






## Governmentality in Management of Coastal and Border Areas Based on Blue Economy in Riau Province

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<https://doi.org/10.18280/ijstdp.200336>

### ABSTRACT

**Received:** 9 February 2025

**Revised:** 1 March 2025

**Accepted:** 19 March 2025

**Available online:** 31 March 2025

#### Keywords:

*governmentality, blue economy, coastal areas, conservation, economic sustainability, economic development*

This research aims to analyze the role of the concept of governmentality in the blue economy-based governance of coastal and border areas in Riau Province to support economic sustainability and conservation of coastal resources. This research uses a qualitative method with an exploratory approach. Data collection techniques involve interviews with key informants and documentation, which is then analyzed using NVivo 12 Plus software to identify patterns of findings. This study shows that clear government visibility, adequate technical aspects, a rational basis for policy, and the formation of community identity are key factors in the blue economy-based management of coastal and border areas in Riau Province. Clarity of the government's role in managing coastal areas, including transparency in planning and implementing policies, increasing coordination between institutions, and strengthening community participation in maintaining the sustainability of coastal ecosystems. Adequate technical aspects, such as preparing sustainable Regional Spatial Planning (RTRW) and applying data-based technology, enable effective monitoring and evaluation of conservation programs. The rational basis for policies that prioritize the social welfare of coastal communities, the sustainability of the blue economy, and environmental conservation provides clear direction in the efficient management of natural resources. In addition, identity formation that involves education and digital literacy for coastal communities strengthens their capacity to adapt to change and supports the success of blue economy-based policies. Implementation of policies involving several sectors, such as fisheries, tourism, and industry, is also expected to reduce potential conflicts over space use, ensure more sustainable management, and encourage inclusive economic development in coastal and border areas of Riau Province.

## 1. INTRODUCTION

The urgency of this research lies in the need to understand how the concept of governmentality plays a role in the blue economy-based governance of coastal and border areas in Riau Province. As a strategic area with considerable marine resource potential, management of coastal and border areas requires an approach that is not only based on regulations but also reflects a practical mindset, government techniques, and management strategies. In the context of a blue economy, the government must be able to direct policies that are oriented towards a balance between resource exploitation and conservation, as well as strengthening the capacity of coastal communities in the sustainable use of a marine-based economy [1]. By analyzing governmentality, this research can reveal how power, management strategies, and the formation of government identity in the governance of coastal and border areas contribute to achieving inclusive and sustainable economic development.

Coastal areas are land and sea transition zones with unique

natural and social processes [2]. This area has characteristics such as risk, sensitivity, openness, and complexity [3]. Therefore, it is necessary to study regional coastal development comprehensively by considering all aspects of the physical and social environment, often known as coastal system analysis [4]. Coastal system analysis can be studied from natural processes, population development, and socio-economic activities in coastal areas [5]. On the other hand, global climate change that is occurring has an impact on coastal areas, such as land subsidence, abrasion, pollution, tsunamis, as well as population and infrastructure problems, which can become inhibiting factors if they are not integrated into coastal area development planning [6]. Therefore, it is necessary to study the potential dangers of natural disasters by paying attention to these things, namely the interaction of the physical and social environment [7].

Indonesia has 111 outermost small islands with several economic potentials, which have been recognized worldwide through efforts to ratify the 1982 United Nations Convention on the Law of the Sea (UNCLOS) and regulated in Presidential

Decree Number 6 of 2017 concerning the Designation of Outermost Small Islands [8]. This phenomenon requires the government to be more assertive in making policies that pay more attention to coastal areas, one of which is through the blue economy concept, first initiated by Pauli [9].

The blue economy is a new economic model designed to encourage the implementation of sustainable development with an ecosystem simulation framework in sustainable resource utilization, oil and mineral resource extraction, spatial planning, sustainable energy generation, bioprospecting, and sea transportation [10]. Given the importance of this, countries, especially countries whose economies are marine-based, are making great efforts to utilize all available resources and formulate public policies to facilitate the success of blue economy programs [11]. The governmentality approach in managing the blue economy is reflected in the efforts of countries based on marine economies to direct, regulate and discipline several actors through public policies that balance resource exploitation with sustainability principles [12].

