



The Impact of Montara Compensation on Business Sustainability and the Potential for Increased Profitability Amongst Small-Scale Fishermen in Rote Ndao

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ABSTRACT

This study aims to analyse the extent to which the Montara compensation has impacted the business sustainability and increased profitability of small-scale fishermen in Rote Ndao Regency. Previous research on oil spills has generally focused on direct economic losses and the fairness of compensation but has not examined how compensation translates into business sustainability and long-term profitability. This study employs a descriptive qualitative design with a predominantly qualitative approach, supported by SWOT-based strategic analysis using the IFAS and EFAS matrices. The research informants were fishermen receiving Montara compensation in 2024 in Rote Ndao. The research findings indicate that the strategic position of the fishermen's businesses lies in Quadrant I (aggressive-proactive) with an IFAS score of 0.12 and an EFAS score of 0.12. Although compensation capital is available, low financial literacy and a consumerist mindset are hindering the transformation of Montara's compensation into a productive asset. The SO strategy is the top priority, supported by the WO, ST and WT strategies to mitigate internal weaknesses and external threats. This research contributes to the fields of accounting and business management in terms of resource allocation, financial behaviour, business sustainability and increased profitability. In practical terms, this study recommends a hybrid policy for the government and relevant stakeholders to integrate technical support, institutional strengthening, financial literacy and fair market access in order to support the sustainability of small-scale fishing businesses and enhance their long-term profitability in Rote Ndao.

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1. Introduction

One of the greatest environmental disasters threatening marine ecosystems is oil spills, which can cause a significant decline in fish populations and take more than 30 years to recover from (Ainsworth et al., 2018). Between 1970 and 2020, more than 10,000 oil spills were recorded in the world's waters (Ainsworth et al., 2018). The social and economic impact on coastal communities is also significant, as marine resources are their main source of livelihood (Almeida, 2023)

In all incidents of oil spills at sea, the Polluter Pays Principle (PPP) within the context of international environmental law serves as a mechanism for financial compensation for victims of oil spills, whereby the PPP requires that the costs of pollution (prevention, response, restoration and compensation for victims) be borne by the polluter, not by the state or the public (Law & Barthakur, 2021; Kurnia et al., 2023). Countries such as the USA, Indonesia, India, China and Nigeria subsequently adopted the PPP to claim compensation for victims and to cover the costs of clean-up and restoration of natural resources (Kurnia et al. 2023; Purwendah et al., 2021)

A number of international studies examining oil spill compensation, such as (Ritchie et al. 2018) in the case of the Exxon Valdez (US), it was found that the claims process was unfair and fuelled social and environmental recovery remained limited, leading researchers to recommend community programmes and the joint conservation of resources, rather than individual payments (Bergstrand & Mayer, 2020). Another study for example by shows that the social and economic impact of oil spills is significant, but long term assessments of business sustainability remain limited (Naujan & Collera, 2023; Malhado et al. 2022; Andrews et al. 2021). Similarly, the findings of a study by emphasises the design of compensation schemes for direct economic losses but overlooks social welfare and long term business performance (Wu & Lu, 2025). It can therefore be concluded that, generally, the existing literature tends to focus on the legal aspects of compensation and the valuation of economic losses, while studies examining how compensation can be translated into business sustainability strategies and improved profitability remain rarely explored (Wu & Lu, 2025).

The explosion at the Montara oil field occurred on 21 August 2009 and, over a period of approximately 74 days, released oil into the Timor Sea (Spies et al. 2017; Ambarwati, 2021; Safitri et al. 2020) with an estimated volume of approximately 400 barrels per day, amounting to a total of approximately 23.5 million litres of oil, which has spread into Indonesia's Exclusive Economic Zone (EEZ) (Ambarwati, 2021; Safitri et al. 2020). SAR and PALSAR satellite imagery shows the spread of oil from the vicinity of the rig to the waters near Rote Island, Sabu Island and the coast of East Nusa Tenggara, with the contaminated area extending up to approximately 150 km to the south of Rote (Spies et al., 2017). The spread of the Montara oil spill in Rote Ndao Regency has had a direct impact on fishing and seaweed farming activities, which are the main sources of livelihood for fishermen in Rote Ndao.

