

Fisherfolk at the Crossroads: A Socio-Economic Analysis of Small-Scale Coastal Communities

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Abstract. . Much of the southern part of Negros is still uninhabited. However, it is an abundant location for fish production, which is the principal source of income among many fishermen in the Municipality of Binalbagan. Hence, this study was conducted to determine the socio-economic traits and challenges of 87 small-scale fishermen in Barangay Enclaro and Barangay Canmoros with a minimum of two years of fishing experience and at least one fishing boat. Using total enumeration, the study's results indicated that the number of fishing boats, type of gear utilized, and type of fish gathered all impacted the amount of money fishermen would earn. Fishing is the predominant income source for the people of Binalbagan but is highly vulnerable to weather fluctuations. Furthermore, most fishermen lived below the poverty line because their daily income did not cover all their expenses. A lack of extra money prevented many fishermen from putting their health first. On the other hand, only a small percentage of fishermen had access to hygienic living spaces, a steady water supply, and decent housing. Most of the fishermen and their children had only acquired a basic education. These vulnerabilities directly contradict the Global Sustainable Development Goals regarding poverty alleviation and economic growth. The study emphasizes the urgent need for comprehensive and sustainable development strategies that support economic resilience, environmental conservation, and social inclusivity to help these communities break free from poverty and achieve lasting stability.

Keywords: Small-scale fishermen; Fishing boat; Socio-economic trait and challenges; Living condition and sanitation; Weather condition.

1.0 Introduction

The fishing industry is a crucial source of food and income in Asian countries. Numerous Asian and Pacific communities heavily rely on fish and seafood as staples in their traditional diets. Throughout history, most fish and seafood have been sourced from the ocean or freshwater rivers, with some fish farming taking place in ponds. Fishing and fish farming provide sustenance and nourishment and offer employment opportunities for many individuals. For countless decades, fishing has played an essential role in the daily lives of many Asians, serving as a significant source of income. As a result, Asia has become the world's leading producer of fish and seafood, with aquaculture experiencing remarkable growth (Suzuki, 2018).

The Philippines is a significant fish producer, ranking eighth globally with a 2018 production of 4.35 million metric tons. The fishing sector contributes 1.52% to the nation's GDP (BFAR, 2020), translating to PhP 273.41 billion at current prices. Additionally, the industry contributes 12.27% to the Gross Value Added (GVA), emphasizing its importance in meeting the country's needs. According to the Philippine Statistics Authority figures, Western Visayas' fishing production was 381,446 metric tons in 2019, up 0.52% from 2018. The increase was attributed to

gains in the municipal, inland, commercial, and aquaculture sectors. However, in the first quarter of 2020, the region's fisheries production decreased by 0.64% compared to the previous year. This decline was mainly due to reduced output in the inland and maritime municipal sectors. Despite this, Western Visayas' fishing industry is still thriving.

Southern Negros rely on fishing as a major source of income, especially for towns along the shore. This industry is crucial for the economy of the southern region of Negros Occidental, and it is the primary source of revenue for many fishermen in Binalbagan. Fishing, the predominant income source for the people of Binalbagan, is highly susceptible to weather conditions, which poses significant financial challenges for many small-scale fishermen. These financial difficulties hamper their ability to meet basic family needs, illustrating the unpredictable nature of income from fishing. In addition to failing to alleviate hunger and poverty, this unpredictability forces many people into an unending cycle of poverty, which contradicts the Sustainable Development Goals (SDGs) of reducing poverty and promoting sustainable economic growth. The inability to save money or invest in healthcare due to the current economic uncertainty shows a gap in achieving SDGs 1 and 8 (No Poverty and Decent Work and Economic Growth). The fluctuating incomes and lack of support systems mean that these fishermen and their families are often unable to escape the poverty trap, further emphasizing the need for integrated and sustainable development strategies that boost economic growth while ensuring environmental conservation and social inclusivity.

2.0 Methodology

2.1 Research Design

The study employed a descriptive design with the main objective of defining cause-and-effect links rather than establishing them. It characterized the social and economic benefits fishermen receive from their work using a survey to gather accurate participant information. Descriptive research provides a methodical and precise depiction of population characteristics and is essential for making logical findings and suggestions.

