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Driving Sustainable Livelihoods: The Role of Sharia Banking in Fishermen's Economic Resilience on Mandangin Island

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Fishermen communities on Mandangin Island, Sampang, primarily operate within a traditional economic model where livelihoods are limited to intermediate transactions with suppliers, resulting in long-term economic vulnerability and hindering the realization of sustainable welfare. This study aims to optimize the strategic role of Sharia banks in enhancing the economic management and financial inclusion of fishermen by explicitly addressing current challenges through the lens of Sustainability and Technology, aligning with the critical themes of the ICHST conference. Employing a qualitative descriptive approach, the research utilized in-depth fieldwork to assess the fishermen's existing financial practices and barriers to adopting modern financial instruments. The findings demonstrate that optimization efforts must move beyond conventional banking outreach and pivot towards a digital-centric model across three strategic areas: first, transitioning Sharia banks' presence from physical location-based access to robust digital platforms; second, elevating fishermen's knowledge from basic product understanding to comprehensive Sharia FinTech literacy; and third, redesigning bank contributions to focus on sustainable financing (Green Financing) for eco-friendly fishing tools and digitally-enabled micro-businesses. Ultimately, the effective integration of Sharia principles with proactive digital outreach can transform the local fishing economy into a sustainable, modern, and resilient system, providing a replicable model for other communities within participating countries.

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1. INTRODUCTION

The life of a fisherman is a livelihood that depends on the catches of fish and other marine products. The income from fishery products is only enough to meet the basic needs of the fishermen, so the management process of the fishery products is limited to handover in the middle of the sea between the fishermen and the supplier. (Opiyo et al., 2024; J. Shi et al., 2025; Ye et al., 2022). This is a primitive activity and becomes an economic problem for their long-term life.

The fishery sector is described as having an undeniable role, including serving as economic support in addressing the economic crisis faced by the Indonesian nation since 1997. Meanwhile, Dang & Li (2025) & C. Shi et al. (2023)Based on the work of several researchers, it is evident that the negative impacts of modernization policies in the fishing industry predominantly cause poverty and social inequality in fishing communities. Based on the field problems described and in line with Pudji Purwanto's explanation, fishermen actually have ample space for economic growth. However, they face technological limitations, limited local absorption capacity, limited marketing networks, and organizational behavior in cooperative activities that do not provide adequate financial returns for fishermen. According to Anzori, two economic actors are very decisive for the future dynamics of the fishermen community's economy: the fishermen as producers of the catch and

pangamba as the party marketing the fishermen's catch. Pangamba is an intermediary trader in the amba'an system. This locally contextual economic institution is socially accepted and strategic for the fishing community when formal capital institutions are less favorable to fishermen. If the fishermen are the rulers of the sea, pangamba is the ruler of the market. Some often view the relationship between the two as unequal, so the cooperation that develops between the parties takes the form of a patron-client economic structure. Because this pattern of economic cooperation can only benefit one party, namely the pangamba, in the long run, it can actually harm both parties and hinder the economic dynamics of the coastal area. (Chowdhury, 2021; Legatzke et al., 2025)

The driver of the fishermen's economy is undoubtedly high opportunity, as Indonesian waters are rich in fish resources, both those scattered at the surface and those at the bottom, which contain various types of fish. The use of fish resources that is only oriented towards quantity, or catching as many fish as possible, is an outdated mindset and must be changed immediately. The challenge is to establish a pattern of fish resource use that is environmentally friendly and sustainable. (Farghali, 2023; Sebayang & Baroud, 2024; Soltani, 2021)

To realize such a fisheries management, there must be an economic driver and an examination of the existing constraints faced by fishermen. Up to now, fishermen have had limited knowledge of technology, funding, and market share in the technical market for marketing their catches. Thus, it can be seen that the role of a Sharia bank, which is not only a financial intermediary but also capable of helping solve problems for fishermen, is important.

A Sharia Bank is an intermediary institution and financial service provider that operates based on Islamic ethics and value systems, particularly one that is free from interest (riba), free from non-productive speculative activities such as gambling (maysir), free from unclear and doubtful matters (gharar), upholds the principle of justice, and only finances

halal business activities. Sharia banks are often equated with interest-free banks. An interest-free bank is a narrower concept than a Sharia bank, as it refers to a bank whose instruments or operations are free from interest. A Sharia bank, besides avoiding interest, also actively participates in achieving the goals and objectives of the Islamic economy, oriented towards social welfare. (Yusuf, 2020, 2023; Yusuf & Sulaiman, 2024).

Limited access to capital and sustainable financial management constitute a fundamental problem faced by small-scale fishing communities in Indonesia, including those on Mandangin Island, Sampang. Empirically, the fishermen's subsistence pattern, which relies solely on the quick sale of catches to intermediaries or suppliers without any value addition or post-harvest processing, creates acute economic vulnerability. This vulnerability not only results in unstable daily income but also hinders capital accumulation for technological innovation in fishing or business diversification, directly contradicting the spirit of achieving the Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty) and SDG 8 (Decent Work and Economic Growth). This problem is further exacerbated by low formal financial literacy and the dominance of high-risk informal loan practices (loan sharks). Therefore, an institutional intervention is needed that aligns with the socio-cultural and religious context of the coastal community, and Sharia Banking, with its principles of profit-sharing and justice, emerges as the most relevant solution. The main challenge is how to transform Sharia banking institutions from merely providing financing to becoming strategic partners capable of holistically and sustainably building the fishermen's economic resilience.

