

A Sharia Financial-Based Fishermen's Financial Safety Net Program for Strengthening the Economic Resilience of Small-Scale Coastal Fishermen in Central Java

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ABSTRACT

Purpose – This study analyzes a sharia financial-based financial safety net strategy for small-scale coastal fishermen in Central Java Province through the Sharia Financial-Based Fishermen's Financial Safety Net Program in strengthening the economic resilience of small-scale coastal fishermen.

Design/methodology/approach – This study employs a qualitative descriptive approach integrated with the Business Model Canvas (BMC) framework to design and evaluate the proposed financial safety net model. The study relies exclusively on secondary data obtained from policy documents, academic literature, institutional reports, and related publications. The data were analyzed thematically and mapped into the nine components of the BMC.

Finding/Results – The findings indicate that the Sharia Financial-Based Fishermen's Financial Safety Net Program operates through fishermen cooperatives (KUD Mina) as intermediary institutions that provide financial literacy, savings facilitation, financial management assistance, sharia-compliant financing access, debt advisory services, livelihood diversification support, psychosocial assistance, and institutional strengthening. These integrated support mechanisms improve financial capability, reduce economic vulnerability, and strengthen the livelihood resilience of small-scale coastal fishermen. The effectiveness of the program depends on stakeholder commitment, institutional coordination, and collaboration among government agencies, cooperatives, Islamic financial institutions, social finance institutions, universities, and fishing communities.

Originality/Value – This study proposes a sharia financial-based financial safety net model for small-scale coastal fishermen by integrating financial inclusion, Islamic social finance, and livelihood resilience. The model supports the development priorities of the Central Java RPJPD 2025–2045 and RPJMD 2025–2029 in promoting coastal economic empowerment, poverty reduction, and sustainable maritime development. The findings offer practical implications for policymakers, fishermen cooperatives, and Islamic financial institutions in strengthening financial inclusion and economic resilience in coastal communities.

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1. Introduction

The fisheries, aquaculture, and fishing sectors play a vital role in food security and protein supply (Tarno, 2025). In Indonesia, fish accounts for 8.41 percent of household food expenditure and provides 54.67 percent of total animal protein consumption (Badan Pusat Statistik, 2020). Fishery production reached 21.83 million tons, including 6.99 million tons from capture fisheries (Kementerian Kelautan dan Perikanan, 2021). The sector also contributed IDR 188 trillion (2.83 percent of GDP) and supported 5.088 million workers across 3.212 million households (Kementerian Kelautan dan Perikanan, 2025).

Despite this contribution, fishermen households, particularly in coastal areas, remain vulnerable to poverty and have relatively low welfare levels (Bank Indonesia, 2017; Saidin et al., 2022; Stacey et al., 2021; Tan et al., 2023). More than 90 percent of Indonesian fishermen are small scale coastal fishermen, many of whom face limited income, financial access, institutional support, technology, logistics, and market opportunities (Badan Pusat Statistik, 2020; Muda et al., 2018; Rohayati et al., 2018; Siswanto et al., 2014). Financial exclusion further exacerbates their vulnerability, with 74.52 percent of coastal communities in Demak Regency remaining unbanked (Djunarsjah et al., 2021; Joan et al., 2019).

From the perspective of Islamic economics, the financial vulnerability of small scale coastal fishermen reflects the limited implementation of sharia financial inclusion in coastal communities (Ginanjar & Kassim, 2021; Holle et al., 2024). Although Islamic finance promotes justice, ta'awun (mutual assistance), risk sharing, and financial sustainability through Islamic microfinance, zakat, infaq, sadaqah, waqf (ZISWAF) and profit sharing schemes, the use of these instruments remains limited due to low financial literacy, weak institutional support, and restricted access to Islamic financial services. Strengthening sharia financial inclusion is therefore essential to enhance economic resilience, reduce dependence on informal debt, and improve the sustainable welfare of small scale coastal fishermen.

Although various government initiatives and sharia-based financial programs have supported coastal communities, most remain focused on financing provision and capital access (Pomeroy et al., 2020; Yunita et al., 2026). Previous studies on Islamic microfinance mainly emphasize financing schemes and business development, with limited attention to integrated financial protection combining financial inclusion, literacy, livelihood resilience, debt management, social support, and institutional coordination (Khan & Sano, 2025; Yuan et al., 2024). Consequently, existing programs have not fully addressed the multidimensional financial insecurity faced by small-scale coastal fishermen, particularly the interaction between financial exclusion, livelihood vulnerability, and institutional limitations (Demirguc-Kunt et al., 2014).

Therefore, this study addresses this gap by developing a Sharia Financial-Based Fishermen's Financial Safety Net Program initiated by the Central Java Provincial Government through the Maritime Affairs and Fisheries Service. Unlike previous studies focusing mainly on financing access, this model integrates financial inclusion, Islamic social finance, institutional strengthening, community empowerment, and livelihood resilience into a comprehensive financial safety-net framework (Ebrahim & Akhtar, 2025). Using the Business Model Canvas (BMC) approach (Vial, 2016) the study positions fishermen cooperatives (KUD Mina) as intermediary institutions to strengthen financial security and reduce economic vulnerability

among small-scale coastal fishermen ([Hidayat et al., 2024](#)). This study extends sharia financial inclusion models beyond financing provision and offers policy implications for strengthening the economic resilience of coastal communities in Central Java.

2. Literature Review and Hypothesis Development

2.1 Livelihood Resilience Theory

This study is grounded in Livelihood Resilience Theory, which explains the ability of individuals and communities to survive, adapt, and recover from economic, social, and environmental vulnerabilities. In coastal communities, resilience depends on fishermen's capacity to manage income uncertainty, climate risks, limited financial access, and market instability ([Nyamwanza, 2012](#)). From the sustainable livelihood perspective, resilience is shaped by institutional support, social capital, financial capability, and adaptive livelihood strategies ([Almutairi et al., 2020](#)), as well as the interaction of economic capital, social networks, and institutional collaboration ([Agung & Putri, 2026](#)). It also relies on collective action, self-organization, and the ability to adapt to socio-economic and environmental changes ([Pauwelussen, 2016](#); [Romdhon & Sukiyono, 2017](#)).

Within this perspective, financial safety-net mechanisms serve as institutional instruments to reduce vulnerability and strengthen adaptive capacity. In Islamic economics, resilience is further supported by sharia-based financial inclusion and Islamic social finance, which emphasize justice, mutual assistance, risk-sharing, and socio-economic welfare ([Hasanuddin et al., 2025](#); [Widiastuti et al., 2022](#)). Accordingly, the Sharia Financial-Based Fishermen's Financial Safety Net Program represents a resilience-oriented empowerment model that promotes the economic sustainability of small-scale coastal fishermen.

