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Coastal MSME Transformation: Public Private Partnership and Blue Investment for Informal Development

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ABSTRACT

The concept of the blue economy has reemerged as a mainstream development paradigm, yet the optimization of seaweed potential in South Sulawesi remains constrained by structural challenges, particularly the limited institutional capacity of village-owned enterprises and coastal MSMEs to access sustainable investment schemes. In addition, the absence of effective collaborative governance continues to hinder the integration of key actors in developing the seaweed industry in Pangkajene dan Kepulauan Regency. This study aims to formulate an applicable development approach by integrating the Public–Private Partnership (PPP) model with a Blue Investment scheme as a strategic framework to strengthen the village-based seaweed industry. The integration of PPP and Blue Investment is expected to enhance governance quality, expand access to financing, and promote a sustainable seaweed supply chain. This research employs a qualitative approach through in-depth interviews, non-participatory observation, and document analysis, with data validity ensured through triangulation. Thematic analysis is applied to identify patterns of institutional collaboration, financing mechanisms, and sustainability practices along the seaweed value chain. The findings indicate that integrating PPP and Blue Investment can improve institutional capacity, increase value chain efficiency, and encourage environmentally responsible cultivation practices. These findings support rural economic development and sustainable coastal MSMEs.

Keywords: *Public Private Partnership, Investment, MSMes, Seaweed Industry, Collaborative Governance.*

Introduction

The blue economy is a key priority in Indonesia's national development agenda, as reflected in the 2025–2029 National Medium-Term Development Plan (RPJMN), which emphasizes the sustainable use of marine resources to support economic growth, community welfare, and coastal ecosystem health (Bappenas, 2023). This agenda is reinforced through national and regional initiatives, including the Indonesia Blue Economy Roadmap and South Sulawesi's Tekad Biru Sulsel 2029, which promote sustainable marine development and coastal industry strengthening (UNEP, 2024; Mongabay Indonesia, 2024). Within this context, the seaweed sector plays a strategic role, with Pangkajene and Kepulauan Regency recognized as a major production center (BPS, 2025). However, high production has not translated into improved farmer welfare due to low bargaining power and weak village-level institutional capacity.

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The development of BUMDes (Village-Owned Enterprises) in Indonesia has not provided significant support for economic sector development. A number of obstacles have been identified, ranging from managerial limitations, weak access to capital, to a lack of strategic partnerships with external actors (Kinasih, 2020; Risma et al., 2025). This situation highlights the need for a collaborative governance model through a Public-Private Partnership (PPP) approach with a Blue Investment scheme. Blue investment is seen as capable of providing more sustainable, productive, and environmentally friendly financing, while also helping to strengthen the capacity of coastal communities (Bappenas, 2022). Meanwhile, PPP has the potential to clarify the roles of the government and the private sector in the seaweed sector. The integration of these two approaches can result in a collaboration mechanism that is more transparent, accountable, and adaptive to local needs.

Against this backdrop, this study examines the institutional position of BUMDes in managing seaweed potential in Pitusunggu Village, with a particular focus on the integration of PPP and Blue Investment schemes in empowering coastal micro, small, and medium enterprises (MSMEs). This study aims to analyze the existing institutional model of BUMDes and the challenges it faces in supporting seaweed development, as well as to evaluate how PPP-based Blue Investment can enhance value addition, competitiveness, and sustainability within the seaweed value chain. From a theoretical perspective, the PPP framework provides governance and financing mechanisms capable of addressing fiscal constraints, improving efficiency, and mitigating risks in the development of sustainable coastal economies (Muhsin et al., 2025). At the practical level, this study seeks to formulate integrative strategies that strengthen the role of BUMDes in blue economy development and contribute to policy recommendations for sustainable coastal MSME empowerment.

Despite the growing body of literature on PPP, Blue Economy initiatives, and MSME development, existing studies largely examine these frameworks in isolation. To date, there has been no empirical research that explicitly integrates PPP and Blue Investment within the institutional context of BUMDes, particularly in relation to seaweed-based MSMEs in coastal villages. This gap limits the understanding of how synergistic governance and financing mechanisms can be designed at the village level to support sustainable coastal economic development. Accordingly, this study addresses this gap by proposing an integrated institutional framework that connects BUMDes governance, PPP schemes, and Blue Investment to enhance the competitiveness and long-term sustainability of the local seaweed industry.

