

REVITALIZATION OF FISHERIES PRODUCTION FACTORS SUPPORTING THE INCOME OF TRADITIONAL FISHERMEN IN TANJUNG MEDANG VILLAGE, BENGKALIS

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ABSTRACT

Coastal fisheries in Tanjung Medang Village, North Rupat District, Bengkalis Regency play an important role in shaping the economic characteristics and culture of its community. Physically, the North Rupat District is predominantly divided into residential areas along the inter-village roads and coastal areas that serve as the primary source of livelihood for most of its population. Now, North Rupat District has become a destination for both residents and visitors, impacting the existence of increasingly complex local economic resources and wisdom along the coastal areas of North Rupat District. Revitalization of coastal fisheries production factors is needed to improve economic life. Therefore, what model of economic development policy is needed to access traditional local economic resources to reduce local poverty? What kind of revitalization is required for traditional fishermen to utilize maritime economic resources fairly for the local population? The economic development policy for alternative marine economic resources involves integrating and collaborating the rights and obligations of state actors, private actors, and the public in maritime politics and economics. The revitalization of coastal fisheries production factors includes organizing the ecological integration of areas as traditional fishing grounds, tourism economic areas, and the originality of traditional culture across various disciplines, as well as fostering cultural integration among stakeholders and intergenerational concern among the Tanjung Medang community.

KEYWORDS Marine Economy, Equitable, Inclusive Resources



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INTRODUCTION

The coastal fisheries production factors in Tanjung Medang Village have played a crucial role in shaping the cultural, economic, and social civilization of the community within the administrative area of North Rupert District, Bengkalis Regency. Physically, North Rupert District is divided into two areas: residential areas along the inter-village roads and coastal areas that serve as the main fishing grounds and sources of other marine resources, which are the primary livelihoods for most of the local population. Statistically, North Rupert District covers an area of approximately 628.50 km² with a population of 13,342, of which 4,568 are in Tanjung Medang Village.

In the past decade, North Rupert District has become a destination for many outsiders, gradually revealing various local natural advantages. Consequently, its existence has experienced rapid degradation, along with increasingly complex human activities from both locals and outsiders along the coastal areas of North Rupert District. The sustainability of the coastal area's original and highly traditional functions now faces many challenges in maintaining the local wisdom of livelihoods such as farming, fishing, and other private jobs. With the rapid development of tourism in Bengkalis Regency, numerous economic activities have emerged, not only by local residents but also by non-locals.

Development in an area categorized as rural, when intervened with development technology, often does not consider the sustainability of areas that initially served as the main source of livelihood for the majority of its residents. By focusing on the traditional coastal fishing areas in Tanjung Medang Village, North Rupert District, increasing the production of traditional fishermen requires a comprehensive planning formula from many interested and responsible parties. To address this issue, it is necessary to formulate an integrated ecological, sectoral, disciplinary, and stakeholder integration arrangement so that the development goals of economic growth and intergenerational concern in the coastal areas of Bengkalis Regency can be achieved.

The significance of this research is based on the idea that "in the future, cross-sectoral coordination and multi-sector economic feasibility evaluation are needed to build a village economy based on local resources. Besides, the primary goal is for the potential local economic resources in a rural area to benefit the residents. The phenomenon is that there is competition between residents and non-residents in utilizing the resources along the coast of Rupert Island, Tanjung Medang Village, Bengkalis Regency.

The relationship pattern between the assets of residents and the accessibility of non-residents should not disadvantage the local population. Therefore, a mutually beneficial mechanism between residents and non-residents needs to be formulated to achieve economic development and strengthen the social and cultural fabric of the locals. Externally, the achievement of national economic growth goals planned by the government is now influenced by the development and challenges of the global economy, such as the coronavirus outbreak, which has shaken the national economic foundation. Thus, in the future, economic recovery must start from rural areas. Therefore, the local potential should not be wasted to improve economic integration, creating greater opportunities for the national economy while also

demanding readiness from universities as the forefront of changing mindsets, especially in rural areas.

Such undesirable conditions should not be left unaddressed. One alternative is to revitalize rural resources to become a source of livelihood again, as in the past (Pazli, 2019). To face these conditions, it is crucial for local residents to receive broad advocacy formulated into strong and hierarchical policies so that the development characteristics emerging from the social, cultural, and economic strengths of Tanjung Medang Village are sovereign over their local economic resources, traditional culture, and social capital.