The governmentality concept approach aligns with the analysis presented by Midlen [13], which uses Dean's governmentality framework in the context of blue economy-based coastal and border area governance, which includes four main dimensions. First, government visibility is crucial in showing its presence and commitment to managing coastal and border areas, including policy transparency and stakeholder involvement. Second, adequate technical aspects are necessary for implementing policies, including infrastructure readiness, regulations, and cross-sector coordination that supports the sustainability of the blue economy. Third, the rational basis for policies needs to be analyzed to ensure that the policies implemented align with the government's ideal goals, even though, in reality, they are still being achieved in stages. Fourth, identity formation is an important part of strengthening the governance of coastal and border areas through education and increasing community digital literacy so that they can be more active in protecting and utilizing coastal resources sustainably.

The sea is an important asset for Indonesia's tourism sector, making an important contribution of USD 28.9 billion to the country's GDP in 2021 [14]. In addition, the Ministry of Tourism and Creative Economy reports that 44% of international tourists visiting Indonesia participate in marine and coastal tourism activities [15]. The vast potential of the marine tourism sector has been actively promoted through blue economy policy interventions by the Indonesian Government [16]. This policy is contained in the National Long-Term Development Plan (RPJPN) 2005–2025 [17], as well as the National Medium-Term Development Plan (RPJMN) 2020–2024 [18]. These two documents emphasize the importance of good maritime sector management in supporting sustainable development.

In general, the development of coastal areas in Indonesia faces several challenges, including environmental degradation due to resource exploitation [19], climate change, which increases the risk of abrasion and sea level rise [20], as well as limited infrastructure and regulations that are not yet optimal in supporting sustainable development [21]. Unequal access to technology and capital for coastal communities also hinders the optimization of maritime economic potential [22]. On the other hand, the blue economy concept offers a sustainability-based approach that can overcome these challenges through innovation in sustainable fisheries, marine ecotourism, and

conservation-based marine resource management. Implementing the blue economy strategy is expected to improve the welfare of coastal communities, support economic resilience, and maintain marine ecosystems as long-term assets for national development [23]. This requires encouragement and the role of the government to contribute positively [24].

This research departs from the importance of understanding the government's role in managing blue economy-based coastal and border areas in Riau Province. In this context, it is necessary to examine the government's visibility in demonstrating its presence and commitment to managing the area. Apart from that, the technical aspects implemented by the government are crucial in determining the effectiveness of governance oriented towards the sustainability of the blue economy. Policy rationalization also needs to be analyzed to see the extent to which the policies implemented are based on the principles of efficiency and welfare of coastal communities. Furthermore, forming identity in the governance of coastal and border areas is an important factor in building the government's image in managing areas with strategic geographic and economic characteristics. Therefore, this research will answer how these four aspects support the implementation of the blue economy in Riau Province.

The research gap lies in the absence of studies linking governmentality, coastal area governance, and the blue economy comprehensively. Research on governmentality generally focuses on power practices and government strategies in several sectors but has not been explicitly linked to blue economy-based coastal area management. Meanwhile, studies on the blue economy focus more on economic and sustainability aspects without considering how government mechanisms and power management strategies play a role in its implementation. Apart from that, governmentality and the blue economy are still new areas of study in managing coastal and border areas, especially in Indonesia. Therefore, the novelty of this study lies in the effort to integrate the concept of governmentality as an analytical framework for understanding how the government manages coastal and border areas sustainably through a blue economy approach so that it can provide a new perspective in the study of coastal area governance.

This research aims to analyze the role of government in the blue economy-based governance of coastal and border areas in Riau Province. Specifically, this research will examine four main aspects in the government framework, namely government visibility in showing its presence and commitment in managing coastal and border areas, technical aspects implemented in supporting blue economy poverty, policy rationalization to assess the effectiveness of implemented policies, and the formation of government identity in building an image of coastal governance that is oriented towards community welfare and environmental sustainability. By understanding these dynamics, it is hoped that this research can contribute to formulating more effective policies, encouraging sustainable governance practices, and strengthening coastal communities' capacity to optimize maritime economic potential in a sustainable manner.

