



Unveiling the Pathways to Sustainable Lobster Industry Development: A Comprehensive Case Study of Sawarna Village, Banten Province

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ABSTRACT: This research aims to analyze the challenges in implementing sustainable business practices at Lobstamasta, a lobster industry company in Sawarna village, Banten. This research uses a qualitative method approach by interview to analyze the challenges in implementing sustainable business practices at Lobstamasta. The interview method is used to obtain an in-depth understanding of stakeholders, while questionnaires are used to collect large amounts of data. The findings of this research show that there are various main obstacles, including lack of commitment, limited resources, and limited understanding. The implication of this research is the need for corrective measures, such as increasing employee awareness through education, better allocation of financial resources, and strengthening sustainability policies. Close collaboration between government, entrepreneurs and communities is also needed to create an environment that supports and accelerates the process of sustainable lobster cultivation, with a positive impact on the local economy and environment. Implications of this research include: 1) Improved Awareness and Education: Increasing employee awareness and understanding through education and training programs can increase commitment to sustainable practices; 2) Optimizing Financial Resource Allocation: Implementing wiser financial resource allocation strategies to support investments in sustainable technology and equipment; and 3) Government-Entrepreneur-Community Collaboration: Close collaboration between government, entrepreneurs and society is important to create support and implementation of sustainable practices.

Keywords: Lobster Industry, Sustainability, Stakeholders, Education, Development



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INTRODUCTION

In the archipelago of Indonesia, the lobster business has become an important contributor to the economy, especially in coastal communities. According to (Evans et al., 2017), businesses still ignore the role of social constructs (related to policies, rules, and organizations) in the lobster business in Indonesia. Possible overfishing can threaten the sustainability of lobster resources, with long-term impacts on the stability of aquatic ecosystems and the economic well-being of the sector.

In addition, non-compliance with social norms and regulations can erode public and stakeholder trust, limit access to international markets with strict sustainability standards, and lead to potential conflicts with local communities (N. Bocken et al., 2019; Dyllick & Muff, 2016). In the current era of globalization, reputation and business sustainability are intertwined. Considering social constructs is not just an option, but an absolute necessity to ensure the long-term success of the lobster business in Indonesia.

The lobster export industry in Indonesia has significant economic value. Indonesian lobsters, especially pearl lobsters (*Panulirus ornatus*) and sand lobsters (*Panulirus homarus*), have high demand in the international market, especially in Asia, Europe and North America.

Several factors make Indonesian lobsters of high value in exports, including (Kurniawan et al., 2018; Taridala & Aslan, 2019; Zamroni et al., 2021): 1) High Quality Species: Indonesian lobsters are known to have high quality and taste of meat, which makes them attractive to the international market, especially luxury restaurants and premium seafood markets; 2) Species Diversity: Indonesia has a diversity of lobster species, including pearl lobsters and sand lobsters, which adds to the appeal for consumers looking for variety in lobster types; 3) Extensive Business Potential: Global demand for lobster continues to increase, and Indonesia has great potential to meet this demand by exporting high quality lobster; 4) Strategic Geographic Location: Indonesia is located in an area rich in marine resources, providing easy access to high quality lobster, which is profitable for export businesses; 5) International Trade Cooperation: Indonesia has established trade cooperation with various countries, enabling lobster exports to run more smoothly and gain a larger market share, this is confirmed by the data below:

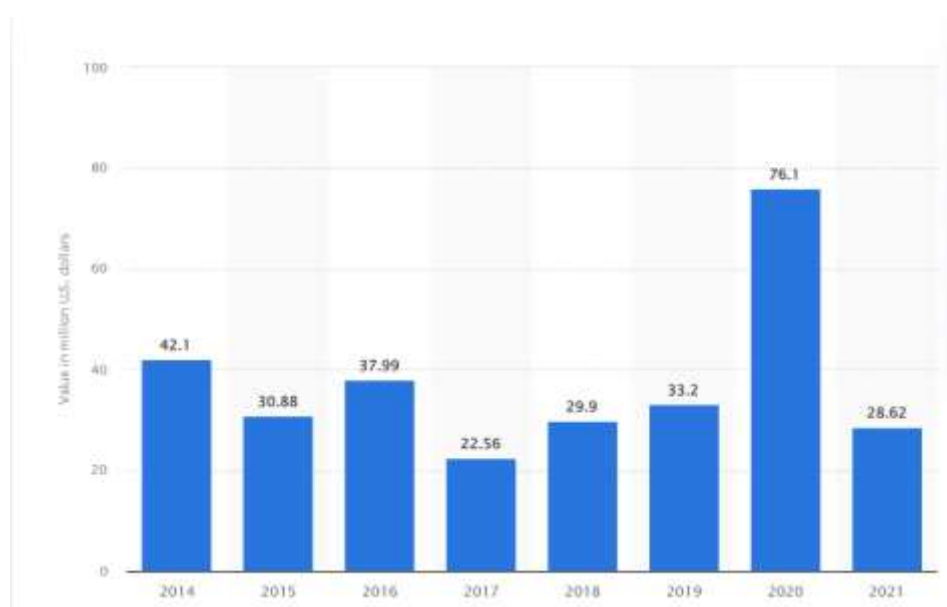


Figure 1. Value of lobsters exported from Indonesia from 2014 to 2021(in million U.S. dollars)

Source: Statista (2023)

Indonesia faced a notable downturn in lobster exports, with the total value reaching approximately 28.62 million U.S. dollars (in 2021)—a significant decline compared to the previous year. Despite this dip, the country remains a key player in the global lobster market, with potential for resurgence and growth. One of the contributing factors to Indonesia's lobster industry is the concentration of lobster larvae production along the northern coasts of Java and Lombok islands. This geographic focus has both advantages and challenges. On the positive side, these areas offer favorable conditions for the early stages of lobster development, ensuring a steady supply of larvae for aquaculture operations.