Therefore, the critical issue is: "What model of economic development policy is needed to access traditional local economic resources to reduce local poverty? What revitalization is necessary for traditional fishermen to utilize marine economic resources fairly for the local population?"

This research aims to conduct an in-depth study of the Economic Development Policy that should be implemented to enhance the income of local residents through access to traditional local economic resources and to examine what kind of revitalization of coastal fisheries production factors can support the income of traditional fishermen in Tanjung Medang Village, Bengkalis Regency. Integrated coastal area management is defined as a process of utilizing watershed resources and space by considering conservation and sustainability aspects. The context of integration includes sectoral, ecological, governmental hierarchy, international/national dimensions, and interdisciplinary perspectives (Cicin-Sain and Knecht, 1998).

Integrated coastal area management is essential due to the various activities that can be implemented, requiring a strategic plan and various suitable development options. Sectoral integration in coastal areas means there must be coordination of tasks, authorities, and responsibilities among sectors or agencies (horizontal integration) and among levels of government from the village, district, regency, province, to the central government (vertical integration). Meanwhile, interdisciplinary integration requires that area management be carried out based on interdisciplinary approaches, involving economics, ecology, engineering, sociology, law, and other relevant fields.

Changes or damage to one ecosystem will affect other ecosystems, influenced by human activities and natural processes in the surrounding areas and upland areas or oceans. Empirical conditions in this water area require integrated management that considers all ecological linkages and sustainability in its utilization. As an area used for various development sectors, the wetland area has complex issues, problems, opportunities, and challenges.

Resource utilization that does not adhere to sustainable development principles will affect the ecosystem. Development activities in this area can affect resource productivity due to production processes and residues, as different resource uses often lead to conflicts with reciprocal impacts. Utilizing resources for national development goals is successful if managed integratively (Integrated Coastal Zone Management, ICZM). Experience shows that sectoral management or utilization of watershed areas is ineffective (Dahuri et al., 2004; Cicin-Sain and Knecht, 1998; Kay and Alden, 1999). To maintain long-term natural sustainability, environmental

cost aspects are important factors that must be fully considered based on the precautionary principle (Swason, 2007; Kusdian, 2009; Kusdian, 2010). Precaution in every consideration step is taken to create sustainable development (Bartelmus, 1994; Kusdian, 2010).

An activity is said to be sustainable if the economic, ecological, and socio-political aspects of development are continuous. Economically sustainable means that a development activity must result in economic growth, capital maintenance, and efficient resource use and investment. Ecologically sustainable means that the activity must maintain ecosystem integrity, environmental carrying capacity, and natural resource conservation, including biodiversity, so that resource utilization can be sustained. Meanwhile, socio-politically sustainable means that a development activity should create equitable development outcomes, social mobility, social cohesion, community participation, empowerment, social identity, and institutional development (Wiyana, 2004).

In general, coastal community development strategies can be carried out through structural and non-structural approaches. The structural approach is a macro approach emphasizing the arrangement of social and political systems and structures. This approach prioritizes the role of authorized agencies or organizations formed for coastal and marine management. In this case, the community's role is crucial but will be less effective because structural aspects are usually more effective when implemented by authorized parties, at least initially.

On the other hand, the non-structural approach is subjective, emphasizing mental empowerment to enhance the community's ability to participate in coastal and marine management. Both approaches should complement each other and be implemented integratively. Based on the phenomena occurring in Tanjung Medang Village, North Rupat District, Bengkalis Regency, the Exogenous Rural Development model has given roles to external interventions, confronting the Endogenous Rural Development on the other side, representing the degrading local rural economic strength. Over time, the pace of development from various foreign investments is increasingly distancing the people from their own economic sources, potentially leading to the loss of assets and actual economic and political access for the local residents and future generations.

Revitalizing "coastal fisheries production factors" as potential local resources can strengthen the local economy, meaning developing coastal and marine areas as the basis for economic development in coastal areas. Emphasis must be placed on the adaptive management concept, stressing the dynamic management process following the dynamics of the components and interactions involved (Mulyadi.A, 2017; 7).

Community-based management can be defined as a system where local communities actively participate in the management of natural resources in their area (Nurmalasari, 2001). However, community-based management alone is insufficient. Now, the approach to preventing resource benefits loss must advance and consider contextual issues. The rural development perspective should also shift to an inclusive perspective, believed to reduce dependence and economic exploitation amid limited resources.