2.2 Sharia Financial Inclusion

Sharia financial inclusion refers to equitable access to financial services that comply with Islamic principles by avoiding *riba* (interest), *gharar* (uncertainty), and exploitative practices. It promotes ethical financing, social justice, and community welfare through sharia microfinance, Islamic cooperatives, *zakat*, *infaq*, *sadaqah*, and productive *waqf* ([Azis et al., 2025](#)). Islamic financial inclusion is recognized as an important mechanism for poverty reduction, financial accessibility, and socio-economic empowerment among vulnerable communities ([Novreska & Arundina, 2024](#)), while previous studies show that Islamic financial institutions contribute to poverty reduction and human development through inclusive financing and social finance instruments ([Al Afif et al., 2025](#)).

For marginalized coastal communities, Islamic financial inclusion supports household financial management and sustainable livelihoods. Sharia-based microfinance improves financial access while promoting social justice ([Yunus & Mahadi, 2025](#)), and Islamic social finance instruments such as ZISWAF strengthen financial inclusion and poverty reduction ([Holle et al., 2024](#)). However, research has largely focused on rural communities and microenterprises, with limited attention to small-scale coastal fishermen and livelihood resilience, indicating a gap in integrating sharia-based financial safety-net mechanisms into coastal economic development.

2.3 Financial Safety Net

A financial safety net comprises institutional and financial mechanisms that protect vulnerable communities from economic shocks and financial instability ([Paitoonpong et al., 2008](#)). For small scale coastal fishermen, these mechanisms are essential to address seasonal income fluctuations, uncertain weather, rising operational costs, and limited financial access through income stabilization, financial literacy, savings, and sustainable financing ([Fiscal Policy Research Institute, 2015](#)).

The Sharia Financial Based Fishermen's Financial Safety Net Program integrates social protection, financial literacy, cooperative empowerment, and sharia compliant financing through KUD Mina or fishermen cooperatives ([Perbadanan Insurans Deposit Malaysia, 2017](#)). It also provides financial assistance, savings, debt advisory, and psychosocial support. Previous studies show that financial inclusion supported by technology and institutional innovation strengthens socio economic resilience and reduces poverty ([Direktorat Pengembangan Inklusi Keuangan Otoritas Jasa Keuangan, 2020](#); [Kadir et al., 2025](#); [Mohammed et al., 2025](#)). However, existing studies mainly focus on financing, savings, and business support provided by Islamic cooperatives, Baitul Maal wat Tamwil (BMT), and Islamic microfinance institutions, with limited attention to livelihood resilience and institutional collaboration ([Alam et al., 2021](#); [Ginanjar & Kassim, 2021](#)).

In contrast, the proposed program adopts a network based approach involving Village Unit Cooperative (KUD) Mina, Islamic financial institutions, zakat and waqf institutions, local governments, fisheries agencies, universities, and community organizations. It integrates financial inclusion, Islamic social finance, financial literacy, livelihood diversification, business mentoring, psychosocial support, and institutional strengthening, consistent with recent studies emphasizing multidimensional and collaborative approaches to coastal empowerment ([Azis & Rohimi, 2025](#); [Eriyanti et al., 2025](#)).

By integrating financial, social, institutional, and resilience dimensions within a collaborative ecosystem, the proposed model extends existing Islamic financial empowerment approaches beyond financing provision. This integrated framework represents the study's main novelty and addresses an important gap in resilience oriented Islamic financial empowerment for small scale coastal fishermen ([Anwar et al., 2023](#); [Hasan et al., 2026](#)).

2.4 BMC of the Sharia Financial-Based Fishermen's Financial Safety Net Program

To ensure the sustainability and scalability of the Sharia Financial-Based Fishermen's Financial Safety Net Program, this study adopts the BMC developed by [Osterwalder and Pigneur, \(2010\)](#). The BMC maps the program's value creation, stakeholder engagement, resource utilization, and financial sustainability. Unlike conventional Islamic microfinance or cooperative models that focus mainly on financing, the proposed program integrates financial inclusion, Islamic social finance, institutional collaboration, and livelihood resilience within a comprehensive ecosystem. The proposed BMC components are summarized in Table 1.

Table 1. The BMC of the Sharia Financial-Based Fishermen's Financial Safety Net Program

Building Block	Description
Customer Segments	Small-scale coastal fishermen, fishermen households, coastal Micro, Small, and Medium Enterprises (MSMEs), vulnerable coastal communities
Value Proposition	Sharia financing, Islamic social finance (ZISWAF), financial literacy, livelihood diversification, business mentoring, psychosocial support, institutional strengthening
Channels	KUD Mina, Islamic banks, BMTs, fisheries extension services, local government programs, digital platforms, universities, community organizations
Customer Relationships	Community mentoring, cooperative membership, financial counselling, training programs, digital engagement, participatory empowerment
Revenue Streams	Profit-sharing financing schemes, cooperative service fees, grants, government programs, Corporate Social Responsibility (CSR) funds, zakat and waqf funds, donor contributions
Key Resources	Cooperatives, Islamic financial institutions, social finance funds, facilitators, fisheries experts, digital infrastructure, community networks
Key Activities	Financial literacy training, financing facilitation, savings mobilization, business development, social finance distribution, livelihood diversification, monitoring and evaluation
Key Partnerships	KUD Mina, Islamic banks, BMTs, zakat institutions, waqf institutions, fisheries agencies, local governments, universities, NGOs, private sector
Cost Structure	Training costs, mentoring expenses, operational costs, digital platform costs, social assistance funds, monitoring and evaluation, stakeholder coordination

3. Methodology

3.1 Research Approach

This study employs a qualitative document based approach integrated with the BMC to develop a conceptual model of the Sharia Financial Based Fishermen's Financial Safety Net Program. The model aims to strengthen the financial security of small scale coastal fishermen and reduce financial vulnerability through a systematic synthesis of secondary data. It also incorporates Islamic financial principles, including justice, financial inclusion, ta'awun (mutual assistance), sustainability, and welfare enhancement, into the BMC framework to support coastal economic resilience.

The BMC is appropriate because it systematically illustrates how an institution creates, delivers, and captures value through nine interconnected components, balancing customer value with operational efficiency (Harahap et al., 2024; Osterwalder & Pigneur, 2010). From a sharia finance perspective, it is enriched with Islamic financial instruments, including sharia microfinance, profit sharing schemes (mudharabah and musyarakah), Islamic cooperatives, and Islamic social finance instruments such as ZISWAF, to strengthen the economic resilience of small scale coastal fishermen.

The study relies exclusively on secondary data from academic literature, books, government reports, policy documents, statistical publications, and institutional reports related to fisheries, coastal development, financial inclusion, Islamic finance, and social protection. Key sources include publications from the Ministry of Marine Affairs and Fisheries, Badan Pusat Statistik,

Bank Indonesia, the Central Java Provincial Government, and previous studies on fishermen welfare and sharia financial inclusion. As only publicly available secondary data were used, the study did not involve human participants or primary data collection. Therefore, ethical approval and informed consent were not required. Nevertheless, the research adhered to academic integrity through proper citation, accurate interpretation, and responsible use of all secondary sources.

