism development in the Tanjung Lesung coastal area

Table 1. Respondents' education characteristics

No.	Education	Total	Percentage
1.	Senior High School	4	11.4%
2.	Bachelor's degree	21	60%
3.	Master's degree	9	25.7%
4.	Doctorate	1	2.9%
	Total	35	100%

Source: Results of researchers

3.3 Research instruments

The instruments in this study were used to observe the extent of the influence of disaster mitigation, tourism security, and sustainable tourism policy variables on the development of marine tourism destination potential in Tanjung Lesung, Banten Province. The instruments in this study include: *First*, Tourism Mitigation (ecosystem-based mitigation and coastal protection, the existence of an early warning system, the existence of community-based disaster education and vigilance, the existence of regulations in the provision of infrastructure and buildings, the existence of a resilient post-disaster recovery; *Second*, security perception; *Third*, sustainable tourism policies (planning procedures for sustainable tourism activities needs to be implemented based on the active involvement of multiple actors who have conflicting goals and interests to obtain common ground in the principles of tourism governance that prioritizes a balance between economic, social, and environmental aspects) and *Fourth*, the development of coastal tourism destination potential (tourism policies and planning, risk management, infrastructure development, development and management of human resources, coastal conditions (depth, beach width, sea current speed, safe waters), natural ecology, and community involvement).

3.4 Research participants

The data collection techniques used in this research are direct observation and in-depth participant interviews. Data collection is the most strategic step in conducting research with a case study approach [40]. Participants in this study were from the Banten Province Regional Disaster Management Agency (BPBD), the Banten Province Tourism Office, tourism businesses, academics, and coastal area experts who were identified using purposive sampling. This technique requires participants to meet the criteria set by the researcher, namely stakeholders in marine tourism management in Tanjung Lesung Banten, Indonesia, who are willing to provide information related to the issue of safe, sustainable tourism. The participants in this study were two BPBD officials, one Banten Tourism Office official, four Tanjung Lesung residents who are tourism businesses, one lecturer (academic), two tourists/travelers, and one coastal area expert as described in Table 2.

All participants in this study provided verbal statements regarding their willingness to be identified by their initials and their position or role in marine tourism development in Tanjung Lesung Banten. All participants in this study also provided oral and written statements of willingness to be partially or fully quoted from the interview. The research participants are willing to provide information related to the development of marine tourism because they hope that the results of this study can help the community and government improve the implementation of disaster mitigation and post-disaster sustainable tourism. The research data collection, a comprehensive process conducted from August 2024 to October 2024, forms the robust foundation of this study. The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Table 2. Research participants

No.	Participant Name Initials	Role
1.	AMH	Head of Prevention & Preparedness of Banten Regional Disaster Management Agency (BPBD)
2.	JSW	BPBD Banten Junior Expert Disaster Analyst
3.	TDM	Head of Tourism Destinations, Banten Tourism Office
4.	RZL	Tourism Business Actors (Culinary)
5.	RHI	Tourist
6.	BHT	Resort Guard
7.	NHY	Tourist
8.	MRZ	Tanjung Lesung Activist
9.	MIR	Lecturer
10.	SAD	Coastal Area Expert

Source: Results of researchers

This research involves human participants and has met the standards and approval of research ethics from the Chairperson of the Research and Publication Ethics Commission University of Serang Raya Banten, Indonesia, with SK number 06/KEPK/VIII/2024. The data collection techniques used in this study included direct observation and in-depth interviews. Researchers directly observe the implementation and development of marine tourism in Tanjung Lesung Banten. Researchers used non-participant observations because they observed activities carried out by the Banten Province Government in managing marine tourism without the government's knowledge to obtain more natural observations. In-depth interviews were recorded using a recorder placed openly and known to the participants. This study used a recorder to store data from in-depth interviews. The researchers' team transcribed all the recorded data by selecting topics or questions that were considered relevant for further analysis.

4. RESULTS AND DISCUSSION

4.1 Analysis of the influence of tourism mitigation, tourism security, and sustainable tourism policy on the development of maritime tourism potential

The research team analyzed quantitative data obtained from distributing questionnaires using Smart PLS 4 software. The results are presented in Figure 1.