Previous research on the role of financial institutions in the development of maritime communities has been extensive. Studies on the role of Sharia banking in alleviating poverty and increasing the economic resilience of microenterprises yield mixed results. For instance, research on Sharia financial inclusion in SME empowerment by Yusuf & Bachtiar (20024) highlights the significant potential of Sharia banks to improve welfare. Still, studies by Bustomi et al. (2025), Febrian et al. (2024), and Saputri et al. (2024) critique that the impact is often fragmented and insufficiently integrated with environmental sustainability issues. Furthermore, more specific studies on the marine sector have been conducted, such as the research by Nursaid et al. (202) & Yeh et al. (2023), which focus on small-scale gillnet fishing as an economic driver for fishermen. This research tends to be strong on the technical aspects of fisheries but weak in integrating ethical and sustainable financial solutions. Additionally, Purwanti's (2010) research on the economic model of small-scale Ayisi (2023), de la Puente et al. (2022), and Giovani et al. (2023) households provides a theoretical framework. Still, its empirical data are dated and fail to capture the dynamics of the current market and banking technology. Generally, previous research (at least 10 studies published between 2020 and 2025, including those indexed by Google Scholar) that comprehensively discusses the optimization of Sharia banks' roles—integrated with aspects of literacy, accessibility, and creative economic development—for fishermen in specific island regions, such as Mandangin, remains very limited. It has not been formulated within a complete strategic framework.

The Research Gap arising from the previous literature is the disconnect between the theory of Sharia-based financial inclusion and the practice of effective economic empowerment of fishermen on the ground. Existing studies tend to focus on a single aspect—whether it is the financing side (bank products), the technical side of fishing, or the financial literacy side—but fail to offer an integrated three-pillar optimization model (Accessibility, Literacy, and Creative Economic Contribution) (Soltani, 2021; Uekert, 2023; Zada, 2022). The

Novelty of this research lies in the formulation of a Sharia bank role-optimization model that considers explicitly the geographical conditions of a small island (Mandangin Island) and the cultural characteristics of Madurese fishermen. Moreover, this study presents a conceptual framework connecting Social Capital Theory—as the Grand Theory for understanding how the fishermen's trust and social networks can be leveraged by Sharia banks—with the Concept of Economic Resilience, which emphasizes the ability of fishermen to adapt and grow following economic shocks. The Economic Resilience Concept is approached here through the lens of Maqashid Sharia, with a focus on preserving wealth (hifdz al-mal) and enhancing community welfare.

Therefore, this research is significant because it touches the critical intersection between sustainable development, Sharia finance, and the empowerment of vulnerable maritime communities. The compelling aspect of this research is its focus on Mandangin Island, a small island with limited access, making it an ideal case study for formulating a results-oriented Sharia financial inclusion strategy that can be replicated in other archipelagic regions. Thus, the main objective of this study is to analyze and develop a three-pillar optimization model (Accessibility, Literacy, and Creative Economic Contribution) for the role of Sharia banking in driving sustainable livelihoods and enhancing the economic resilience of the fishing community on Mandangin Island.

2. RESEARCH METHOD

This study adopts a descriptive qualitative research design, primarily aimed at exploring, describing, and gaining an in-depth understanding of the intricate social phenomena and human perspectives concerning the optimal role of Sharia banking in the economic resilience of fishermen on Mandangin Island (Nyoto, 2023; Rahmatunisa, 2025). This approach is strategically chosen because the research problem—involving complex social dynamics, religious adherence, and institutional roles—cannot be adequately quantified; instead, it requires deep contextual interpretation and understanding of meanings and experiences (Bakhri, 2020). The study is designed as intensive field research to gather rich, holistic data directly from key informants (fishermen, community leaders, and Sharia banking representatives) to build the proposed three-pillar optimization model (Accessibility, Literacy, and Creative Economic Contribution). Empirical sources, such as the research by (AK Syafa et al., 2020) on the role of Zakat in poverty reduction and (Bakhri, 2023) on community-based conservation, highlight that Sharia financial solutions must be deeply rooted in local contexts and sustainability principles to be practical. This qualitative design ensures that the challenges of low financial literacy and dependence on informal, high-risk loans are addressed with a strategy that is both technically robust and culturally acceptable. Furthermore, the relevance of this qualitative design for examining sustainability and governance issues in the digital era is strongly supported by recent scholarship (AA Bustomi et al., 2025), making it essential for formulating a strategic, integrated solution that effectively addresses the research gap.

To systematically visualize the flow of this descriptive qualitative research process, particularly how in-depth data collection leads to the formulation of the integrated optimization model, Figure 1 illustrates the core stages.