3.2 Conceptual Framework

The conceptual framework was developed through qualitative analysis of documentary evidence from academic literature, government reports, policy documents, institutional publications, and regulatory frameworks related to fishermen vulnerability, financial inclusion, coastal economic resilience, and Islamic finance. It serves as a conceptual policy design for the Sharia Financial Based Fishermen's Financial Safety Net Program in Central Java, emphasizing sharia financial inclusion, social justice, and sustainable welfare to strengthen the economic resilience of small scale coastal fishermen. The proposed conceptual framework is presented in Figure 1.

Figure 1. Conceptual Framework of the Sharia Financial-Based Fishermen's Financial Safety Net



Source: (The Seafarers' Charity, 2021) modified

The proposed program aims to establish a financial safety net that enhances financial security, reduces financial vulnerability, and promotes sustainable welfare while balancing fisheries sustainability with economic benefits (Desombre, 2019; Mcclanahan et al., 2015). It integrates sharia microfinance, profit sharing schemes, Islamic cooperatives, and Islamic social finance instruments such as ZISWAF to improve financial access and reduce dependence on informal interest based lending. The framework also emphasizes Islamic financial literacy, community empowerment, and ta'awun (mutual assistance), in line with the principles of maqashid sharia, particularly hifz al mal (protection of wealth), maslahah (public welfare), and social justice.

3.3 Data Analysis and Research Validity

The analysis employed a qualitative descriptive approach integrated with the BMC. Secondary data were reviewed, classified, and synthesized into themes related to fishermen vulnerability, financial inclusion, livelihood resilience, institutional support, and Islamic finance. The findings were then mapped into the nine BMC components: customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure.

The development of each BMC component followed three stages: (1) identifying findings from documentary sources, (2) synthesizing policy directions, institutional mechanisms, and financial inclusion strategies, and (3) mapping the synthesized evidence into the BMC. Each component was formulated from academic literature, policy documents, institutional reports, and regulatory frameworks, representing a conceptual policy design rather than an implemented model.

Sharia financial principles were incorporated into every BMC component through the values of justice (adl), mutual assistance (ta'awun), welfare enhancement (maslahah), risk sharing, and financial sustainability. The model also integrates sharia microfinance, Islamic cooperatives, profit sharing financing, and Islamic social finance instruments, including ZISWAF to establish a comprehensive Sharia Financial Based Fishermen's Financial Safety Net Program for small scale coastal fishermen.

To enhance credibility, source triangulation was conducted by comparing evidence from academic articles, government reports, statistical publications, policy documents, and institutional reports. Data on fishermen welfare, poverty, and financial exclusion were verified using publications from Badan Pusat Statistik, Bank Indonesia, the Ministry of Marine Affairs and Fisheries, and previous empirical studies, while evidence on sharia financial inclusion and Islamic social finance was cross checked across academic and institutional sources. Only findings consistently supported by multiple credible sources were incorporated into the proposed BMC model, strengthening its validity and reducing potential bias.

4. Result and Discussion

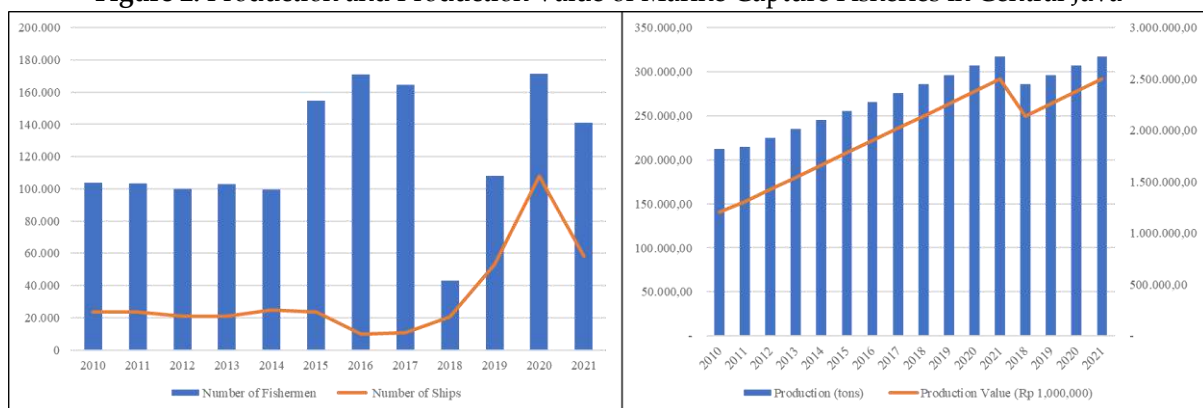
4.1 The Potential of Marine Water Capture Fisheries in Central Java

Fishermen's Financial Safety Net Program as an integrated financial protection mechanism. Central Java Province has two coastal regions: the northern coast with a coastline of 502.69 km and the southern coast with 289.07 km (Lembaga Ilmu Pengetahuan Indonesia, 2013). The

northern coast has relatively calm waters and a gentle shoreline, making it the main center for small and medium scale fisheries with considerable potential for further development (Supriadi, 2021; Suraji et al., 2020). This is reflected in the large number of fishermen and fishing vessels, which contribute to higher fishery production and economic value (see Figure 2).

To provide contextual evidence, Figure 2 was developed from secondary data to illustrate the production capacity and economic contribution of marine capture fisheries in Central Java. The figure highlights the gap between the sector's economic potential and the welfare of small scale coastal fishermen, supporting the need for the Sharia Financial Based Fishermen's Financial Safety Net Program as an integrated financial protection mechanism.

Figure 2. Production and Production Value of Marine Capture Fisheries in Central Java



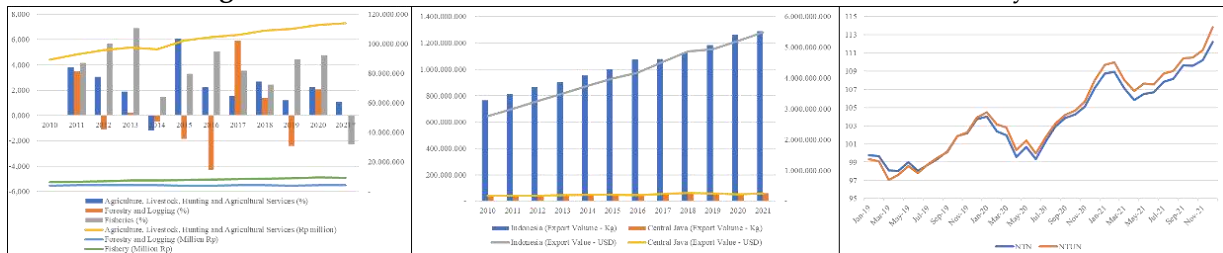
Source: (Direktorat Jenderal Penguatan Daya Saing Produk Kelautan dan Perikanan, 2021; Lembaga Ilmu Pengetahuan Indonesia, 2013) processed

Given this potential, fisheries cooperatives are expected to become key drivers of a community based fisheries economy (Kementerian Kelautan dan Perikanan, 2017; Nikijuluw, 2002) identify five key strategies for empowering fishing communities: developing alternative livelihoods, improving access to self financing, promoting appropriate technology, strengthening market access, and fostering collective action. Fish marketing is supported through fish auction facilities managed by KUD Mina or fishermen's cooperatives. Central Java has 81 fish auction sites, including 65 on the northern coast and 16 on the southern coast, supervised by 22 KUD Mina (Pusat Data Statistik dan Informasi, 2013). These institutions play an important role in empowering traditional fishermen, who generally use simple fishing equipment and operate one day fishing activities (Indriana et al., 2023).