Theoretical Framework

Public-Private Partnership (PPP) Theory in Collaborative Governance

Ansell and Gash define collaborative governance as a governance system led by public institutions that directly involves non-governmental actors in formal, deliberative, and consensus-based collective decision-making processes to formulate or implement

policies and manage public interests, while bridging the public and private sectors (Voets et al., 2021).

In practice, one of the most prominent forms of collaborative governance is the Public Private Partnership (PPP) scheme.

In Muhsin's article, Public Private Partnership (PPP) is understood as a form of cooperation that provides a new approach to infrastructure development and public service provision. This model is increasingly being used in various countries because it can help governments deal with budget constraints, make project implementation more efficient, and reduce the risks that usually arise in large-scale infrastructure development (Muhsin et al., 2025). The effectiveness of PPP shows that collaboration between the public and private sectors is not only an alternative but also an increasingly relevant development strategy in addressing the complex needs of modern society. This approach demonstrates that infrastructure development can no longer rely solely on the government but requires planned and sustainable synergy..

Blue Investment Theory

The blue economy concept introduced by the Indonesian government at the Rio+20 Summit in Brazil at the end of June 2012 refers to an approach of optimizing the use of natural resources while ensuring that the resulting pollution impact is kept to a minimum (Bidayani, 2021). This concept was developed in response to marine ecosystem issues, ranging from overexploitation and coastal pollution to climate change. Through the blue economy, the government seeks to balance development needs with the protection of marine areas, ensuring that marine resources are preserved for future generations. This approach also provides great opportunities for coastal regions to improve the welfare of their communities through sustainable, locally-based economic activities.

Overview of Micro, Small, and Medium Enterprises

Micro, Small, and Medium Enterprises (MSMEs) are small-scale businesses that make an important contribution to driving economic improvement and growth in communities (Al & Fasa, 2022). MSMEs are the foundation of economic stability in communities because these business units grow out of the needs, creativity, and local potential inherent in local communities. In line with this, MSMEs also play a number of strategic roles in the economy, including as the main driver of economic activity, employer, important driver of local economic development and community empowerment, creator of market opportunities and sources of new innovation, and as a sector that contributes to improving the empowerment balance sheet (Departemen Koperasi, 2008).

State of the Arts

Research by Muhsin, Nugraha, and Nurdin shows that the implementation of Public Private Partnerships provides a number of strategic advantages for infrastructure development in Indonesia and contributes significantly to risk sharing (Muhsin et al.,

2025). Although previous studies have confirmed the success of PPPs, there has been no study linking the institutional effectiveness of Village-Owned Enterprises (BUMDes) with the potential for PPP integration through the Blue Investment scheme for the development of seaweed MSMEs. Through this approach, the study aims to formulate a more relevant and applicable partnership design to improve the competitiveness, sustainability, and added value of seaweed MSMEs at the local level..

Research Methods

This study uses a qualitative research design with a case study approach to examine in depth the condition of the seaweed industry in Pangkep Regency, Pitusunggu Village, including the dynamics of the actors, the production process, and the challenges faced. This approach was chosen to enable a holistic understanding of the research context, particularly in examining the role of Village-Owned Enterprises (BUMDes) in developing the potential of the seaweed industry as part of efforts to strengthen the local economy.

The research began with the development of research instruments in the form of observation and interview guidelines. Informants were selected using purposive sampling, namely the selection of subjects based on their relevance, knowledge, and direct involvement in the seaweed industry and BUMDes institutional activities. A total of eight key informants were interviewed, consisting of village officials, BUMDes representatives, seaweed farmers, and middlemen.

The number of informants was determined based on the principle of data saturation, where additional interviews no longer produced new or significant information relevant to the research objectives. In qualitative case study research, a limited number of key informants is considered sufficient as long as they are information-rich and capable of providing in-depth insights into the phenomena being studied. Thus, the involvement of eight informants was deemed adequate to represent the institutional dynamics of BUMDes and the seaweed value chain in Pitusunggu Village comprehensively.

The researchers conducted non-participatory observations in Pitusunggu Village over a period of approximately two weeks, aiming to directly observe seaweed farming activities, production processes, field conditions, and interaction patterns among actors. The findings from these observations were then analyzed to identify key issues, which subsequently formed the basis for developing the focus of the in-depth interviews.

The interview process was carried out over a period of three weeks, during which semi-structured interviews were conducted to allow informants to provide detailed explanations while maintaining consistency with the research focus. The interview data were then analyzed to extract significant information and construct relevant research themes.