The inclusive perspective returns resources to the people closest to those resources. This means being openly accessed by local residents with their management capital, and the benefits also go to the local residents. Implementing the inclusive concept in practice is not easy, as other experts have studied similar cases in Riau Province, as Van Teijlingen and Hogenboom (2016) noted, "The case of El Mirador illustrates the challenges of advancing Buen Vivir from concept to practice in the context of a search for a post-neoliberal development framework."

Optimal utilization of coastal resource potential must begin with policies that favor the people in terms of ownership, use, and allocation of coastal areas by implementing "permanent development land" for coastal areas in North Rupat District. The marketing aspect, including processing the potential of coastal areas in North Rupat, must also be fully carried out by local residents by building a consortium of village-owned enterprises (intra-community cooperatives), empowering joint business groups, and developing cooperatives that can cover broader areas to consolidate international market access for the community. This approach aligns with the development of social cooperation within rural communities, which is an adaptation of Wallace's (1956) anthropological approach regarding the opportunities for innovation and social entrepreneurship in local cultures.

Regional development orientation must adhere strictly to principles of justice, as Patomäki (2006) stated, "...and given what they truly deserve." Similarly, Dillon emphasized that future growth strategies must be long-term, comprehensive, ambitious, built on past experiences, and provide opportunities for all groups to contribute (public-private-people partnership) (Dillon, 2013).

Additionally, Patomäki (2006) noted that if markets are sufficiently competitive, justice will prevail in the sense of a scalar distribution model—the more you contribute, the more you get. Economic areas that have grown need further nurturing so they can be enclosed within certain geographic and demographic areas while providing protection from the negative effects of external markets (see Benneworth, 2013). This means interactions with the outside world are not entirely closed but are conducted by minimizing the leakage of territorial wealth. Economically and politically beneficial exchanges between residents and non-residents (external investors) become an important principle.

Pazli's (2015) research indicates that renewal or improvements that can accelerate development in watershed areas involve formulating equitable policies; namely, equality or tolerance among subjects, consistency, and procedural adherence with policies. In his 2016 research, Pazli's revitalization of the Kuantan River for transportation networks and tourism development in Kuantan Singingi Regency aimed to address development challenges requiring integrated planning formulations from all parties. To tackle these issues, it is necessary to formulate integrated ecological, sectoral, disciplinary, and stakeholder arrangements so that the development goals, including economic growth and intergenerational concern in the watershed area, can be achieved.

In 2018, Pazli's research on rural border development in Riau Province highlighted that key sectors in rural border areas, such as agriculture, trade, and industry, require special policies, including infrastructure facilities and capital provision. Lastly, in his ongoing research on development, Pazli (2019) emphasized the need

for revitalization and sustainable development of the Kuantan watershed to eliminate pressures. The 2019 research concludes that the Kuantan watershed's sustainable development for the economy and infrastructure necessitates the realization of unprecedented ideas within the community, such as using rivers as alternative mass transportation between rural villages, developing highland ecotourism networks as the future of Riau, and establishing homestays in palm oil plantations.

Furthermore, Pazli (2015) in his work on the reconstruction of accelerated development in watershed areas identified several issues in watershed area development, concluding the need for policy renewal and refinement, shifting from top-down approaches to tolerant development among subjects, and maintaining consistency and procedural adherence in policy-making among development subjects (Pazli, 2016). The revitalization of the Kuantan River for transportation networks and tourism development in Kuantan Singingi Regency underscores the importance of integrated planning from all stakeholders. The integration of ecological, sectoral, disciplinary, and stakeholder perspectives is essential for successful development (Pazli, 2018).

Pazli (2019) further emphasized that for sustainable economic development in the Kuantan watershed, innovative ideas must be implemented, such as utilizing the river as a means of mass transportation between rural villages and recognizing the economic and industrial potential of rivers in sustainable development.

RESEARCH METHOD

Research Location

The study on the revitalization of coastal fishery production factors to support the income of traditional fishermen in Tanjung Medang village, Bengkalis regency, was conducted in Tanjung Medang village, North Rupal district, Bengkalis regency, Riau province. The research period was from June to November 2023. The methodology used in this research is a combination of qualitative and quantitative approaches. Data obtained from the qualitative method will be verified with quantitative formulations. The final result of this research will be a policy model in the form of an academic draft and a design for the revitalization of coastal fishery production factors, which will enhance the sustainability of the fishing areas and support the income of traditional fishermen in Tanjung Medang village, Bengkalis regency.