4.2 Fisheries Contribution to the National Economy

The fisheries sector makes a significant contribution to the national economy through gross domestic product at constant prices, export and import performance, and the Fishermen's Terms of Trade (NTN) and Fish Cultivators' Terms of Trade (NTUN) (Sulistijowati et al., 2023). To strengthen the context of this study, Figure 3 presents secondary statistical and institutional data illustrating the sector's economic contribution. The figure shows that despite its substantial economic role, the welfare and financial resilience of marginal fishermen remain vulnerable, highlighting the need for a financial safety net to complement existing fisheries development policies.

Figure 3. Indicators of Fisheries Contribution to the National Economy



Source: (Badan Pusat Statistik Provinsi Jawa Tengah, 2022; Balai Karantina Ikan dan Pengendalian Mutu, 2021; Bank Indonesia, 2021), processed

The fisheries sector consistently makes the largest contribution to gross domestic product at constant prices within the agriculture, forestry, and fisheries sector, with an average annual growth of 3.59 percent during the study period. Indonesia also recorded a fisheries trade surplus of USD 5.007 billion in 2021, the highest during 2010–2021, driven by strong export performance with an average annual increase of 6.82 percent over the last decade (Direktorat Jenderal Pengelolaan Ruang Laut, 2020).

NTN in Central Java increased by 8.57 percent from 99.88 in 2019 to 108.45 in 2021. An NTN above 100 indicates improved purchasing power, as increases in output prices exceeded increases in consumer prices and production costs, allowing fishermen's incomes to grow faster than their expenditures (Badan Pusat Statistik Provinsi Jawa Tengah, 2022; Direktorat Jenderal Penguatan Daya Saing Produk Kelautan dan Perikanan, 2021).

Similarly, the NTUN in Central Java rose by 9.80 percent from 99.65 in 2019 to 109.46 in 2021. This improvement was driven by higher increases in the price index received by fishermen relative to production costs and capital goods, indicating more favorable economic conditions than in 2019 (Badan Pusat Statistik Provinsi Jawa Tengah, 2022).

4.3 Sharia Financial Inclusion for Small-Scale Coastal Fishermen Communities

Limited access to formal financial institutions and sustainable financing remains a major challenge for small scale coastal fishermen in Central Java. Many still depend on informal lenders or middlemen, creating long term financial dependency and weakening their resilience, particularly during famine seasons and adverse marine conditions. Strengthening sharia financial inclusion is therefore essential to reduce financial vulnerability and empower coastal communities. This is supported by Anwar et al., (2023); Ginanjar and Kassim, (2021) who emphasize the role of BMT in promoting financial inclusion through community based financial services, business assistance, and sharia compliant financing. Although their studies focus on underserved communities and microenterprises, the findings indicate that similar mechanisms can strengthen financial access and resilience among coastal fishing communities. From the perspective of Islamic economics, financial inclusion aims not only to expand financial access but also to promote fairness, mutual benefit, and sustainable welfare (maqashid sharia). Sharia financial institutions achieve these objectives through ethical financing based on profit sharing, risk sharing, and social solidarity. Joan et al. (2019) identify mudharabah financing as a suitable mechanism for fishermen because of its profit sharing and risk sharing characteristics.

In the fisheries sector, sharia finance can be implemented through Islamic microfinance institutions, BMT, Islamic cooperatives, and sharia based fishermen cooperatives using mudharabah, musyarakah, murabahah, and qardhul hasan contracts. [Joan et al. \(2019\)](#) also propose integrating Islamic microfinance with productive zakat to reduce liquidity constraints and improve fishermen welfare.

In addition, Islamic social finance instruments such as ZISWAF can strengthen fishermen empowerment by supporting productive assets, fishing equipment, business capital, and alternative livelihoods during famine seasons ([Kuanova et al., 2021](#)). [Damayanti et al., \(2026\)](#) show that The National Board of Zakat Republic of Indonesia (BAZNAS) coastal empowerment program uses productive zakat to enhance sustainable economic empowerment through microfinance and productive business support.

Optimizing marine zakat distribution also has strong potential to reduce poverty among fishermen communities. [Riwanto,\(2017\)](#) emphasizes that community based marine zakat distribution can enhance productivity and strengthen the socio economic conditions of fishermen households. Integrating sharia financial inclusion into the Sharia Financial Based Fishermen's Financial Safety Net Program is expected to create a more inclusive and equitable coastal economy. Islamic financial literacy can further improve financial planning, savings behavior, and productive economic activities while reducing dependence on exploitative financing. Consequently, sharia finance can serve as a strategic instrument for strengthening the financial resilience and socio economic welfare of small scale coastal fishermen in Central Java Province.

4.4 Overview of the Sharia Financial-Based Fishermen's Financial Safety Net Program

There are several main programs as a means of providing information and forms of support from the Provincial Government of Central Java to small-scale coastal fishermen through KUD mina or fishermen's cooperatives regarding personal savings, money management, credit options, debt advice and savings support as well as mental health for fishermen (see Table 2).

Table 2. The Main Program of the Sharia Financial-Based Fishermen's Financial Safety Net Program

Saving Program (how to form small-scale coastal fishermen to become the smart saver)	
KUD mina or fishermen's cooperative for small-scale coastal fishermen	KUD Mina can be transformed into sharia based cooperatives providing savings and financing through wadiah and mudharabah. Social protection, including emergency and bereavement assistance, can be supported by ZISWAF.
KUD Mina savings account or fishermen's cooperative	Mudharabah savings encourage fishermen to save surplus income during productive seasons, promoting long term financial preparedness and reducing dependence on riba.
Scheme of Financial services compensation	Compensation can adopt takaful principles through cooperative based mutual assistance funds to cover financial losses, work accidents, and business failures.
Scheme of Retiring fund management	Sharia pension schemes based on profit sharing and halal investment help fishermen accumulate retirement savings according to their financial capacity.