The impact of the Montara oil spill on the fishing communities in Rote Ndao has been significant. Seaweed production is reported to have fallen by 40–60%, and fish catches have declined, which has had a direct impact on the profitability of fishermen (Spies et al. 2017; Kong & Li, 2021). In fact, a study by (Oliveira et al., 2021) shows that the impact of the oil spill also threatens the food security of coastal communities. The lack of studies on the impact of the Montara oil spill is compounded by limited scientific data and a slow mitigation response, thereby hindering the recovery of the affected communities (Spies et al. 2017; Gautama et al. 2024). Therefore, further research is required that focuses not only on

financial compensation but also on sustainable long-term social and economic strategies to support the sustainability of fishing businesses and improve their profitability.

In 2024, fishermen in Rote Ndao received financial compensation from Montara, with varying amounts and perceptions regarding this financial compensation (Liu, 2024). Some fishermen regard the financial compensation as a form of justice, while others consider the amount of compensation to be disproportionate to the losses they have suffered (Gautama et al., 2024). Furthermore, the use of financial compensation varies, ranging from productive investment to short-term consumption. This variation is closely linked to the individual characteristics of fishermen, household economic conditions and levels of financial literacy (Chen et al., 2025). These differences in the use of compensation funds suggest that not all fishermen are able to convert the compensation funds into productive assets that can improve the profitability of their businesses (Gautama et al., 2024).

Within the perspective of accounting and business, compensation can be viewed as an injection of financial resources into fishing households (Sungatullina et al. 2020; Karademir, 2025). The effectiveness of compensation is greatly influenced by financial behaviour, budgeting skills, and decisions regarding the allocation of resources between consumption and productive investment (Hung et al., 2024). This means that compensation will be beneficial if recipients demonstrate sound financial behaviour, are skilled at drawing up business budgets, and have the ability to select productive business investments

(Bhuyan, 2022).

Previous studies on the impacts of oil spills and compensation have generally focused only on the fairness of compensation and the impact of direct economic losses. However, the existing literature has limitations as it tends to overlook the dynamics of post-compensation business outcomes and rarely links the provision of compensation to sustainability strategies and efforts to improve the profitability of small-scale fishers. This situation creates a research gap, namely the absence of a comprehensive model for post-compensation business sustainability strategies for small-scale fishermen. The uniqueness of this study lies in its contextual focus on the Rote Ndao region Indonesia's southern gateway which systematically maps the internal and external conditions of the fishing industry to formulate a specific model for post-compensation business sustainability strategies.

The main novelty of this study lies in its attempt to explicitly link disaster compensation mechanisms with business sustainability, a relationship that previous literature has not explored comprehensively. Theoretically, this study offers a new paradigm by shifting the focus of compensation research from merely mitigating direct economic losses to serving as a strategic instrument for business sustainability and increased profitability. In practical terms, the findings of this study provide evidence-based strategic recommendations for relevant stakeholders in designing more effective and long-term oriented policies.

2. Literature Review

Polluter Pay Principles to Compensation Mechanism

The Polluter Pay Principle (PPP) server as the foundational paradigm in international environmental law, mandating that the costs of environmental degradation must be borne by the responsible extractive industries (Law & Barthakur, 2021). In the context of marine disasters, this principle is operationalized through compensation mechanisms. Contemporary approaches have shifted the understanding of this compensation from mere material

reimbursement for direct losses to a vital instrument for restoring long-term livelihoods and economic recovery (Kurnia et al. 2023; Wu & Lu, 2025)

The Mediating Role of Financial Behavior

Post-disaster economic recovery is not determined solely by the disbursement of compensation, but also by the financial behaviour of the recipients of that compensation. Without adequate financial literacy, financial compensation to be rapidly depleted for short term consumption, failing to enhance production capacity (Gautama et al., 2024). Conversely, when compensation is treated as productive capital and managed through prudent financial behavior, it acts as a catalyst for recovery. Thus, financial behavior becomes the critical intervening variable that determines whether compensation translate into tangible business improvements