This model is a representation of the Partial Least Squares (PLS) method which is often used in Structural Equation Modeling (SEM). The main objective of this model is to explore the relationship between latent variables (tourism security, tourism mitigation, and sustainable tourism policies) and the dependent variable (marine tourism development). The model shows that sustainable tourism policies are the most dominant factor in influencing marine tourism development 32.3%. Tourism security also has a significant influence and should be a concern in developing marine tourism 41.7%, while tourism mitigation has a sufficient influence but its impact is less than the other two variables 28.7%.

The path coefficients above 0.3 are considered to have a moderate to strong influence [41]. Thus, tourism security, sustainable tourism policies, and tourism mitigation can be said to have a significant influence on marine tourism development. The path coefficient shows the extent of the independent variables' influence (Tourism Security, Sustainable Tourism Policies, and Tourism Mitigation) on the dependent variable (Marine Tourism Development). The coefficient value indicates the strength of the relationship among these variables. A positive coefficient value indicates a positive relationship, meaning that the better the tourism security, sustainable tourism policies, and tourism mitigation, the better marine tourism development.

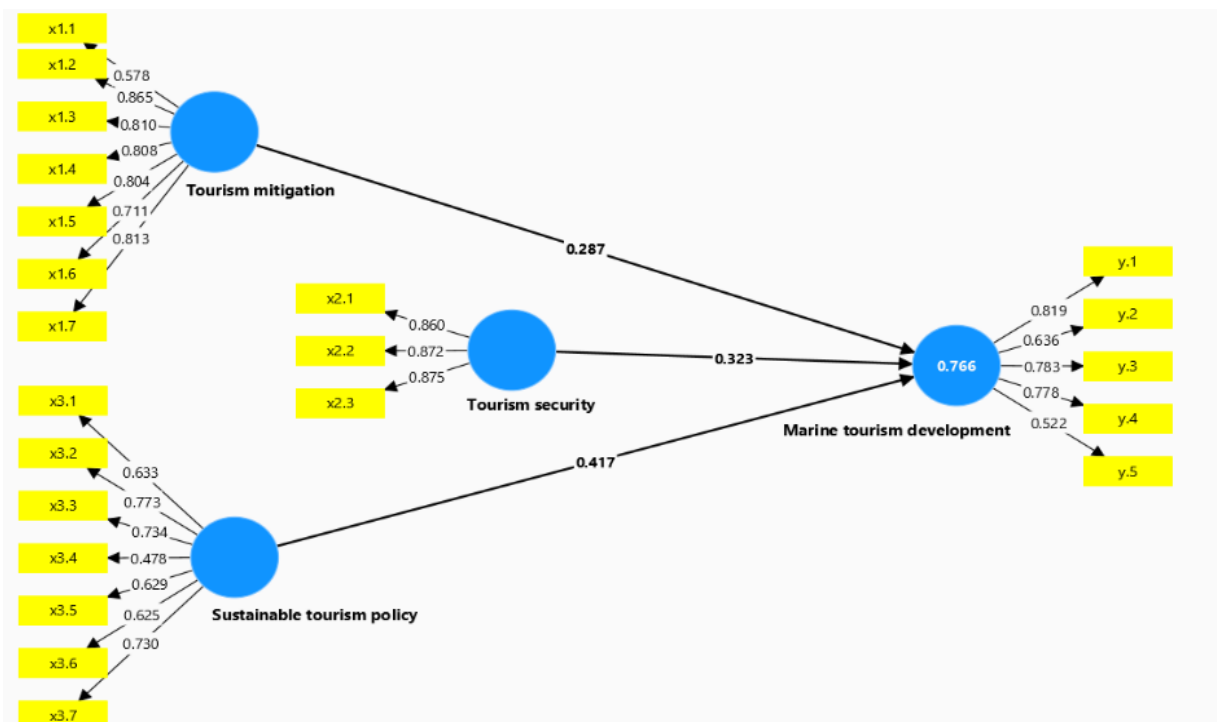


Figure 1. Statistical test results of tourism mitigation, tourism security, and sustainable tourism policies on the development of marine tourism potential in Tanjung Lesung