Research Approach

The qualitative approach aims to directly present the essence of the relationship between the researcher and the respondents, allowing for greater sensitivity and adaptability to the patterns encountered (Moleong, 2000). Descriptive-analytical efforts describe the results of data obtained in the field, both orally and in writing, which are then analyzed to form a research conclusion (Kartono, 1996). Meanwhile, the concepts of revitalization will be presented using a quantitative approach.

Research Phases

The initial phase involves collecting and reviewing an inventory of studies, preliminary facts, and references. This phase links to policies by the local

government, which provide primary data. Secondary data collection occurs at this stage for sources that are relatively difficult to reach, such as data on non-resident community members who engage in fishing activities.

In this phase, preliminary data are identified and classified, obtained from literature, images, and primarily documentation stored in the homes of selected community members and key figures in Tanjung Medang village.

Data Collection and Analysis

The next phase involves data input and mapping, covering both primary and secondary data. The primary data, mainly qualitative, come from district planning officials, village and sub-district land officials, and the settlement and regional infrastructure sections of the village and sub-district.

Field surveys include observations in the administrative area of North Rupal sub-district in Tanjung Medang village, Bengkalis regency. The survey results are raw data analyzed for policy and revitalization concept evaluation. During the field survey, recordings are made to illustrate objective conditions, potential, or problems.

Field surveys emphasize specific points from aspects such as width, depth, slope, and river channel fractures, especially for revitalization projects that can be used as artificial resources resulting from revitalization.

Classified and inventoried data are categorized according to the needs of the research experts. Data are also grouped into data sets based on location, time frame, and data type. Qualitative analysis is primarily performed on spatial, regulatory, and quality-related data and information. Meanwhile, quantitative analysis is conducted on economic growth data in the area, contributing to the design of the coastal fishery production factors revitalization to support the income of traditional fishermen in Tanjung Medang village, Bengkalis regency.

RESULT AND DISCUSSION

Fishing Environment

There are differences in the characteristics of fishing or coastal areas as fishing grounds between the coast in Tanjung Medang village and the coast in Teluk Rhu village. The coastal area in Tanjung Medang village is deeper than in Teluk Rhu village. Additionally, the wave currents in Teluk Rhu village are stronger than those in Tanjung Medang village. However, in the field, it was found that some unregistered fishermen use longline fishing gear, which poses a problem for the development of fisheries in the fishing area of Tanjung Medang village. Despite the differences in coastal characteristics as their fishing grounds, this does not significantly affect the fishermen's ability to go to sea and catch fish.

In general, traditional fishermen in North Rupal district can only reach about 2 miles out to sea from the shoreline. Below is an image of the traditional fishing coast in North Rupal, which is still part of Indonesia's territorial sea.



Figure 1.1: The territorial sea that traditional fishermen can utilize for fishing

Reaching a distance of 2 miles out to sea still falls within the territorial sea according to the International Law of the Sea. Even with this 2-mile capability, traditional fishermen in this research area can only access 16.6% of the available fishing area within the territorial sea, which extends up to 12 nautical miles. As stated in Article 2 of the International Law of the Sea concerning coastal state sovereignty, Article 2 discusses the legal status of the territorial sea, the airspace above it, and the seabed and subsoil beneath it.

Article 2, paragraph 1, states that the sovereignty of a coastal state extends beyond its land territory and internal waters and, in the case of an archipelagic state, its archipelagic waters, to an adjacent belt of sea described as the territorial sea. Paragraph 2 further specifies that this sovereignty extends to the airspace over the territorial sea as well as to its seabed and subsoil. Article 3 concerning the breadth of the territorial sea states that every state has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with this Convention.

Capture fisherman resources.

Data obtained from the research indicates that there are 300 households, referred to as Fishing Households, in North Rupal district (Research Team Data, 2023). Among the fishermen in the research area in North Rupal district, there are 62 fishermen in Tanjung Medang village, 83 fishermen in Teluk Rhu village, and the remaining 165 fishermen are in other villages such as Tanjung Punak, Titian Akar, Putri Sembilan, and Kadur (Research Team Data, 2023).

Of the 300 households working as traditional fishermen, the majority rely solely on fishing in their coastal waters for their economic income. Only 37 households are part-time fishermen, meaning their primary economic income does not come from traditional fishing. Generally, these traditional fishermen use fishing gear such as longlines, trammel nets, gillnets, and motorized boats with outboard engines. Below is an image of a traditional fishing boat in North Rupal district, Bengkalis Regency.



Figure 1.2. Boats as traditional fishing gear in North Rupert sub-district, Bengkalis regency.

