



The Impact of the Coastal Embankment Construction on Social Changes in the Community

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ABSTRACT

The study investigated the socio-economic impact of embankment construction around Ujong Kareung beach on the community of Gampong Suak Indrapuri, West Aceh District. Conducted as a qualitative descriptive research, the study focused on fishermen, traders, and fish cultivators in the area. Data was gathered through interviews, observation, and documentation. The results indicated two fundamental changes within the community. Firstly, embankment construction diversified livelihoods along the coast, encompassing activities such as fishing, shrimp cultivation, trade, and anchovy and salted fish cultivation. Secondly, there were notable shifts in income among the three livelihood types. Fishermen and traders experienced a decrease in monthly income, while fish cultivators witnessed an increase. From an ecotourism perspective, the beach barrier construction influenced various aspects, including the growth of cooperation and collaboration within the community. Additionally, it spurred high participation in developing and managing ecotourism at Suak Indra Puri Beach, leading to the establishment of new culinary tourism spots. The area became an innovative pilot village for managing tourism products in Gampong Suak Indra Puri. However, the study identified challenges, such as changing attitudes within the community from initial enthusiasm to later pessimism and apathy. Internal conflicts between communities and the gampong government emerged, contributing to apathy, and family modernization led to strained relationships among family members. Overall, the research shed light on the complex socio-economic dynamics resulting from embankment construction and its broader implications on community life.

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INTRODUCTION

Indonesia, as an archipelagic country, is estimated to have 60% of its population residing in coastal areas (Lasabuda, 2013; Puspitawati, 2020; Sunaryo, 2019). Approximately 9,261 out

of 64,439 villages in Indonesia can be categorized as coastal villages or settlements. These communities are predominantly traditional, with relatively low socioeconomic conditions and educational backgrounds. Around 90% of them have received education only up to elementary school (Soemarmi, Indarti, Pujiyono, & Diamantina, 2019). Over the past three decades, maritime development has consistently been positioned as a peripheral sector in socio-economic development. With such a position, the maritime sector, encompassing fisheries, maritime tourism, marine mining, maritime industries, maritime transportation, maritime construction, and maritime services, has not been a mainstream focus in national economic development policies. This situation is ironic considering that nearly 75% of Indonesia's territory consists of vast oceanic areas with immense potential, strategically positioned between the Pacific Ocean and the Indian Ocean, serving as a crucial international trade route.

Furthermore, with the enactment of Law Number 22 of 1999 regarding the regulation of the division of tasks, responsibilities, and authorities of regencies and cities, later refined by Law Number 32 of 2004 concerning Regional Governments, which grants full authority in the management of natural resources in coastal and marine areas up to 12 nautical miles for provinces and 4 nautical miles for regencies/cities. Relevant authorities should understand that the maritime sector, from an economic perspective, goes beyond the interests of maritime business alone. It should be viewed in an economic-political context as a socio-economic force capable of realizing the nation's prosperity. Therefore, the wisdom of maritime development should not solely be based on increasing output but also on making a maximum contribution to the nation's prosperity and addressing the demands of sustainable development. One implication of these laws is the emergence of regional government programs involving the construction of coastal barriers in coastal areas.

Coastal areas represent the interface between the marine and terrestrial domains, forming dynamic and mutually influential ecosystems. These regions are highly utilized for various human activities such as governance centers, settlements, industries, ports, aquaculture, agriculture, and tourism (Abdillah, 2016). In essence, the coastline maintains a dynamic equilibrium, tending to adjust its profile in a way that can dissipate incoming wave energy. Normal waves are easily broken down by coastal mechanisms, while large storm waves with significant energy, even if occurring briefly, can induce erosion. In the subsequent conditions, two possibilities arise: the coastline may return to its original state through the action of normal waves, or the transported materials may relocate and not return, causing erosion in one location and sedimentation in another.