Data sources in this study were obtained through in-depth interviews, literature reviews, regulations and policy documents, and non-participatory field observations. All collected data were analyzed using the Miles, Huberman, and Saldaña (2014) qualitative data analysis model, which consists of data reduction, data presentation, and verification

and conclusion drawing. In the data reduction stage, researchers selected, simplified, and organized data from interviews, observations, and literature. Data presentation was conducted by compiling findings into a structured narrative to illustrate field conditions and dynamics. The final stage involved verifying and drawing conclusions through the review of research notes, consistency checks, and triangulation to ensure the validity and credibility of the findings. Final conclusions were systematically formulated by integrating observational and interview data to accurately address the research questions and ensure scientific accountability.

Results And Discussion

BUMDes Institutional Model and Coastal MSME Challenges in the Seaweed Sector

Pitusunggu Village is located in Ma'rang Subdistrict, Pangkep Regency. Pitusunggu Village is a lowland area. As of 2020, the population of Pitusunggu Village consists of 927 males and 1004 females, with a total of 431 households. Pitusunggu Village consists of 3 hamlets, namely Bontosunggu Hamlet, Kampung Baru Hamlet, and Pungkalawaki Hamlet. Since the establishment of Pitusunggu Village, there have been 7 village heads who have led this village. Currently, Pitusunggu Village is led by a village head, Mrs. Jamilah Arifin, who is the first female village head in Pitusunggu Village and will serve until 2027. With a region characterized by coastal settlements and a population whose livelihoods depend heavily on marine resources, Pitusunggu Village has strong ties to the maritime sector. These social and geographical conditions make the utilization of marine products an important part of the community's daily economic activities. In this context, seaweed is a commodity that plays a strategic role for the village.

Seaweed is one of the abundant natural resources in Pangkep Regency. However, this potential is often not optimally utilized because seaweed cannot be processed to its fullest potential. Based on observations and in-depth interviews, one of the main reasons for this is the local community's lack of knowledge and skills in managing seaweed. Many of them do not understand effective processing techniques to turn seaweed into value-added products. In addition, the lack of facilities provided by Village-Owned Enterprises (BUMDes) is also a serious obstacle. BUMDes only functions as a savings and loan unit, so when villagers have difficulty repaying their loans, the circulation of funds from BUMDes is hampered.

The village of Pitusunggu also shows that BUMDes, as an institution that should provide support and infrastructure for seaweed processing, has not provided adequate facilities, such as drying or packaging areas, as well as the necessary processing equipment. This situation prevents the local community from optimally utilizing the economic potential of seaweed. In fact, if managed properly, BUMDes will optimize the development of the seaweed industry, as in the case of BUMDes Mappasitujue Keera, which has successfully developed its business in the fishing industry (Senjaya & Ansori, 2022).

One of the managers also mentioned that the reason why BUMDEs are stagnant is because of budget constraints in developing business units, as well as operational

management difficulties and a lack of interest among villagers in diversifying products due to a lack of knowledge about management and fears of difficulties in making a profit. So far, farmers have only relied on middlemen, resulting in limited access to market information, which has placed seaweed farmers in the lowest position. To date, the BUMDes model that has been implemented is still far from circular.

Based on this, it can be seen that the seaweed industry still requires the placement of BUMDes and other actors in the process of developing both upstream and downstream businesses optimally, not just as a formality. The presence of a business scheme based on collaboration between actors is very much needed here, where it does not only rely on BUMDes, but also involves the private sector that is able to fill various gaps that cannot be reached by BUMDes. This is in line with the understanding that the progress of a nation cannot rely on a single actor, but requires structured, sustainable, and complementary synergy between village governments, communities, business actors, and the private sector.

Integration of Public Private Partnership and Blue Investment and the Proposed Collaborative Model

Collaborative governance in this context can take various forms, one of which is through a Public–Private Partnership (PPP) scheme. This partnership model allows for a more structured division of roles, responsibilities, and benefits between the public and private sectors, thereby strengthening village institutional capacity and encouraging the optimization of seaweed industry development. This model is discussed in depth by Ansell and Gash (2007), who emphasize that effective collaboration can only be achieved when there is face-to-face dialogue, trust-building between actors, shared commitment, and a willingness to share resources and risks in achieving collective goals.

The concept of integration between BUMDes and the private sector can make the seaweed industry supply chain from upstream to downstream more efficient, coordinated, and sustainable. Through a clear division of roles, BUMDes can function as a driver of the local economy that ensures inclusiveness and community empowerment, while the private sector plays a role in providing technology, capital, and broader market access. This synergy not only strengthens the production and distribution structure, but also creates a management system that is more adaptive to changes in demand, market risks, and the dynamics of the seaweed industry. The following is a conceptual integration model recommended by the author to illustrate how collaboration between actors can be systematic and complementary.