Impact on Business Sustainability and Profitability

Productive financial behavior directly influences two primary outcomes for small-scale fishing enterprises: business sustainability and profitability. In term of sustainability, the productive allocation of compensation ensures operational resilience, the maintenance of productive capital (vessels and gear), and stability in market access, thereby buffering the business against external shocks (Andrews et al. 2021; Chen et al. 2025). Concurrently, this prudent financial management enhances profitability by optimizing working capital utilization, improving cost efficiency and mitigating the indirect losses caused by environmental degradation (Kamal & Rachmina, 2024). Therefore, the relationship between compensation and profitability is not direct, but is strongly driven by sustainability of the business operation post-recovery

Strategic Response Through SWOT Analysis

To ensure that business sustainability and profitability are continuously maintained in a dynamic and risk environment, a strategic response is imperative. The relationship between compensation, financial behavior and business outcomes requires an analytical tool capable of mapping internal capabilities (strengths and weaknesses built through financial behavior) against external environmental conditions (opportunities and threats). Consequently, the SWOT analysis is utilized in this study to integrate the multidimensional factors into a systematic strategic framework (Kumar & Praveena, 2023). By mapping these variables into strategic quadrants (SO, WO, ST, WT), the SWOT analysis provides the necessary strategic response to formulate policy directions that support term business sustainability and profit growth for compensation recipients

3. Research Method

Research Design

The research design is descriptive, with a predominantly qualitative approach supported by a SWOT analysis based on the Internal Factor Analysis Summary (IFAS) and External Factor Analysis Summary (EFAS) matrices (Julianan et al., 2020). The qualitative approach was used to understand the socio-economic context of the compensation recipients as well as their perceptions regarding business sustainability and increased profitability (Hofer & Velte, 2024). To ensure the validity and reliability of the SWOT analysis, the weights and ratings on the IFAS and EFAS matrices were determined through expert assessment by three experts selected through purposive sampling: an academic in the field of fisheries, an academic in the field of economics, and a representative of the community receiving compensation who possessed a comprehensive understanding of business conditions

following compensation (Hofer & Velte, 2024). The results of the expert assessment and validation were used to summarise the strategic factors in a structured manner (Zhang, 2023)

Location and Subject of Research

The location of this study is Rote Ndao Regency, which is one of the areas affected by the Montara oil spill. The study focused on five sub-districts in Rote Ndao Regency that were directly affected, namely Lobalain, Rote Barat, Rote Timur and Landu Leko sub-districts. The research subjects were small-scale fishermen who received Montara compensation in 2024.

Techniques of Selecting Informants

The method used to select informants in this study was purposive sampling, based on the following criteria:: 1) fishermen or fishing households registered as recipients of Montara compensation; 2) those who were still actively engaged in fishing after receiving compensation; and 3) those willing to act as informants and provide information honestly and openly. Based on these criteria, this study successfully conducted in-depth interviews with 18 informants, with regional representation comprising 7 people from Lobalain Sub-district, 5 from West Rote Sub-district and 6 from East Rote Sub-district. This number exceeded the minimum threshold set in the initial plan; therefore, data collection was halted upon reaching data saturation a condition where the information obtained from informants had become repetitive, exhaustive, and no further significant findings were emerging (Naeem et al., 2024)

Techniques of Data Collection

Data collection for this study was carried out using a combination of questionnaires and interviews. The first approach utilised a SWOT questionnaire designed to identify internal factors (strengths and weaknesses) and external factors (opportunities and threats) in the post-compensation fisheries sector. This questionnaire was comprehensively developed based on a literature review, preliminary interviews with local stakeholders, and adjustments to reflect the specific characteristics of the Rote Ndao region. The second approach involved semi-structured interviews focused on representatives of the Rote Ndao Regency Government. These interviews aimed to triangulate and validate the findings obtained from the SWOT questionnaire.