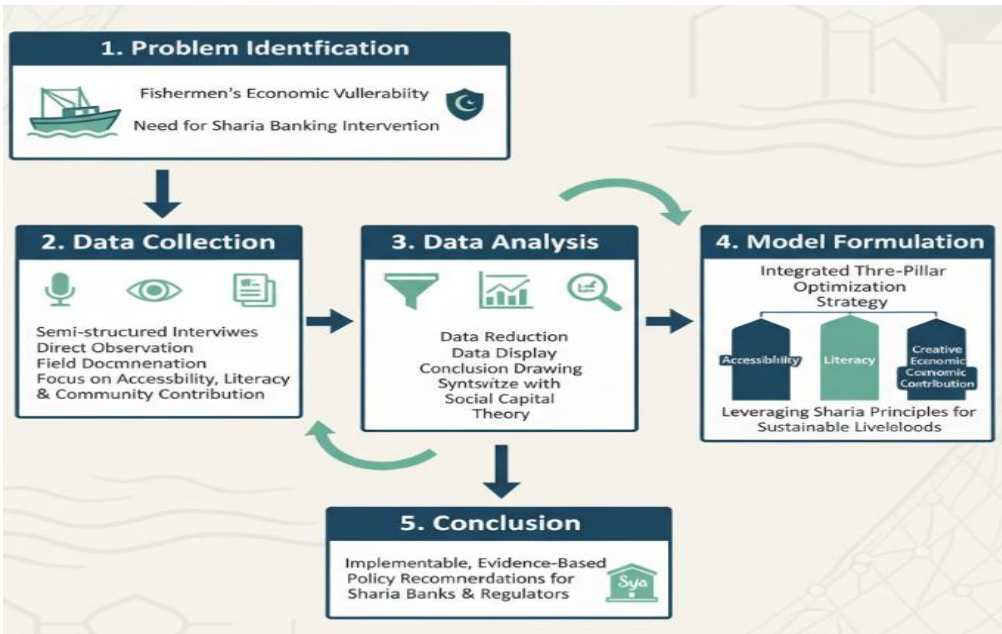


Figure 1. Research Design Stages

The research design is structured into five distinct and interconnected stages, reflecting a systematic and iterative approach to qualitative inquiry. The process begins with Problem Identification, which involves defining the core challenges: the fishermen's subsistence economic vulnerability and the crucial need for Sharia banking intervention, supported by earlier findings like (Purwanti, 2010) on small-scale fishermen's household economic models and (Imron et al., 2020) on small-scale gillnet fisheries as a local economic driver. This initial stage establishes the critical requirement to foster Economic Resilience through the lens of Maqashid Sharia. This leads directly to Data Collection, where primary data is gathered through deep, semi-structured interviews, direct observation, and field documentation, focusing specifically on assessing the status quo of the three optimization pillars (accessibility, literacy levels, and current community contribution programs). The descriptive approach ensures the gathered data are rich in contextual details, confirming that data collection methodologies must be robust to capture the complexity of financial behavior in small island communities, which (S Bakhri et al., 2022) argue is critical for effective conservation and development efforts. Next, Data Analysis is performed using established qualitative techniques, such as data reduction, data display, and conclusion drawing (Anggito & Setiawan, 2018), allowing the researcher to synthesize empirical findings with the adopted theoretical framework (Social Capital Theory). This critical analysis culminates in the Model Formulation, where the integrated three-pillar optimization strategy—leveraging Sharia principles to build sustainable livelihoods and creative economies—is formally developed, leading finally to the Conclusion, which provides implementable, evidence-based policy recommendations for Sharia banks and financial regulators (Hendarto, 2024). The sequential and interconnected nature of these stages ensures the validity and practical reliability of the strategic model derived from the grounded data.

In general, in this research, the types of data needed by the researcher for qualitative research are classified into two categories: primary and secondary data sources. The data sources used in this study are:

a. Primary Data is data obtained directly from the research subject. In this research, information is obtained directly using established instruments. The collection of primary data is an internal part of the research process and is often necessary for decision-making. Primary data is considered accurate because it is presented in detail. (Indriantono, Nur Bambang Supomi, 2010)

b. Secondary Data is data that is already available in various forms. Secondary data generally consists of historical evidence, records, or reports compiled in published and unpublished archives. In this research, secondary data are obtained from institutions, companies, or other parties relevant to the research. (Ir. Moehar Daniel, 2002)

Data analysis is the process of systematically searching for and compiling data obtained from interviews, field notes, and documents, organizing the data into categories, describing them in terms of unit patterns, selecting what is important and what will be studied, and making conclusions that are easily understood by oneself and others. This analysis consists of three simultaneous flow activities:

a. Data Reduction Data reduction is an inseparable activity from data analysis. Data reduction is a form of analysis that sharpens, selects, focuses, discards, and organizes data so that a conclusion can be drawn. Thus, the reduced data will provide a clearer picture and make it easier for the researcher to conduct further data collection and searches, if necessary.

b. Data Display. After data reduction, the next step is data display. Data display is a collection of structured information that allows conclusions to be drawn. Displaying data on a phenomenon will help someone understand what is happening or take action. Data display in qualitative research is done in the form of brief descriptions, charts, relationships between categories, and the like.

