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Planning the Coastal Area of Jangkaran Village with the Concept of Eco-Marine Tourism and Disaster Resilience

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Abstract. The coastal area of Jangkaran Village in the southern part of Kulon Progo Regency has abundant natural resources, including mangroves, natural habitats, and beaches, valuable assets to develop an attractive tourism village. In contrast, there are issues regarding poor accessibility, threat to mangrove conservation land due to tourism activities and risk of tsunami. Therefore, coastal area planning is needed to optimize the potential of natural resources by focusing on improving conservation, tourist facilities and disaster resiliency. Using the eco-marine tourism and disaster resilience concept, this study encourage the development of the tourism, fisheries, environmental conservation and disaster sectors in a sustainable and integrated manner. This concept is reflected in the coastal zoning and building layout; coastal facilities; signage; green space; circulation paths; and institutions. To produce the masterplan of Jangkaran Village coastal area, the study use Soft System Methodology (SSM) method with a comprehensive planning. This study shows the importance of in-depth understanding of the beneficiaries towards the 'rich picture' of the site. The deeper the study is towards stakeholders benefits the more directed the area plan will be developed, and the formulation of interventions carried out will be appropriate in achieving planning objectives.

1. Introduction

Jangkaran Village is a coastal village with a lot of natural and artificial resources, such as beaches, rivers, ponds, and mangrove forests making the village as of the potential attractions in Kulon Progo Regency. Some og its are, Pasir Mendit Beach, panoramic views of mangrove forests and ponds, namely Mangrove Pasir Kadilangu, Mangrove Jembatan Api-Api, and Eduwisata Wana Tirta. All of these attractions create a unique natural beauty with a combination of mangrove forest, beach and pond panoramas in one landscape. Pasir Mendit Tourism has an attraction that can be compete with Congot Beach tourism which is the fourth most popular tourist attraction in Kulon Progo Regency in 2020 [1]. This is possible with the adequate supporting facilities of the three mangrove forest tourist destinations and a diverse beach ranging from viewing posts, canoes, wooden trails, and a variety of photo spots. However, the three tourist destinations in Jangkaran Village do not yet have their own uniqueness because the attractions offered tend to be similar.

Aquaculture is the leading land use while vaname shrimp is the leading commodity [2]. The local community farm, harvest and export of Vaname shrimp farming is managed by local community groups and sold to the export market [3]. The Kulon Progo Regency Government established Jangkaran Village as a center for shrimp farming to advance the coastal area of

Jangkaran Village. The development of shrimp farming is supported by the placement of the pond area ±100 m from the coastline to avoid high sea waves. Despite having great potential in the field of shrimp farming, local residents who own ponds choose to develop natural attractions that are more profitable because of the increasing interest in tourist visits in recent years [4]. Nevertheless, both sectors provide benefits that are worth developing.

The development of Jangkaran Village aligns with the development direction of the Duchy Strategic Area (KSK) of the South Coast of Kulon Progo contained in the Regional Spatial Plan of Yogyakarta Special Region (RTRW) 2023-2043, which is planned as an agricultural zone, marine conservation reserve, and tourism. However, it is necessary to pay attention to the impact of development, especially the influence of the tourism sector on marine conservation zones and the threat of natural disasters. Tourism in mangrove forest can cause negative impacts on coastal ecosystems. A visible impacts in this Village, ncludes damage and inhibition of mangrove growth and decreased aesthetic value due to littering of tourism visitors [4]. In addition, the conversion of mangrove land indirectly increases the risk of tsunami [5]. However, the development of mangrove forest tourism at Pasir Mendit Beach and Pasir Kadilangu Beach has shown positive impacts on the economic and social development of the village, such as increased employment and community income [4]. Another positive impact is the enlargement the Pasir Kadilangu Beach mangrove forest, with an increase of 1,442.55 m^2, from 3,979.20 m^2 in 2014 to 5,421.75 m^2.

