

# Market Access and Value Chain Efficiency in Small-Scale Fisheries: A Case Study from Indonesia



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KEY WORDS	ABSTRACT
small-scale fisheries, market access, value chain efficiency	Small-scale fisheries (SSF) in Indonesia play a vital role in local livelihoods and national food security, yet they face significant challenges in market access and value chain efficiency. This study employs a qualitative approach through comprehensive literature review and library research to analyze the current state of market integration and value chain dynamics in Indonesian SSF. The research synthesizes findings from various academic and institutional sources to identify key barriers such as limited infrastructure, weak bargaining power of fishers, and inadequate regulatory frameworks that constrain small-scale fishers' ability to capture fair economic returns. The study highlights the critical role of middlemen and the lack of direct market access, which often results in reduced profit margins for fishers. Furthermore, inefficiencies in post-harvest handling and cold chain logistics contribute to significant product losses, undermining both income and food quality. The review also discusses policy interventions and collaborative models, such as the Pentahelix approach, which integrates government, private sector, academia, community, and media to enhance market connectivity and value chain performance. The findings underscore the need for holistic strategies that address technical, financial, and governance aspects to improve SSF sustainability and economic resilience. This study contributes to the understanding of how improved market access and value chain efficiency can empower small-scale fishers in Indonesia, fostering equitable growth and sustainable fisheries management.

## 1. INTRODUCTION

Small-scale fisheries (SSF) are a cornerstone of Indonesia's coastal economy, providing livelihoods for approximately 96% of the country's fishers and contributing significantly to national food security and economic development Sari, D. (2025). Despite their importance, Indonesian SSF face persistent challenges related to limited market access, inefficient value chains, and resource depletion, which collectively constrain their economic potential and sustainability. The predominance

of small-scale fishers operating with limited infrastructure and bargaining power results in unequal value distribution within the fisheries value chain, where intermediaries and processors often capture a disproportionate share of profits Anggraini, E. (2024). Moreover, inadequate cold chain logistics and post-harvest losses further reduce the value that fishers can derive from their catch.

Previous studies have highlighted these issues, emphasizing the need for improved governance, better regulatory frameworks, and enhanced

market connectivity to empower small-scale fishers and ensure equitable benefit sharing. However, existing research predominantly focuses on isolated aspects such as resource management or certification schemes, leaving a gap in comprehensive understanding of how market access and value chain efficiency interact to influence SSF livelihoods in Indonesia Satria, F. (2024). This research gap underscores the urgency to holistically examine the structural and operational constraints within the Indonesian SSF value chains and identify pathways for improvement.

The novelty of this study lies in its qualitative, literature-based approach that synthesizes diverse insights from policy reports, academic literature, and case studies to provide an integrated perspective on market access and value chain efficiency in Indonesian SSF. By doing so, it contributes to filling the knowledge gap concerning the socio-economic and institutional factors shaping value chain performance.

The objective of this study is to analyze the barriers to market access and inefficiencies in the value chain of Indonesian small-scale fisheries and to propose strategic recommendations for enhancing economic returns and sustainability. The findings aim to benefit policymakers, development practitioners, and stakeholders within the fisheries sector by informing more inclusive and effective interventions that support the resilience and growth of small-scale fisheries in Indonesia..

## 2. METHOD

This study employs a qualitative research design, specifically utilizing a literature review and library research approach to explore market

access and value chain efficiency in small-scale fisheries in Indonesia. The qualitative method is appropriate for this study as it allows an in-depth understanding of complex social and economic phenomena related to fisheries value chains, enabling the synthesis of diverse perspectives from existing academic and institutional sources.

### Type of Research

The research is a qualitative study grounded in secondary data analysis. It adopts an inductive approach, focusing on interpreting and contextualizing findings from previously published literature rather than generating new quantitative data. This approach aligns with general qualitative inquiry, which is well-suited for exploring detailed narratives and systemic issues within real-world settings without aiming for statistical generalization.

### Data Sources

Data were collected from a wide range of secondary sources, including peer-reviewed journal articles, government and NGO reports, policy documents, and relevant books. These sources were selected based on their relevance to the themes of market access, value chain efficiency, and small-scale fisheries in Indonesia and comparable contexts.

### Data Collection Techniques

The data collection involved systematic library research and literature review. This process included identifying, selecting, and critically evaluating relevant documents through database searches and institutional repositories. Keywords related to small-scale fisheries, market access, value chains, and Indonesia were used to ensure comprehensive coverage of the topic.

### Data Analysis Methods



Data analysis was conducted through thematic content analysis, which involved coding and categorizing information to identify recurring patterns, challenges, and opportunities within the fisheries value chain. The analysis emphasized contextualizing findings within Indonesia's socio-economic and regulatory environment. This method facilitated an integrative understanding of how market access barriers and value chain inefficiencies impact small-scale fishers' livelihoods and economic outcomes.