Source: Smart PLS 4 Analysis Results

Tourism security affects the development of marine tourism (0.323) and also has a significant effect on the development of marine tourism. The coefficient value of 0.323 shows that the security factor makes a fairly important, although not dominant, contribution to the development of marine tourism. Sustainable Tourism Policies influence Marine Tourism Development (0.417), meaning that sustainable tourism policies have the strongest effect among the three variables on the development of marine tourism with a coefficient value of 0.417. This shows that policies that support tourism sustainability play an important role in encouraging the development of the marine tourism sector. Tourism mitigation also has a fairly significant effect on the development of marine tourism (0.287) albeit with a lower coefficient compared to the other two factors, indicating that mitigation strategies are also important in maintaining and developing marine tourism, although the impact is not as great as tourism policies and security.

According to Hair [41], the high R-Square value (above 0.75) indicates that the model has very strong predictive ability, so these results indicate that the model is able to explain most of the variance in marine tourism development, as presented in Table 3.

Table 3. R-square value

	R-Square	R-Square Adjusted
Marine Tourism Development	0.766	0.744

Source: Smart PLS 4 Analysis Results

In the table above, the R-Square = 0.766 indicates that the model can explain 76.6% of the variance of marine tourism development, which is a very strong result. The Adjusted R-Square = 0.744 confirms that even though taking into account the number of independent variables in the model, the explained variance remains significant, indicating that the model is stable.

A good Cronbach's Alpha value is above 0.7 [42]. The reliability (Cronbach's Alpha and Composite Reliability) shows that all the constructs except marine tourism development have Cronbach's Alpha values of above 0.70, indicating that the internal consistency of the construct is good. The rho_a and rho_c values for all constructs are above 0.70, indicating that the constructs are well measured by their indicators. The Convergent Validity (AVE) of three out of four constructs has values greater than 0.50, indicating that tourism security, tourism mitigation, and marine tourism development meet the AVE criteria. On the other hand, sustainable tourism policy has an AVE value below 0.50 (i.e., 0.441), indicating that this construct may not have adequate AVE. This indicates that the construct is inadequate in explaining the variance of its indicators, and may require further evaluation or improvement.

From the quantitative data analysis, this study shows that sustainable tourism policy is the most influential factor in advancing marine tourism development, followed by tourism safety, and tourism mitigation has a moderate impact. The path coefficients confirm the importance of the critical role of policy, security, and mitigation in driving sustainable marine tourism growth. This result is in line with the study of Dias et al. [43], which found that lack of integration into government policies, excessive bureaucracy, and economic priorities versus environmental priorities are determining factors in sustainable tourism development. In this study conducted in

Portugal, Dias et al. [43] emphasized the importance of long-term vision, government integration, reduction of bureaucracy, and policy clarity for sustainable tourism.

4.2 Post-disaster tourism in Tanjung Lesung, Indonesia

Results of interviews show that Tanjung Lesung was one of the Special Economic Zones (*Kawasan Ekonomi Khusus/KEK*) in the tourism sector. Tanjung Lesung was even called "the New Bali". However, the 2019 tsunami disaster, exacerbated by COVID-19, and the issue of a follow-up tsunami disaster or the megathrust issue have further reduced the tourists' interest in visiting this area. However, the Government continues to make recovery efforts through several programs, one of which is through increasing tourism mitigation, tourism security, and sustainable policies which include the provision of infrastructure and empowerment programs. The toll road is a critical access route from Jakarta to Tanjung Lesung, and it contributes significantly to accelerating tourism development in the area. Despite this, events such as the 2019 tsunami and the subsequent pandemic led to a noticeable drop in tourist numbers.

To address these challenges, recovery efforts were implemented, including promotional activities and community empowerment programs to revitalize tourism and support local resilience. Tanjung Lesung, designated as a Special Economic Zone (KEK) in 2015, initially thrived as a leading tourism destination, focusing on improved accessibility, attractions, and amenities. However, the devastating tsunami that struck in 2019 significantly reduced visitor numbers, as safety concerns deterred tourists. In response, local disaster management agencies, including Regional Disaster Management Agency (BPBD), undertook extensive efforts to restore tourist confidence through public awareness campaigns and disaster preparedness simulations. These initiatives have helped Tanjung Lesung establish itself as a disaster-resilient area, with strengthened safety protocols aimed at ensuring the security and peace of mind of visitors. This issue was raised by informants TDM and AMH:

"Before the tsunami, Tanjung Lesung was a Special Economic Zone (KEK) which was inaugurated in 2015 had a very significant role as a pilot project for the tourism sector, with a focus on developing tourist accessibility, attractions, and amenities." (Interview with TDM, 2024).