Based on the problems and potentials in Jangkaran Village, the development of the concept of eco-marine tourism community-based is the suitable solution in developing the area, integrating tsunami disaster resilience planning. The eco-marine tourism approach can increase the quantity of mangrove forests and biodiversity, contributing to the overall economic growth of the community. Simultaneously tsunami disaster resilient planning will stengthen strengthen used to increase the capacity of coastal areas and minimize environmental impacts due to disasters that can hamper the community's economy.

2. Literature Review

2.1 Planning Theories and Concepts

This planning uses several theories, namely the basic theory in the form of coastal areas and tourist destinations, as well as the main theory in the form of eco-marine tourism and tsunami disaster resilience.

a. Coastal areas

Coastal areas have special characteristics that affect both sea and land [6]. Therefore, coastal area planning needs a comprehensive approach through the application of the Integrated Coastal Zone Management (ICZM) [7] and regional planning component of the Building and Neighborhood Planning (RTBL).

b. Tourist destinations

Tourism destinations have tourist attractions, public facilities, tourism, accessibility, and mutual communities [8]. In supporting comprehensive tourism planning, the elaboration of 10A tourist destination attributes in the form of Attractions, Accessibility, Amenity, Accommodation [9][10], Activities, Awareness, Appearance, Appreciation, Action and Accountability [11], as well as 3 criteria in the form of something to see, something to do, and something to buy [12].

c. Eco-marine tourism

Ecotourism is tourism that emphasizes the value of nature conservation, the value of education or social empowerment, culture and the economy of local communities [13].

Marine tourism is the integrated management of marine tourism and conservation-based fisheries [14].

d. Tsunami disaster resilience

Disaster resilient villages have the ability to recognize threats and organize human resources to reduce vulnerability and increase disaster mitigation capacity [15].

Several planning concepts or theories that have been obtained from various previous literature reviews will be elaborated and used as a variable in conducting the planning process. The components and concepts used to plan Jangkaran Village are shown in Figure 1.

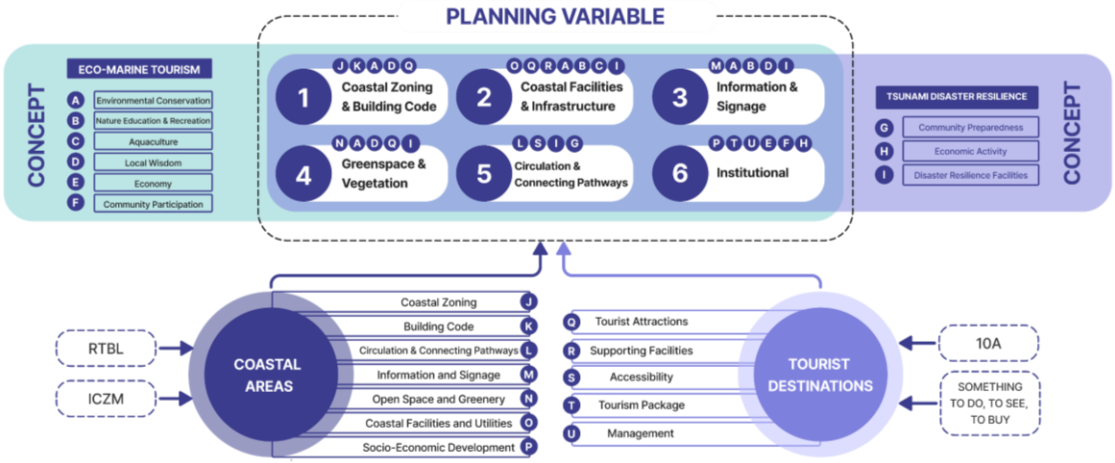

Figure 1. Elaboration diagram of the Planning Concept.

2.2 Ideal Concept in Area Planning

The study use an Ideal Concept to analyze the existing conditions of the coastal area of Jangkaran Village conduct gap analysis between ideal conditions and existing conditions. The indicators and criteria used in this planning are described in Table 1.