Abrasion is one of the issues that poses a threat to coastal conditions, potentially causing the coastline to retreat, damaging ponds and agricultural areas located along the coast, and also endangering structures directly bordering the sea. These structures include those utilized for tourism support or as residences (Damaywanti, 2013; Fajri & Tanjung, 2012). Coastal abrasion is defined as the retreat of the coastline from its original position. Abrasion or coastal erosion is caused by the transport of sediment along the coast, leading to the movement of sediment from one location to another (Istijono, 2013). Sediment transport along the coast occurs when the direction of incoming waves forms an angle with the normal coastline. Thus, the construction of coastal barriers becomes one of the solutions to address coastal abrasion.

In 2020, the Central Government through the Ministry of Public Works and Spatial Planning (Kemen PUPR) carried out the construction of a wave breaker embankment on the coastal area of Meulaboh, West Aceh Regency, Aceh Province. This project was funded by the State Budget (APBN) for the year 2020, amounting to Rp13.5 billion. The length of the

embankment to be constructed is approximately 1.6 kilometers. The primary goal of coastal abrasion mitigation is to preserve the beach's functions as a habitat for coastal biota, a river estuary, a residential area for fishermen, and a tourist attraction (Munandar & Kusumawati, 2017). In this context, a coastal area in good condition (normal) is crucial for the implementation of the General Urban Spatial Plan (RUTRK) to optimize the role of Meulaboh City.

Ujong Kareung beach is one of the beaches on the coast of Meulaboh City that participated in the construction of a wave breaker embankment. Located in Suak Indrapuri Village, Johan Pahlawan Subdistrict, Meulaboh, West Aceh, Aceh Province, this beach has become a popular destination for visitors, both local and from other regions. Visitors typically crowd this location during weekends and national holidays. The beach is also situated approximately 1.5 km from the center of Meulaboh and can be reached within about 10 minutes. In addition to being a tourist attraction, Ujong Kareung Beach is also a source of livelihood for the surrounding community. The majority of the residents around Ujong Kareung Beach work as fishermen and traders, renting out inner tubes and floats, as well as selling drinks and snacks to beach visitors.

Based on the preliminary observations, the author discerned significant shifts in both the economic and social fabric of the community, manifesting in changes to their overall well-being. These findings were substantiated through interviews with the head of the local environment around Ujong Kareung Beach, who attested to a continuous increase in the number of impoverished individuals within the community. This suggests a direct correlation between the construction of the coastal embankment and the altering dynamics of the community's prosperity. Moreover, the embankment construction has wrought tangible transformations in the community's traditional livelihoods. Previously, residents engaged in the sale of goods along the beach and offered rental services for inner tubes and floats. However, these economic activities have been rendered unfeasible by the presence of the embankment. Consequently, the community now grapples with challenges stemming from the loss of livelihoods, exacerbating disruptions to both social interactions and economic pursuits.

In this altered landscape, the community contends with multifaceted issues, ranging from economic hardships due to the thwarted income streams to the broader consequences of disrupted social and economic activities. The ramifications of the embankment construction extend beyond the physical structures, permeating the very fabric of the community's existence and underscoring the intricate interplay between environmental changes and the socio-economic well-being of its residents. The construction of a wave breaker embankment on the coast of Ujong Kareung beach has led to certain impacts and changes in the socio-economic aspects of the community. The process of social change occurs because humans are thinking and working beings; they constantly strive to sustain and improve their lives. Furthermore, social change also happens due to human desires to adapt to the constantly changing surroundings, both in social-cultural and ecological aspects (Ningrum, 2022).

As an area undergoes changes due to development, the community needs to adjust to the new environment, especially concerning everyday activities like work and money. This adaptation involves a range of changes, such as managing household finances differently, finding new ways to make a living, and coming up with strategies to meet daily needs. In terms of money, families might need to change how they earn and spend based on what the transformed surroundings require.