A noteworthy aspect of Indonesia's lobster industry is the thriving business of tropical spiny lobster (*Panulirus homarus*) farming in Lombok since 2011. This marks a significant shift in the industry's dynamics, showcasing the adaptability and innovation within the aquaculture sector. The growth of lobster farming in Lombok not only contributes to the local economy but also diversifies the sources of lobster production in Indonesia. To address the challenges faced in 2021 and enhance the resilience of the lobster export industry, there is a need for strategic interventions. This may involve further investment in sustainable aquaculture practices, technological advancements to mitigate environmental risks, and the implementation of policies that support the responsible exploitation of lobster resources.

Indonesia could explore opportunities for international collaboration and market diversification. By strengthening partnerships with other countries and expanding the export market, Indonesia can reduce its dependency on specific regions and enhance the overall stability of the lobster industry. To ensure the sustainability of the lobster industry and protect marine resources, the Indonesian government has also implemented regulations and policies governing catch sizes, fishing seasons and other fishing practices.

The lobster business in Indonesia is a complex system influenced by various social, economic, and environmental factors. The value and volume of Indonesian lobster exports since 2012 have fluctuated. In 2020, the volume of lobster exports peaked at 2.1 thousand tonnes and the export value reached US\$ 75.8 million ([N. Bocken et al., 2013](#)). ([N. M. P. Bocken et al., 2015](#)) has also highlighted a significant change in Indonesia's frozen spiny lobster export volume in 2004, which was caused by regulatory changes.

Sawarna Village is nestled within an area of 2165 HA in Bayah District, Lebak Regency, Banten Province. Its diverse topography, which ranges from lowland to mountainous and coastal, reflects the complexity of the geographical and natural environment that influences future economic development and environmental policies, with its attractive beach tourism potential, Sawarna Village has great potential in the tourism sector.

The lobster business in Sawarna Village has caught the attention of many. Despite facing challenges, including a lack of proper licensing and regulations, the business has great potential. With the total value of lobster estimated at IDR 3.5 billion, this business shows how much opportunity there is ([Tangerang, 2021](#)). The lobster business in Sawarna Village not only impacts the local economy but also contributes to the national economy, Company cash flow data is presented in the following table:

Table 1. Lobstamasta's Cash Flow

2022		Information	Debit	Credit	Balance
Month	Date				
July	1	Capital for opening the Sawarna branch	IDR 37,000,000	-	IDR 37,000,000
July	31	Pool & Work Costs	-	IDR 15,700,000	IDR 21,300,000
July	31	Total Transport Bekasi-Sawarna 2x	-	IDR 1,500,000	IDR 19,800,000
July	31	Consumption while in Sawarna	-	IDR 800,000	IDR 19,000,000
July	31	Equipment and supplies costs	-	IDR 13,756,000	IDR 5,244,000
July	31	Salary of 2 Land Fishermen	-	IDR 1,600,000	IDR 3,644,000
July	31	Local Neighborhood Association Fees + Electricity	-	IDR 200,000	IDR 3,444,000
July	31	Thanksgiving and animal slaughter	-	IDR 1,000,000	IDR 2,444,000
August	17	Local Neighborhood Association Fees + Electricity	-	IDR 300,000	IDR 2,144,000
September	5	Fisherman's Equipment	-	IDR 1,100,000	IDR 1,044,000
September	6	Capital TRF (BRI)	IDR 4,000,000		IDR 5,044,000
September	9	Lobster Shopping	-	IDR 4,280,000	IDR 764,000
September	16	Packing + Shipping JKT	-	IDR 700,000	IDR 64,000
September	16	Lobster Sales (WanQian)	IDR 4,717,600	-	IDR 4,781,600
September	20	Lobster Sales (RedLobster Resto)	IDR 1,470,000	-	IDR 6,251,600
September	28	Packing + Shipping JKT	-	IDR 700,000	IDR 5,551,600
September	28	Lobster Sales (LobiLobi)	IDR 7,130,500	-	IDR 12,682,100
September	29	Lobster Sales (RedLobster Resto)	IDR 690,000	-	IDR 13,372,100
September	30	Salary of 2 Employees		IDR 1,600,000	IDR 11,772,100
TOTAL			IDR 55,008,100	IDR 43,236,000	IDR 11,772,100

Source: Lobstamasta Sawarna (2023)

As a new company operating in the lobster industry in Sawarna village, Banten, Lobstamasta has successfully spent its first year with satisfactory achievements. Despite facing very limited cost constraints, the company managed to maintain fairly healthy cash flow. The income earned comes from various sources, including lobster sales, business collaborations, and other related services.