The Public–Private Partnership (PPP) scheme implemented in strengthening the seaweed value chain in Pitusunggu Village is a manifestation of Collaborative Governance as described by Ansell and Gash (2008), namely a governance model that brings together public and private actors in a decision-making process built through dialogue, negotiation, and consensus. Within this framework, BUMDes, seaweed farmers, and investors work together in a collaborative forum that promotes equal roles

and active participation of all stakeholders to formulate strategies for a more inclusive and sustainable seaweed sector development.

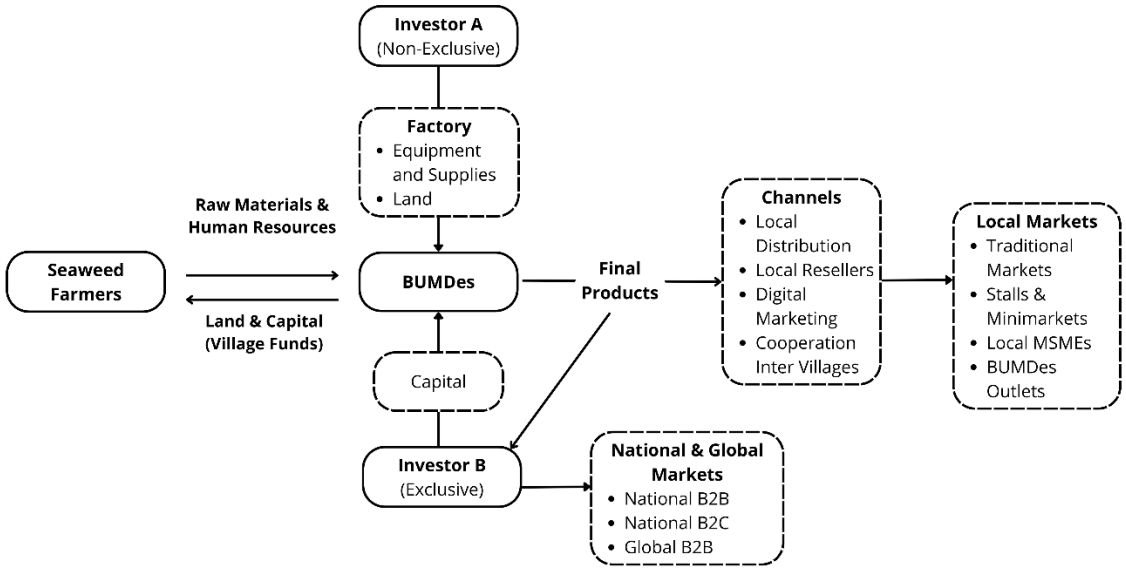

Figure 1
Skema Public–Private Partnership (PPP)

At the upstream level, seaweed farmers are the main producers, but their position is relatively weak due to limited capital, low technical capacity, and dependence on middlemen who have long controlled market access. In this situation, BUMDes acts as a public institution that strengthens the village institutional structure by providing capital based on Village Funds, managing crop yields, and regulating partnership relationships with investors in a more planned manner. The role of BUMDes is in line with the views of Muhsin et al. (2025), who emphasize that Public-Private Partnerships (PPPs) are an approach that has emerged as a solution to the government's limitations in providing public services and infrastructure independently. In the context of coastal villages, Public–Private Partnerships (PPPs) become a means for BUMDes to expand their institutional capacity through synergy with the private sector, so that the seaweed production and marketing processes can run more efficiently and adaptively.

Strengthening the capacity of BUMDes is carried out through the involvement of two types of investors with complementary functions. The first investor (Investor A) is a non-exclusive investor who contributes by providing production equipment, post-harvest facilities, and technical training for farmers and BUMDes managers. This investor does not have exclusive purchasing rights, but instead obtains returns through a profit-sharing mechanism from BUMDes sales to the local market. The presence of Investor A reflects the essence of Public–Private Partnership (PPP) in the form of technical and financial collaboration, namely the provision of resources by the private sector to improve the effectiveness of village public services without having to control the entire value chain.

Conversely, the second investor (Investor B) is an investor with exclusive rights who acts as the main offtaker for seaweed products that meet certain standards. This investor invests more capital, provides technological support, and opens up access to national and international markets. The granting of exclusive rights is an incentive for investors to invest in improving quality, production efficiency, and modernizing village facilities. This symbiotic pattern reinforces the PPP principle as explained by Muhsin et al. (2025), that public-private collaboration can increase development effectiveness by sharing risks, accelerating innovation, and delivering efficiencies that cannot be achieved by the village government alone.