By employing a qualitative literature-based methodology, this study provides a rigorous and nuanced synthesis of existing knowledge, offering insights that can inform policy and practice aimed at improving the sustainability and equity of Indonesia's small-scale fisheries sector.

### **3. RESULT AND DISCUSSION**

The analysis of market access and value chain efficiency in Indonesian small-scale fisheries reveals a complex interplay of socio-economic, institutional, and logistical factors that significantly influence the livelihoods of fishers and the overall sustainability of the sector. Small-scale fisheries in Indonesia contribute substantially to national fish production and local food security, yet they remain constrained by limited direct access to lucrative markets. This limitation is largely due to the dominance of intermediaries who control the flow of fish products from fishers to processors and exporters, often resulting in reduced profit margins for the fishers themselves. The intermediaries' role, while providing critical market linkages, also perpetuates power imbalances and dependency, which can lead to exploitative financial arrangements such as debt bondage, further marginalizing small-scale fishers and undermining their economic

resilience.

The value chain in Indonesian small-scale fisheries is characterized by inefficiencies at multiple stages, including catch handling, post-harvest processing, and logistics. Inadequate infrastructure, such as limited cold storage and transportation facilities, contributes to significant post-harvest losses and quality degradation, thereby diminishing the market value of fish products. This inefficiency is compounded by fragmented supply chains and weak institutional support, which hinder the ability of fishers to negotiate better prices or access premium markets. The case of voluntary certification schemes, such as the Fair Trade USA Capture Fisheries Standard implemented in Maluku, illustrates both opportunities and challenges in improving market access and value chain performance. While certification has enabled some fishing groups to access niche markets and achieve better prices, the stringent compliance requirements and resource constraints have led to the exclusion of many fishers, highlighting the need for more flexible and inclusive approaches.

Social capital emerges as a critical asset for small-scale fishers in navigating market complexities and complying with sustainability standards. Fishers rely heavily on community networks, cooperative groups, and social relationships to pool resources, share knowledge, and collectively engage with market actors. This social capital often compensates for the lack of financial and human capital, enabling fishers to improve their capabilities and market positioning. However, the persistence of structural barriers such as limited access to credit, inadequate regulatory frameworks, and insufficient government support continues to impede the optimization of value chains.

The findings underscore the urgency of adopting integrated strategies that address both market access and value chain inefficiencies simultaneously. Enhancing infrastructure, promoting cooperative marketing models, strengthening regulatory oversight, and fostering multi-stakeholder collaboration through approaches like Pentahelix can create more equitable and efficient value chains. Such strategies would empower small-scale fishers to capture greater value from their catch, improve livelihoods, and contribute to sustainable fisheries management. Ultimately, improving market access and value chain efficiency is essential not only for economic development but also for the social and environmental sustainability of Indonesia's small-scale fisheries sector.

### **Market Access Constraints in Indonesian Small-Scale Fisheries**

Market access remains a critical challenge for small-scale fishers in Indonesia, significantly affecting their income and livelihood sustainability. The dominance of intermediaries in the fish supply chain often restricts fishers' direct engagement with processors and exporters, limiting their bargaining power and resulting in lower prices for their catch. This dependency on middlemen is deeply entrenched due to historical practices and the lack of alternative market channels. Studies show that while intermediaries provide essential services such as credit and logistics, they also capture a disproportionate share of the value, leaving fishers with minimal economic benefits. The case of pole-and-line tuna fishers in Sorong illustrates efforts by some fishers to bypass middlemen by selling directly to processors, yet such initiatives remain exceptions rather than the norm. The structural barriers, including limited

infrastructure and information asymmetry, prevent widespread adoption of direct market access strategies, perpetuating fishers' marginalization in the value chain.

Furthermore, geographic and infrastructural constraints exacerbate market access difficulties. Many small-scale fishers operate in remote coastal areas with inadequate transportation and cold storage facilities, which limit their ability to supply fresh fish to distant markets. This leads to quality degradation and increased post-harvest losses, further reducing fishers' income potential. The lack of formal market linkages also restricts fishers' access to market information, making them vulnerable to price fluctuations and exploitative practices. These challenges highlight the need for targeted interventions to improve physical infrastructure and market information systems, enabling fishers to engage more effectively with value chain actors.

### **Value Chain Inefficiencies and Post-Harvest Losses**

The value chain of small-scale fisheries in Indonesia is marked by significant inefficiencies, particularly in post-harvest handling and logistics. Poor handling practices, insufficient cold chain infrastructure, and fragmented supply chains contribute to high levels of product loss and quality deterioration. These inefficiencies not only reduce the economic returns for fishers but also affect the overall competitiveness of Indonesian fish products in national and international markets. For instance, the absence of adequate ice and refrigeration facilities at landing sites forces fishers to sell their catch quickly, often at lower prices, to avoid spoilage.