2.2 Research Locale

The study investigated individuals in Brgy. Enclaro and Brgy. Canmoros in the Municipality of Binalbagan possess at least one fishing boat, have been engaged in fishing for a livelihood for a minimum of two years, and are affiliated with fishing associations in their locality. The research also aimed to understand the challenges fishermen face in catching fish, the condition of the market, and their ability to meet their basic needs.

2.3 Research Participants

The study focused on fishermen from Brgy. Enclaro and Brgy. Canmoros in the Municipality of Binalbagan. It involved fishermen who owned at least one fishing boat, had been fishing for a living for at least two years, were above 18 years old, and were either members or non-members of a fishing association in the area. There were six different fishing organizations in Brgy. Enclaro and Brgy. Canmoros had 221 members, but only 87 members met the set criteria for the study. The chairmen of the respective associations identified these 87 members.

2.4 Research Instrument

The instrument, validated by four research and fisheries experts, achieved a 4.475 average score. It underwent reliability testing after incorporating recommendations to improve its structure and content. Tested among 30 fishermen outside Brgy. Enclaro and Brgy. Canmoros achieved a 0.81 Cronbach's alpha coefficient, affirming its reliability.

2.5 Data Gathering Procedure

The study began with an ethics review and approval from the Ethics Committee, followed by validity and reliability tests on the survey questionnaire. Thirty fishing boat owners from Brgy. San Juan and Brgy. Nabuswang in Binalbagan Municipality were selected to ensure the survey's reliability and validity; however, they were not participants in the study. An informed consent form was obtained from each participant to ensure voluntary participation, facilitated by a referral from the local government unit (LGU) responsible for the fishermen's association in Binalbagan. The consent process involved presenting the survey participants with an informed consent form, explaining it, and securing their voluntary agreement. Participants were allowed to skip any questions they preferred not to answer, ensuring data confidentiality throughout the study.

2.6 Ethical Considerations

The study adhered to strict ethical standards, ensuring participant involvement was voluntary, with an option to withdraw at any time. Confidentiality of participant information was a top priority, with all collected data treated with the highest level of secrecy. After the study's publication, all related documents will be securely destroyed to maintain privacy.

3.0 Results and Discussion

3.1 Profile of the Respondents

Table 1. Descriptive statistics of the profile of the participants

Variables	Frequency	Percentage
Age		
47 years and below	43	49.4
48 years and above	44	50.6
Sex		
Male	87	100.0
Civil Status		
Single	15	17.2
Married	69	79.0
Widow	1	1.1
Other	2	2.3
Household size		
1-5 members	55	63.2
6-10 members	32	36.8
Educational Attainment		
No Schooling	1	1.1
Elementary Level	12	13.8
Elementary graduate	10	11.5
High School level	24	27.0
High School graduate	13	14.9
Vocational course	7	8.0
College level	20	23.0
Fisherfolks children's educational attainment		
No Schooling	8	9.2
Elementary	33	37.9
High School	37	42.5
Senior High	15	17.2
Vocational	1	1.0
College Level	20	23.0
College Graduate	11	12.6
Number of years in fishing		
Below 30 years	43	49.4
30 years and above	44	50.6
Gross monthly income		
Php 5,000 - 6,000	60	69.0
7,000 - 8,000	6	6.9
8,000 - 9,000	5	5.7
9,000 - 10,000	16	18.4

As shown in Table 1, the fishing industry predominantly employs men who also own boats, with over 95% of those working in fisheries being men and women, as highlighted by Ratner and Allison (2012) and the FAO in 2016. About half of the 87 surveyed fishermen are 47 years old or younger, indicating that many enter the profession early. The other half are older than 48, showing that fishing is a primary income source well into older age. It is a common and valid belief that boys will never be able to engage in marine fishing if they do not have the necessary skills early in life. As a result, many boys begin supporting their parents at a young age (Santhakumar, 2019). Most (79%) of fishermen are married, with an average age of 45, suggesting that this group typically has large families. Studies by Degorio et al. (2023) and Tan (2020) support this, stating that 55% of the participants are married, 15% are single, only 1% are widowed, and 2% others. The result indicates that the majority of the fishermen are married. Regarding the number of households, the study showed that 63.2% of household members are one to five members living in the same house, and a significant portion of fishermen's households comprises six to ten individuals, which is 36.8%, indicating a prevalence of extended family living

arrangements. Research also shows a correlation between large households and poverty, with fishermen in the Philippines experiencing the second-highest poverty rate (26.2%) after farmers, according to the PSA (2020). This data suggests that fishermen's incomes fall below the official poverty line, with poverty levels and the proportion of total poverty increasing alongside household size.