## 2. METHOD

This research uses qualitative methods with an exploratory approach to understand in depth how governmentality plays a

role in the blue economy-based governance of coastal and border areas in Riau Province. In answering the problem formulation, this research refers to the concept of governmentality according to Dean, which consists of four dimensions, namely: (1) clear visibility of the government in managing coastal and border areas, (2) adequate technical aspects in implementing policies, (3) rational foundations that are by the objectives of government programs even though in reality they are still at the stage of achieving the ideal, and (4) identity formation which requires strengthening education and digital literacy for coastal communities. With this approach, research can reveal the government's strategy for realizing sustainable and competitive coastal area governance through a blue economy.

The selection of informants in this research was based on their strategic role in the formulation and implementation of policies related to coastal and border areas in Riau Province. The Head of the Regional Autonomy Cooperation and Border Division (Otda) for Riau Province and the staff who handle borders were chosen because they have the authority to manage cross-regional cooperative relations and the management of border areas that are part of the coastal area. Apart from that, the Head of the Governance Section of the Regional Secretariat of Bengkalis Regency was chosen because Bengkalis is one of the strategic coastal areas that directly borders other countries, so coastal governance policies and the implementation of the blue economy in this area are very relevant to study. By involving informants from several levels of government, this research can provide a more comprehensive analysis regarding the dynamics of coastal and border area governance in Riau Province. In this research, there were 15 informants.

Apart from interviews, documentation is also a data collection technique in this research, as it collects official government documents, reports from newspapers, and scientific articles relevant to blue economy-based coastal and border area governance in Riau Province. The data obtained from interviews and documentation will be systematically transcribed and analyzed using NVivo 12 Plus software to simplify the categorization process and identify patterns in the data. The unit of analysis used is case classification, which allows the grouping of data based on specific characteristics to understand the role of government in each dimension of governmentality. Furthermore, the data will be visualized in a network of relationships between concepts to provide a clearer picture of the governance patterns implemented by the government in the context of the blue economy in coastal and border areas of Riau Province. This research used triangulation to increase the validity of the data. The technique used is source triangulation, comparing data from interviews, documentation, and NVivo 12 Plus analysis.

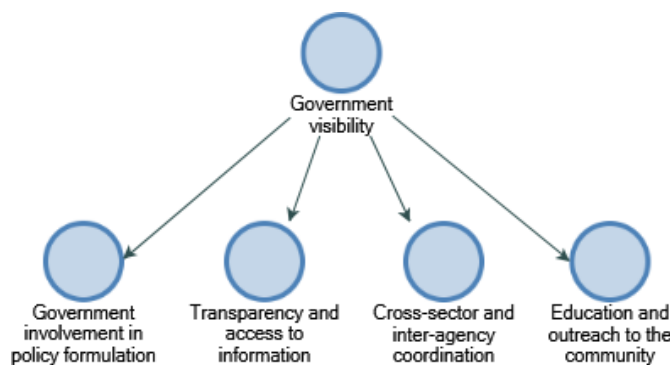
### 3. RESULTS AND DISCUSSION

#### 3.1 Government visibility in managing coastal and border areas in Riau Province

Government visibility in managing coastal and border areas in Riau Province is one of the crucial aspects in ensuring the successful implementation of the blue economy. A government that is present clearly and openly in managing coastal and border areas will increase public confidence in the policies implemented and encourage active participation in

protecting and utilizing coastal resources sustainably. In the context of Riau Province, which has strategic coastal and border areas, government visibility is important to ensure that the policies implemented are efficient and meet the needs of local communities and the potential of existing natural resources. Clarity in the government's presence enables better coordination between institutions, accelerates program implementation, and overcomes several challenges in coastal area management based on blue economy principles.

The following are four main points regarding the government's visibility in managing coastal and border areas in Riau Province (Figure 1).