Operational expenses are the main focus in managing the company's cash flow. Costs for maintaining lobster ponds, feed, labor and transportation are an integral part of these expenses. Even though it is limited in terms of costs, Lobstamasta is able to maintain balance by carrying out careful financial management. The remaining ending cash balance, amounting to 11,772,100, reflects the company's ability to manage finances wisely.

The cost constraints faced by Lobstamasta may come from various factors, such as high production costs, limited natural resources or labor, as well as marketing strategies that need to be improved. In facing this challenge, companies try to consider an in-depth evaluation of operational expenses, look for ways to diversify income sources, and design long-term financial plans. In this way, Lobstamasta can continue to grow and develop amidst complex business dynamics.

As a start-up company, financial management is a critical element to ensure successful operational continuity. An important first step is to design a clear and detailed financial plan, including revenue estimates, operational costs and cash projections in the short and long term. Budgets should be carefully set for every aspect of operations, and daily or weekly cash monitoring should be done regularly to quickly detect changes in trends. In an effort to manage limited resources, companies also need to consider diversifying sources of income to reduce the risk of dependence on one source. Wise debt management must be implemented, avoiding uncontrolled debt accumulation. Choosing an appropriate payment policy can help relieve short-term financial stress.

Although these steps are important, many new companies face obstacles in implementing effective financial management, such as limited resources, high levels of business uncertainty, and lack of experience in financial management being some of the main factors that make things difficult for new companies. Engaging in wise financial management practices, including transparency and open communication, can help overcome these challenges and build a solid foundation for long-term growth.

In the exploration of the lobster business in Sawarna Village, there are several research gaps that have not yet gained an in-depth understanding. ([Budiarto, 2017](#)) noted the potential of the Sawarna Village community's entrepreneurial spirit, but the interaction between social, economic, and environmental conditions with the lobster business in this location has not been clearly mapped. Although, ([Apriliani et al., 2021](#); [Zulham, 2018](#)) highlighted the importance of social construction in the lobster business in Indonesia, there is no literature that deeply explores the perceptions, importance, and understanding of sociopreneurship literacy of stakeholders in Sawarna Village related to the lobster business and the obstacles faced. This is especially important when researchers consider the export turmoil that has occurred since the regulatory changes in 2004, which led to a decline in export volume of 1789.64 tonnes or -292.4% ([Nosratabadi et al., 2019](#)). Lastly, despite the huge economic potential of the lobster business in Sawarna Village ([Tangerang, 2021](#)), the proper business mechanism to optimize stakeholder participation has not been

presented in the current literature. Therefore, there is an urgent need for comprehensive research that can dive into the dynamics of the lobster business in Sawarna Village, with a particular focus on the integration of social, economic, and environmental conditions and stakeholder engagement.

To achieve sustainable success, a more innovative and adaptive approach to the changing business environment is required. Existing strategies may no longer be relevant to current market conditions, so they must be updated and adjusted. The main objective of this research is to provide strategic recommendations on business mechanisms that support the sustainability of the lobster business in Sawarna Village. One of the main contributions of this research is the in-depth exploration of Sawarna Village, the integration of the analysis of Stakeholder Perceptions and Importance with the SWOT analysis approach, the in-depth evaluation of sociopreneurship literacy among stakeholders, and the recommendation of the most optimal sustainable lobster business mechanism possible. In addition, this research is expected to serve as a pilot model for developing similar businesses in other coastal areas in Indonesia. This shows how important innovation and adaptation are in the business world, especially in the marine sector which has great potential but also complex challenges.

METHOD

Research Design

This research adopts a qualitative-method approach to provide a comprehensive understanding of the sustainable development of the lobster industry in Sawarna Village, Banten Province ([Hirose & Creswell, 2023](#)). Within this framework, the study specifically adopted an explanatory design. This means that the research use the quantitative phase, gathering statistical data to provide a general overview of the situation in Sawarna Village. The framework of this research is presented in the following figure:

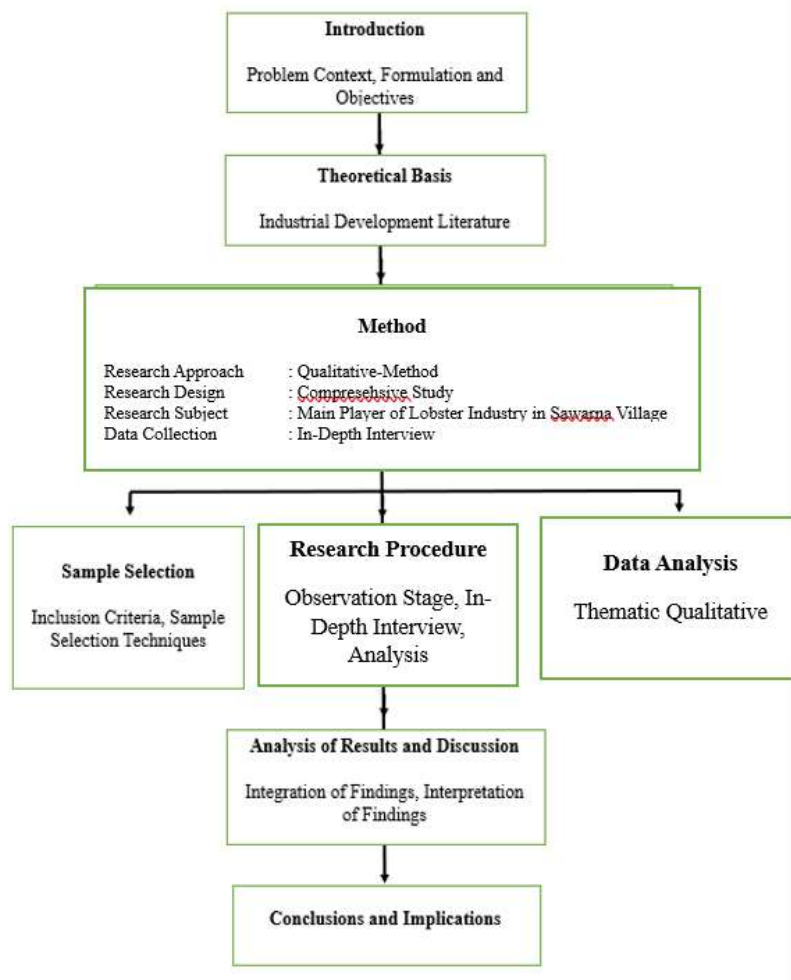


Figure 2. Research Framework

Research Sites

Sawarna Village was chosen as a research location because of its relevance as a fishing community involved in the lobster industry. This selection was made taking into account the significance of the lobster industry in the local economy.

Research Informant

Research participants involved key stakeholders, including fishermen, traders, business owners, and local communities related to the lobster industry in Sawarna Village. The selection of participants was carried out purposively to ensure good representation.

Data Collection

Qualitative methods such as interviews and focus groups, as well as participant observation, have the potential to play integral roles in all academic endeavors in terms of the formulation of

questions, building operational definitions, and designing research instruments ([Atkinson, 2017b](#)). The qualitative approach involved in-depth interviews with stakeholder representatives, focus group discussions (FGDs), and field observations. Through these techniques, researchers can understand the nuances and subjective context behind the quantitative data collected.

In-depth Interviews: In-depth interviews were conducted with key stakeholders to gain direct insight into lobster business practices, challenges faced, and their perceptions of sustainability.

Observations: Observations were carried out to observe daily activities related to the lobster industry in Sawarna Village, including the catching process, distribution, and related practices ([Batterton & Hale, 2017](#)).

The target population in this research interview is lobster industry players in Lobstamasta, which includes business owners, fishermen, lobster maintenance officers, administrative staff, and people who are directly involved in various operational aspects of Lobstamasta, totaling 35 people. Meanwhile, the sample selection method in this research uses a purposive sampling method with the following criteria: 1) Lobstamasta Business Owner: To obtain the owner's perspective and strategic vision regarding sustainability; 2) Fisherman or Lobster Care Officer: To gain an understanding of direct operational and sustainability aspects; and 3) Administrative Staff: To involve managerial and administrative perspectives. The inclusion criteria are as follows:

- a. Lobstamasta Business Owner: 1) Has experience in the management and management of Lobstamasta; 2) Directly involved in strategic decision making related to sustainability; 3) Have knowledge of sustainability practices that have been or are being implemented in the company.
- b. Fishermen or Lobster Care Officers: 1) Involved in lobster care and maintenance activities in Lobstamasta; 2) Have experience in operational and technical aspects of the lobster industry; 3) Demonstrate awareness of sustainability issues in daily work.
- c. Administrative Staff: 1) Involved in administrative tasks related to Lobstamasta operations; 2) Understand the procedures and policies that support the Company's sustainability; and 3) May have views regarding the social and economic impact of Lobstamasta in local communities.

So, 15 people who were considered representative and met these criteria were selected as samples for this research.

Data Analysis

Qualitative Analysis: Qualitative data from interviews and observations were analyzed thematically to identify emerging patterns, themes and relationships.

Data processing begins with data grouping based on respondent characteristic categories. IDM 2023 report data to look at social, economic, and environmental dimensions followed by Importance-Performance Stakeholder Analysis with an understanding of sociopreneurship literacy, including influencing factors and SWOT analysis for strategic planning of sustainable lobster business mechanisms. The results of the analysis are interpreted and presented in the form of tables, graphs, diagrams, and narratives ([Atkinson, 2017a](#)).

RESULT AND DISCUSSION

In-depth interviews were conducted with key stakeholders to gain direct insight into lobster business practices, challenges faced, and their perceptions of sustainability regarding Sustainable Lobster Industry Development in Sawarna Village, Banten Province,

This interview aims to gain in-depth insight into the practices and factors that influence the sustainability of the lobster industry in Lobstamasta by referring to the conceptual framework of sustainability and referring to several literatures that are relevant to the concept of sustainability in the fishing industry and can guide interview questions for industry research sustainable lobster, like:

- 1) Local Community Social ([Gardner et al., 2013](#); [Geissdoerfer et al., 2018](#); [Pereira & Josupeit, 2017](#)).
- 2) Fisheries Business Economies (Elegbede et al., 2023; Henry & Johnson, 2015; Supain et al., 2022)
- 3) Challenges and Opportunities: (Ilmar et al., 2020; Jones et al., 2019; Ward et al., 2018)
- 4) Evaluation of sustainable goals: (Hai & Speelman, 2020; Haj, 2023; Zulfainarni & Haj, 2023)