Sharia Financial Management Program (How to Support Well Fishermen Financial Management)	
Make a financial budget	Digital sharia financial planning tools assist fishermen in budgeting income, savings, debt, and consumption while avoiding excessive spending (israf).
Scheme of Money management	Islamic financial education promotes ethical income allocation, productive savings, responsible debt management, and the use of sharia financial products.
Financial problems assistance	Financial counseling provides guidance on halal financing, debt restructuring, and ethical financial decision making.
Debt Management Program (how to support the ideal loan management of small-scale coastal fishermen)	
KUD Mina loan funds or fishermen's cooperatives	Financing is provided through qardhul hasan, mudharabah, and musyarakah as affordable alternatives to interest based loans.
Moneylender avoidance program	Financial literacy programs educate fishermen about the risks of riba and encourage the use of Islamic financial institutions.
Phone service for bad moneylender	Cooperatives collaborate with Islamic financial institutions and local governments to provide legal assistance, mediation, and access to halal financing.
(Islamic) Financing Option Program (how to provide the alternative of option in financing for small-scale coastal fishermen)	
Fisherman's advice and information	Consultation services provide information on sharia banking, Islamic cooperatives, productive zakat, and other Islamic financial products.
Debt advice for small-scale coastal fishermen	Debt counseling applies Islamic principles of justice, transparency, and mutual assistance to support sustainable debt management.
Accounts payable service	Online and offline advisory services assist fishermen with debt settlement and financial planning based on maqashid sharia.
Debt priority service	Guidance helps fishermen prioritize essential obligations while maintaining financial sustainability and household welfare.
Mental health supporting program and relationship of fishermen (how to provide moral support on the problems faced by the fishermen)	
Counseling services	Counseling combines psychosocial assistance with Islamic spiritual guidance to strengthen emotional resilience and social solidarity.
Medical referral and mental health support	KUD Mina collaborates with healthcare providers, zakat institutions, and Islamic social organizations to improve access to health services.
Fisherman support	ZISWAF instruments provide emergency assistance, productive grants, livelihood support, disability assistance, and healthcare for fishermen and their families.

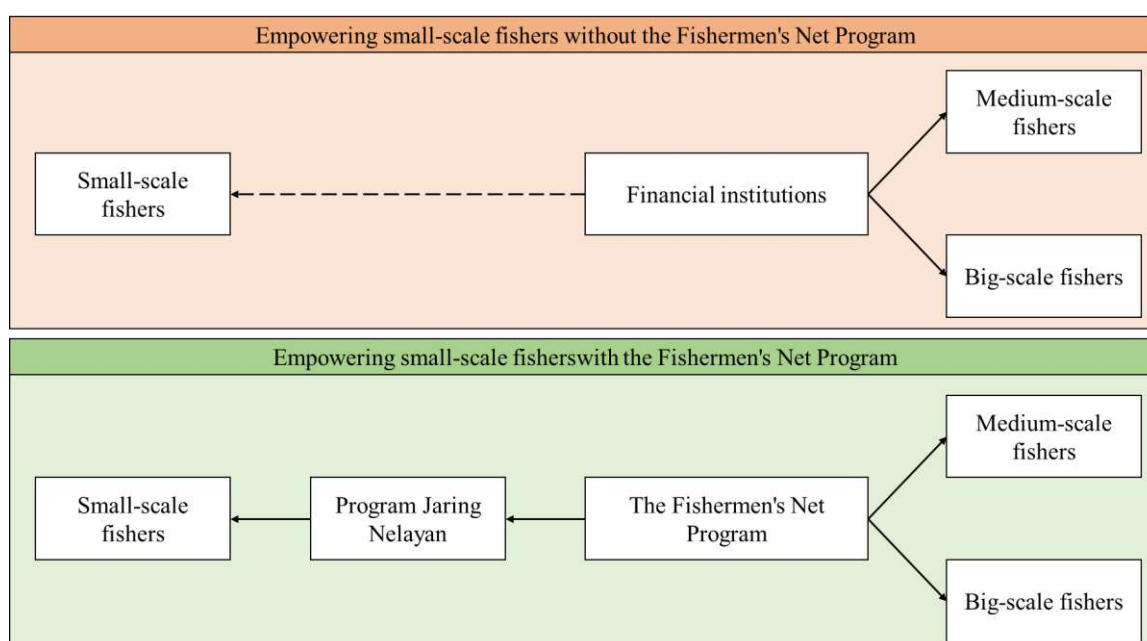
Source: (Amelia et al., 2025; The Seafarers' Charity, 2021), modified

The Central Java Provincial Government has initiated the Sharia Financial Based Fishermen's Financial Safety Net Program to strengthen the financial security of small scale coastal fishermen (see Figure 4). The program is conceptually designed to address financial exclusion, reduce vulnerability to economic shocks, and improve access to inclusive sharia compliant financial services (Béné, 2009). Figure 4 was developed from secondary evidence, including

policy documents, institutional reports, and previous studies on financial safety nets, fishermen empowerment, and sharia financial inclusion. It illustrates the conceptual relationship between financial protection mechanisms and fishermen's financial resilience as the analytical basis for the proposed program rather than an implemented intervention.

The program is expected to address market imperfections arising from unequal access to financial resources, where small-scale coastal fishermen face greater exposure to financial risks and uncertainty. In this context, the implementation of the financial safety-net approach considers several principles (Asian Development Bank, 2019): (1) minimizing free-rider behavior to ensure equitable program benefits; (2) assessing financial risks and developing appropriate mitigation mechanisms; and (3) allocating resources according to the financial conditions and needs of fishermen.

Figure 4. Initiation of the Sharia Financial-Based Fishermen's Financial Safety Net Program to Support Fishermen's Financial Security



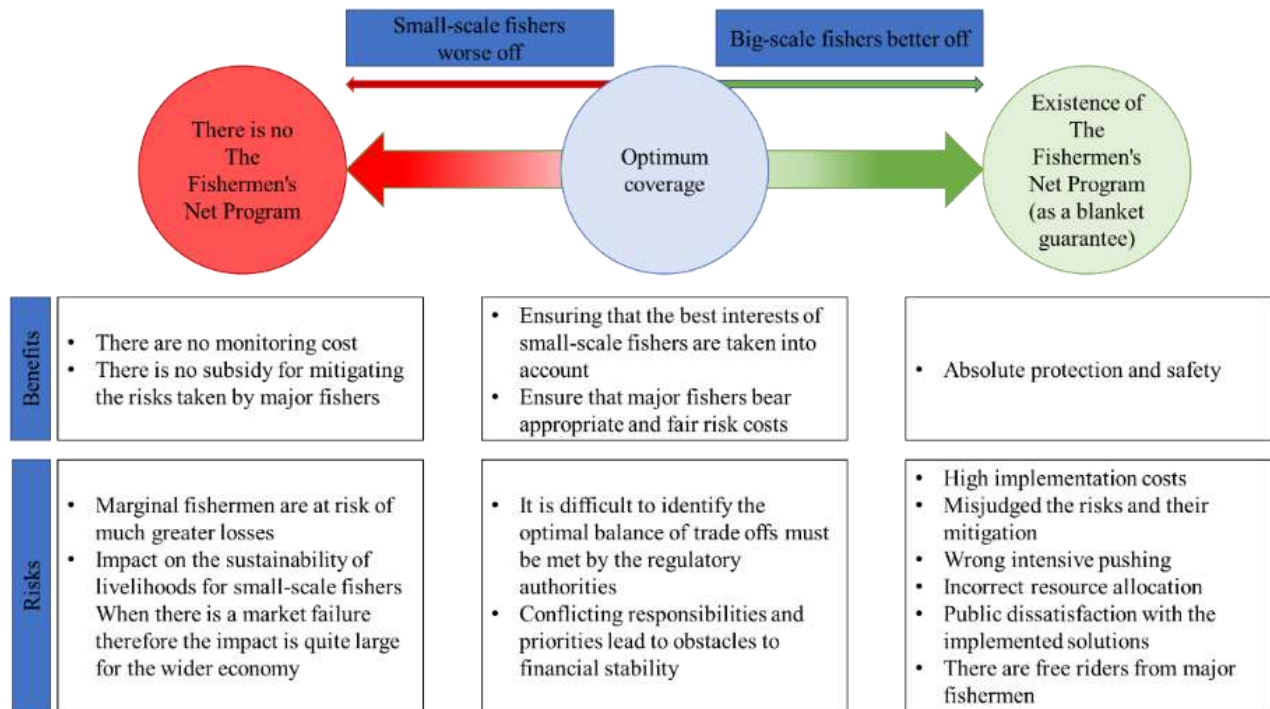
Source: (Perbadanan Insurans Deposit Malaysia, 2017) modified

