

Coastal fisheries and the livelihoods of fishing communities in Salahutu District, Central Maluku Regency, Indonesia

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Abstract

This sociological study examines the livelihoods of fishing communities in Salahutu District, Central Maluku Regency, Indonesia, and explores how marine resources contribute to improving their standard of living. The research was conducted among fishing households in Waai Village and Tial Village, which served as the study sites. The objective of this study was to identify, describe, and analyze the role and benefits of marine natural resources in enhancing the livelihoods of coastal fishing communities in Salahutu District. The findings indicate that: (1) the monthly fish catch obtained by fishermen in Waai and Tial Villages is sufficient to support the basic livelihood needs of their households; (2) most fishing equipment is privately owned, allowing fishermen to utilize it efficiently and independently to sustain their family income and welfare; and (3) strong social relationships exist among fishermen within both villages, as well as between fishermen and local fish traders (commonly known as jibu-jibu), creating a supportive social and economic network. Based on these findings, the study recommends: (1) greater government support, particularly from the Fisheries Department, through programs that strengthen the economic capacity and welfare of fishing communities in Waai and Tial Villages; and (2) continued efforts to enhance social relationships and cooperation among fishermen in both villages in order to reinforce social solidarity and improve the sustainability of coastal fisheries livelihoods.

Keywords: Marine Resources; Coastal Fisheries; Poverty; Maluku Fisheries; Fishing Communities; Livelihoods.

1. Introduction

Fishing communities constitute a distinct social group whose livelihoods primarily depend on fishing activities. Coastal and marine environments are of critical importance, serving as valuable economic assets (Cahyagi & Gurning, 2018), as they are home to approximately 60% of the world's population and support highly productive fisheries (Lakshmi & Rajagopalan, 2000). The increasing demand for fish has driven market prices upward, in some cases reaching up to four times the production cost. This situation has contributed to the emergence of oligopolistic market structures, in which market power is concentrated among fish traders, brokers, dealers, and large wholesalers. These actors often maintain high fish prices by deliberately restricting market supply (Mouri Mehtaj, 2012). The dynamics of coastal fisheries are further shaped by the interaction of biophysical, social, cultural, and institutional factors operating across multiple spatial scales, resulting in complex socioeconomic and ecological consequences (Freduah et al., 2017). The various limitations and challenges encountered by fishing communities in sustaining their livelihoods and improving their socioeconomic well-being are commonly referred to as socioeconomic constraints (Alam & Yousuf, 2024). These constraints include declining household income, difficulties in fish marketing and price determination, the influence of market syndicates, and vulnerability to natural disasters, all of which adversely affect the resilience and sustainability of fishing livelihoods (Silva & Barbosa, 2020).

Poverty is a universal issue that remains a major concern for governments worldwide and is addressed through various national policy frameworks. As emphasized in the Millennium Development Goals (MDGs), poverty has consistently

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been recognized as a global development challenge requiring sustained attention and coordinated action. Malaysia, for example, has demonstrated a strong commitment and considerable success in implementing poverty alleviation policies (Amir Zal et al., 2020). Likewise, the European Union's Common Fisheries Policy (CFP) has faced one of the most significant challenges in its more than three decades of implementation. The policy has been expected to introduce reforms capable of establishing a sustainable fisheries sector, addressing poverty among fishing communities, ensuring the long-term viability of the fisheries industry and fisheries-dependent regions in Europe, and restoring the trust of fishing communities whose confidence in the policy has been undermined (Symes, 2012). Fishing opportunities and the management of fishery resources continue to present substantial challenges for fishermen seeking to sustain both their fishing enterprises and household livelihoods (Olson & da Silva, 2014). In many coastal areas, fishing communities continue to face a wide range of socioeconomic constraints that affect their daily lives and limit their capacity to improve their welfare. These challenges include declining fishery-based incomes, increasing reluctance among fishermen to engage in fishing activities due to economic uncertainty and operational risks at sea, and inadequate access to essential public services and metropolitan facilities. Understanding why many coastal fishermen experience these constraints and identifying effective solutions to address them remain critical issues for researchers and policymakers seeking to improve the resilience, sustainability, and socioeconomic well-being of fishing communities.