"After the tsunami that killed up to 500 people, the number of visitors decreased drastically due to concerns about a repeat disaster. Over time, BPBD and related parties made various efforts to restore tourist confidence, including socialization and disaster mitigation simulations." (Interview with AMH, 2024).

This was reinforced by one of the tourism business managers in Tanjung Lesung who heavily relies on the tourism sector for his economic business:

"During the recovery of tourism, we were hit by COVID-19, and after that, the issue of a follow-up tsunami has continued to exist until now. The media is currently reporting ceaselessly on this issue. Even foreign tourists no longer visit, only tourists from China." (Interview with RZL, 2024).

The interviews with tourism managers show that the Government is making various efforts to create a sense of security for tourists specifically in the buffer zone area of the Tanjung Lesung Area, such as mitigation efforts based on ecosystems, planting mangroves, and running community economic empowerment programs to support the creative

economy. In addition, the government has also made efforts to ensure the Tanjung Lesung Area is a disaster-resilient area by providing mitigation facilities and community training through simulation activities. These were revealed by the Banten Provincial Tourism Office and the Banten BPPD, as well as tourism business actors.

According to informant TDM, the government, led by the Ministry of Tourism and the Banten Tourism Office, prioritizes socialization and community empowerment programs, especially for communities outside the core area of Tanjung Lesung. These initiatives encompass physical and non-physical developments to support sustainable tourism and local economic growth. Key projects include enhancing mangrove areas in Panimbang and providing assistance for infrastructure that bolsters the creative economy. These projects help build resilience and diversify local income sources through tourism and ecological conservation efforts. This was also expressed by the Banten Province BPBD and tourism micro business actor as follows:

“The government has implemented various programs, especially disaster socialization and simulation. Tsunami disaster simulations are routinely held, and early warning devices (EWS) have been installed. These are efforts to ensure the preparedness of tourists and the community in facing disasters.” (Interview with JSW, 2024).

According to MRZ as tourism activist in Tanjung Lesung, the government actively supports disaster mitigation initiatives in Tanjung Lesung, focusing on building robust infrastructure and community awareness to enhance safety and resilience. Efforts include specialized training and educational programs conducted by the Regional Disaster Management Agency (BPBD) aimed at local business owners and residents. These sessions cover essential mitigation protocols, standard operating procedures (SOPs), and practical disaster response simulations, providing hands-on experience in effectively managing potential risks. By investing in these programs, the government is not only seeking to reassure tourists of their safety but also reinforcing Tanjung Lesung as a secure travel destination. The focus on preparedness and community readiness is a proactive approach to tourism development, fostering a sense of security and peace of mind for visitors. This approach makes their travel experience more enjoyable and stress-free, and it integrates safety as a foundational aspect of the region's appeal.

4.3 Disaster mitigation and sustainable tourism policy in Banten

Banten has a variety of tourism potentials, one of which is marine tourism potential. Tanjung Lesung is one of the tourism potentials in Banten Province, Indonesia. A few years ago, Tanjung Lesung was a coastal tourism destination area identified as a national strategic project for the economic development of Banten Province as a Special Economic Zone that was promoted through marketing communication strategies, such as the Tanjung Lesung Festival, to attract tourists [5, 6]. However, the region also faced challenges related to coastal erosion and the potential impact of natural disasters, which required mitigation measures to protect infrastructure and ensure the safety of residents and visitors [7, 8]. Referring to the Regulation of the Minister of Tourism

Number 10 of 2019 concerning tourism crisis management, there are four phases in dealing with crises caused by natural factors (natural disasters): the vigilance and mitigation phase, emergency response, recovery, and normalization [44, 45]. Therefore, to develop tourism in Tanjung Lesung, a sustainable tourism policy needs to be implemented post-tsunami, both to promote sustainable tourism development and to make the tourism sector more resilient. Policies made post-tsunami must focus on the environment, social aspect, and infrastructure and facilities to achieve tourism recovery in Tanjung Lesung [15].