Techniques of Data Analysis

The SWOT analysis begins with the identification of internal and external factors according to the results of questionnaires and interviews. Internal factors are classified into strengths and weaknesses, while external factors are classified into opportunities and threats (Shiwakoti, 2022; Kumar & Praveena, 2023). Each strategic factor was assigned a weight and a rating by the researcher based on the informants' perceptions and validated with key informants (Kumar & Praveena, 2023). Weights reflect the relative importance of a factor, while ratings indicate the strength of that factor's influence on the fishing industry. Scores are obtained by multiplying the weight and rating of each factor and then summing these to obtain the total IFAS and EFAS scores. The total IFAS score is used to measure the relative strength of internal factors, while the total EFAS score indicates the extent to which external opportunities outweigh external threats (Akhfas et al. 2025; Kumar & Praveena, 2023). The IFAS and EFAS scores were then plotted on a SWOT matrix to determine the strategic position of the fishing businesses SO, WO, ST and WT (Kumar & Praveena, 2023). The IFAS (Internal Factor Analysis Strategy) and EFAS (External Factor Analysis Strategy) scores are calculated

using the basic formula: $\text{Weight} \times \text{Rank} = \text{score}$ for each strategic factor; the scores for all factors are then summed to give the Total Internal Score and the Total External Score (Veronique & Soeprapto, 2024). The weight reflects the relative level of importance of a factor, whilst the rank indicates the strength of that factor's influence on the fisheries business. The IFAS total score is used to measure the relative strength of internal factors, whilst the EFAS total score indicates the extent to which external opportunities outweigh external threats (Ayutia et al. 2024; Akhfes et al. 2025). The IFAS and EFAS scores are then plotted on a SWOT matrix to determine the strategic position of the fisheries business SO, WO, ST and WT (Kumar & Praveena, 2023). Based on this position, alternative strategies were formulated for the sustainable small-scale fishing industry and for improving profitability. The results of the analysis were then interpreted qualitatively by linking the findings to existing literature on compensation, business sustainability and profitability.

4. Results and Discussion

Results

Profil of Rote Ndao

Rote Ndao Regency, with its capital at Ba'a, is one of the southernmost regencies in Indonesia, geographically situated between 10°25' S and 11°15' S, and 121°04' E and 123°02' E. It has a land area of 1,280.10 km² and a marine area of approximately 2,376 km², with a coastline of 330 km, comprising 107 islands (8 inhabited and 99 uninhabited). Administratively, Rote Ndao Regency is divided into 10 sub-districts, 112 villages and 7 urban villages. The geographical conditions of Rote Ndao are characterised by a dry monsoon climate, with the dry season being more dominant (7 months) compared to the rainy season (5 months), an average temperature of 27°C and annual rainfall of 114.1 mm. The population stands at 143,155, with a density of 112 people per km² and an annual growth rate of 0.73%. The potential of natural resources includes capture fisheries, seaweed cultivation and the cultivation of the Lontar palm, which is a symbol of local cultural identity. This potential also serves as the main source of livelihood for farmers and fishermen (DKISP, 2024).

Summary of the Internal Factor Analysis (IFAS)

Strengths Based on the analysis, the key strengths driving small-scale fishermen in Rote Ndao towards sustainability and improved business profitability can be categorised into several aspects. In terms of capital and human resources, the fishermen are supported by business experience and adequate technical expertise, supplemented by financial compensation from Montara, which serves as a crucial incentive for sustainable business development. Meanwhile, from the perspective of external factors and the business environment, the main strengths include the abundance of marine resources, ease of market access to Kupang City and areas outside NTT, as well as strong support from various stakeholders, including the government and other relevant parties.

Weaknesses On the other hand, factors hindering small-scale fishermen in Rote Ndao from achieving business sustainability and profitability have also been identified across several dimensions. From the perspective of human resource capacity and behaviour, the main barriers include low financial literacy, a mindset amongst fishermen that still tends to prioritise consumption over production, and a tendency to divert Montara compensation funds into less productive business sectors. Furthermore, in terms of infrastructure and the supply chain, weaknesses are evident in the limited facilities for storing catches, such as the lack of cold storage, as well as a sales system heavily dominated by intermediaries.