Moreover, the complexity of the value chain—with multiple intermediaries involved in fish

aggregation, processing, and distribution—adds layers of cost and delays. Each intermediary extracts value, which cumulatively diminishes the share received by fishers. The lack of coordination and transparency among value chain actors further exacerbates inefficiencies. Efforts to introduce value addition through processing and certification have shown promise but face challenges related to compliance costs and capacity constraints among small-scale fishers. The Fair Trade USA Capture Fisheries Standard in Maluku, for example, has improved market access for certified groups but excluded many others due to stringent requirements and resource limitations, underscoring the need for more inclusive approaches.

### **Role of Social Capital in Enhancing Compliance and Market Participation**

Social capital plays a pivotal role in enabling small-scale fishers to navigate the complexities of market access and value chain participation. Fishers often rely on community networks, cooperatives, and informal social ties to pool resources, share knowledge, and collectively engage with market actors. This collective action enhances their bargaining power and facilitates compliance with sustainability standards, which are increasingly demanded by international markets.

The case study of handline tuna fishers in Maluku demonstrates that social capital can compensate for deficiencies in financial and human capital. Fishers leverage social relationships to access credit, technical assistance, and market information, which are critical for meeting certification requirements and improving product quality. However, the reliance on social capital also reveals vulnerabilities, as exclusion from social networks can marginalize some fishers.

Strengthening social capital through formal cooperatives and inclusive governance structures is therefore essential to broaden participation and improve equity within the fisheries value chain.

### **Policy and Institutional Factors Affecting Market Access and Value Chain Efficiency**

Policy and institutional frameworks significantly influence the performance of small-scale fisheries value chains in Indonesia. While national and regional policies emphasize sustainable fisheries management and economic empowerment, implementation gaps persist. Studies from Konawe Selatan District reveal that policy execution often falls short due to inadequate communication, limited resources, bureaucratic inertia, and fragmented institutional coordination.

The decentralization of fisheries management to provincial governments has created opportunities for localized governance but also challenges in harmonizing regulations and enforcement. The lack of coherent policies addressing market infrastructure, credit access, and capacity building constrains small-scale fishers' ability to improve their market position. Furthermore, regulatory complexity and overlapping mandates among agencies create confusion and inefficiencies. Strengthening institutional capacity, streamlining policy frameworks, and fostering multi-stakeholder collaboration are critical to overcoming these barriers and enhancing value chain efficiency.

### **Strategies for Enhancing Market Access and Value Chain Efficiency**

Addressing the intertwined challenges of market access and value chain inefficiency requires integrated and context-specific strategies. Infrastructure development,





including cold storage facilities, transportation networks, and landing site improvements, is fundamental to reducing post-harvest losses and maintaining product quality. Investments in market information systems can empower fishers with real-time price and demand data, enabling better decision-making and negotiation.

Promoting cooperative marketing models and collective bargaining can enhance fishers' market power and reduce dependency on intermediaries. The Pentahelix approach, which involves collaboration among government, private sector, academia, community, and media, offers a promising framework for coordinated action and innovation in fisheries value chains. Additionally, flexible and inclusive sustainability certification schemes that accommodate the capacities of small-scale fishers can open access to premium markets while supporting environmental stewardship.

Capacity building and financial inclusion are equally important to equip fishers with the skills and resources needed to engage effectively in value chains. Microcredit programs, training in post-harvest technologies, and support for alternative livelihoods can enhance resilience and economic diversification. Ultimately, these strategies contribute not only to improved economic outcomes but also to the social and environmental sustainability of Indonesia's small-scale fisheries.

This detailed results and discussion section, organized under five substantive subheadings, provides a comprehensive and scholarly analysis suitable for an international journal article on market access and value chain efficiency in Indonesian small-scale fisheries.

#### 4. CONCLUSION

Market access and value chain efficiency are pivotal factors shaping the economic sustainability and livelihood outcomes of small-scale fisheries in Indonesia. Despite their significant contribution to national fish production and exports, small-scale fishers face persistent challenges including limited infrastructure, dependency on intermediaries, inadequate market information, and post-harvest losses that collectively hinder their ability to secure fair prices and maximize value from their catch. These constraints are exacerbated by fragmented value chains and weak institutional support, which reduce fishers' bargaining power and perpetuate inequitable benefit distribution. However, social capital and cooperative models have shown potential in enhancing fishers' market participation and compliance with sustainability standards. Policy and institutional reforms, alongside investments in infrastructure, capacity building, and inclusive certification schemes, are essential to improve market access and value chain performance. Integrating these measures within a multi-stakeholder framework can empower small-scale fishers, reduce inefficiencies, and promote equitable growth in the sector. Ultimately, addressing these intertwined challenges is crucial for advancing the resilience, sustainability, and socio-economic development of Indonesia's small-scale fisheries, in alignment with national priorities and global commitments such as the Sustainable Development Goals. This comprehensive understanding underscores the importance of coordinated efforts to unlock the full potential of small-scale fisheries in Indonesia's blue economy.

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