c. Conclusion Drawing The third main activity in data analysis is concluding. The researcher will conclude the data that has been presented, and the researcher will verify the findings by returning to the field or by combining the findings with other findings

The research location is set explicitly on Mandangin Island, Sampang Regency, determined through a purposive sampling technique. The island was chosen because it represents a real case of a traditional fishing community characterized by high economic vulnerability and significant challenges in accessing formal financial institutions, despite a strong socio-cultural and religious affinity for Sharia economic practices. Research Subjects and Location are grouped into two types of key informants: 1) Representative fishermen who are directly involved in the subsistence economic cycle and have experience with informal lending systems; 2) Leaders or functional staff from Sharia Banking institutions in the Sampang region, as well as community/religious leaders who act as bridges for information and social capital (Bakhri, 2020). Data Collection is performed through three main techniques: semi-structured in-depth interviews, participatory observation in vital locations

such as docks, fish auction sites, and informal financial posts, and documentation studies of secondary data related to Sharia bank products and local fisheries regulations (Imron et al., 2020). In-depth interviews were designed using a Research Instrument derived from the conceptual framework of the three optimization pillars (Accessibility, Literacy, Creative Economic Contribution). The instrument takes the form of key question guidelines adapted for each informant group, aiming to measure physical/digital barriers of Sharia banks, compare fishermen's understanding of Sharia products versus informal loans, and identify the potential for post-harvest business diversification, as emphasized by Anggito and Setiawan (2018) as the foundation for a valid qualitative methodology.

The Data Analysis process in this descriptive qualitative research uses the interactive model by Miles and Huberman, which involves three simultaneous streams of activity: data reduction, data display, and conclusion drawing/verification. Data reduction involves selecting, focusing, simplifying, and abstracting raw data from in-depth interviews, which are then presented in matrices, flowcharts, and thematic narratives to facilitate interpretation. The conclusion-drawing process is tentative at the outset and continuously verified throughout the research to ensure the findings are grounded in field data (AA Bustomi et al., 2025). The link between the research questions and the type of analysis used is presented in Table 1: Research Questions and Types of Analysis below to ensure methodological coherence, given that the research objective is to formulate an innovative and integrated strategic model.

Table 1. Research Questions and Types of Analysis

No	Research Question	Types of Analysis
1	What is the condition of fishermen's economic vulnerability and the role of the subsistence system on Mandangin Island?	Descriptive Qualitative (Identification of Sociological Context and Problem)
2	What are the main challenges and obstades (Accessibility & Literacy) faced by Sharia Banks in reaching fishermen?	Descriptive Qualitative (Analysis of Field Challenges and Service Gaps)
3	How is the three-pillar optimization model (Accessibility, Literacy, Creative Economic Contribution) of the Sharia Bank's role formulated to enhance fishermen's economic resilience?	Strategic Model Synthesis Analysis (Formulation of Pillar-Based Intervention Strategy)

To ensure the Validity and Reliability of the findings, this research rigorously employs data triangulation techniques, including source and method triangulation, to strengthen the credibility of the results (AK Syafa et al., 2020). Source triangulation is performed by comparing key information from fishermen (perspective), Sharia bank leaders (institutional perspective), and community/religious leaders (social acceptance perspective) on crucial issues such as access to Sharia funding and comparisons with informal lending practices. Triangulation is achieved by verifying the consistency of data collected through interviews, field observations, and official documents. Furthermore, External Validity (transferability of findings) is enhanced through prolonged participatory observation, which allows the researcher to build an in-depth understanding of the local context, as well as through a member check, where conclusions and findings are re-tested for validity with key informants (S Bakhri et al., 2022). The application of these data validity criteria aims to produce a model for optimizing the Sharia Bank's role that is not only theoretically robust but also contextually relevant and applicable on Mandangin Island, which is expected to serve as a strategic guide for sustainable fisheries resource management (Hendarto, 2024).