The Internal Factors Analysis Strategy (IFAS) identified in Rote Ndao Regency is shown in the IFAS table below:

Table 1. Internal Strategic Factor Analysis (IFAS)

Internal Strategic Factors		Rating	Weight	Score
Strenght				
1	Financial compensation from Montara as an incentive for sustainable business development	0,034	5	0,17
2	Sufficient experience and technical knowledge of the business	0,036	4	0,14
3	The abundance and sustainability of marine resources	0,34	5	1,70
4	Easy market access to Kupang and beyond NTT	0,31	5	1,55
5	Support from the government and community leaders	0,28	5	1,40
Sub Total			24,00	4,96
Weakness				
1	Low financial literacy	0,042	5	0,21
2	A consumerist rather than a productive mindset among fishermen	0,065	5	0,32
3	Redirection of Montara compensation to other projects	0,583	5	2,90
4	Limited storage capacity	0,14	4	0,56
5	The sales system is dominated by middlemen	0,17	5	0,85
Sub Total			23,96	4,84
Total			47,96	

Source: Author's processing (2025)

The Internal Factor Analysis Summary (IFAS) maps the internal strategic profile of fishermen across two main dimensions: strengths and weaknesses. In the strengths dimension, natural capital and market accessibility form the fundamental pillars. The abundance of marine resources (weight 0.34) and ease of access to regional and national markets (weight 0.31) are the most significant strategic assets ensuring operational sustainability. These strengths are reinforced by social support from the government and community leaders (weight 0.28). Nevertheless, financial incentives from the Montara compensation scheme (weight 0.034) and technical knowledge (weight 0.036) carry relatively low weights, indicating that natural capital and market networks are more decisive factors than financial intervention alone.

On the other hand, the weakness dimension reveals highly critical behavioural anomalies. The diversion of Montara compensation outside the fisheries sector (weight 0.583) is the most dominant weakness. This condition is directly and linearly correlated with low financial literacy (weight 0.042) and the fishermen's consumerist mentality (weight 0.065). These behavioural weaknesses are structurally exacerbated by limited storage infrastructure (weight 0.14) and the dominance of a sales system involving middlemen (weight 0.17). Logically, the synergy between this consumerist mindset, low financial literacy and dependence on middlemen systematically erodes the comparative advantages possessed by fishermen, namely the abundance of marine resources and ease of market access. Therefore, internal interventions must prioritise transforming fiscal behaviour and strengthening market institutions so that structural weaknesses do not continue to erode the economic potential of fishermen.

Summary of the External Factor Analysis (EFAS)

The results of the External Strategic Factors Analysis (EFAS) identified in Rote Ndao Regency are shown in the EFAS table below:

Table 2. External Strategic Factor Analysis (EFAS)

Factors of External Strategy		Weight	Rating	Score
Opportunities				
1	Empowerment programmes run by the Government and relevant stakeholders to support the sustainability of fishing businesses	0,132	5	0,66
2	Trends in domestic and global market demand (export markets)	0,028	5	0,14
3	Easy access to staff development training	0,55	4	2,20
4	Advances in cultivation, processing and digital marketing technologies to support business sustainability and increase profits	0,29	4	1,16
Sub Total			18,00	4,16
Treath				
1	Climate change hindering the shipment of fish to other islands	0,32	4	1,28
2	The long-term impact of the Montara oil spill on declining fish catches	0,13	5	0,65
3	Inflation and fluctuations in fish prices	0,26	4	1,04
4	Price monopoly by middlemen	0,29	3	0,87
Sub Total			16,00	3,84
Total			34,00	

Source: Author's processing (2025)

The External Factor Analysis Summary (EFAS) maps the external environment of the fishing industry into two strategic dimensions: opportunities and threats. Within the opportunities dimension, interventions focused on human resource capacity are the most decisive factor. Ease of access to training and human resource development (weight 0.55) represents the highest opportunity, indicating that the elasticity of the impact of programmes to enhance fishermen's capabilities is highly significant. This opportunity is positively correlated with developments in aquaculture technology, processing and digital marketing (weight 0.29), which provide the technical tools for business transformation. Meanwhile, empowerment programmes from the government and stakeholders (weight 0.132) act as catalysts that facilitate the adoption of these technologies and training. However, trends in national and global market demand (weight 0.028) carry relatively little weight, suggesting that without interventions in human resource capacity and technology, market opportunities alone are insufficient to boost fishermen's competitiveness.