**Figure 1.** Government visibility in managing coastal and border areas in Riau Province

The government's visibility in managing coastal and border areas in Riau Province, primarily through its involvement in policy formulation, is an important step to ensure the successful implementation of the blue economy. However, although it is important to have clear and structured policies, there is often a gap between formulated policies and implementation on the ground. Existing policies need to be more responsive to the dynamics in coastal areas, such as environmental changes and community needs. The government must adapt quickly to existing challenges, not just formulating static policies but flexible ones that can be adapted to local conditions.

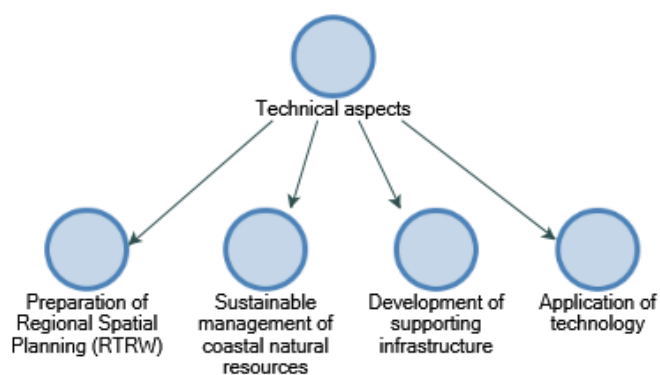
Transparency and access to information are important aspects of government visibility but are often less than optimal in many regions, including Riau. Information related to coastal management policies and programs is still often limited in terms of quality and quantity. Without adequate transparency, the public and other stakeholders will have difficulty understanding the policy direction, which ultimately reduces their level of participation. The Riau Provincial Government needs to develop more open and effective communication platforms, such as online portals or community forums, which can be used to disseminate information quickly and clearly to the public.

Cross-sector and inter-institutional coordination is an important factor in the success of coastal and border area governance. However, coordination between various government agencies is often hampered by differences in priorities and a lack of synergy. Each institution or agency has different programs and interests, often not aligned with larger policies. Therefore, to ensure successful policy implementation, the government must focus more on strengthening coordination mechanisms between institutions and ensuring that each sector can work together towards the same goals in coastal area management.

Education and outreach programs for the community are

often overlooked in the governance process of coastal areas. The Riau government must be more active in designing and implementing programs to increase public understanding of the blue economy and the importance of sustainable coastal ecosystems. Without active community involvement, coastal resource management will not be successful in a sustainable manner. Therefore, strengthening community capacity through education and literacy regarding the policies implemented is very important so that they can participate in efforts to preserve coastal natural resources and ensure that these policies are well received.

The technical aspects of managing coastal and border areas in Riau Province are very important to discuss because the successful implementation of blue economy policies is very dependent on technical feasibility in the field. Without proper planning and implementation, policies that have been formulated may not be implemented effectively. This discussion is also important to identify challenges and opportunities in optimizing coastal potential and minimizing negative impacts on the environment and local communities. The technical aspects of managing coastal and border areas in Riau Province can be seen in Figure 2.



**Figure 2.** Technical aspects in managing coastal and border areas in Riau Province

Technical aspects of managing coastal and border areas in Riau Province play a vital role in ensuring the achievement of blue economy goals. One of the crucial things is the preparation and updating of an integrated RTRW. However, the biggest challenge in preparing the RTRW is ensuring that the planning can accommodate all sectors in coastal areas, such as the fisheries, tourism, and industrial sectors. Often, there is an overlap between the needs of these sectors, which can lead to space use conflicts. Therefore, preparing the RTRW needs to involve several related parties to create understanding and reduce the potential for conflict in the future.

Sustainable management of coastal natural resources is also part of the technical aspects that are no less important. The sustainability of coastal ecosystems such as mangroves and coral reefs requires a scientific-based approach and data-based management. However, despite existing conservation efforts, implementation of these programs is often hampered by a lack of local resources and capacity. Without adequate monitoring, knowing how well the policies successfully preserve nature is not easy. Therefore, technological support and sustainable research are the keys to optimizing the management of coastal natural resources.