Table 1. Ideal concept

Variable	Indicator	Criteria	Foundation
Coastal Zoning & Building Code	Land use	Zoning is clearly divided according to the land allotments specified in the regulations	Permen PU No. 06/PRT/M/2007 [16]
	Coastal Zoning	High-density land use is restricted in the shoreline zone and buffer zone (within 100 meters from the shoreline), which are designated for protected ecosystem conservation	Kementrian ATR/BPN in Daulat (2021) [17]
	Environmental Conservation	Land use is oriented towards conservation, tourism, and fisheries areas, with a focus on controlling landscape changes	Sekartjakrarini (2020) [13]
	Building Intensity	The Basic Building Coefficient (KDB) is less than 80%, with a maximum of 1-2 floors allowed	Permen PU No. 06/PRT/M/2007 [16] & Yoeti (2002) [12]
	Building Condition	Buildings must be in good condition	
	Building Architecture	The design and shape of the building should align with the local character and enhance the image of the coastal tourism area	Troung (2009) [10], Islam and Savitri (2023) [11], Morrison (2014) [9], & Permen PU 06/PRT/M/2007 [16]
Coastal Facilities & Infrastructure	Availability of Facilities and Infrastructure	1. Supporting facilities for tourism activities include a souvenir center, an information center, and a musholla 2. Infrastructure and utilities are complete and evenly distributed, including electricity, clean water, drainage, sanitation, water treatment plant, sewage treatment plant, and disaster evacuation routes	
	Disaster Resilience Facilities	The existence of facilities to enhance tsunami preparedness, such as evacuation assembly point, search and rescue posts, green belts, and embankments	Oktari (2019) [18], Akhirianto et al. (2023) [19], & BNPB (2012) [20]
	Educational and Nature Tourism Activities	Available supporting facilities for attractive and educational activities for tourists include aquaculture education and environmental conservation programs focused on mangroves and turtles	Sekartjakrarini, 2020 [13], Cobbinah in Aziz (2023) [21]
	Leading Product Processing Activities	The presence of supporting facilities for the processing of regional superior products	Sekartjakrarini, 2020 [13], Jeami & Fahmi (2023) [22]
Information & Signage	Navigation and information system	1. There are clear signs indicating disaster threat levels, especially in coastal areas 2. There is an interactive and informative information board 3. There is a landmark serving as a village icon that reflects the character of the coastal area	Hainess-Young and Potcjin (2011) [6] Permen PU No. 06/PRT/M/2007 [16], & Cobbinah in Aziz (2023) [21]
	Tourist education	There are educational information boards providing details on nature conservation and aquaculture	Sekartjakrarini, (2020) [13]
Greenspace & Vegetation	Public Activity Center	1. There are attractive open spaces 2. Open spaces that accommodate local and tourist cultural activities, such as children's playgrounds, sports facilities, and cultural parks.	Permen PU No. 06/PRT/M/2007 [16] & Sekartjakrarini, (2020) [13]
	Quality of Open Space and Vegetation	1. Use of green belts and mangroves for tsunami protection and shading pathways 2. Use of rain gardens and porous pavement in public open space.	Oktari (2019) [18], Akhirianto et al. (2023) [19], & BNPB (2012) [20]