Additionally, the community has to shift its attitudes towards the changed environment. This mental adjustment is crucial for the community to stay strong in the face of these changes.

People might need to be more positive, take a proactive approach, and develop a mindset that helps them deal with the challenges brought by the transformed area. This means adjusting the way they think to fit the new realities and possibilities resulting from the changes, creating a sense of unity and readiness within the community. In summary, the community's reaction to the changes goes beyond just practical adjustments; it involves a comprehensive adaptation that covers economic, livelihood, and attitude aspects. This adaptive process showcases the community's natural ability to evolve with its environment, emphasizing the dynamic relationship between human societies and the ever-shifting landscapes they live in.

This research will focus on the aspects of socio-economic changes in the coastal community and the ecotourism impacts resulting from the Ujong Kareung beach management activities, which are part of the government policy. Socio-economic and ecotourism impacts emerge when there are activities, projects, programs, or policies implemented in a community. This form of intervention influences the balance within a system (community). The resulting influence can be either positive or negative. The changes referred to involve the transition in the socio-economic conditions of the community from before the Ujong Kareung beach management activities to after the management activities have taken place.

METHOD

This research adopts a qualitative research approach. The use of this approach is based on the consideration that the researcher must strive to understand and comprehend events related to individuals involved in a specific situation by describing the existing situation based on facts related to the socio-economic changes occurring in the community. The primary data source is obtained through observations and interviews with various informants, including village heads, community leaders, and members of the community categorized by their livelihoods as fishermen, traders, and fish processors. Secondary data sources serve as supplementary data for the research and are obtained from the Suak Indrapuri Village Government in the form of documents deemed relevant to the study. Data collection in this research involves interviews, observations, and documentation. Data analysis is conducted during and after the data collection process. The analyzed data undergoes activities such as data reduction, data presentation, and drawing conclusions.

FINDINGS AND DISCUSSION

Impact of Embankment Construction on Socio-Economic Changes in the Community around Ujong Kareung Beach

a. Diversity of Livelihoods

Generally, the community around Ujong Kareung Beach has a diverse range of occupations and livelihoods. The following presents the percentage breakdown of the diversity of livelihoods in Suak Indra Puri Village.

Table 1. Diversity of Livelihoods

No	Indicator	Percentage
1	Fishermen	3%
2	Traders	12%
3	Cultivators	8%
4	Unemployed	65%
5	Others	12%

With the construction of the Ujong Kareung beach embankment, the community's livelihoods have become diverse. Previously, a significant portion of the population relied on fisheries-related activities (fishermen, traders, and fish vendors) as their main source of livelihood. Now, there are additional alternative livelihoods beyond fisheries (non-fisheries).

Livelihoods in the fisheries sector include fishermen, traders, and fish processors. Two types of fishermen were identified based on their catch: those who catch large fish and those who catch small fish. They have been engaged in their businesses for several decades, with the shortest business experience being 3 years and the longest being 10 years. Many individuals have shifted their livelihoods within the fishing sector, transitioning from being fishery laborers due to aging and then becoming supervisors or managers among fishermen who catch fish.

Based on the research findings, it can be understood that the construction of the coastal embankment has an impact on the community around Ujong Kareung Beach. In this context, the shift and changes in livelihoods are particularly highlighted. Most coastal residents who have been settled around Ujong Kareung Beach for more than ten years have an ideology as fishermen and traders on the coastal area, following the trend of tourist destinations. However, due to a certain policy, the community is required to change, leading to social changes (Prasetya, Nurdin, & Gunawan, 2021). The construction of the embankment has caused the local community to adapt and renew their livelihoods and occupations.

b. Changes in Community Income

The household income of the informants is derived from their main livelihood. The primary income of the household is the income originating from the main livelihood that has been practiced by the informants for an extended period. Data on this primary income are obtained based on information regarding the net income from the main livelihood for one month. The most significant change in primary income is observed among fishermen. Both the fishermen and traders experienced a shift in their primary income. This change in income has led to a decrease in the total income compared to the period before the construction of the embankment.