Fishermen in Tanjung Medang village there were 42 people using trammel nett fishing gear, 20 fishermen using gill net fishing gear while those using swamps were not found among the 62 people. (North Rupert District Office, 2022). Meanwhile, in Teluk Rhu Village, there is 1 person using tremel net fishing gear, 58 people using Gillnet fishing gear and there are 24 fishermen using swamp fishing gear (North Rupert District Office, 2022).

Economic Development Policy Model for Accessing Traditional Local Economic Resources to Reduce Poverty among Local Residents

Policy Model: Alternative 1

The overall welfare level of the community, as derived from data from the North Rupert sub-district office, shows a very low poverty rate, indicating minimal social disparity among the fishing groups. However, the production and productivity of these fishermen can still be improved through enhancements to fishing infrastructure along their traditional coastal areas.

To achieve positive changes and improvements, it is necessary to develop the fisheries sub-sector. This development aims to improve the fisheries production system for the growth of the sub-sector itself, ultimately targeting the national welfare of fishermen. Therefore, a mechanistic system is one policy model that can be implemented. This involves functional cooperation between fishermen, traders or exporters, and the government. There must be a compromise among these stakeholders when transacting in the fisheries market. One applicable approach is the relocation of resources through subsidies.

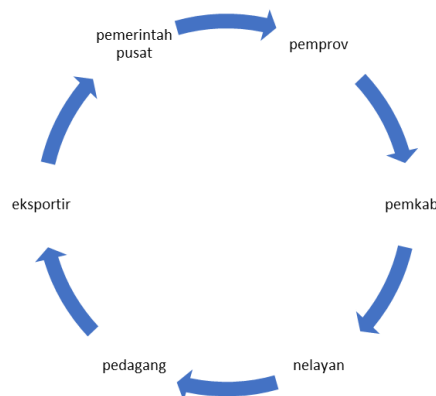


Figure 1.3: Functional cooperation between fishermen, traders or exporters, and the government in the relocation of subsidies.

Policy Model: Alternative 2

Although data from the North Rupert sub-district shows a very low poverty rate, if we compare it to fishermen who are not organized in Joint Ventures as traditional fishermen, the poverty level is still significant. This is evident from the income distribution, family burdens, living conditions, secondary income, and fishing equipment or production factors they possess.

Social disparity can also be considered high. Their fishing businesses are of low economic value and not marketable. Additionally, fuel prices and shortages hinder their productivity. Therefore, the importance of developing the fisheries sub-sector should be viewed as strengthening recognized social cooperation as a means to achieve national welfare.

National welfare is a shared right of all citizens, which must also be relocated to fishermen. Thus, improving the production system, as well as the redistribution and relocation system, is necessary. An organic system approach is essential, where all involved entities must cooperate fundamentally, based on the consensus of available local wisdom. This means using a "Relocation by Compensation" approach.

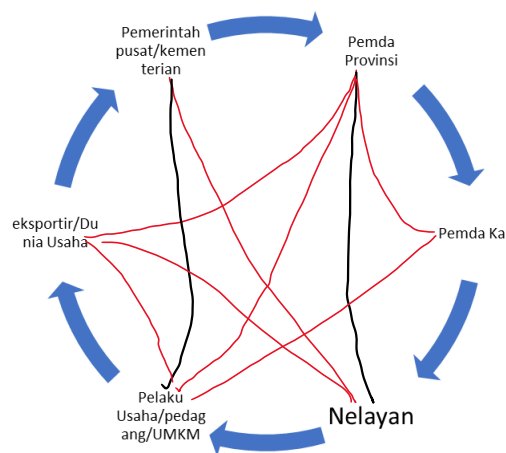


Figure 1.4: Fundamental cooperation among fishermen, traders or exporters, and the government to improve the production system, redistribution, and relocation.

Policy Model: Alternative 3

To strengthen the above alternative models, a higher-level policy can be adopted at the national government level, where they implement such compensation models for agricultural production between farmers and the government.

For the fisheries sub-sector in North Rupert district, Bengkalis Regency, inspiration can be drawn from the above compensation model. Local governments at the provincial and district levels can engage in budget sharing within their local budgets (APBD) for compensation relocation, as illustrated in the following alternative policy flow model.