continued

continued

Variable	Indicator	Criteria	Foundation
Circulation & Connecting Pathways	Parking Lot	Parking spaces are organized by vehicle type and activity type, and are integrated with the activity center	Permen PU No. 06/PRT/M/2007 [16]
	Safety and Comfort	1. Pedestrian paths are well-maintained, connected throughout the area, and supported by complete street furniture, including lights, bench, bollards, and zebra crossings 2. There is a designated path for disabled pedestrians. 3. There is a map of disaster evacuation routes	Permen PU No. 06/PRT/M/2007 [16], Oktari (2019) [18], Akhirianto et al. (2023) [19], & BNPB (2012) [20]
	Road Circulation	The road is in good condition, has no potholes, and is accessible for mini tour buses	Troung (2009) [10], Islam and Savitri (2023) [11], & Permen PU No. 06/PRT/M/2007 [16]
	Private & Public Vehicle Circulation	1. Road circulation is one-way or two-way and accessible for motorcycles and cars. 2. Mini tour buses are available for travel to the Village Tourism	
Institutional	Community Participation	Tourism and fisheries development involve local communities	Sekartjakrarini, 2020 [13], Cobbinah in Aziz (2023) [21], Oktari (2019) [18], Akhirianto et al. (2023) [19], & BNPB (2012) [20]
	Capacity building of human resources	1. Environmental conservation activities conducted by the community 2. Training and guidance on conservation and aquaculture are provided to local communities 3. Procurement of tsunami preparedness training for local communities	
	Institutional System	1. There is an organization focused on tsunami disaster preparedness 2. There is a tourism management organization managed by the community and NGOs	BNPB (2012) [20] & Morrison (2014) [9]

3. Planning Methodology

3.1 Planning Approach

This plan aims to design the coastal area of Jangkaran Village as a community-based conservation and aquaculture educational tourism area to preserve coastal ecosystems and boost tsunami disaster response. It chooses comprehensive planning approach, which refers to a planning process that is carried out thoroughly, deeply and complexly so as to be able to formulate the main problems and find the right solutions in overcoming them.

3.2 Planning Location

The site is located in the coastal area of Jangkaran Village, Temon Sub-district, Kulon Progo Regency, Yogyakarta Special Region with an area of 144 ha or 39.4% of the total area of Jangkaran Village (365.64 ha). The location is selected based on the following considerations:

1. The coastal potential of Jangkaran Village has not been optimally utilized, such as shrimp farming centers, turtle and mangrove conservation, and the development of natural and educational tourism.
2. Based on the Regional Spatial Plan of Yogyakarta Special Region (RTRW) 2023-2043, the coastal area of Temon is included in the Strategic Area of the Duchy of the South Coast of

Kulon Progo and is geographically strategic because it is located near YIA Airport, which is 7 km away.

3. The evident signs of mangrove damage, the threat of tsunami & abrasion disasters and inadequate supporting facilities have hindered the development of village tourism.

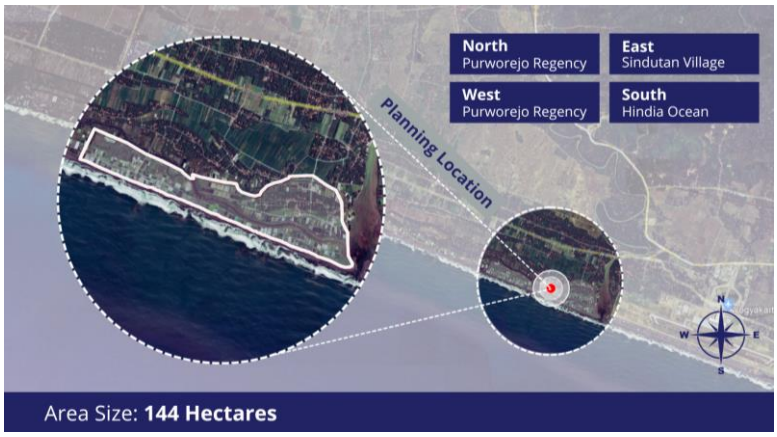

Figure 2. Site Plan.

3.3 Data Collection Method

The data collection methods in this planning are as follows:

1. Observation
   This planning uses anecdotal records (collection of all data in the field) and checklist notation (data collection according to a list) to record activities and necessary data, such as physical spatial, socio-cultural, and environmental, through direct observation of everything that happens incidentally. Observation data will be processed in GIS software to obtain digital data and information.
2. Documentation Studies
   Documentation is data derived from the results of recording on an object of observation using a camera to produce data in the form of images, sound or video. Documentation is used to describe the actual conditions in the field.
3. Interviews
   This study uses interviews to verify or recheck data or information obtained during observation and literature study.
4. Literature Review
   This method of data collection uses documentary sources in the form of agency documents, literature, similar research reports, seminar materials and journals.