The process of initiating a well-developed Sharia Financial-Based Fishermen's Financial Safety Net Program requires a balanced trade-off between limiting negative externalities arising from the financial vulnerability of small-scale coastal fishermen and limiting positive externalities that may disproportionately benefit larger-scale fishers. This balance is important to ensure that financial protection mechanisms remain targeted, equitable, and sustainable within coastal economic development.

Figure 5 was developed through synthesis of secondary evidence obtained from policy documents, institutional reports, and previous literature on financial safety nets, fishermen protection, and sharia financial inclusion. The figure is intended to illustrate the analytical boundaries and optimal coverage of the proposed program by identifying the balance between financial risks, resource allocation, and expected welfare outcomes. Therefore, the figure serves as a conceptual policy-design framework rather than representing an implemented program structure. The following aspects should be considered in

implementing the Sharia Financial-Based Fishermen's Financial Safety Net Program with respect to risks and benefits.

Figure 5. Optimal Scope of the Sharia Financial-Based Fishermen's Financial Safety Net Program

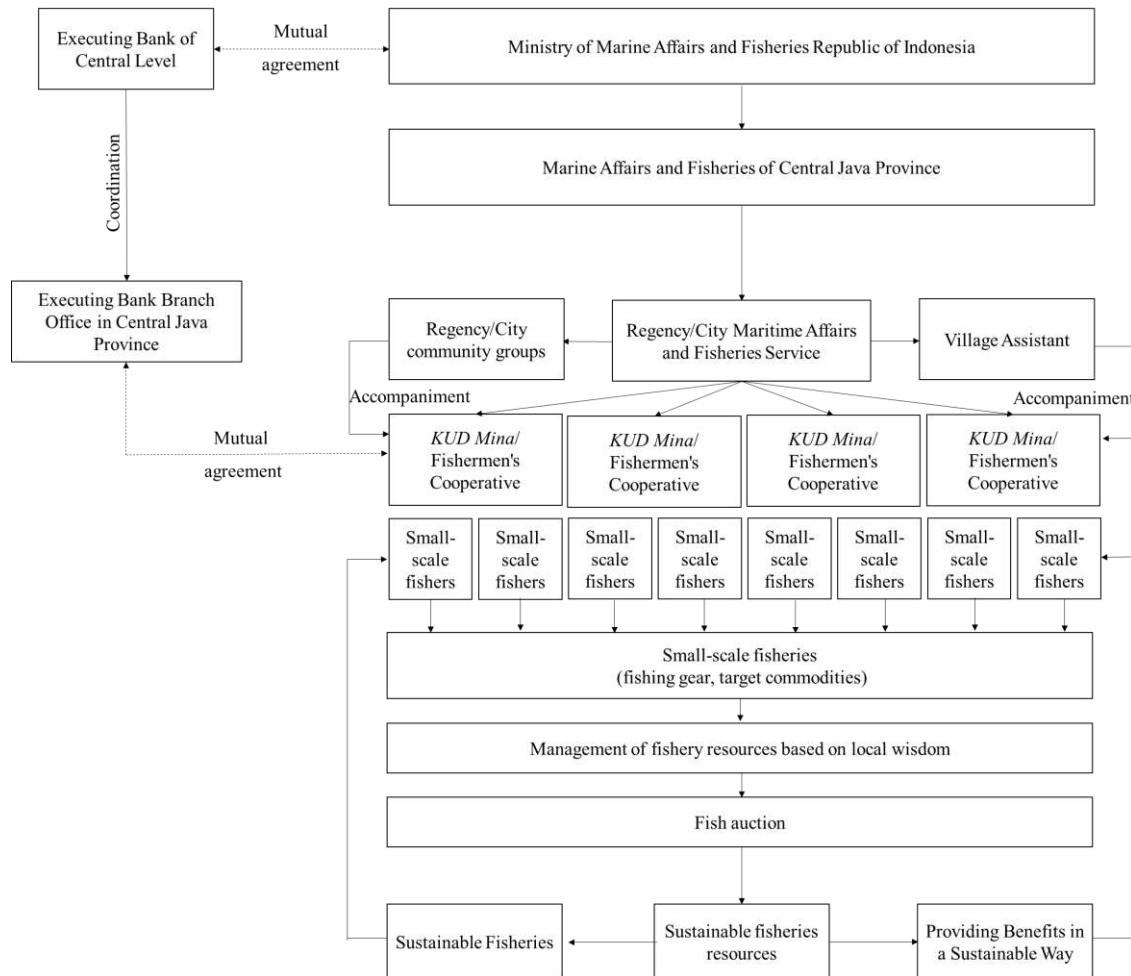


Source: (Perbadanan Insurans Deposit Malaysia, 2017) modified

The government plays an important role in empowering fishermen given the fisheries sector's significant contribution to regional and national economic development, while fishermen remain highly vulnerable to income disruptions caused by unfavorable weather and low fishing activity (Tim Pemberdayaan Masyarakat Pesisir PSKP Jember, 2007; Widarmanto, 2018). In response, the Central Java Provincial Government initiated the Sharia Financial Based Fishermen's Financial Safety Net Program as a conceptual financial protection model to strengthen financial resilience and reduce the economic vulnerability of small scale coastal fishermen.

Figure 6 was developed through the synthesis of secondary evidence from policy documents, institutional reports, and previous studies on fishermen protection, coastal community empowerment, and financial inclusion. It illustrates the proposed implementation mechanism of the program, highlighting the interaction among institutional stakeholders, financial support mechanisms, and empowerment activities.

Figure 6. Scheme of the Implementation of the Sharia Financial-Based Fishermen's Financial Safety Net Program



Source: (Direktorat Jenderal Pengelolaan Ruang Laut, 2020), modified

4.5 The Role of Islamic Cooperatives and Sharia-Based Fishermen Institutions

The development of fishermen cooperatives and KUD Mina institutions in Central Java has strong potential to become a center of sharia based coastal economic empowerment. Besides providing savings and financing services, these institutions improve market access, strengthen social solidarity, and enhance fishermen's bargaining position. However, their operations still rely largely on conventional financial mechanisms and have not fully adopted sharia based financial management.