Indonesia established 11 Fisheries Management Areas (Wilayah Pengelolaan Perikanan Republik Indonesia, WPP-RI) in 2014, one of which is WPP-RI 716, covering the waters of North Sulawesi. This fisheries management area is influenced by four major water masses with distinctive oceanographic characteristics, which play an important role in shaping the distribution and productivity of local fishery resources (Purwanto et al., 2024). Indonesian fishermen also rely on traditional ecological knowledge by considering lunar cycles, seasonal variations, and rainfall patterns to identify potential fishing grounds and optimize fishing activities (Limbong et al., 2018). As one of the world's largest producers of wild-capture fisheries, Indonesia contributed approximately 9.9 million metric tons of the global capture fisheries production in 2016, with nearly 60% of this output generated by small-scale fisheries (Dudayev et al., 2023). Indonesia's vast marine resources and extensive archipelagic waters provide exceptional opportunities for the development of the fisheries sector. Supported by these natural advantages, Indonesia has become the third-largest producer of capture fisheries in the world, after China and Peru (Cahyagi & Gurning, 2018).

Despite the enormous potential of Maluku's marine resources and their significant contribution to Indonesia's fisheries sector, the socioeconomic conditions of many fishing communities remain relatively poor. The fisheries sector is the largest contributor to the Gross Regional Domestic Product (GRDP) of Maluku Province and is among the country's leading contributors to national fish consumption and exports, ranking behind South Sulawesi and ahead of East Java (Teniwut, 2016). However, this substantial economic contribution has not translated into improved living standards for many fishing households in the region. This disparity highlights the paradox between Maluku's abundant marine resources and the persistent poverty experienced by its coastal communities. Several factors contribute to this situation. Fishing income is inherently uncertain because it depends heavily on seasonal variations, with changes in weather patterns often lasting for several months. During the rainy season, strong winds and severe storms generate high waves that make fishing activities extremely dangerous. Under such conditions, many fishermen, particularly those relying on traditional boats and fishing gear, are unable to go to sea or compete with the harsh marine environment (Pattinaja et al., 2023). Consequently, prolonged interruptions to fishing activities reduce household income and make it difficult for fishing families to meet their daily needs. As a result, many fishermen continue to experience low living standards and remain trapped in poverty, with some living below the poverty line. To compensate for the loss of income, they are often compelled to seek alternative sources of livelihood, although these additional activities are frequently insufficient to meet their basic household needs (Siaila & Rumerung, 2022).

Low living standards are widely recognized as an indicator of poverty, which is inherently a multidimensional problem requiring equally multidimensional approaches to poverty alleviation. Addressing poverty effectively requires a comprehensive understanding of the underlying factors that contribute to and perpetuate it. In fishing communities, efforts to improve livelihoods should encompass integrated policy interventions, including the zoning of fishing grounds for traditional and commercial fishers, improvements in the quality of fishing vessels and fishing gear, enhancement of household livelihood strategies, strengthening of fish marketing systems, and other supporting measures. These issues should receive coordinated attention from multiple government sectors involved in development planning and implementation, rather than being addressed through fragmented and sector-specific policies. From a sociological perspective, this study seeks to understand the livelihoods of fishing communities in Salahutu District, Central Maluku Regency, and to examine how the sustainable utilization of marine resources can contribute to improving their standard of living. The research focuses on fishing households in Waai Village and Tial Village as the study sites. Specifically, this study aims to identify, describe, and analyze the contribution of marine natural resources to enhancing the livelihoods and socioeconomic well-being of fishing communities in Salahutu District, Central Maluku Regency, Indonesia.