3.4 Data Analysis Method

The data analysis method in this plan is as follows:

1. Soft System Methodology (SSM)
   A holistic approach to understanding the problem, forming a conceptual model, assessing feasibility and implementation.
2. Gap Analysis
   Differences or gaps from ideal conditions to actual conditions to analyze and formulate recommendations for plans or alternative plans.
3. Descriptive Analysis

This analysis method provides a detailed explanation of the actual conditions and the process of preparing the coastal area plan for Jangkaran Village.

3.5 Planning Method

The planning method used is as follows:

1. Substitute, Combine, Adapt, Modify, Put To Other Uses, Eliminate/Elaborate, Reverse (SCAMPER)
   The method collaborate findings from existing conditions with plans from ideal conditions to create a new concept from the modified results that solve the problem by applying the concept of eco-tourism and tsunami disaster resilience.
2. Analytical Hierarchy Process (AHP)
   The method will determine the most suitable alternative plan based on development priorities uses the 5E criteria (Efficacy, Efficiency, Effectiveness, Ethicality, Elegance)
3. Cost Benefit Analysis (CBA)
   Conducting CBA aims measure and interpret the feasibility of planning programs based on various calculations of the benefits that will be received from planning these activities.
4. Strength, Weakness, Opportunity, and Threat (SWOT)
   This method helps to identify challenges and opportunities in plan implementation.

3.6 Planning Framework

The planning stages from the planning site selection process to the planning evaluation are outlined in Figure 3.

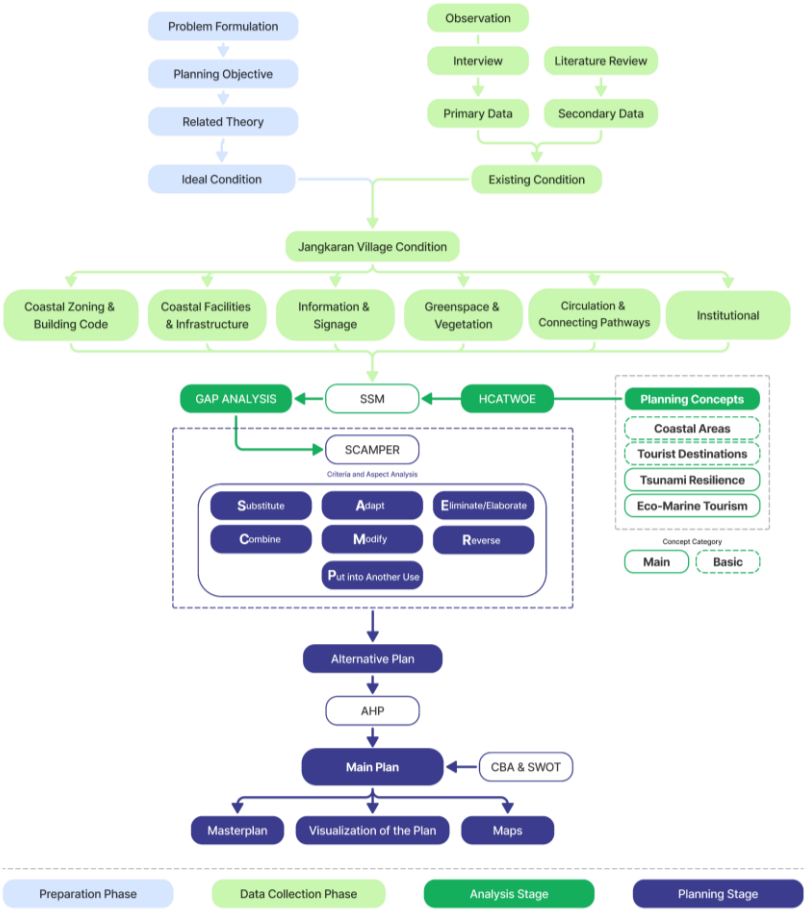

Figure 3. Planning Framework.