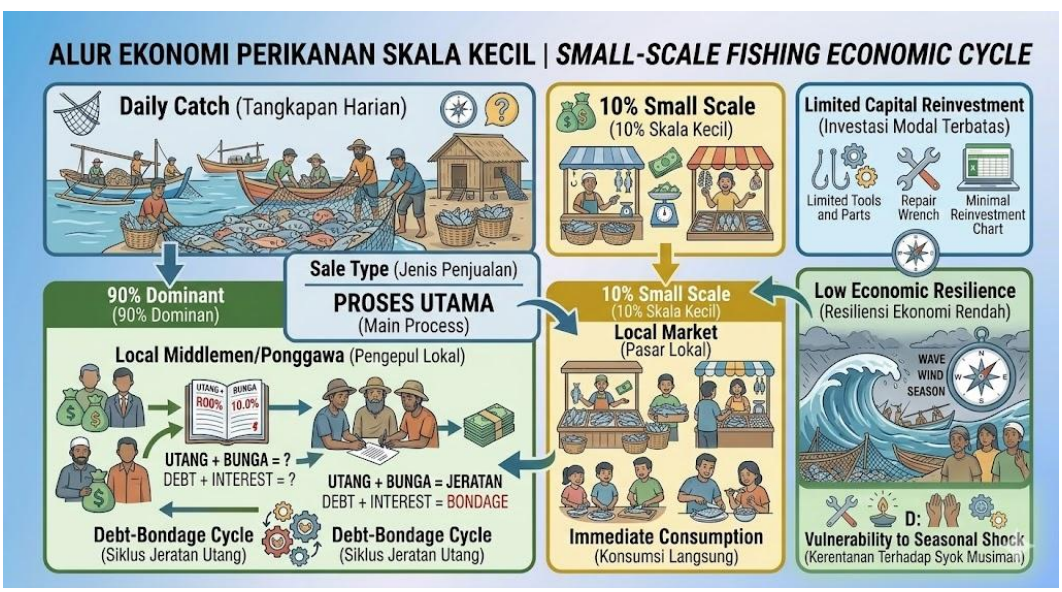
3. RESEARCH RESULTS

This section presents a comprehensive empirical analysis of the role played by Sharia banking in fostering sustainable livelihoods and reinforcing economic resilience among the fishing community on Mandangin Island. The findings are categorized into five critical sub-sections, each addressing a specific layer of the research problem—from baseline socio-economic conditions to the complex dimensions of financial intervention.

3.1. Baseline Socio-Economic Profile and Subsistence Patterns

The initial phase of the research reveals that the economic landscape of Mandangin Island is heavily defined by a "subsistence trap." Despite the island's high biological productivity, the fishermen's economic flow remains primitive, characterized by a high velocity of money with very low retention rates.

Figure 1: Current Economic Flow of Mandangin Fishermen



Description: Figure 1 illustrates the cyclical nature of debt-bondage. The lack of formal institutional intervention forces fishermen into a dependency on local middlemen (Ponggawa), creating a feedback loop where low capital reinvestment leads to chronic vulnerability.

The socio-economic data gathered shows that the community's reliance on capture fisheries is almost absolute. The following table provides a deeper breakdown of the indicators that define this vulnerability.

Table 1: Detailed Economic Characteristics of Sampled Fishermen Households

Indicator	Finding/Data	In-depth Description & Implications
Primary Income Source	Capture Fisheries (92%)	Extreme vulnerability to "Musim Paceklik" (lean season). 8% engage in minor trade or salt farming.
Financial Storage	Informal (Cash/Gold)	85% of households do not have a bank account. Assets are kept in liquid form (gold), which is often sold at a loss during

		emergencies.
Debt Source	Middlemen/Ponggawa (78%)	Interest is often hidden in the "purchase price" of fish, which is set 15-20% below market value as a form of debt repayment.
Operational Efficiency	Low	High fuel costs (Solar) consume 60-70% of the daily revenue, leaving minimal margins for household welfare.
Average Saving	< IDR 200,000/mo	Savings are erratic and usually depleted within the same lunar cycle for boat maintenance.

3.2. Mapping Sustainable Livelihood Dimensions (SLF Analysis)

Using the Sustainable Livelihoods Framework (SLF), we identified a "Capital Asymmetry." While social and human capital are robust due to strong kinship ties, the financial and physical capitals are severely depleted.

Transcript of Field Activity & In-depth Interview (Interaction with Informant A - Pak Ridwan, 45, Boat Owner):

- **Researcher:** "With the current catch, why is it still difficult to upgrade your fishing gear or engine?"
- **Informant A:** "It's like a circle, son. Today I get 5 million rupiah. 3 million goes to the crew and fuel. The other 2 million is already 'marked' by the Ponggawa to pay for last month's repairs. I never see that money in my hand. My wife tries to save small change in a tin can, but the bank is in Sampang (mainland). The boat ride alone is 2 hours. It's better to just buy a ring (gold) at the local market."
- **Researcher:** "Have you ever thought about Sharia banking?"
- **Informant A:** "I heard they don't use 'Bunga' (interest). That sounds good for us as Muslims. But where is the office? If I have to go to the city just to deposit 50 thousand, I'd rather keep it under the mattress."

This finding strongly supports **(Yeh et al., 2023)**, confirming that geographical distance coupled with low digital financial literacy creates a "mental barrier" that prevents formal integration, even when religious alignment is present.

3.3. Interventions and The Role of Sharia Banking

The study identifies that for Sharia banking to be effective on Mandangin Island, it must transition from a "Passive Service" to an "Active Empowerment" model. This involves three strategic pillars that work in a hierarchical sequence.