2. Methods

Social science research generally employs qualitative methods, quantitative methods, or a combination of both, depending on the research objectives and the nature of the phenomenon under investigation (Creswell & Clark, 2011). This study employed a qualitative research approach to gain an in-depth understanding of the living conditions of fishing communities and the utilization of marine natural resources to improve their livelihoods in Leihitu District, Central Maluku Regency, Indonesia. Qualitative research is characterized by its emphasis on understanding the experiences, meanings, perspectives, and social contexts of individuals and communities in a holistic manner. Rather than seeking statistical generalization, this approach aims to develop a comprehensive understanding of a particular phenomenon through data collected in the participants' natural settings. In qualitative research, the researcher serves as the primary research instrument, employing a flexible and evolving research design that adapts throughout the research process. Data are analyzed inductively, allowing patterns, themes, and theoretical insights to emerge from the data rather than being predetermined. The rigor of qualitative research is determined by the richness and depth of the data, the researcher's sensitivity to the research context, close engagement with participants, and the fulfillment of trustworthiness criteria, including credibility, transferability, dependability, and confirmability. Therefore, qualitative research is particularly well suited for exploring the complexity of social and human phenomena that cannot be adequately explained through quantitative approaches alone (Tandon, 2021).

Data collection in this qualitative study was conducted comprehensively to obtain an in-depth understanding of the phenomenon under investigation. Multiple data collection techniques were employed to ensure the richness and credibility of the findings. These techniques included: (1) in-depth interviews, comprising both structured interviews guided by an interview protocol and unstructured interviews that allowed participants to freely express their experiences, perspectives, and perceptions in greater depth; (2) observation, including participant observation conducted in both structured and unstructured forms, as well as unstructured group observation, to directly examine participants' behaviors, interactions, activities, and the social situations within the research setting, thereby capturing data that accurately reflected real-life conditions; and (3) document analysis, involving the examination of relevant documents such as official records, written documents, archival materials, reports, photographs, audio or video recordings, and other documentary evidence related to the research focus. These three data collection techniques were employed in an integrated manner to achieve methodological triangulation, enabling the collection of rich, comprehensive, and complementary data. The use of triangulation enhanced the credibility of the findings and provided a holistic understanding of the phenomenon under investigation. Accordingly, these techniques constituted the primary methods of data collection throughout the study.

Data analysis was conducted systematically and iteratively throughout the research process, beginning with data collection and continuing until data saturation was achieved. The purpose of the analysis was to organize, interpret, and derive meaning from the information obtained through in-depth interviews, observations, and document analysis. All collected data were systematically organized by grouping similar information into meaningful categories, which were subsequently broken down into more specific units of analysis. The researcher then synthesized the data to identify relationships among categories, recognize emerging patterns, and develop overarching themes relevant to the research objectives. From the complete dataset, the researcher selected the information considered most relevant and significant for addressing the research questions. The findings were subsequently interpreted to produce conclusions that were valid, coherent, and meaningful. The data analysis procedure employed in this study followed the interactive model of qualitative data analysis developed by Miles & Huberman (1994). This model views data analysis as a continuous and interactive process that occurs throughout the study until data saturation is reached. The analysis consisted of three interconnected components. The first component, data reduction, involved selecting, focusing, simplifying, organizing, and transforming the raw data into meaningful information. The second component, data display, involved presenting the organized data in the form of narratives, matrices, tables, or diagrams to facilitate the identification of patterns, relationships, and emerging themes. The final component, conclusion drawing and verification, involved interpreting the findings and continuously verifying them against the empirical evidence collected throughout the research process. These three components operated simultaneously and interactively, ensuring that the findings were credible, trustworthy, and well supported by the data. The interactive data analysis model proposed by Miles & Huberman (1994) is illustrated in Figure 1.