4. Results and Discussion

4.1 Overview of the Planning Site

Jangkaran Village is located at the mouth of the Bogowonto River which is famous for its coastal beauty with panoramic views of Kadilangu Sand Beach and Mangrove Forest. The coastal area of Jangkaran Village has slightly different characteristics from coastal areas in Kulon Progo Regency, namely having a fairly large mangrove forest conservation area of 7.07 hectares.

In general, Jangkaran Village is dominated by ponds. Majority of the villagers work as fishermen and cattle farmers. In addition, Jangkaran Village has been designated as a Center for Aquaculture, specializing in the superior commodity of Vaname Shrimp, and also designated as a Disaster Resilient Village in 2012 due to the threat of tsunami and high abrasion.

Jangkaran village has 3 potential tourist destinations. Geographically, the coastal area of Jangkaran Village is located ± 7 km from Yogyakarta International Airport (YIA) and adjacent to several tours, namely Congot Beach, Glagah Beach and Mangrove Demang Gedi. Thus encouraging the development of existing tourism should be directed into educational tourism and natural recreation that is interesting and unique.

4.2 Potential and Problem Analysis

The potential and problems of the area were obtained from the results of the plan gap analysis using planning variables (Table 2.). The results of the analysis are then used as a

consideration for the formulation of alternative plans as a solution to solve existing problems and optimize the potential.

Table 2. Potential and Problem Analysis

Variable	Potential	Problem
Coastal Zoning & Building Code	• Buffer areas of mangroves located near settlements and pond areas create a distinctive coastal landscape.	• The land use zone has not yet been clearly defined. • There are buildings in the restricted zone (within 100 meters of the coastline). • Some buildings do not meet the applicable standards. • There are still buildings in poor condition and rundown. • Buildings do not reflect the value of coastal culture
Coastal Facilities & Infrastructure	• The area has a well-distributed electricity network, clean water supply, and a good evacuation system.	• Existing facilities are insufficient to support tourism, fisheries, and disaster resilience activities, such as lacking a tourist information center and temporary evacuation sites. • Existing infrastructure is incomplete and uneven, particularly waste and drainage facilities.
Information & Signage	• There are clear boundaries between residential and tourist areas, marked by gates and monuments.	• There is no disaster information board in the tourism and beach area. • The information boards currently available are not informative or interactive. • Existing landmarks and tourist monuments are not yet in harmony with the image of the coastal tourism area. • There are no educational boards about conservation and aquaculture.
Greenspace & Vegetation	• There is vacant land that can be developed into green open space.	• There is a lack of green open space and greenery in residential areas and along roads. • Rain gardens and porous pavements have not yet been implemented.
Circulation & Connecting Pathways	• There are already clear evacuation signs and circulation routes	• Parking facilities and roads are in poor condition and are not connected to pedestrian paths.
Institutional	• There is active community involvement in managing village tourism	• There is no integrated organization, such as Pokdarwis, for managing the area.

4.3 Alternative Development

Based on the analysis in Table 2. and the SCAMPER analysis, the planning of this area will focus on the development of tourism, conservation and fisheries sectors. This planning adapts Eco-marine tourism concept which focuses on providing supporting facilities for tourism, fisheries and institutional activities, and the concept of disaster resilience. The concept focuses on providing infrastructure, zoning regulations and improving the quality of human resources. Based on these planning objectives, two alternative plans were formulated, as detailed in Table 3.

Table 3. Alternative Plan

Alternative Plan	Descriptive
	Alternative 1: Integrated Blue-Green Space Focus on optimizing the use of pond and mangrove land by enhancing the integration of tourism and fisheries sectors through marine tourism and special interest activities, improving regional connectivity, and supporting the equitable distribution of facilities.
	Alternative 2: Integrated Ecology Zone Focus on social and environmental aspects to preserve ecosystem services, prevent the conversion of mangroves and ponds, and enhance ecological functions by expanding areas designated for mangrove conservation and increasing the variety of fishery commodities.