The results of the interviews are presented in the following table:

Table 2. Results of in-depth interviews with stakeholder

Informant	Question	Answer
Fishermen (Main Stakeholders)	What are your lobster rearing practices at Lobstamasta to support industry sustainability?	<i>"We actually still use conventional lobster traps because they are easier and cheaper. Despite knowing about more environmentally friendly traps, the costs are high and we can't afford the switch yet."</i>
	How aware are you of the sustainability of the lobster industry and are there any challenges you face in adopting more sustainable practices?	<i>"Our awareness of sustainability is there, but economic factors limit change. We find it difficult to understand long-term benefits because we focus on daily economic needs."</i>
	What is your view of the government's role in supporting sustainable practices in the lobster industry?	<i>"Unfortunately, the government does not provide enough support. There was no useful training program, and the lack of coordination and monitoring made us feel neglected."</i>
Businessman	To what extent is Lobstamasta committed to sustainable practices in its operations?	<i>"Our commitment to sustainability is quite low. More sustainable practices require large investments, and currently</i>

		<i>we are more focused on short-term profits."</i>
	What are the main obstacles you experience in implementing sustainability initiatives at Lobstamasta?	<i>"The main obstacle is the lack of professionalism in managing resources. Some staff are not well trained and find it difficult to understand the importance of long-term sustainability."</i>
	Do you see potential long-term financial benefits from investing in sustainable practices?	<i>"We see it, but it's hard to convince shareholders because the results are not immediately visible. There is resistance to change that could affect profits."</i>
Government (Fisheries Department)	Does the government have training programs or other support to encourage sustainable practices in the lobster industry?	<i>"No, we have a limited budget for such programs. Monitoring and enforcement are also limited due to limited resources."</i>
	How does the government coordinate with industry players to ensure sustainability practices are followed and implemented?	<i>"Unfortunately, coordination is less effective. Some private parties are uncooperative and it is difficult to monitor all industry players efficiently."</i>
	How does the government respond to challenges in the lobster industry which still uses traps that are not environmentally friendly?	<i>"We try to provide education and incentives, but there are limited resources for law enforcement. Financial support to shift to more sustainable practices is also limited."</i>
Private Sector (Lobster Distributor)	To what extent is the private sector committed to sustainable practices in the lobster industry?	<i>"Commitment is limited because we are still focused on profitability. Some sustainability practices are too expensive and difficult to implement."</i>
	What is the role of the private sector in supporting and encouraging sustainability practices among industry players?	<i>"We have not fully acted as change agents. Support for practice changes was not strong enough because we were concerned about the impact on profits."</i>
	Does the private sector feel helped or hindered by	<i>"The obstacles feel bigger. Some regulations are too strict and</i>

government policies regarding sustainability in the lobster industry?	<i>provide no real incentives to adopt sustainable practices. There should be more support from the government.</i>
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Source: Data proceed (2023)

Based on the results of interviews with various parties related to the lobster industry in Lobstamasta, it seems that there are significant challenges in implementing sustainable practices. From the perspective of lobster fishermen, the main obstacle lies in their economic limitations, which makes it difficult to switch to more environmentally friendly lobster traps. Although they have awareness of sustainability issues, daily economic factors dominate their decisions. This reflects the struggle between everyday economic needs and awareness of long-term sustainability issues.

From a business perspective, it was revealed that Lobstamasta has a low level of commitment to sustainability practices. Their focus is more on short-term profits, with some staff not yet fully trained in managing resources sustainably. Financial constraints and resistance to change appear to be the main barriers to adopting more sustainable practices.

The government faces budget challenges in providing support and training for sustainable practices in the lobster industry. Ineffective coordination with the private sector and limited resources for law enforcement also create challenges in driving change. Additionally, a lack of financial support to help fishermen and businesses shift to more sustainable practices is an additional barrier.

The private sector shows limited commitment to sustainable practices, citing costs and concerns about financial impacts. Support for changes in practice remains weak, and the private sector feels hampered by government regulations that are deemed too strict without providing adequate incentives.

The interview results illustrate the complex conditions in the lobster industry in Lobstamasta, where economic needs dominate decisions, while factors such as company commitment, government support, and private sector cooperation are still the main concern. Concrete steps are needed to overcome these obstacles and encourage the transition to better sustainability practices in the future.

“Indeks Desa Membangun” (IDM)

The Village Development Index (IDM) is an important indicator in assessing the progress and independence of a village. The IDM is articulated as a composite index that combines three main dimensions, namely the index of Social Resilience (IKS), the Index of Economic Resilience (IKE), and the Index of Village Ecological Resilience (IKL). The main purpose of the IDM is to determine the status of village progress and self-reliance and to provide basic data and information for village development. In a legal context, the IDM is enacted based on Law No. 6/2014 on Villages

([Indonesia, 2014](#)) and strengthened through the Minister of Villages, Development of Disadvantaged Regions and Transmigration Regulation No. 2/2016 on the Village Development Index ([Kementerian Desa, 2016](#)). As a basis for decision-making in terms of development interventions, both in terms of budget and policy, the IDM divides villages into five status categories: Independent Village, Advanced Village, Developing Village, Disadvantaged Village, and Very Disadvantaged Village. Within the framework of developing a lobster business in Sawarna Village, it is important to understand that every decision made has a direct impact on social, economic, and environmental aspects. In this case, it is important to pay attention to the sustainability of fisheries and marine life through three main elements, which include economic aspects, social aspects, and environmental aspects ([PPN & Bappenas, 2014](#)).