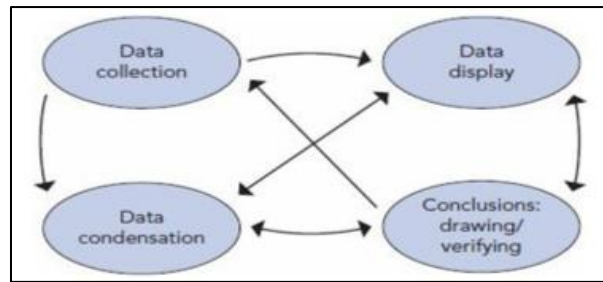


Figure 1 Interactive Model of Qualitative Data Analysis

3. Results and Discussion

To support fishing activities at sea, fishermen rely on a variety of fishing equipment and supporting facilities that are essential for their daily operations. These resources are carefully prepared before each fishing trip to ensure the efficiency and safety of fishing activities. This practice is also evident among the fishing communities in Waai Village. The fishing community in Waai Village primarily consists of purse seine (jaring bobo) fishermen and hook-and-line fishermen. The fisheries sector in the village involves 322 fishermen, organized into 40 fishing groups. Their fishing operations are supported by various types of fishing equipment and vessels, including hook-and-line gear, five purse seine units, two surrounding nets (jaring tutup), 25 longboats equipped with outboard engines (bodi ketinting), and 35 semang boats, which are traditionally used by local fishermen.



Figure 2 Purse Seine (*Jaring Bobo*) Used by Fishermen in Waai Village

The fishing equipment used by fishermen in Waai Village is acquired through both government or political assistance programs and private investment by the fishermen themselves. In some cases, fishing gear has been provided through political party assistance, although such support was generally limited to fishermen who had previously been affiliated with those political organizations. Most fishermen, however, purchased their fishing equipment independently using income earned from selling fish, gradually saving enough money to acquire fishing vessels and the necessary fishing gear. According to one of the fishermen interviewed, a fishing vessel was purchased in 2014 from another fisherman on Seram Island for IDR 160 million. The purchase included not only a 19-meter-long fishing boat with a 4-meter beam, but also a 210-meter purse seine (*jaring bobo*), making it a complete fishing unit ready for commercial fishing operations.

The ownership of fishing equipment enables fishermen to conduct fishing operations more efficiently, as they have full control over the preparation, maintenance, and use of the resources required for their activities at sea. This autonomy facilitates fishing operations and enhances the effectiveness of daily fishing activities. Fishing operations are not carried out solely by the boat owner but require the assistance of a fishing crew consisting of a tanase (boat captain or fishing master) and several masnait (crew members). The number of masnait varies depending on the scale of the fishing operation. Under normal conditions, a fishing crew typically consists of approximately 21 members; however, during periods of abundant catches, the crew may increase to around 30 members. The masnait play a crucial role during

fishing operations, particularly when deploying and hauling the purse seine, as the net is exceptionally large and heavy and therefore requires considerable manpower to operate safely and effectively.



Figure 3 Residential Area of the Fishing Community in Tial Village

Fishing activities typically begin in the early morning, with fishermen leaving their homes at approximately 03:00 a.m. Eastern Indonesia Time (WIT). Before departing for the fishing grounds, they prepare all essential equipment and supplies, including fuel, inspecting the condition of the fishing nets, ensuring the readiness of the *masnait* (crew members), and determining the most suitable fishing locations based on their experience and prevailing sea conditions. After completing their fishing activities, the fishermen generally return to shore at around 06:00 a.m. WIT. However, they do not immediately return home, as the catch must first be sorted and distributed among the crew according to the agreed profit-sharing arrangement. The fishing practices of purse seine (*jaring bobo*) fishermen in Tial Village are largely similar to those observed in Waai Village. Fishermen in Tial also use purse seine fishing gear, boats, and fuel to conduct their fishing operations. The vessels used are generally 25 meters in length and 4 meters in width, while the purse seine nets measure approximately 220 meters in length. Unlike the fishermen in Waai Village, however, the purse seine fishermen in Tial Village do not own the fishing equipment they use. The boats and fishing gear belong to a local entrepreneur from Tial Village, and the fishermen are employed to operate the fishing enterprise. Consequently, the proceeds from the fish catch are shared among the equipment owner, the fishermen, and the *masnait* (crew members) in accordance with the established profit-sharing system.