The development of environmentally friendly supporting

infrastructure is also significant. Infrastructure such as ports, access roads, and waste management systems must be built, considering their impact on the coastal environment. However, infrastructure development often does not pay attention to sustainability principles, which can damage coastal ecosystems. If not managed well, this development could worsen the damage to the coastal environment. Therefore, there is a need for strict policies regarding infrastructure development that consider the ecological and social impacts on coastal communities.

Finally, applying technology to manage coastal and border areas is also critical to efficient management. Technology such as geographic information systems (GIS) and satellite monitoring makes it easy to obtain real-time data regarding coastal area conditions [25]. However, the application of this technology is also often hampered by the limited capacity of human resources who are skilled in using this technology. The cost of implementing advanced technology is also a challenge, especially in areas with limited budgets. Therefore, the government needs to allocate adequate funds for training and capacity building of human resources, as well as ensuring the sustainability of the use of this technology in the long term.

### 3.2 Rational basis for policy in managing coastal and border areas in Riau Province

The rational basis for policies in managing coastal and border areas in Riau Province is an essential factor in ensuring that the policies implemented are effective and support the achievement of sustainable development goals. Rational policies must consider various social, economic and environmental factors. With a clear rationalization basis, this policy can encourage balanced development between using natural resources and their sustainability. The following is the rational basis for the policies considered by the Riau Provincial government in managing coastal and border areas, shown in Table 1.

The rational basis for policies in managing coastal and border areas in Riau Province is fundamental to ensure the sustainability and effectiveness of the programs implemented. One aspect that needs to be emphasized is the social welfare of coastal communities. Policies that focus on community empowerment, including access to education, health services, and increased employment, are critical in improving the quality of life of local communities. Without attention to social aspects, managing coastal areas effectively will not be easy because local communities may not feel they own or are involved in managing natural resources. Therefore, policies encouraging social welfare will strengthen community participation in blue economy programs.

Apart from that, the sustainability of the blue economy is also a fundamental rational basis. Policies directed at developing environmentally friendly sectors such as sustainable fisheries, nature-based tourism, and renewable energy will encourage economic growth that is not only profitable in the short term but also sustainable in the long term. In Riau Province, which has great potential in the fisheries and tourism sectors, policies that support wise and efficient management of natural resources will ensure that these sectors can continue to develop without destroying the coastal ecosystems that support them. Therefore, a sustainable blue economy must be at the core of coastal and border area management policies.



**Table 1.** Rational basis for policy in managing coastal and border areas in Riau Province

Rational Basis	Description
Coastal Community Social Welfare	Policies should focus on empowering coastal communities, including access to education, healthcare services, and employment. This aims to improve the local population's quality of life and reduce social inequality.
Blue Economy Sustainability	Policies need to prioritize the sustainable development of coastal resource-based economies, such as fisheries, tourism, and renewable energy, without harming the ecosystem. This will support economic growth in coastal areas.
Environmental Conservation and Biodiversity	Policy foundations must consider the importance of conserving coastal ecosystems, such as mangroves and coral reefs, to maintain environmental balance and prevent ecosystem damage that could negatively impact communities.
Environmentally Friendly Infrastructure Development	Coastal and border infrastructure development should consider its environmental impact, focusing on waste management, erosion control, and the protection of natural habitats. These policies should support sustainable development without harming ecosystems.
Inter-Agency and Stakeholder Coordination	Policies should promote synergy between provincial, regional, and central governments while involving communities and the private sector in coastal area management. Effective coordination is necessary to ensure proper implementation and avoid policy overlaps.

Environmental conservation and biodiversity are other aspects that are no less important in the policy base [26]. The Riau coastal area has a vibrant ecosystem, including mangrove forests and coral reefs, which are important for maintaining environmental balance. Damage to this ecosystem, for example, through land conversion for development or pollution, will have a broad negative impact on people's lives and the local economy. Policies that support the conservation and protection of this ecosystem are essential to maintain biodiversity and ensure that coastal natural resources can still be utilized sustainably. Scientific research and ongoing monitoring must also support this policy to ensure its successful implementation.