Economy Aspects

The main source of income for residents comes from the agricultural sector, which includes plantations, livestock, and fisheries, with no significant changes in the production of agricultural commodities. Interestingly, while there are 90 other micro and small industries in Sawarna village, none of them focus on fisheries, agriculture, or livestock commodities. Access to trade centers, distribution, and financial institutions appears absent, indicating the potential for economic infrastructure development has not been optimized. BUMDesa "WARNA JAYA", active since 2018, recorded a turnover of IDR 40,000,000 in the past year and employs 3 workers. The BUMDesa demonstrates business diversification with the presence of social, rental, and trading businesses, but has not yet touched on the fisheries sector specifically.

In the economic context of Sawarna Village, the agricultural sector dominates as the primary source of income, encompassing plantations, livestock, and fisheries. However, there's an untapped business potential, particularly in the lobster business, which might serve as a valuable revenue stream for Sawarna. The presence of 90 micro and small industries without a focus on fisheries, agriculture, or livestock commodities suggests unexploited economic expansion opportunities. This finding aligns with the results of (Bisung & Elliott, 2014a; Mousavi et al., 2022), emphasizing the significance of urban-rural relationships for rural economic growth. In Nalous, Iran, the flow of urban investment into rural economic activities was highly correlated with economic development. Regarding Sawarna, even though BUMDesa "WARNA JAYA" demonstrates business diversification, it seems to have not maximized potential in the fisheries sector, especially the lobster business. Therefore, based on the findings from both studies, enhancing the relationship between Sawarna Village and nearby urban centers, while tapping into the lobster business opportunity, could be a pivotal strategy to accelerate Sawarna's economic growth.

Social Aspects

Sawarna Village in social aspects shows significant progress in the health and education sectors. Residents' accessibility to major health facilities, such as hospitals, health centers with inpatient care, and auxiliary health centers, ranges from 3 meters to 45,000 meters from the center. In particular, facilities such as Pustu, Puskesmas Pembantu, and the Midwife's Practice are relatively close, requiring only about 1 minute of travel time at a distance of 3 meters.

The education aspect demonstrates a supportive infrastructure, with primary to higher schools in the village. There are concerns about the inclusivity of education for people with special needs, indicating that some individuals have not had adequate access to education.

The social capital of Sawarna Village appears strong with regular customs of working together and active participation of residents in community activities such as Karang Taruna, PKK, and religious groups. Open public spaces are also available and well-maintained, supporting residents' social interactions.

In a global context, research by ([Bisung & Elliott, 2014a](#)) highlights that the issue of access to clean water and sanitation involves social and institutional dimensions, not just technology. This phenomenon is known as the "water-health nexus", where the relationship between water and health is shaped by biological, social, economic, and political factors. Examining Sawarna Village in this backdrop underscores the importance of clean water access in promoting social welfare. While showing progress, Sawarna Village still faces challenges, especially in educational inclusivity and welfare. Social capital and a holistic approach that considers multidimensional factors, as proposed by ([Bisung & Elliott, 2014b](#)), can be the primary strategy for achieving sustainable social development.

Environment Aspects

Sawarna Village has water sources from springs and rivers available throughout the year. However, there are no water sources from lakes or other sources. In terms of pollution, Sawarna Village shows relatively good conditions, with no indication of water, soil, or air pollution. However, it is important to be aware of the dynamics of land use change, where there is a transition of land use from the agricultural sector to the non-agricultural sector. This transformation could have implications for the sustainability of natural resources and the quality of life of the community in the future.

Potential disasters in Sawarna Village have a significant frequency of occurrence each year, including landslides, floods, earthquakes, forest fires, and drought. The absence of disaster mitigation facilities in the form of evacuation routes shows that the village has limitations in the aspect of disaster preparedness. In the context of sustainable lobster business development, these potential disasters affect the stability of the farming environment. Land drought and flooding can disrupt the quality of water sources, which are crucial for the business. Meanwhile, earthquakes and landslides have the potential to damage aquaculture infrastructure. Looking further afield, forest fires can affect air quality and water availability.

In this context, ([Etikan et al., 2016](#); [Hörisch et al., 2014](#)) have highlighted how social, economic, and environmental aspects influence the success of fisheries management. On the other hand, the economic prosperity of communities in coastal areas is greatly influenced by fisheries resources, including sea fishing and cultivation. Currently, access to these resources remains open. Therefore, the environmental conditions in coastal and marine areas play a crucial role in ensuring the sustainability of socio-economic conditions in that region ([Syatori, 2016](#)). Consequently, these

three sectors must be managed in a balanced manner so that the lobster business can continue sustainably and provide maximum benefits for all stakeholders.