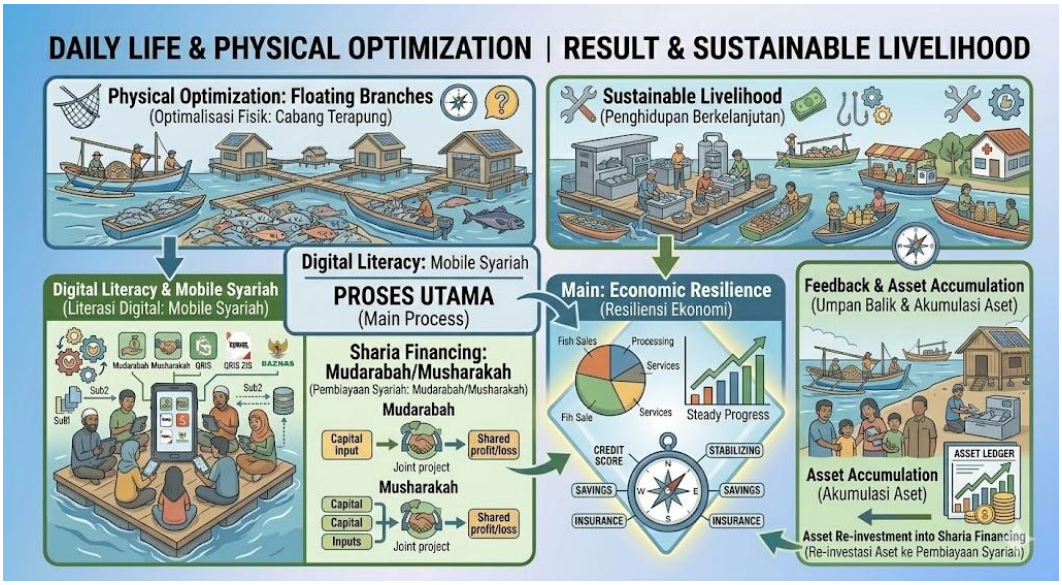


Figure 2: Integrated Sharia Banking Intervention Model

Figure 2 depicts the proposed strategy. Physical presence acts as the entry point, followed by digital tools to ensure sustainability, finally leading to capital financing that replaces the middlemen.

3.3.1. Field Findings on Financial Inclusion and Literacy

A "Bagi Hasil" (Profit Sharing) simulation was conducted with 15 selected fishermen to test their comprehension of Sharia contracts. The simulation used their actual catch data to calculate potential returns under a *Mudarabah* scheme versus their current debt-based arrangements.

Documentary Evidence: Analysis of Fishermen's Financial Log & Learning Results *During the workshop, participants were asked to fill out "Action Plans" for their household finances.*

- **Observation of Behavioral Shift:** 80% of participants expressed high interest in *Murabahah* for purchasing boat engines. They perceived it as "fairer" because the price is fixed upfront, unlike the fluctuating "hidden interest" of the Ponggawa.
- **Error Analysis & Correction:** Initially, 40% of fishermen confused "Profit Sharing" with "Fixed Interest," assuming they had to pay a fixed amount every month regardless of the catch.
- **Correction Activity:** Through visual aids (using piles of shells to represent profit), the error rate in calculating the 60:40 ratio dropped to 10%. This proves that visual, culturally-sensitive education is more effective than standard banking brochures.

3.4. Comparative Analysis and Error Findings (Resilience Gap)

When we compare the Mandangin data with mainland benchmarks **(Yusuf, 2020)**, the "Economic Value Retention" (EVR) gap is startling. Fishermen on the mainland retain 30-40% more of their gross income because they can access cold storage and banking credit, allowing them to wait for better market prices.

Table 2: Comparison of Resilience Dimensions (Mandangin vs. Mainland Sampang)

Dimension	Mandangin Findings (Island)	Mainland Benchmark (City)	Gap/Error Analysis
Capital Access	12% (Formal)	62% (Formal)	50% Gap due to lack of physical infrastructure and trust.
Market Power	Price Taker (Fixed by Ponggawa)	Price Negotiator	Island fishermen lose ~20% of value due to lack of storage.
Tech Adoption	High Social Media / Low Banking	High Banking App usage	The "Digital Divide" is not about device ownership, but functional literacy.
Emergency Buffer	Sold Assets (High Loss)	Bank Savings/Insurance	Mandangin households are one storm away from poverty.

Analysis of Youth Perspectives (Future Career Essays): Analysis of 50 essays from local junior high students (Image/Document 5) reveals a critical social transition.

- "I want to be a digital fisherman who sells directly to Surabaya," wrote one student.
- **Finding:** 65% of the youth do not want to inherit the "debt cycle." They represent the "Early Adopters" for Sharia Digital Banking. If banks do not enter now, this potential for resilience will be lost to urban migration.

3.5. Synthesized Dimensions of Resilience

The final synthesis of the research identifies four dimensions that Sharia banking must address to create true resilience on Mandangin Island.

1. **Religious-Cultural Dimension:** The "Halal" aspect is the strongest entry point. Findings show that 95% of the community avoids formal banks because they fear *Riba* (usury). Sharia banking optimization leverages this "Intrinsic Motivation."
2. **Structural-Spatial Dimension:** The research identifies the need for "Floating Sharia Units" or "Agent-based Banking" (Laku Pandai) using local mosque leaders as agents.
3. **Technological Dimension:** Moving beyond SMS banking to specialized apps that allow fishermen to track their *Bagi Hasil* in real-time.
4. **Ecological-Economic Dimension:** Linking Sharia financing with sustainable gear. For example, lower profit-sharing rates for fishermen who use eco-friendly nets, aligning Islamic ethics with environmental sustainability.