3.1. Fish Catch and Its Utilization



Figure 4 Fishing Boats in Tial Village

As previously described, most fishers in Waai Village are *bobo* net fishers, although a small number also engage in hook-and-line fishing. The quantity of fish caught is often unpredictable, particularly during the West Monsoon season, when the sea is generally calm with minimal wave activity. During this season, fishers typically experience higher catch yields. For *bobo* net fishers, the dominant catches include *Momar*, *Komu*, and *Kawalinya* fish. In a single fishing trip, the catch for each fish species commonly reaches 20 to 30 large basins. The number of fish contained in each basin varies

depending on the size of the fish. For Komu fish, one basin weighs approximately 30 kg, whereas one basin of Momar fish contains around 120 individuals, with a total weight of approximately 32 kg.

The fish catch is subsequently marketed through intermediaries who have maintained long-standing business relationships with the fishers. Fish are generally transported to local markets using rented pickup trucks, with transportation costs determined by the number of large basins of fish being delivered. In addition to selling their catch through intermediaries, fishers also sell a portion of their harvest directly to itinerant fish vendors, locally known as jibu-jibu. These vendors typically wait at the fish landing site, allowing transactions to take place immediately after the fishers return to shore. The long-established relationships between fishers and jibu-jibu reflect strong social ties built on mutual trust, social proximity, and mutually beneficial economic relationships. These findings indicate that the successful marketing of fish catches is determined not only by the volume of fish landed but also by the existence of social capital within the fishing community. Social capital, manifested through trust, shared norms, and social networks, enables fish marketing to operate more efficiently by reducing transaction costs, strengthening cooperation, and enhancing the economic resilience of fishing households. These findings are consistent with Ostrom (2000), who argued that trust and social networks constitute fundamental elements in the governance of common-pool resources and enhance communities' capacity to cope with various economic challenges. Similarly, Béné (2003) explained that small-scale fishing households rely heavily on informal social networks as a strategy to reduce economic vulnerability and sustain their livelihoods.

Another notable finding is the significant role played by fishers' wives in managing both fish catches and household finances. In Waai Village, the management of income generated from fish sales is generally entrusted to the wives of bobo net owners. Their responsibilities extend beyond managing daily household expenditures to overseeing fishing operational costs, children's educational expenses, family healthcare needs, and the maintenance costs of fishing equipment. This finding highlights the pivotal contribution of women in maintaining the economic stability of fishing households. The role of women in the fisheries sector is no longer confined to domestic responsibilities but has expanded to become an integral part of the fisheries value chain through their involvement in marketing, financial management, and household economic decision-making. These findings are consistent with Harper et al. (2013), who emphasized that the contributions of women in small-scale fisheries are often overlooked despite their strategic role in strengthening household economic resilience and supporting the sustainability of the fisheries sector. Similarly, Simmance et al. (2022) reported that communities with access to small-scale fisheries generally exhibit higher levels of food security and household income. In this context, women's active participation in fish processing, distribution, and marketing further enhances the contribution of the fisheries sector to household welfare and the broader socioeconomic development of coastal communities.

A relatively similar pattern was also observed among bobo net fishers in Tial Village. During the West Monsoon season, fishers typically harvest approximately 20–30 large basins of fish per fishing trip. The catch is subsequently marketed through local market traders as well as jibu-jibu (local itinerant fish vendors) who come directly to the fish landing site. Interestingly, most jibu-jibu are the wives of the Masnait (crew members), who sell the fish under a consignment arrangement. Under this system, the fish are first sold to consumers, and the proceeds are then used to pay the fishers. This marketing arrangement reflects a high level of trust between fishers and traders that has developed through long-standing kinship ties and continuous social interactions. Nenadovic & Epstein (2016) demonstrated that social capital, fostered through mutual trust and adaptive institutional arrangements, enhances the resilience of small-scale fisheries. Trust among fisheries stakeholders strengthens cooperation, reduces transaction costs, expands market opportunities, and improves the economic resilience of coastal communities in responding to environmental and market changes. Overall, the findings of this study indicate that improvements in the livelihoods of fishing communities are determined not only by the volume of fish catches or the availability of marine resources but also by the quality of local social institutions, the strength of marketing networks, and the active involvement of household members—particularly women—in household financial management. Consequently, the sustainability of fishing livelihoods is the result of interactions among natural capital, represented by fisheries resources, social capital, human capital, and financial capital, all of which collectively support the resilience and long-term well-being of coastal communities.