At the downstream level, BUMDes marketing channels are built through two channels. The first channel is the local market, which includes traditional markets, MSME processors, small shops, and village digital channels. The local market serves as a rapid absorption instrument and forms the basis for a profit-sharing scheme for non-exclusive investors. The second channel is the national and global market, which is managed jointly with exclusive investors and requires higher quality standards, stable volumes, and consistent processing. This dual marketing channel strengthens the economic resilience of villages while opening up opportunities for integration into broader value chains.

Conceptually, this entire scheme is rooted in the principles of the Blue Economy as described in Bidayani (2021), which emphasizes the optimal utilization of marine resources while maintaining the sustainability of coastal ecosystems. The blue economy approach requires seaweed management that is not only economically efficient but also strengthens community capacity and reduces the pressure of exploitation on the environment. In this context, the integration of Public–Private Partnerships (PPPs) and blue investment creates a sustainable framework, where the flow of capital, technology, and community capacity in villages is in harmony with the goal of marine ecosystem conservation.

With a clear division of roles, where farmers are producers, BUMDes are institutional coordinators, and investors are providers of capital, technology, and market access. This scheme creates a functional relationship from upstream to downstream that strengthens the competitiveness of the village's seaweed commodities. Through a collaborative Public–Private Partnership (PPP) mechanism and the principles of the Blue Economy, which is oriented towards sustainability, Pitusunggu Village has the opportunity to improve the bargaining position of farmers, strengthen the village's economic institutions, and integrate sustainably into the blue economy ecosystem at the national and global levels.

Conclusion, Implications, Suggestions, And Limitations

This study shows that the institutional model of BUMDes in Pitusunggu Village has not functioned optimally in supporting the development of the seaweed industry. Managerial limitations, lack of supporting facilities, community dependence on middlemen, and weak market access have prevented the commodity value chain from developing and kept farmers' bargaining power low. These conditions indicate that

BUMDes is still operating conventionally without adequate institutional capacity to maximize the village's economic potential. The findings also confirm that the integration of Public-Private Partnerships (PPP) through the Blue Investment scheme can be a strategic approach to improving governance systems, expanding access to financing, and encouraging the formation of a more inclusive and sustainable seaweed value chain. The combination of PPP and Blue Investment has the potential to create more structural and adaptive collaboration between actors, while strengthening the competitiveness of seaweed MSMEs at the local level.

In terms of implications, the results of this study provide a basis for village governments, village-owned enterprises (BUMDes), investors, and business actors to formulate more integrated seaweed industry development strategies. The application of Public–Private Partnerships (PPPs) enables a clearer division of roles between the government, the community, and the private sector in the provision of facilities, technology, and market access. Meanwhile, Blue Investment provides a financing framework that supports environmentally friendly production practices and strengthens the capacity of coastal communities. Theoretically, this study contributes to the development of literature on the integration of Public–Private Partnerships (PPPs) and the Blue Economy in the context of village institutions, especially in the marine sector and coastal MSMEs. The results of this study also broaden the understanding of how collaborative governance can be operationalized at the local level to strengthen the village economic system.

Then, in terms of suggestions, BUMDes needs to restructure its institutions by improving management capacity, developing more comprehensive business plans, and developing business units that do not solely rely on savings and loans. Village governments are advised to strengthen regulations and governance mechanisms so that collaboration with the private sector can be transparent, accountable, and based on local needs. Investor involvement through the Public-Private Partnership (PPP) model needs to be directed towards the provision of technology, post-harvest facilities, and market access expansion so that the value chain from upstream to downstream can run efficiently. In addition, capacity building programs for seaweed farmers are essential so that they can adopt more productive and value-added cultivation and processing practices. Further research is recommended to test the application of this collaboration model in other coastal villages with different characteristics to see the potential for replication and scalability of the model.

In terms of limitations, this study has limitations in the relatively small number of informants and the focus of the study, which only covers one village, so that the generalization of findings to other regional contexts is still limited. In addition, this study has not conducted a quantitative economic analysis related to the potential for increasing farmers' income through the Public–Private Partnership (PPP) and Blue Investment models, so that the long-term economic impact cannot be calculated specifically. Time constraints also meant that the study did not fully capture the seasonal dynamics of seaweed production. Therefore, future studies could expand the geographical scope,

increase the number of informants, and include quantitative analysis to strengthen the results and policy recommendations.

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