In the map of disaster-prone areas in Banten Province in 2009 issued by the Center for Volcanology and Geological Disaster Mitigation of the Ministry of Energy and Mineral Resources of the Republic of Indonesia, the Tanjung Lesung Special Economic Zone located in Pandeglang Regency is a zone with a high and moderate level of tsunami disaster vulnerability as seen in Figure 2 (shown in red and yellow). The highly vulnerable zone predicted to have a tsunami height of 3 meters above ground level should have been considered in the planning of the Tanjung Lesung Special Economic Zone Masterplan. The planning of the area that has been prepared and implemented for approximately 5 years was halted as it was hit by a tsunami on December 22, 2018. Since being designated as a Tourism Area by Government Regulation of the Republic of Indonesia No. 26 of 2012, the Tanjung Lesung Special Economic Zone was prepared as a leading tourism area that utilizes coastal resources as objects and attractions that have a coastline of 13.8 km with various unique features, covering an area to the mainland of 1,500 hectares [46].

These conditions require sustainable tourism management that prioritizes mitigation and safety aspects in tourism in the coastal area of Tanjung Lesung, making a significant impact on the development of marine tourism in the area after the tsunami. Tourist safety is a relevant global issue that affects tourists and tourist destinations. This study presents a conceptualization of tourists' sense of safety, including the safety they expect and experience [47]. Therefore, there needs to be an effort to provide safety signposts, especially in marine tourism destinations to create a sense of security for the tourists [48]. The perception of security at a certain destination not only affects tourists' perceptions of the destination's image, but also has an impact on their travel decisions and travel behavior, as tourists will have a negative impression of the destination and will not revisit the destination or recommend it to others if they feel unsafe or threatened there [19, 49, 50].

As illustrated in Figure 3, in developing marine tourism potential in Tanjung Lesung, Banten Province, the Government must implement tourism policies that prioritize aspects of sustainability because this concept will play an essential role in influencing sustainable tourism development by influencing destination management and social responsibility. Therefore, actors need to be responsible for formulating sustainable tourism policies and contributing to marine tourism development in Tanjung Lesung post-tsunami. The implementation of planning procedures for sustainable tourism activities needs to be based on the active involvement of several actors (actor collaboration) who have conflicting goals and interests to achieve a common ground in tourism governance principles that prioritize a balance between economic, social, and environmental aspects [22, 23].



Figure 2. Map of tsunami-prone areas in Banten Province
Source: [46]