3.2. Social Relations Among Fishers in Waai and Tial Villages

Social relations constitute a fundamental aspect of life in coastal communities, as they provide the foundation for cooperation, solidarity, and mutual assistance in addressing various economic and environmental challenges. As is common in any society, social relationships may foster either cooperation or conflict, depending on the level of trust, the intensity of social interactions, and the norms that develop within the community. A high level of mutual trust encourages sustained cooperation, whereas low levels of trust increase the likelihood of conflict and weaken social cohesion. The findings from Waai Village indicate that social relations among fishers are exceptionally strong, both

during fishing activities at sea and after returning to shore. At sea, cooperation is clearly demonstrated when a fisher runs out of fuel or encounters other technical difficulties. Other fishers, including those from different villages, willingly provide assistance without considering the recipient's place of origin. Such actions are driven by mutual trust, shared experiences as fishers, and a collective awareness that safety at sea is a shared responsibility. These findings suggest that social solidarity has evolved into a community norm that guides the everyday behavior of fishers in their daily lives.

These findings demonstrate that social capital plays a crucial role in supporting the sustainability of fishing communities. Social capital, manifested through trust, shared norms, and social networks, functions as a collective resource that facilitates coordination, cooperation, and collective action toward achieving common goals. Within fishing communities, social capital provides a critical foundation for effective fisheries governance by strengthening compliance with shared rules, reducing conflicts over resource use, and enhancing the community's adaptive capacity to cope with uncertain fish catches, environmental change, and the inherently high risks associated with fishing activities at sea (Grafton, 2005; Shah et al., 2025). Consistent with this perspective, Ostrom (2000) argued that trust and norms of reciprocity are essential prerequisites for the successful governance of common-pool resources, including fisheries. Therefore, the culture of mutual assistance observed in Waai Village can be regarded as a form of local social institution that reinforces the resilience of coastal communities.



Figure 5 Cooperative Efforts Among Fishers in Waai Village to Repair a Bobo Net

These strong social relationships are evident not only during fishing activities at sea but also in the fishers' daily lives onshore. When a fisher's boat or bobo net is damaged, other fishers voluntarily assist with the repairs. The work is carried out collectively through mutual cooperation (*gotong royong*), without any expectation of financial compensation. This long-standing tradition of helping one another has been passed down from generation to generation and continues to strengthen the sense of kinship and solidarity within the fishing community. This phenomenon indicates that *gotong royong* is not merely a cultural tradition but also serves as an important economic adaptation strategy for coastal communities. Cooperation among fishers helps reduce operational costs, accelerates the repair of fishing gear, and strengthens the community's collective capacity to sustain fishing activities. These findings are consistent with those of Gutiérrez et al. (2011), who identified local leadership, trust, and cooperation as key determinants of successful small-scale fisheries governance. Similarly, Basurto et al. (2013) argued that strong social networks enhance coordination, facilitate the distribution and marketing of fish catches, and improve the economic resilience of fishing households.