Based on the results of the selection of alternative plans using the Analytical Hierarchy Process method in Table 4., it is known that the first alternative has a value of 0.561 or 56.1%. The first alternative has a superior value when compared to the second alternative value. The alternative plan used in this planning is the first alternative, namely Integrated Blue-Green Space.

Table 4. Analytical Hierarchy Process (AHP) Results

Alternative	Efficacy	Efficiency	Effectiveness	Ethicality	Elegance	Total	Percentage
Integrated Blue-Green Space	0,377	0,105	0,058	0,012	0,008	0,561	56,1 %
Integrated Ecology Zone	0,126	0,052	0,175	0,062	0,024	0,439	43,9 %

4.4 Masterplan

The objective of Jangkaran Village's coastal area masterplan is to create a coastal area as an educational tourism area for aquaculture & biological conservation that is disaster responsive and preserves coastal ecosystems. In terms of its physical spatial aspects, the highligt is mangrove's role as a conservation and disaster protection area as well as tourism, whereas the fisheries area remains as the leading sector and a source of community income. The planning will include the provision of activity centers, river boundary arrangements, provision of green spaces, road space

planning, and also the provision of other supporting facilities. The overall intervention is described in Figure 4.

Figure 4. Masterplan Coastal Area of Jangkaran Village

4.5 Institutional Plan

The Jangkaran Village Coastal Area does not yet have an integrated institution. Currently each tourist destination has its own management institution. Therefore, it calls for the formation of a tourism awareness group (Pokdarwis) to mamage tourism activities in the coastal area in a directed, structured, and integrated manner.

The Jangkaran Village Tourism Awareness Group (Pokdarwis) is planned to have membership from trader groups, farmer groups, fishermen groups, tourism destination NGOs, and the local community. The planned organizational structure and role division within Pokdarwis are described in Table 5.

Table 5. Pokdarwis Plan in the Coastal Area of Jangkaran Village

Section	Actor	Roles
Tourism Activity Attraction	Fishermen and fish farmers group	• Tour guide for the cultivation and processing of fishery products. • Selling products at the fish market.
	NGO Wana Tirta	Mangrove and turtle conservation tour guide.
	NGO Pasir Kadilangu	Mangrove walk tour guide.
	NGO Mangrove Jembatan Api-Api	Mangrove recreation tour guide.
	Empowerment and family welfare group	Organizing events and performing arts stages.
Business Development	Empowerment and family welfare group	• Selling at the souvenir center. • Selling in commercial areas and food courts. • Managing the restaurant.
Order and Security	Youth organization and tourism NGOs	• Maintain the tourism information center. ▪ Maintain evacuation assembly point. ▪ Maintain the parking lot. ▪ Guard the ticket counter.
Public Relations and Human Resource Development	Youth organization, empowerment and family welfare group, tourism NGOs, fishermen and farmers group	• Organizing human resource development training. • Promote and publicize of tourism activities.
Cleanliness and Aesthetics	Youth organization	Conduct regular monitoring and maintenance.

4.6 Development and Financing Plan

The phasing plan in the development of the coastal area of Jangkaran Village is carried out for ten years, starting from 2025 to 2034 with an expenditure of Rp 23.661.000.000. During the implementation phase, unlimited cycle of readjustment is allowed, as long as of the master plan maintains a maximum of 30% change and still follows the zoning plan and land use provisions in the current master plan. The phasing of the plan is divided into four stages:

1. Preparatory phase, focusing on deepening the study of the implementation of the regional master plan
2. The construction stage, focusing on meeting basic needs and improving existing tourist destinations which generates revenue for the next stage of development capital.
3. The development stage, focusing on the fulfillment of supporting facilities for tourist convenience.
4. Operational and maintenance stage, focusing on management, monitoring and evaluation of the entire development process.

4.7 Plan Evaluation

Planning evaluation is carried out to find out whether a plan can achieve its target and whether a planned project is feasible (profitable) or or likely to result in a loss. Therefore, the evaluation of the Jangkaran Village Coastal Area plan uses the Cost Benefit Analysis (CBA) and SWOT analysis.