SWOT Analysis (Business Mechanism)

SWOT analysis is a comprehensive assessment of a company's strengths, weaknesses, opportunities, and threats (Kotler & Armstrong, 2008). In other words, SWOT is used to assess the strengths and weaknesses of the company's resources and the external opportunities and challenges it faces (Hartono, 2005).

According to (David, 2006), all organizations have strengths and weaknesses in functional areas of the business, which can be used as the basis for an organization's goals and strategy setting. It can be concluded that SWOT analysis serves as a tool to understand an organization's internal and external position, which will support goal and strategy setting. In the context of this research, it can be utilized to identify factors affecting the lobster business in terms of Economic Aspects, Social Aspects, Environmental Aspects, Sociopreneurship Literacy Aspects, and Business Mechanism Aspects.

Table 3. Total Score SWOT

ATTRIBUTE	PERCEPTION	IMPORTANCE
Economy Aspects	8.06	15.75
Social Aspects	8.75	15.83
Environment Aspects	9.75	16.01
Sociopreneurship Literacy Aspects	9.00	16.25
Mechanism Business Aspects	10.35	16.20
Mean	9.18	16.01

Source: Data Proceed (2023)

Based on the SWOT Total Score Results (Table 3.) shows the perception and importance scores on each aspect. The Business Mechanism aspect scored the highest in perception with a score value of 10.35. This means that stakeholders see the Business Mechanism Aspect as the most important aspect and have the highest positive perception. The Sociopreneurship Literacy Aspect has the highest score on the Importance score with a value of 16.25. This shows that stakeholders highly value and consider this literacy important. In addition, the Importance score for each aspect was consistently higher than the Perception score. This suggests that while stakeholders consider these five aspects to be very important, their perception of the realization or implementation of these aspects in the field may not be entirely positive.

Considering the SWOT Matrix (Figure 4.) Aspects with perception and importance scores above the average, namely the Business Mechanism Aspect, and the Environmental Aspect are in the

position of strength. This indicates that the environment in Sawarna village does support the lobster business itself. Aspects with perception scores below the average and interests above the average are in the sociopreneurship literacy aspect which is in the position of weaknesses. In the position of opportunities, perception scores above average and interests below average there are no aspects that fall into this category. Finally, aspects with a perception score & importance below the average, namely the Economic and Social Aspects, are in the threat position.

In light of the SWOT analysis of the lobster business in Sawarna Village, it was found that the environmental aspect is a critical element in the sustainability of fisheries. This finding is consistent with the observations made by (Boubekri et al., 2023a), the lack of understanding of sociopreneurship literacy in Sawarna Village indicates the urgency to adopt a participatory strategy, consistent with the approach proposed by (Boubekri et al., 2023), where the endemic knowledge of fishermen is valued as a source of strategic assets. Furthermore, challenges in the economic and social dimensions found in Sawarna Village underline the importance of a comprehensive approach that accommodates environmental, social, and economic aspects. The entirety of this analysis indicates that to achieve sustainability in the fisheries industry, there is a need for synergy and adaptation across various dimensions, to formulate an optimal strategy for Sawarna Village.

Three challenges of managing stakeholder relationships for sustainability: strengthening the particular sustainability interests of stakeholders, creating mutual sustainability interests based on these particular interests, and empowering stakeholders to act as intermediaries for nature and sustainable development (Bennett et al., 2019).

(Hörisch et al., 2014) also emphasizes the importance of understanding and managing the interests of various stakeholders in business strategy. In the context of Sawarna Village, stakeholder perceptions and importance are key factors that influence the analysis of alternative strategies below (SFAS). In an effort to improve the sustainability of the lobster business in Sawarna Village, several alternatives have been identified based on the analysis of strengths, weaknesses, opportunities, and threats (Table 4.). Given the internal strengths of Sawarna Village in terms of the environment and business mechanisms, there is potential to face external threats, especially from the economic and social side.

Table 4. SFAS (Strategic Factor Analysis Summary)

IFAS	<i>Strengths</i>	<i>Weaknesses</i>
EFAS	1.Environmental Aspects 2.Business Mechanism Aspect	1. Sociopreneurship Literacy Aspects
<i>Opportunities (O)</i>		
None met these criteria, so focus on ST & WT		

<i>Threats</i>	<i>Strengths-Threats</i>	<i>Weakness-Threats</i>
1. Social Aspects	1. Environmental Optimisation	1. Increased Sociopreneurship
2. Economy Aspects	2. Business Mechanism Development	Literacy
	3. Optimisation of Sustainable Cultivation	2. Multi-Stakeholder Partnerships
		3. Cultivation Training & Sociopreneurship Literacy

Source: Data Proceed (2023)

In response to these challenges, Sawarna Village can optimize its environmental sustainability. This can be done by educating the community on the relevance of an environmentally friendly lobster business and how such an approach can provide added economic value. Furthermore, with business mechanisms already in place, Sawarna Village has the opportunity to create strategic partnerships with the private sector and local government. These partnerships can assist in mobilizing additional support and resources to address economic and social challenges. Although many people agree that the sustainability and stability provided by social entrepreneurship are invaluable in practice, it is also essential to note that social entrepreneurship is just one part of a complex network of social impact practices (N. Bocken et al., 2019; Dyllick & Muff, 2016). This underscores that while social entrepreneurship plays a crucial role, there are many other approaches within the social impact network that also need to be implemented to address current pressing issues.