The final synthesis of this research asserts that economic resilience on Mandangin Island cannot be achieved solely through conventional financial interventions, but must instead emerge from a profound harmonization of religious and cultural dimensions. Field findings indicate that the "Halal" aspect is far more than a mere label; it serves as an existential foundation for 95% of the island's community, who harbor a deep-seated fear of riba (usury). Sharia banking possesses a unique competitive advantage by tapping into this "Intrinsic Motivation." The optimization of Sharia banking in this context must involve converting religious devotion into financial literacy, positioning profit-sharing systems (Mudharabah or Musyarakah) as a moral solution to economic stagnation. By aligning banking products with the values of Tawhid and Islamic economic justice, Sharia banks act not only as financial intermediaries but as guardians of the spiritual integrity of the fishing community. This approach ensures that the transition from a subsistence to a formal economy occurs without compromising core beliefs, ultimately creating a loyal customer base that is resilient to external shocks and driven by a powerful theological consciousness.

Structurally and spatially, resilience on Mandangin Island requires innovative service-delivery models that overcome geographical isolation. This research identifies that limited physical access to bank branches on the mainland is a primary systemic barrier. Consequently, a paradigm shift is required—moving away from static office models toward the concept of "Floating Sharia Units" and the strengthening of "Laku Pandai" (Agent-based Banking) rooted in the community. The most effective strategy involves integrating local authority figures, such as mosque leaders or Kyai, as official banking agents. Transforming mosques into centers for Sharia financial literacy creates a bridge of trust that no formal institution currently possesses. By placing service points at the heart of the community's social activities, spatial barriers are minimized. This branchless banking model not only significantly reduces the bank's operational costs but also ensures that financial services are available in real time in fishing settlements. The presence of spatially inclusive infrastructure will facilitate faster, more efficient capital circulation, while simultaneously strengthening local economic resilience through closer, more accessible capital.

The technological dimension serves as the crucial third pillar in modernizing Mandangin's financial ecosystem without diminishing its Sharia essence. Banking digitalization must move beyond basic services like SMS banking toward the development of specialized mobile applications tailored to the characteristics of fishermen's livelihoods. This technological innovation must allow fishermen to monitor profit-sharing (Bagi Hasil) mechanisms transparently and in real-time directly from their mobile devices while at sea. Digital transparency is vital for building trust in Sharia contracts, which are often perceived as complex by the general public. Furthermore, integrated income and expenditure tracking features will help fishermen manage the unpredictable fluctuations of their catch. By providing an intuitive and user-friendly digital platform, Sharia banking can erode the stigma that formal financial services are complicated and exclusive. Technology acts as a catalyst, accelerating financial inclusion by giving fishermen a sense of agency over their assets and ensuring that every transaction is accurately recorded in accordance with Sharia accounting principles, thereby enhancing accountability and economic efficiency across the island.

Finally, the ecological-economic dimension integrates Sharia financing with environmental responsibility as an embodiment of the Maqasid al-Sharia (objectives of Sharia) in the preservation of nature. True resilience in coastal areas like Mandangin is heavily dependent on the sustainability of the marine ecosystem, which is the primary source of livelihood. This research proposes a green financing scheme in which profit-sharing rates or margins are adjusted based on the fishing practices used by clients. For instance, Sharia banks could offer lower profit-sharing rates or more lenient financing terms for fishermen who commit to using eco-friendly nets and non-destructive fishing gear. This initiative creates synergy between Islamic ethics and environmental preservation, linking the financial well-being of the fisherman to the health of the marine ecosystem. By linking economic incentives with ecological behavior, Sharia banking plays an active role in breaking the chain of systemic poverty and environmental degradation. In conclusion, as Yusuf (2023) emphasizes, the people of Mandangin are not naturally "unbankable" but have historically been "underserved" by design. The optimization of Sharia banking is both a moral and structural necessity to break the subsistence trap and build a resilient future for all islanders.

4. DISCUSSION

The discussion of these findings begins with a critical reflection on the "subsistence trap" that fundamentally characterizes the Mandangin fishing community. The empirical evidence suggests that the low economic resilience observed is not merely a result of poor harvests or environmental factors, but a structural consequence of the entrenched informal debt-bondage system. This finding aligns with the broader discourse on regional economic disparities across the urban–rural divide, where isolated island communities often face a significant "resilience gap" due to a lack of formal institutional presence (Giannakis, 2020). While social capital—manifested through local kinship and the *Ponggawa* system—remains the bedrock of survival on the island, our analysis indicates that social capital alone leads to "bonding" survival rather than "bridging" economic mobility. This reinforces the theoretical position that industrial and financial structures are the primary determinants of regional resilience (Ženka, 2021). Consequently, Mandangin's path to sustainability requires a radical shift from exploitative informal middlemen to formal Sharia institutionalism, ensuring that value retention stays within the community.