This is supported by data obtained from the Suak Indra Puri Village Government, indicating the well-being of the village community as follows.

Table 2. Composition of Community Occupations

No	Indicator	Value
1	Able	17%
2	Middle-Income	34%
3	Low-Income	49%

In this context, there is a shift and change in the income of the community. Among the three categories of jobs studied, two of them experienced a decrease in monthly income, namely the occupations of fishermen and traders. However, this is in contrast to the fish processing occupation, which actually saw an increase in monthly income. In connection with this, when related to Talcott Parsons' structural-functional theory, the community around Ujong Kareung Beach has already gone through the phases of Adaptation, Goal Attainment, Integration, and Latency or Pattern Maintenance.

Table 3. The phases of Talcott Parsons' structural-functional theory

No	Phases	Indicator
1	Adaptation	Conducting adaptation
		Adjusting to the environment
2	Goal Attainment	Adapting livelihoods
		Achieving goals
		Generating income
3	Integration	Collaboration and cooperation
		Government policies and community implementation as an example
4	Latency	Pattern maintenance
		Consistently implementing policies
		Sustaining discipline, aiming for it to become a new cultural norm in society

The connection between the AGIL scheme (Adaptation, Goal Attainment, Integration, and Latency) and points in social life is part of the process of societal change. It indicates that society can be considered as a system controlling actions. The strong structure of society in the action system reflects that society is undergoing a transition, where society needs to hold onto the four schemes from Talcott Parsons' theory adapting, having life goals, fostering good relationships, and motivating oneself.

Impact of Embankment Construction on Ecotourism at Ujong Kareung Beach

In implementing the concept of regional development, it is essential to go through a thorough spatial planning process. This planning should be comprehensive, covering physical, economic, social, and cultural aspects to achieve sustainable development. For instance, the utilization of space for residential purposes must align with the local land carrying capacity. It

should provide a healthy and safe environment from natural disasters, while also offering a suitable living environment for the development of the surrounding community, considering ecological function sustainability.

The utilization and management of residential designated areas should be supported by the availability of physical facilities or public utilities (such as transportation access, markets, trade and service centers, offices, clean water facilities, waste disposal, waste management, and drainage) and social facilities (health, education, and religious facilities). Furthermore, based on Law Number 26 of 2007 concerning Spatial Planning, the objectives of coastal and marine spatial planning policies are formulated as follows:

1. The implementation of spatial utilization (environmental resources and services).
2. The regulation of spatial utilization in protected areas and cultivation zones of coastal and marine regions.
3. The achievement of high-quality spatial utilization in coastal and marine areas.

Undoubtedly, the construction of the coastal embankment, both directly and indirectly, has positive and negative impacts on the local community as the object and participants of tourism around Ujong Kareung Beach. A policy influences changes in community behavior. The impacts of the coastal embankment construction that emerge in Gampong Suak Indra Puri include:

1. Positive Impacts

First, a spirit of togetherness in developing ecotourism at Suak Indra Puri Beach. The main indicator of this spirit of togetherness arises from:

- a) Cooperation that fosters a sense of mutual cooperation in managing the Suak Indra Puri Beach ecotourism area carried out by the surrounding community. The spirit of mutual cooperation in efforts to organize, manage, and plan Suak Indra Puri Beach ecotourism to be suitable and attractive to tourists, including realizing a souvenir tourist spot in Meulaboh.
- b) Mutual respect among community members despite differing opinions. The spirit of togetherness and mutual respect is reflected in the community's attitude towards the Ujong Kareung coastal embankment construction policy.

Second, a new culinary tourism spot in the Suak Indra Puri Village area. This arises due to the lack of space for residents to sell by the beach, prompting economically stable individuals to open cafes or new hangout spots, which are currently flourishing and popular in Meulaboh as culinary tourist attractions.