There are also weaknesses that need attention, particularly in sociopreneurship literacy. To address this, education and training for stakeholders, especially fishers, will be crucial. This will not only improve their understanding of the business but also enable them to contribute more effectively in the face of economic and social threats.

One strategic approach that can be adopted is the development of lobster farming. Through lobster farming, we can support the regeneration of populations that may have been degraded due to overfishing. With aquaculture too, Sawarna Village can ensure the quality of the lobsters produced and provide a stable supply. Through the optimization of sustainable aquaculture and specialized training, Sawarna Village can face economic challenges while ensuring the sustainability of the species and the surrounding ecosystem. This aligns with the research of (Cahyaningrum et al., 2017), which suggests the need for collectively structured governance, involving participation from the government. Several key principles can be adapted for lobster cultivation, such as organized management through the formation of cultivation groups, government support in regulations and training plays a pivotal role, and waste processing must be well-managed to maintain the ecosystem. Adopting uniform cultivation techniques will enhance the quality of the harvest.

In the context of lobster industry development in Sawarna Village, recent observations reveal a lack of concrete initiatives toward sustainable practices. Interviews with key stakeholders in the village indicate that fishermen have not adopted effective measures for sustainability, such as the implementation of environmentally friendly lobster traps. The awareness of sustainability among

fishermen remains low, reflecting stagnation in the evolution of lobster capture and management methods. The key points are as follows:

1. **Lack of Sustainable Practices by Fishermen:** Fishermen have not adopted environmentally friendly lobster traps, indicating minimal progress towards sustainable fishing methods.
2. **Private Sector's Limited Commitment:** Processing and distribution companies in the lobster industry have not shown significant commitment to purchasing sustainably sourced lobsters, nor to substantive cooperation with local communities.
3. **Absence of Government Education and Training Programs:** There are no significant government-led education and training programs to enhance fishermen's understanding of sustainable practices.
4. **Limited Government Involvement in Coordination and Monitoring:** The government's involvement in effectively coordinating and monitoring lobster fishing activities is lacking, allowing practices that harm the marine ecosystem and lobster resources.
5. **Lack of Fishermen's Groups or Cooperatives:** No fishermen's groups or cooperatives focusing on sustainable lobster resource management exist in Sawarna Village, hindering effective coordination and sharing of sustainable practices.

Lobstamasta needs to take strategic steps to improve sustainability values and strengthen environmentally friendly business practices. First of all, companies can increase employee awareness and understanding through education and training programs that are more focused on the impact of sustainability in the lobster industry. This can include education regarding environmentally friendly practices and the long-term benefits that can be gained from implementing sustainability.

Lobstamasta also needs to reassess the allocation of financial resources to enable investment in technology and equipment that supports sustainable practices. By doing this, companies can achieve higher operational efficiency while minimizing negative impacts on the environment. In order to increase stakeholder involvement, Lobstamasta can form working groups or discussion forums involving various related parties, including local fishermen and local government institutions. By involving stakeholders directly in the decision-making process, companies can ensure that various views and interests are accommodated.

It is also important to develop a more concrete sustainability policy and integrate it into every aspect of the company's operations. This policy must include measurable sustainability performance targets and a clear implementation strategy. Lobstamasta also needs to strengthen coordination between departments by encouraging cooperation and more open communication. This can include establishing cross-departmental teams focused on sustainability initiatives and ensuring that information and best practices can be shared and implemented effectively. By taking these steps, Lobstamasta can strengthen its commitment and sustainable practices, creating a positive impact not only on the environment but also on the company's reputation and long-term sustainability.

The situation in Sawarna Village reflects an urgent need for more integrated and collaborative strategies among all stakeholders, including fishermen, government, and the private sector, to ensure the development of a sustainable lobster industry. Active involvement and a collective commitment to sustainability are key to maintaining a balance between economic growth, environmental sustainability, and the welfare of the local community.

CONCLUSION

The conclusion of this research is that Lobstamasta, a lobster industry company in Sawarna village, Banten, is currently facing significant challenges in implementing sustainable business practices. The entire series of sustainability indicators, such as commitment to sustainability, investment in sustainable practices, awareness and understanding, maintenance practices, awareness and education, involvement in decisions, implementation of sustainability policies, training and awareness, and coordination between departments, show minimal and weak values. Lack of commitment, limited investment, and insufficient understanding of the benefits of sustainable practices are some of the main factors that cause this condition.

The implication of this research is that Lobstamasta needs to take action to improve the sustainability of its operations immediately. Efforts that need to be made involve increasing employee awareness and understanding through thorough education programs, better allocation of financial resources for sustainable investments, and strengthening internal communication regarding the company's commitment to sustainable practices. It is also necessary to formulate sustainability policies that are more concrete and well-integrated into the company's daily operations. The involvement of stakeholders, including local fishers and local government agencies, is critical to creating broad support and ensuring that implemented policies and practices meet the needs and expectations of local communities. Coordination between departments also needs to be strengthened to ensure the integrated implementation of sustainable practices across the organization.

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