On the other hand, the threat dimension is dominated by ecological and structural factors. Climate change, which hinders logistics distribution (weight 0.32), is the most critical threat, directly affecting supply continuity and market access. This threat is exacerbated by price monopolies by middlemen (weight 0.29) and inflation as well as fluctuations in fish prices (weight 0.26), which collectively erode fishermen's profit margins. The long-term impact of the Montara oil spill (weight 0.13) adds to the ecological vulnerability that threatens the resource base. Logically, the synergy between these climate threats, market monopolies and price fluctuations creates a highly risky business environment, thus requiring comprehensive adaptation and mitigation strategies to ensure the sustainability of fishing enterprises.

SWOT Matrix

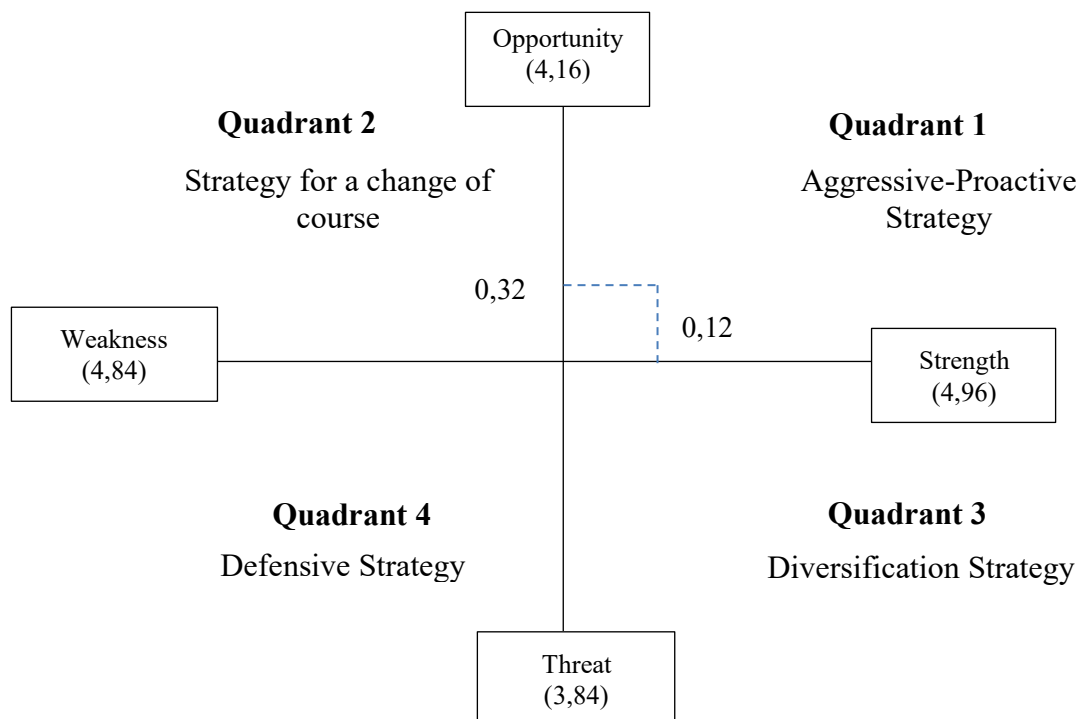
The use of the SWOT matrix as a tool to identify strategic factors and illustrate the extent to which the external opportunities and threats faced by small-scale fishermen in Rote

Ndao can be aligned with their strengths and weaknesses (Sharath Kumar & Praveena, 2023). The SWOT matrix is shown in the table below:

Table 3. SWOT Matrix

IFAS EFAS	Strength (S) - Financial compensation (indemnity) from Montara as an incentive for sustainable business development - Sufficient business experience and technical expertise - The availability of abundant and sustainable marine resources - Easy market access to Kupang City and beyond NTT - Support from the government and community leaders	Weakness (W) - Low financial literacy - A consumerist rather than productive mindset among fishermen - The diversion of Montara compensation funds to other ventures - Limited storage facilities - A sales system monopolised by middlemen
Opportunity (O) - Empowerment programmes run by the Government and relevant stakeholders to support the sustainability of fishing businesses - Trends in national and global market demand (export markets) - Ease of access to training programmes for human resource development - Advances in aquaculture, processing and digital marketing technologies to support business sustainability and increased profitability	Strategy SO - Strengthening networks and optimising compensation through partnership programmes between the Government and relevant stakeholders, such as exporters, to facilitate broader market expansion. - Optimising and developing product branding through digital marketing and e-commerce. - Integrating stakeholder support through collaborative programmes to enhance the value added of fish catches.	Strategy WO - A financial literacy programme integrated with other soft skills programmes to shift consumption patterns from wasteful to productive. - Awareness-raising, training and technical support provided by relevant stakeholders. - A digitalised sales system to reduce dependence on middlemen.
Threat (T) - Climate change hindering the shipment of fish to other islands. - The long-term impact of the Montara oil spill on declining fish catches. - Fluctuations in fish prices. - Price monopolies by middlemen.	Strategy ST - Empowering local fishermen through knowledge-sharing to adapt to and mitigate climate risks affecting their productivity. - Interventions and collaboration among relevant stakeholders to establish minimum prices. - Diversifying market access to mitigate the risks of local price fluctuations.	Strategy WT - Collaboration between fishermen and relevant stakeholders to develop shared cold storage facilities. - Strengthening the managerial capacity of fishing communities to enhance resilience against market monopolies.

Source: author's processing (2025)



Picture 1 Diagram of SWOT Analysis

Source: author's processing(2025)

The SWOT analysis diagram above shows that the intersection between strengths (S) and weaknesses (W) is at 0,12, and the intersection between opportunities (O) and threats (T) is at 0.32. Quadrant 1 represents the conditions that need to be optimised to achieve business sustainability while increasing the profitability of the fishermen's businesses. Overall, the strategies that need to be considered for the sustainability of small-scale fishing businesses in Rote Ndao, while also improving business profitability, are as follows: Strengthening networks and optimising compensation through partnership programmes between the Government and relevant stakeholders, such as exporters, to facilitate broader market expansion, Optimisation and development of product branding through digital marketing and the adoption of e-commerce, Integrating stakeholder support through collaborative programmes, A financial literacy programme integrated with other soft skills programmes to shift from a consumerist to a productive mindset, Outreach, training and technical support provided by relevant stakeholders, A digital sales system to reduce reliance on middlemen, Empowering local fishermen through knowledge to adapt to and mitigate climate risks affecting their productivity, Intervention and collaboration with relevant stakeholders regarding the setting of minimum prices, Diversifying market access to mitigate the risk of price fluctuations, Collaboration between fishermen and relevant stakeholders to establish a shared cold storage facility, Strengthening the managerial capacity of fishing communities to enhance resilience against market monopolies.

Discussion

Based on the SWOT matrix above, it can be concluded that the Montara compensation scheme has the potential to act as a catalyst for the economic transformation of small-scale fishermen in Rote Ndao; however, its effectiveness depends on the ability to convert financial

capital into sustainable productive assets and to improve profitability. The findings of this study confirm that the strategic position of fishing enterprises lies in the aggressive-proactive (SO) quadrant, where internal strengths such as compensation capital and technical expertise can be optimised to capitalise on export market opportunities and government empowerment programmes (Chen et al., 2025). However, structural weaknesses such as a lack of financial literacy and a consumerist mindset remain obstacles to achieving long-term profitability (Sitriani et al., 2025; Indra et al. 2025). The findings of this study confirm the results (Gautama et al. 2024) which state that without financial literacy support, compensation schemes tend not to correlate positively with production capacity. These results are also consistent with the recommendations Andrews et al. (2021) emphasising that post-environmental disaster economic recovery requires a holistic approach that integrates social, economic and ecological aspects.

This study builds on previous research that focused on compensation equity and the assessment of direct economic losses, such as Naujan & Collera (2023), Wu & Lu (2025) by shifting the focus to how compensation can be linked to business sustainability strategies and the profitability of small-scale fishing enterprises. In this context, compensation is not merely viewed as an economic settlement for past losses, but as a strategic resource that needs to be managed in an accountable and productive manner. Collaboration and partnerships in support of business sustainability, as identified by Rahmawati & Budi (2020), can provide mutual benefits for business operators. The mutualistic partnership model designed to support business sustainability is the Pentahelix model, which integrates the roles of the government, academia, the community, business operators and the mass media.