These conflicts are generally temporary and are primarily triggered by differences in fish catches and the income earned by individual fishers. Social jealousy may emerge when some fishers obtain substantially larger catches than others. However, such conflicts rarely escalate into prolonged disputes because they are moderated by the strong social relationships that have been established over many years. Through open communication, frequent social interaction, and participation in shared activities, disagreements are typically resolved amicably in a family-like manner, preventing them from disrupting social harmony within the community. These findings suggest that conflict is an inherent aspect of the social dynamics of fishing communities. However, the strong social capital embedded within the community serves as an effective informal mechanism for conflict resolution. This finding is consistent with Pretty (2003), who argued that communities characterized by high levels of trust and social participation are more likely to resolve conflicts peacefully and possess greater adaptive capacity to respond to social and environmental change.

A similar pattern was observed among the fishing community in Tial Village. Social relations among fishers are reflected in their practice of assisting one another when boat engines break down at sea, not only among fellow fishers from Tial but also those from Waai and Tulehu Villages. Assistance is provided regardless of a fisher's place of origin, as they perceive all fishers as members of a single community facing the same occupational risks. This culture of mutual assistance reflects the concept of *mechanical solidarity* proposed by Durkheim, whereby social cohesion is strengthened through shared occupations, common experiences, and collectively held values. Social relations in Tial Village are also evident in the interactions between fishers and *jibu-jibu* (women fish traders). Fishers entrust their catches to the *jibu-jibu* for sale, while payment is made only after the fish have been sold. This trust-based marketing system demonstrates that local economic relationships are not governed solely by market mechanisms but are also deeply embedded in long-standing social ties. Such trust enables transactions to take place without formal contracts while simultaneously reducing marketing risks for both fishers and traders.

Trust-based relationships within small-scale fisheries marketing systems can enhance the efficiency of fish distribution, reduce transaction costs, minimize market risks, and strengthen the economic resilience of fishing households. Furthermore, Freduah et al. (2017) argued that the sustainability of coastal communities' livelihoods is determined not only by the availability of fishery resources but also by the quality of social institutions, cooperative networks, and trust-based relationships that develop within the community. Overall, the findings of this study demonstrate that social relationships constitute a vital asset for fishing communities in Waai Village and Tial Village. Social capital, manifested through trust, mutual cooperation (*gotong royong*), solidarity, and collaborative networks, plays a significant role in sustaining fishing activities, strengthening fish marketing systems, enhancing the capacity of fishing communities to cope with occupational risks, and maintaining the socioeconomic stability of coastal households. These findings suggest that strengthening social capital should be recognized as a key component of fisheries development policies. The sustainable development of fishing communities depends not only on improvements in fishing technology and productivity but also on the capacity of communities to foster harmonious, inclusive, and enduring social relationships that support collective action and long-term livelihood resilience.

4. Conclusions

This study highlights the significant role of marine resources in sustaining the livelihoods of fishing communities in Waai Village and Tial Village, Salahutu District, Central Maluku Regency. The findings indicate that the monthly fish catch serves as the primary source of income for most fishing households and contributes substantially to meeting their daily living needs. The ownership of fishing boats and gear, particularly among fishermen in Waai Village, provides greater autonomy and flexibility in conducting fishing operations, thereby supporting household economic stability. In addition to economic factors, the study reveals that strong social relationships among fishermen, as well as between fishermen and itinerant fish traders (*jibu-jibu*), play an important role in maintaining cooperation, facilitating fish marketing, and strengthening social cohesion within the community. However, despite the region's abundant marine resources and the fisheries sector's substantial contribution to the regional economy, many fishing households continue to experience socioeconomic vulnerabilities due to seasonal uncertainty, fluctuating fish catches, limited fishing technology, and unstable income. These findings suggest that the availability of natural resources alone is insufficient to guarantee improved living standards without adequate institutional and policy support. Therefore, greater attention from the government, particularly the Fisheries Department, is needed to improve fishermen's welfare through enhanced access to modern fishing equipment, capacity-building programs, sustainable fisheries management, improved market access, and livelihood diversification initiatives. Furthermore, strengthening social capital, community cooperation, and collective action among fishermen should remain a development priority, as these social assets contribute significantly to building resilient, sustainable, and economically secure coastal fishing communities.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare no conflict of interest.

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