Third, Suak Indra Puri Village becomes an innovative model village for other villages in the Johan Pahlawan District and Aceh Barat Regency in managing tourism products in Suak Indra Puri Village, such as Meulaboh's typical souvenirs, including teiri fish, sabu shrimp, and salted fish.

2. Negative Impacts

First, there is a change in the community's attitude before and after the construction of the Ujong Kareung coastal embankment. Before the construction of the Ujong Kareung coastal embankment, the position of Ujong Kareung Beach was similar to other beaches in the vicinity. However, the construction of the embankment was able to change the community's attitude. The construction of the embankment, which began on Ujong Kareung Beach, was perceived to have no impact on the income of the community. As a result, many residents around Ujong Kareung Beach and Suak Indra Puri Village who were initially optimistic changed their attitude to become pessimistic and tended to be apathetic towards the construction of the embankment on Ujong Kareung Beach. This attitude and behavior emerged due to the perception that the construction of the Ujong Kareung coastal embankment only benefited some members of the community.

Second, internal conflicts affecting the deterioration of relationships among the communities around Ujong Kareung Beach. One conflict that emerged was the election of the village chief that did not align with the wishes of some of the community, leading to prolonged conflicts. However, if there is a significant event, the community is willing to attend and participate in the event, although the level of participation is not as high as initially.

Third, family modernization has an impact on the strained relationships among family members. The group of people who are still active in seeking income, especially those involved in fish processing and female traders, has led to tiredness among many mothers, causing cracks in family relationships.

CONCLUSION

The construction of the embankment around Ujong Kareung Beach has had an impact on the socio-economic changes in the community of Gampong Suak Indra Puri. There are two fundamental changes, namely the diversity of livelihoods in the surrounding community and the aspect of community income. Due to the changes that have occurred, there is a need to adapt to the transition of the area's functions and spatial patterns. This, in turn, has implications for the availability of new types of jobs and the emergence of new business diversities. The construction of the embankment has added diversity to the types of livelihoods in the coastal area, such as fishermen, traders, and processors of anchovies, shrimp, and salted fish. Furthermore, there has been a shift and change in the income of the community. Of the three categories of jobs studied, two of them, namely fishermen and traders, experienced a decrease in monthly income. However, this is in contrast to the occupation of fish processors, which experienced an increase in monthly income.

The construction of the embankment around Ujong Kareung Beach has both positive and negative impacts on the local community. Directly, the construction of the embankment at Ujong Kareung Beach has changed the social structure, including the growth of the spirit of mutual

cooperation and collaboration, and a relatively high level of community participation in developing, managing, and planning the eco-tourism of Suak Indra Puri Beach to make it suitable and attractive for tourists, including realizing it as a souvenir tourism spot for Meulaboh City. An interesting positive impact is the emergence of new culinary tourism spots around Gampong Suak Indra Puri. This emerged because there was no longer a place for residents to sell on the beach, leading economically stable individuals to open cafes or new hangout spots, which have become widespread and popular in Meulaboh City as culinary tourism destinations. In the development of eco-tourism, Gampong Suak Indra Puri serves as an innovative exemplary village for other villages in the Johan Pahlawan District and Aceh Barat Regency in managing tourist products in Gampong Suak Indra Puri, such as typical Meulaboh souvenirs, including anchovies, shrimp, and salted fish. Negative impacts of the embankment construction around Ujong Kareung Beach include changes in the community's attitude. Initially, during the embankment construction, the community was enthusiastic and optimistic, but their attitude changed to pessimism and tended toward apathy toward the embankment construction at Ujong Kareung Beach. This shift in attitude and behavior emerged due to the perception that the construction of the Ujong Kareung Beach embankment only benefited a portion of the community. Additionally, internal conflicts among the community and the village government led to apathetic attitudes, and family modernization affected the weakening of collective relationships among family members.

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