An expenditure of Rp 23.661.000.000 and expected revenue of Rp 45.388.367.601 serves as the baseline data for Cost Benefit Analysis. The discount rate used is 6%, following the Indonesian interest rate per year 2024 [22], with the aim of anticipating inflation. Meanwhile, a discount rate of 10% was used to test whether the planned program would remain feasible if there was an increase in the discount rate.

At a discount rate of 6%, the plan has an Net Present Value (NPV) value of Rp 9,957,555,173 (NPV>0) and a Benefit Cost Ratio (BCR) value of 1.48 (BCR>1). Meanwhile, at discount rate value of 10% the NPV value is Rp 5,121,268,882 (NPV>0) and a BCR value is 1.27 (BCR>1). This proves eco-tourism and disaster resilience development plan for Jangkaran Village's coastal area is feasible for implementation. In addition, the Internal Rate of Return (IRR) value between the discount rate of 6% and 10% is 13.09% (IRR), greater than the discount rate (IRR>discount rate), indicating that the plan can be classified as a good project.

Based on the SWOT analysis, several planning strategies were formulated to increase strengths, reduce weaknesses, make good use of opportunities, and avoid threats that may occur in the future. The following SWOT analysis results are shown in Table 6.

5. Conclusion

The comprehensive planning of Jangkaran Village's coastal area involves various integrated aspects, including physical and non-physical aspects. The main focus of this plan is to maintain the role of coastal ecosystems as tsunami disaster protection areas and conservation reserves while ensuring active involvement of local communities in development and management of the site.

There are several challenges in the implementation of this plan including the limited capability of funding sources, the existence of similar tourism competitors and the threat of tsunami and abrasion during the area development process. Therefore, the strategy offered an implementation plan, financing scheme, as well as a partnership scheme with several scenarios to minimize losses in the development process.

Table 6. SWOT Analysis

SWOT	**Strength (S)** • Has abundant natural resources, including mangrove forests, ponds, beaches, and turtles. • Prioritizes utilizing village potential through the development of special interest and nature tourism. • The local community plays an active role in the area's development.	**Weakness (W)** • Inadequate infrastructure to support tourism activities. • Tourism facilities are in poor condition, which decreases their attractiveness. • There are no tour packages and integrated tourism management. • There is no tourism mobilizing institution, such as Pokdarwis. • Limited funding sources for the development of the area.
Opportunity (O) • Potential to establish partnerships with various parties, including government, local communities, the private sector, and investors. • Opportunity to attract both local and international tourists. • Lack of mangrove and sea turtle conservation educational tourism in Kulon Progo Regency.	**S-O Strategy** (Strategy of Using Strengths to Obtain Benefit) • Focusing on developing the coastal area into an eco-marine tourism village. • There is active participation from local communities.	**W-T Strategy** (Strategy to Reduce Weaknesses to Utilize Opportunities) • Revitalize and expand supporting infrastructure for tourism activities. • Develop tour packages and empower local communities to become tour guides. • Establish pentahelix cooperation with various stakeholders for plan implementation and financing.
Threat (T) • Environmental damage from waste generated by tourism activities. • Risk of natural disasters, such as tsunamis and coastal erosion • Potential competition from similar tourism destinations nearby, such as Demang Gedi Mangrove Tourism.	**S-T Strategy** (Strategy of Using Strengths to Overcome Threats) • Establish CHSE (Cleanliness, Health, Safety, and Environmental Sustainability) certification. • Enhance disaster mitigation efforts in facility development and improve local community capacity. • Strengthen tourism branding through various platforms	**W-T Strategy** (Strategy of Reducing Weaknesses to Overcome Threats) • Develop a plan implementation and financing scheme with scenarios: business as usual, low ambition (pessimistic), moderate ambition, and high ambition (optimistic). • Establish cooperation with neighboring villages that offer similar attractions to provide a diverse range of tour package options

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