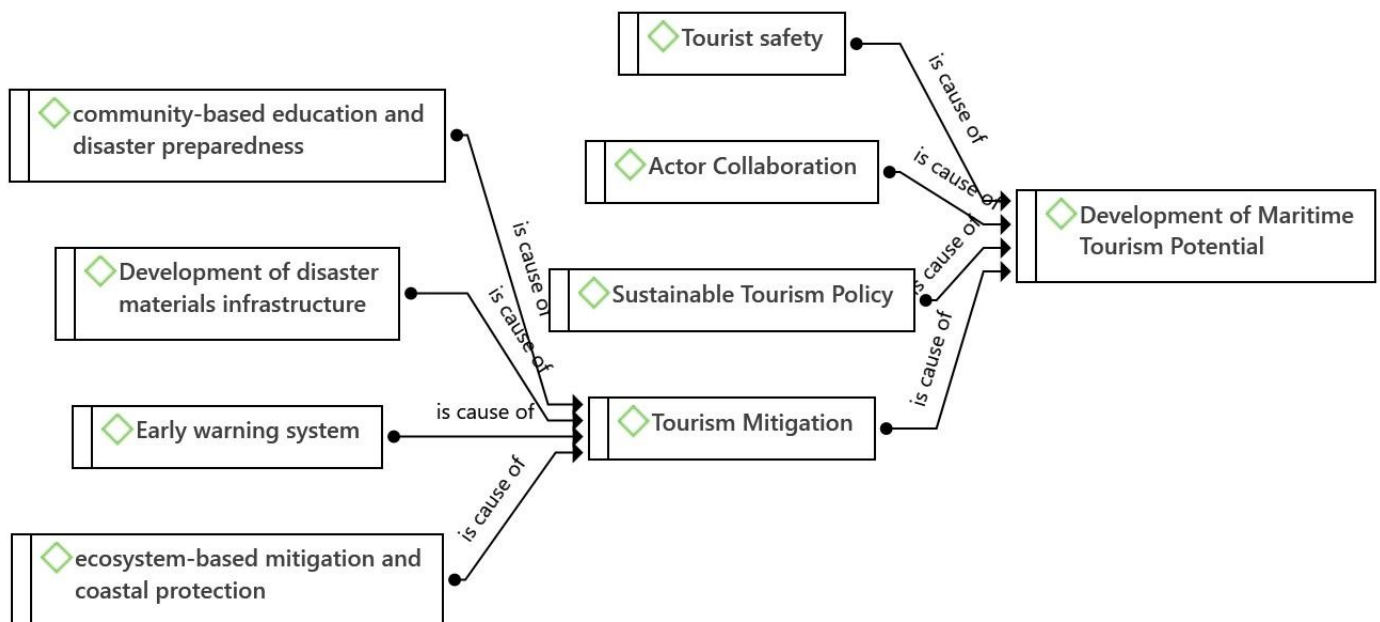


Figure 3. Analysis of marine tourism potential development in Tanjung Lesung, Banten Province
Source: Research results processed by Atlas TI 2024

However, the implementation of sustainable tourism policies presents many challenges for the Central Government, the Banten Provincial Government, and the Pandeglang Regency Government, especially in balancing stakeholder interests and integrating sustainability into existing frameworks. These challenges can be categorized into several main areas: First, stakeholder involvement. The government often faces difficulties in involving local communities in the decision-making process, so sometimes local communities are not given a forum for dialogue in the process of formulating tourism policies, leading to conflicts of interest between the community and business actors [51]; Second, the issue of gaps and resources. Sometimes in the implementation of sustainable tourism policies, there is a gap between the knowledge of policy-implementing actors related to the

management of sustainable tourism policies [52, 53]. Third, the integration of sustainable tourism into public policy [54]. Despite these challenges, some argue that the transition to sustainable tourism can encourage innovation and collaboration among stakeholders, potentially leading to a more resilient tourism ecosystem. However, overcoming these barriers is critical to achieving long-term sustainability in tourism.

In addition, tourism safety and mitigation are important factors in increasing the potential of marine tourism in the Tanjung Lesung coastal area. Because this area is disaster-prone, efforts must be made to socialize, educate, and regulate the matter. Therefore, the government, both central and local governments, as key actors who must play an important role in increasing sustainable tourism that prioritizes aspects of

tourism safety and mitigation in the coastal area of Tanjung Lesung Banten Province through regulatory frameworks, facilitation, human resource development, encouraging stakeholder involvement, and conducting monitoring and evaluation related to governance in the region. However, the challenges in implementing this policy require an innovative and practical approach through collaborative efforts between government, industry, and the community to ensure the long-term success of this policy.

5. CONCLUSION

The results of statistical hypothesis testing using Smart PLS 4 show a significant influence between tourism mitigation, tourism security, and sustainable tourism policies on the development of marine tourism potential in the coastal area of Tanjung Lesung. However, several indicators must be improved: First, in ecosystem-based tourism mitigation and coastal protection; Second, tourism security that prioritizes the balance between economic, social, and environmental factors; Third, community involvement in managing the Tanjung Lesung Area. Therefore, several strategies are needed to develop marine tourism potential after the tsunami: First, improvement in tourism mitigation, tourism security, and sustainable tourism policies by prioritizing actor collaboration, both in terms of planning and implementation; second, the development of tourism outside the Tanjung Lesung area, because this area is very prone to tsunami disasters due to its location jutting into the ocean; third, socialising tourist destinations through activities in this region and promoting the safe marine tourism destination of Tanjung Lesung; and fourth, the existence of community empowerment activities through the concept of changing community behaviour to raise awareness of tourism.

This research has limitations, mainly that it has not discussed community perceptions of disaster-prone tourist areas, which impact recovery and economic development in the region.

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