Finally, developing environmentally friendly infrastructure and coordination between institutions are very important in realizing rational policies. Infrastructure development, such as ports, road access, and waste management systems, must be planned carefully not to damage the existing coastal environment. Poor infrastructure can hinder the implementation of blue economy programs, such as inadequate transportation for fisheries or tourism products. In addition, effective coordination between local and central governments and between the public and private sectors is also crucial to avoid overlapping policies and ensure that every step taken supports the long-term goals of sustainable coastal area management.

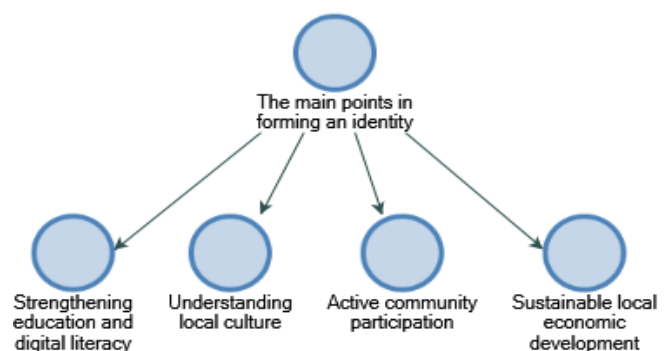
In Riau Province, one specific example that reflects the importance of the social welfare of coastal communities is the fishermen's empowerment program through increasing access

to sustainable fishing technology. As a region with a reasonably large capture and aquaculture sector, policies that strengthen the capacity of fishermen to utilize environmentally friendly technology can increase their productivity without damaging the marine ecosystem. Programs such as providing environmentally friendly fishing gear and training on marine product-based business diversification have been implemented in several coastal areas in Riau, including Meranti Islands Regency and Bengkalis Regency. Apart from that, access to education and health services for coastal communities is also a challenge that needs to be considered in blue economy-based coastal management policies. Initiatives such as building floating health centres or community-based schools can improve the quality of life for coastal communities, which are often in remote and difficult-to-reach locations.

Apart from that, regarding environmental conservation and developing environmentally friendly infrastructure, Indragiri Hilir Regency is an important example in Riau. This area has extensive mangrove forests and acts as a natural fortress to prevent abrasion and as a habitat for various marine species. However, land exploitation for plantations and development without careful planning has caused significant damage to the mangrove ecosystem. Therefore, conservation policies in Riau must emphasize efforts to rehabilitate coastal ecosystems, such as the mangrove replanting program, which has been carried out in several areas, including on Rupert Island. In infrastructure development, waste management policies in coastal areas, especially in cities such as Dumai and Pekanbaru, are challenging. Management of plastic waste and industrial waste that pollute coastal waters must be the focus of sustainable development policies. By implementing stricter regulations on industrial waste and encouraging community-based waste management initiatives, the government can ensure that infrastructure development on Riau's coast does not damage the marine ecosystem, which is an important asset for the economy and welfare of local communities.

### 3.3 Identity formation in strengthening governance of coastal and border areas in Riau Province

The formation of identity in managing coastal and border areas in Riau Province is an essential aspect of strengthening regional governance's sustainability. A strong identity will increase the community's sense of ownership of the programs implemented and strengthen their participation in maintaining and utilizing natural resources sustainably. By building an identity relevant to local values and socio-economic needs of coastal communities, regional management policies will be more accepted and have a positive impact (Figure 3).



**Figure 3.** Identity formation in strengthening governance of coastal and border areas in Riau Province

The formation of identity in the management of coastal and border areas is essential because it can strengthen the involvement of local communities in supporting blue economy-based governance. The four points that focus on forming this identity include education and digital literacy, understanding local culture, active community participation, and sustainable local economic development. Each aspect is crucial to creating an effective, inclusive, sustainable management system.