The policy model proposed by the research team is to implement a "Collaborative Compensation Relocation Model." In summary, this economic development policy for alternative marine economic resources integrates and collaborates the rights and obligations of state actors, private actors, and the public in marine politics and economics. This means revitalizing fisheries production factors to support the income of traditional fishermen in Tanjung Medang village, Bengkalis, in a market-oriented manner. Fishermen, traders, and the government must all benefit from this fisheries trade arrangement. Fishermen and traders pay fees and taxes, while the government receives taxes based on the infrastructure and facilities provided.

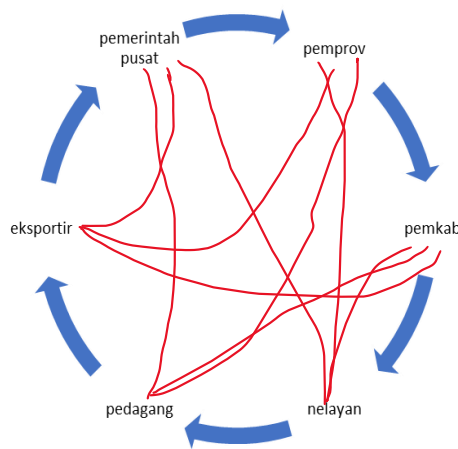


Figure 1.5: Collaborative compensation relationship among fishermen, traders or exporters, and the government for improving the production system, redistribution, and relocation.

Revitalization Needed to Enable Traditional Fishermen to Equitably Utilize Marine Economic Resources for Local Residents

Revitalization of Coastal Fisheries Production Factors (Equipment, Human Resources, and Environment)

a. Fishing Equipment Production Factors

In general, the status of traditional fishermen, both in Tanjung Medang village and Teluk Rhu village, can be grouped into full-time fishermen and part-time fishermen. For part-time fishermen where there are 37 people out of 300 traditional fishermen. Data obtained from fishermen who use the opportunity to go to sea only half the time generally want the help of fishing equipment, such as nets, trawls, boats and others from local governments.

As for fishermen who carry out their jobs full-time want to get the help of engines and larger fishing boats to be able to explore the sea depths so that they can reach distances exceeding 2 il from the shore. From the data obtained at the North Rupal sub-district office, in general, their boat engine capacity is only around 15 PK. Meanwhile, to explore deeper seas, they need an ideal engine with an engine capacity of 5 GT (KJFD Research Team, 2023). For this reason, it is necessary to

increase the capacity of traditional fishing machines as the main production factor for fishermen.

b. Human Resource Factors

Especially for fishermen who fish on the coast of Tanjung Medang, there are still traditional fishermen among those who still use rawai as their fishing gear. While some other fishermen do not use swamps as fishing tools because swamps with long ropes and are in the water are always involved in nets or other fishing gear.

Therefore, fishermen expect extension assistance and government firmness to regulate the use of fishing gear in accordance with the characteristics of the fishing area. Meanwhile, in the fishing area in Teluk Rhu village, it does not make rawai as a fishing gear that disturbs other fishermen.

Because they also use swamp a lot because the characteristics of the fishing area do allow them to adapt to rawai fishing gear. In summary, it is necessary to increase the knowledge of fishery human resources or fishermen about the use of fishing gear adapted to the conditions of the fishing area.

The catch of traditional fishermen in North Rupert sub-district in this connection in Tanjung Medang village and Teluk Rhu village, does not solely depend on the production factors of fishing gear from fisheries. However, it also concerns non-production factors, namely the safety of the fishing area from competition or competition for traditional fisheries fishing and health factors and the sustainability of the regeneration of traditional capture fishermen.

c. Environmental Factors and Fishing Areas

Especially in Tanjung Medang village, where before 2016 the district government had provided fishing gear assistance to fishermen based on their groups, even including providing mangrove plant seeds to build fish nests through beach rehabilitation in the form of mangrove planting.

By planting mangroves, fishermen do not only get new fishing areas as fish spawning areas for the long term. However, the mangrove planting project definitely involves fishermen to plant the mangroves so that they can double as casual daily workers for a while (KJFD research team, 2023). Therefore, production factors in the form of coastal fishing environments for traditional fishermen require sustainable revitalization.

CONCLUSION

In particular, the results of this study mean that the Revitalization of Traditional Fishermen Capture Fisheries Production Factors requires the integration of an ecologically coastal arrangement of the area as a traditional fishery catchment area, tourism economic zone and original rural communities with their traditional culture in several disciplines integration and cultural integration between stakeholders, so that the development goals are economic growth and the existence of Intergenerational concern for people in the Coastal area of Bengkalis regency can be realized for welfare.

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