From the perspective of Islamic economics, sharia cooperatives are founded on the principles of ta'awun (mutual cooperation), adl (justice), transparency, and shared prosperity (Umam & Tama, 2026). Through profit sharing financing and ethical financial management, they can promote sustainable economic relationships while reducing exploitative financial practices and excessive debt burdens.

Anwar et al. (2023) and Ramadhan et al.(2025) show that BMT based empowerment supports fisheries MSMEs and optimizes Islamic social finance instruments such as ZISWAF to improve coastal welfare. Likewise, Firdhaus et al. (2025) introduced the concept of Blue Waqf,

integrating productive waqf with the blue economy to strengthen sustainable coastal empowerment.

Sharia based fishermen institutions can also serve as centers for Islamic financial literacy and community empowerment by providing training in Islamic financial management, productive business development, halal fisheries processing, and digital financial services. Collaboration with Islamic banks, zakat and waqf institutions, and local governments can further strengthen integrated empowerment programs for small scale coastal fishermen.

Strengthening sharia based fishermen institutions supports Central Java's goals of inclusive economic growth, poverty reduction, and community welfare. Accordingly, integrating Islamic cooperatives and sharia financial institutions into the Sharia Financial Based Fishermen's Financial Safety Net Program offers an innovative approach to enhancing sustainable coastal economic resilience, social welfare, and human security for fishermen communities (Mulyadi, 2005).

4.6 The BMC in the Sharia Financial-Based Fishermen's Financial Safety Net Program

Considering the quite massive contribution of the fisheries sector to the macro-economy both nationally and regionally, it is expected to increase the welfare of small-scale coastal fishermen. However, the fishing season does not take place continuously and is influenced by wind, weather, waves, and sea currents that affect marine dynamics, causing small-scale coastal fishermen to remain vulnerable (Retnowati, 2011). Therefore, the Sharia Financial-Based Fishermen's Financial Safety Net Program is designed as a financial safety-net mechanism to protect small-scale coastal fishermen from financial hardship and vulnerability. Therefore, various studies and in-depth analysis are required, one of which is through the BMC approach to optimize the implementation of the Sharia Financial-Based Fishermen's Financial Safety Net Program in Central Java Province.

To develop a structured and transparent policy model, this study applies the BMC framework as an analytical tool to synthesize findings derived from secondary sources and translate them into an integrated financial protection strategy. Figure 7 was constructed through qualitative document synthesis involving policy documents, institutional reports, regulatory frameworks, fisheries statistics, and previous empirical studies related to fishermen vulnerability, sharia financial inclusion, social protection, and livelihood resilience.

The synthesis process was conducted by identifying recurring themes and institutional mechanisms across the collected documents and subsequently mapping these findings into the nine components of the BMC framework. The selected sources were integrated because they provide complementary evidence regarding economic vulnerability, institutional arrangements, financial inclusion mechanisms, and social protection practices relevant to small-scale coastal fishermen in Central Java Province.

Accordingly, Figure 7 should be interpreted as an evidence-informed analytical representation generated from qualitative synthesis rather than merely a conceptual illustration or an implemented operational model.

Figure 7. BMC in the Sharia Financial-Based Fishermen's Financial Safety Net Program

KEY PARTNERSHIP - Central Java Provincial Government - Regional Development Planning Agency of Central Java Province - Office of Maritime Affairs and Fisheries of Central Java Province - Regency or City Government in East Java Province - Banking institution - KUD mina or fishermen cooperatives - Fisherman	KEY ACTIVITIES - Establishment or development of financial management programs - Strengthen the role of stakeholders involved in the management of the Fisherman's Net Program	VALUE PROPOSITION - Establishment or development of a financial safety net for fishermen - Creating integrated financial guarantee services are able to protect fishermen from financial difficulties and deficiencies - Providing information and forms of support for marginal fishermen - Improving the management of fishery potential in a transparent, accountable and right on target manner and its usefulness can contribute to the regional economy and able to be enjoyed by fishermen	CUSTOMER RELATIONSHIP - Human - IT (Platform) - Socialization of the benefits of the Fishermen's Net Program	CUSTOMER SEGMENTS All low-income fishermen are included into the vulnerable category considering that the income earned fluctuates due to the dynamics of sea waters which require a financial safety net for the financial resilience of strong fishermen and preventing financial difficulties
	KEY RESOURCES - Computer infrastructure and online-based websites - Offline managerial skills (utilization and development of the Fisherman's Net Program)		CHANNELS - Stakeholder of the Fishermen's Net Program - Banking institution - KUD mina or fisherman's cooperative - Fisherman community	
REVENUE STREAMS - Services to marginal fishermen in the form of a financial safety net is able to protect against financial difficulties and shortages - Making fisheries potential as superior product that contributes to the regional economy and able to be enjoyed by fishermen			COST STRUCTURE - Platform and infrastructure development and maintenance costs - The cost of developing fishermen's human resources and managing the Fishermen's Net Program - Operating costs	

To enhance analytical transparency, the BMC components were developed from secondary evidence, including policy documents of the Central Java Provincial Government, the Department of Marine Affairs and Fisheries, Law Number 7 of 2016 concerning the Protection and Empowerment of Fishermen, Fish Farmers, and Salt Farmers, institutional reports, and previous studies on Islamic financial inclusion, fishermen vulnerability, social protection, and livelihood resilience. The findings were synthesized and mapped into the nine BMC components.

The proposed BMC consists of three categories of components. First, evidence based components derived from institutional arrangements and policy documents, including customer segments, channels, key partnerships, and institutional support. Second, adapted components based on previous studies of Islamic financial inclusion and coastal empowerment, including financial literacy, financing facilitation, savings mechanisms, and community empowerment. Third, conceptual components proposed by the authors, including debt advisory services, psychosocial assistance, livelihood resilience mechanisms, and diversified funding arrangements. Accordingly, the BMC represents a conceptual policy design rather than an implemented operational model.

The proposed Sharia Financial Based Fishermen's Financial Safety Net Program presents an integrated socio economic protection model to strengthen the resilience of small scale coastal fishermen in Central Java. It combines government agencies, financial institutions, fishermen cooperatives, and community organizations in delivering social protection, financial literacy, institutional strengthening, and business development. By integrating financing access, community empowerment, and institutional support, the program aims to reduce fishermen's vulnerability to income shocks and improve long term welfare. To evaluate the proposed model systematically, the nine building blocks of the BMC are presented in Table 3.