Strengthening digital education and literacy is vital for introducing new concepts in coastal area management. Digital literacy teaches people about technology and opens the door to broader information, such as data related to climate change, conservation techniques, or more efficient use of natural resources. For example, in the Philippines, the government and several non-governmental organizations have successfully implemented digital training programs for fishermen that enable them to access real-time weather and sea condition data, which supports more informed decision-making in fishing activities [27]. On the other hand, the main challenge in this case is the gap in access to technology in some more remote coastal areas. Therefore, there needs to be a collaborative effort between the government and the private sector to ensure adequate digital infrastructure is available in the region.

Understanding local culture is also very important in managing coastal areas [28], considering local culture is integral to community identity. For example, in Japan, coastal communities have a management system based on strong local wisdom, such as the timing of fish catches and the protection of coral reefs passed down from generation to generation [29]. Integrating local culture into coastal area management policies ensures program sustainability and maintains a harmonious relationship between humans and nature. However, preserving these traditions amidst modernization and changing economic needs is often challenging. Therefore, there needs to be an approach that combines tradition with modern technology to create a compelling and relevant system.

Active community participation is essential in ensuring the success of blue economy-based coastal area management. Without active participation from the community, the policies and programs implemented tend to be challenging to implement effectively. For example, in Belize, an ecotourism-based coastal area management program has been successful because it involves local communities in every stage, from planning to monitoring [30]. This success can be a reference for Riau Province by creating a platform for coastal communities to contribute to policy-making and monitoring blue economy programs. However, challenges that may arise are how to overcome the power imbalance between the government and local communities and how to manage different interests within the community itself. The recommendation is to develop inclusive participation platforms, such as community consultation forums or digital platforms, that allow the community to express aspirations and feedback directly.

Sustainable local economic development is the key to creating an identity that can lead to long-term development that directly impacts community welfare. Sustainable coastal resource-based local economic development can include fishing businesses, nature-based tourism, or mangrove forest management. For example, in countries such as Thailand, coastal-based ecotourism management has increased people's income while preserving nature [31]. For this reason, there needs to be a policy supporting small and medium enterprises

(SMEs) oriented towards sustainability, such as providing grant funds or skills training. One of the challenges is ensuring that a sustainable local economy can compete with other, more exploitative sectors, such as the mining industry or palm oil plantations. The recommendation is to incentivize businesses that prioritize environmental sustainability and ensure strict supervision of practices that damage nature.

Overall, the formation of identity in managing coastal and border areas in Riau Province depends on efforts to integrate these four aspects in policy and field practice. Through education, understanding of local culture, community participation, and sustainable economic development, coastal area management will be more effective and inclusive. It can create long-term positive impacts on coastal communities and the environment. In addition, the visibility of the Riau Provincial government is critical in ensuring the successful implementation of existing policies and programs. The government must actively provide support, information, and coordination between stakeholders to create optimal sustainability in managing coastal and border areas.

#### 4. CONCLUSIONS

This study shows that government visibility in managing coastal and border areas in Riau Province plays a vital role in supporting the successful implementation of the blue economy. The presence of a clear and transparent government in managing coastal areas will increase public confidence in the policies implemented and strengthen their participation in maintaining the sustainability of coastal resources. This clear visibility also facilitates coordination between institutions and accelerates the implementation of policies based on blue economy principles.

In addition, this study shows that the success of managing coastal and border areas also depends heavily on technical aspects, including the preparation and implementation of integrated and sustainable RTRW. The Riau Provincial Government needs to ensure that this planning can accommodate the needs of several sectors, such as fisheries, tourism, and industry, to avoid potential conflicts in space use. The application of technology and data-based research is also key in monitoring and evaluating the success of coastal ecosystem conservation programs, which are the foundation for the sustainability of the blue economy in the area.

On the other hand, the rational basis for policy in managing coastal and border areas in Riau Province is also considered quite crucial. Policies that prioritize the social welfare of coastal communities, the sustainability of the blue economy, and environmental conservation will positively impact sustainable regional development. Developing environmentally friendly infrastructure and strengthening coordination between institutions and stakeholders are also important factors in supporting these goals. With a firm rational basis, this policy can realize coastal resource management that is more efficient and beneficial for society and the environment.

#### ACKNOWLEDGMENT

This research was supported by funding from Universitas Islam Riau, which encouraged the implementation and development of this study.

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