The findings Rosyidah et al., (2022) also revealed that the success of business sustainability is determined by innovative and attractive product diversification. The success of a diversification strategy also requires support from stakeholders such as the government, the private sector and universities. This is further supported by the findings of Lhaksmi et al. (2023) who also found that for a business to be sustainable in the long term, specialised outreach and training from multiple parties is required.

Limitations and Strengths of the Study

This study has several limitations. Firstly, the number of informants was relatively small and only included compensation recipients in a few sub-districts in Rote Ndao; therefore, any generalisation of the findings to other contexts should be undertaken with caution. Secondly, the post-compensation period observed was still relatively early, meaning that the long-term impact on profitability could not yet be measured longitudinally. Thirdly, the results of the SWOT analysis are still based on the informants' perceptions and are not yet fully supported by detailed financial data on the fishermen's businesses.

Nevertheless, this study has several strengths. The Montara-Rote Ndao case represents an important local context that has been relatively rarely studied. This study expands the body of research on oil spill compensation by emphasising post-compensation business sustainability and the profitability of small-scale fishing enterprises. Furthermore, the use of SWOT analysis enables the formulation of operational strategies that can serve as a reference for policy makers and relevant stakeholders.

Theoretical Implications, Policy Implications and Further Research

Theoretically, this study demonstrates that post-disaster compensation does not automatically improve business profitability; its impact is mediated by factors such as

financial literacy, market structure and local institutional capacity. This implies the need to incorporate financial and institutional behaviour variables into accounting studies relating to disaster compensation. From a policy perspective, the findings of this study support the need for a prioritised SO-WT strategy; on the one hand, capitalising on market and technological opportunities (SO), and on the other, minimising structural weaknesses and external threats through institutional strengthening, financial literacy and storage infrastructure (WT). Local governments and relevant stakeholders can use the results of this analysis as a basis for designing more targeted empowerment programmes. For further research, longitudinal studies are required to measure the impact of the proposed strategies (SO, WO, ST, WT) on business sustainability indicators and improvements in profitability over the medium to long term. Furthermore, moderating variables such as gender roles, access to digital technology and access to formal finance could be incorporated into future research designs.

5. Conclusion

Based on the results of the IFAS-EFAS analysis, the SWOT matrix reveals the following: Firstly, the strategic position of the Montara compensation-receiving fishing businesses in Rote Ndao lies in the aggressive-proactive (SO) quadrant, with internal strengths (compensation funds, technical expertise, natural resources) that can be optimised by capitalising on external opportunities (empowerment programmes, export markets, digital technology). Secondly, structural weaknesses such as low financial literacy, a consumerist mindset, and dependence on middlemen, as well as external threats such as climate change, the long-term impacts of the oil spill and price fluctuations, still require mitigation strategies through the WO, ST and WT approaches. Thirdly, the transformation of compensation funds into sustainable productive assets and the improvement of business profitability require integrated policy interventions among stakeholders in technical assistance, community institutional strengthening and fair market access. Consequently, the effectiveness of post-disaster compensation is determined not only by the amount of funds received but also by the fishermen's capacity to manage, invest and link such compensation to support systems that strengthen the long-term sustainability and profitability of their businesses.

Based on the findings of this study, the following recommendations are made: (1) The Government should develop integrated regulations and programmes in collaboration with other stakeholders that explicitly encourage the use of compensation for productive and sustainable investment; (2) For fishing communities, the establishment and strengthening of institutions or associations that can accommodate and advocate for the long-term business needs of fishermen should be encouraged; and (3) For future researchers, longitudinal studies could be developed to observe changes in the sustainability of business operations and profits among fishermen receiving compensation over several years, while incorporating moderating variables such as gender roles and access to digital technology, as well as access to formal financing, as suggested by (Andrews et al. 2021; Almeida, 2023; Zhu et al. 2024; Santos-jaén, 2025).

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