Table 3. BMC of the Sharia Financial-Based Fishermen's Financial Safety Net Program

BMC Component	Description	Basis of Development
Customer Segments	Small scale coastal fishermen households, MSMEs, vulnerable coastal	Law No. 7/2016 on the Protection and Empowerment of Fishermen (statutorily

	communities, and KUD Mina members with limited financial access, income instability, and financial exclusion.	defining small-scale coastal fishermen by a vessel capacity limit of less than 10 GT).
Value Proposition	An integrated sharia based financial safety net providing Islamic financial literacy, savings, household financial management, sharia financing, debt advisory, livelihood diversification, psychosocial support, and institutional strengthening to improve resilience and welfare.	Kementerian Kelautan dan Perikanan, (2025) identifying extreme poverty clusters in the coastal areas of Central Java. (Otoritas Jasa Keuangan, 2021) promoting financial protection, Sharia financial inclusion, value-chain financing, and the National Movement for Sharia Financial Literacy and Inclusion. Kesatuan Nelayan Tradisional Indonesia, (2025); Sekretariat Nasional KIARA, (2026) emphasizing the need for income safety nets and insurance for traditional fishermen during extreme weather.
Channels	Delivery through KUD Mina cooperatives, fishermen groups, Islamic banks, BMTs, local governments, fisheries extension officers, zakat institutions, community organizations, and digital financial platforms.	Minister of Marine Affairs and Fisheries Regulation No. 18/2022 regarding the Optimization of Fish Landing Sites (TPI) through synergy with Fishermen Cooperatives (Direktorat Pengembangan Inklusi Keuangan Otoritas Jasa Keuangan, 2020) Annual Report highlights ecosystem development in the marine and fisheries sector through coordination among the Department of Marine Affairs and Fisheries (DKP), suppliers, off-takers, and Sharia-compliant Fishermen Insurance to support value-chain financing.
Customer Relationships	Community mentoring, financial counseling, cooperative membership systems, capacity-building programs, livelihood assistance, regular monitoring, and participatory empowerment approaches that strengthen trust and long-term engagement.	Minister of Marine Affairs and Fisheries Regulation No. 43/2020 concerning the Functional Positions of Fisheries Extension Officers (providing the regulatory framework for face-to-face, group-based mentoring).
Revenue Streams	Government funding (Regional Government Budget/ The National Budget), cooperative service fees, profit sharing, CSR, grants, ZISWAF, and development partner contributions.	Central Java Provincial Regulation No. 5/2024 mandating regional budget support for fishermen insurance and capacity building.

Key Resources	KUD Mina cooperatives, Islamic financial institutions, ZISWAF funds, facilitators, fisheries extension officers, government support, digital infrastructure, community networks, and institutional partnerships.	BAZNAS Regulation No. 3/2021 providing the legal basis for productive zakat as revolving capital financing. (Badan Riset dan Inovasi Daerah Provinsi Jawa Tengah, 2025a) establishes a long-term vision for sustainable economic resilience, innovation-based regional development, and strengthening community-based productive sectors including fisheries and cooperatives (long-term orientation)
Key Activities	Financial literacy, savings mobilization, sharia financing, debt advisory, cooperative strengthening, livelihood diversification, entrepreneurship training, psychosocial support, monitoring and evaluation, and stakeholder coordination.	(Badan Riset dan Inovasi Daerah Provinsi Jawa Tengah, 2025b) establishes emphasizes institutional strengthening, cooperative development, MSME competitiveness, and inclusive economic transformation in the marine and fisheries sector (medium-term orientation) Otoritas Jasa Keuangan Board of Commissioners Regulation No. 3/PADK.03/2023 concerning the National Movement for Sharia Financial Literacy and Inclusion. (Bank Indonesia, 2020) encouraging the integration of Islamic social finance to support productive sectors.
Key Partnerships	Central Java Provincial Government, Department of Marine Affairs and Fisheries, KUD Mina, Islamic banks, BMTs, zakat and waqf institutions, universities, NGOs, fisheries associations, community organizations, and private sector partners.	(Humas Ditjen Perikanan Tangkap, 2011) promoting cross-sector collaboration for fishermen empowerment and cooperative development. (Badan Perencanaan Pembangunan Daerah Provinsi Jawa Tengah, 2024) establishing the Regional Action Plan for Financial Inclusion (RAD-KI) through collaboration among government agencies, Islamic financial institutions, and academia.
Cost Structure	Program management, training and mentoring, cooperative operations, financial literacy campaigns, monitoring and evaluation, digital platform maintenance, partnership coordination, social assistance, and institutional development.	Menteri Dalam Negeri Regulation No. 15 of 2024 providing Regional Government budgeting guidelines for institutional strengthening, training, grants, and monitoring-evaluation.

Table 5 maps the structural vulnerabilities of small-scale coastal fishermen to the proposed components of the Sharia Financial-Based Fishermen's Financial Safety Net Program. Financial exclusion and income instability are addressed through Islamic financial literacy, savings facilitation, and Sharia-compliant financing, while institutional and livelihood vulnerabilities are mitigated through multi-stakeholder partnerships, livelihood diversification, psychosocial support, and debt advisory services. Thus, the BMC functions not only as a descriptive framework but also as an analytical tool for translating fishermen's vulnerabilities into integrated policy interventions that enhance coastal economic resilience.

5. Conclusion and Suggestions

This study proposes a Sharia Financial Based Fishermen's Financial Safety Net Program as an integrated model to strengthen the economic resilience of small scale coastal fishermen in Central Java Province. Using the BMC framework, the study shows that fishermen's financial resilience can be enhanced through the integration of Islamic financial literacy, Islamic social finance, cooperative strengthening, and livelihood support, extending sharia financial inclusion beyond financing toward a comprehensive financial safety net.

The proposed model depends on three key conditions: strong stakeholder commitment, effective institutional coordination, and collaborative governance among government agencies, fishermen cooperatives, Islamic financial institutions, and social finance organizations. To support implementation, policymakers should strengthen Islamic social finance integration, improve cooperative governance, and expand digital financial inclusion in coastal communities. Future studies should validate the model through empirical research involving fishermen, cooperatives, and Islamic financial institutions in different coastal regions.

This study has several limitations. The proposed model is based on conceptual analysis and secondary data and has not been empirically tested. Consequently, it does not measure changes in financial resilience, income stability, or fishermen's welfare. In addition, the BMC emphasizes strategic and institutional design and may not fully capture behavioral and contextual differences across coastal communities.

6. Limitations and Future Research

This study has several limitations. First, it adopts a qualitative approach focusing on the conceptual development of the Sharia Financial Based Fishermen's Financial Safety Net Program in Central Java Province, limiting the generalizability of the findings to other regions. Second, the analysis relies exclusively on secondary data from academic literature, government reports, policy documents, institutional publications, and regulatory documents, without incorporating direct field evidence from fishermen or other stakeholders. Third, the study uses the BMC framework, which emphasizes institutional and managerial design rather than empirically assessing impacts on fishermen's welfare, income stability, or poverty reduction.

Future research should expand the geographical scope and employ primary qualitative, quantitative, or mixed methods to evaluate the effectiveness of the proposed program in strengthening coastal economic resilience. Further studies may also integrate Islamic social finance models, sustainable blue economy approaches, or livelihood vulnerability indices to provide a more comprehensive understanding of fishermen empowerment. In addition, empirical research should examine the roles of Islamic financial institutions, digital financial inclusion, and cooperative governance in promoting sustainable coastal development and improving the long term welfare of small scale coastal fishermen.

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