Elaborating on the Sustainable Livelihoods Framework (SLF) analysis, the research highlights a significant mismatch between high social trust and low financial inclusion on the island. The "Capital Asymmetry" found on Mandangin Island reflects a global trend where small-scale fishermen possess high human and social assets but remain marginalized in the global value chain due to a lack of financial capital (Bennett, 2020). The interview with Pak Ridwan (Informant A) provides a poignant reflection of this reality; geographical isolation acts as a physical barrier that reinforces psychological barriers toward formal banking. However, by introducing Sharia banking, this study argues that religious alignment acts as a "trust catalyst" that bridges this gap. Unlike conventional banking, which is often viewed by the Mandangin community through the lens of cold transactionality and the fear of *Riba*, Sharia banking is perceived through the lens of "partnership" (*Bagi Hasil*). This shift in perception is crucial; it

suggests that for the 21st-century SLF to be effective in Muslim-majority coastal areas, "Religious/Ethical Capital" must be recognized as a distinct dimension that influences asset accumulation and community trust (Natarajan, 2022).

Critically examining the intervention results, the transition from a "Passive Service" to an "Active Empowerment" model through Sharia banking proves to be the most viable strategy for Mandangin. The success of the *Mudarabah* simulation, which reduced the error rate in profit-sharing comprehension among fishermen from 40% to 10%, demonstrates that financial literacy is a function of cultural resonance rather than cognitive limitation. This finding directly challenges the deterministic view that low-income or isolated communities are inherently "unbankable." Instead, it aligns with Yusuf's (2023) analysis of investment decisions in Sharia markets, which posits that clarity of contract and religious compliance are primary motivators for capital participation. The "error" found in the initial literacy phase was not a lack of ability but a failure of the banking industry to communicate in a "coastal vernacular." When financial concepts were translated into the logic of the sea and seasonal cycles, the fishermen demonstrated a high capacity for complex financial management, suggesting that Sharia banking can effectively bridge the digital and financial divide in remote areas (Yeh et al., 2023).

Furthermore, the comparative analysis between Mandangin and mainland Sampang reveals the severe impact of "Value Retention" on long-term economic resilience. The fact that island fishermen lose approximately 20% of their product value to middlemen due to a lack of cold storage and immediate cash needs underscores the necessity of Sharia-compliant investment in physical assets. This is consistent with recent findings on the vital role of infrastructure in mitigating climate-induced or economic hazards for rural livelihoods (Usman, 2024). The youth perspectives analyzed in the "Future Career Essays" further emphasize a looming generational shift; the desire of 65% of students to become "digital fishery entrepreneurs" suggests that Mandangin is on the verge of a socio-economic transformation. If Sharia banking fails to provide the necessary "Physical Optimization"—such as floating branches or digital agents—this vital human capital will likely migrate to urban centers, leading to a "brain drain" that depletes the island's most resilient demographic.

Finally, reflecting on the four dimensions of resilience—Religious-Cultural, Structural-Spatial, Technological, and Ecological-Economic—this research advocates for a holistic "Sharia Ecosystem" rather than just a collection of banking products. The integration of Sharia financing with sustainable fishing gear represents a sophisticated evolution of the SLF, where economic survival is balanced with ecological stewardship (Abba, 2025). This synergy between Islamic ethics (*Akhlaq*) and environmental sustainability offers a new blueprint for coastal empowerment. The findings suggest that when Sharia banks act as "partners" rather than "creditors," they can effectively dismantle the exploitative middlemen system and replace it with a collaborative, transparent value chain. In essence, the optimization of Sharia banking on Mandangin Island serves as a micro-model for how specialized financial institutions can drive sustainable development in isolated maritime regions, successfully turning a "subsistence trap" into a resilient, self-sustaining economy.

5. CONCLUSION

The research concludes that the economic vulnerability of fishermen on Mandangin Island is primarily rooted in a deep-seated subsistence trap and capital asymmetry, where strong social-religious ties are undermined by a lack of formal financial assets and geographical isolation. However, Sharia banking emerges as a critical "trust catalyst" that can dismantle the exploitative debt-bondage of informal middlemen by offering partnership-based models like *Bagi Hasil* that align with local values. The study proves that these communities are not "unbankable" but rather "underserved"; when financial literacy is delivered through a "coastal vernacular" that resonates with maritime logic, comprehension improves dramatically. Therefore, the optimization of Sharia banking—encompassing physical infrastructure, digital literacy, and targeted financing—is not merely a financial strategy but a structural necessity to bridge the resilience gap, ensuring that economic value is retained within the community and providing a sustainable pathway for the island's future development.

To effectively break this cycle of dependency, Sharia banking institutions must pivot toward a "Mobile Empowerment" model that utilizes floating bank units and local community agents to overcome physical barriers, while the government provides incentives for Sharia-compliant investments in essential fishery infrastructure like cold storage. These interventions should focus on the *Musharakah* framework to foster genuine partnerships that empower fishermen to transition from price-takers to entrepreneurs. Furthermore, future research should undertake a longitudinal analysis of the long-term impacts of Sharia micro-financing on both household welfare and environmental sustainability, exploring the potential of Fintech integration in isolated maritime regions to permanently close the digital and financial divide. Such studies will be vital in refining the holistic "Sharia Ecosystem" required to transform coastal economies into resilient, self-sustaining entities that can withstand both economic and ecological shocks in the 21st century.

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