Throughout history, fishing settlements have been cut off from both mainstream society and the advantages of education. Children from these neighborhoods have had difficulty attending school because of poverty and other vulnerabilities. Fishing villages have found it challenging to take advantage of educational possibilities, even when efforts have been made to educate all community sectors. Santhakumar's (2019) study found that educational attainment levels among fishermen varied widely. Only 1% of fishermen could not attend school, 11.5% completed elementary school, and 27% reached high school. However, only 14.9% were able to graduate high school due to the responsibilities they took on. Some fishermen prioritize fishing over education, as they are unsure if they will be able to continue their studies in college. Nevertheless, some fishermen have managed to complete high school. Santhakumar (2019) noted that boys who start helping their families at a young age often miss out on school. Essential abilities needed for small-scale fishing, like handling tiny engines, lifting sails, casting nets, and navigating turbulent waters, are best acquired by "learning by doing" under the supervision of seasoned fishermen.

There used to be only a small number of public schools in Binalbagan and the surrounding cities, especially those near the sea. As a result, some fishermen could complete their elementary and secondary education. However, many faced difficulties due to the long distance between their homes and schools, the lack of transportation in the area at that time, and the high cost of daily school expenses. According to a study by Belardo and Candelaria (2023), the fishing communities in the three gulfs have conveyed their apprehensions over the obstacles they encounter when attempting to avail themselves of the government's educational program. Their disadvantage stems from their coastal location and frequent isolation from higher education establishments. The findings of this study align with the Food and Agriculture Organization's (FAO, 2015) finding that small-scale fishermen, in particular, frequently reside in isolated regions. According to recent research, impoverished families and communities living outside of cities have trouble getting access to transportation and education, which has an impact on students' enrollment in classes and attendance at events (Jochim et al., 2014; Logan & Burdick-Will, 2016; Starkey & Hine, 2014; Wilson et al., 2010). In some areas, fewer than 8% of high school graduates could enroll in vocational programs because there were none available nearby, and 23% of the fishermen have reached college but cannot have a degree.

The results indicate that relatively few fishermen still have young children at 9.2%. It further indicates that many fishermen can send their kids to school. Most children from fishermen's families enroll in elementary (37.9%) and high schools (42.5%), indicating that fishermen can still afford to send their children to these levels of education. Another contributing aspect is the abundance of public schools in the Binalbagan area. There are not many fishermen with children in senior high school (17.2%) because some of their kids decide not to continue in senior high school and instead want to take a break to let their older siblings finish before continuing their education. Some kids also need to find work because after graduating from high school, they can find jobs for the girls, and the boys can help their father on the shore. This study conforms with Santhakumar's (2019) in that 1% of children of fishermen can attend vocational school because there is not one in the closest location. The government's "Education for All" program allows some children of fishermen to enroll in college with the help of free tuition at certain institutions. However, despite this, many obstacles remain, including poor road conditions, transportation problems, and the distance between fishing communities and educational institutions. Some children of fishermen would rather work after senior high school or college. In contrast, others would rather quit due to the expensive cost of attending a private university than risk failing at a public institution with free tuition. Poverty is one of the numerous reasons why some of their children did not continue in their studies. Getting a job to support their family would be more important to them than completing their education.

Many fishermen are too poor to get their college degrees at 12.6% out of 23% college level because fishing is their parents' main source of income. They were forced to drop out of school to assist their father in fishing to supplement the family's income when their parents could not meet their educational needs. Given their circumstances, small-scale fishermen were classified as in or below the poverty line (Jani, 2014). When a

household's income is insufficient to cover food and non-food necessities (clothing, personal hygiene, fuel, light and water, housing, communication and transportation, health, and education) simultaneously, it is deemed impoverished. Recent data indicates that many individuals who have been working as fishermen for over 30 years or less than 30 years have earned a living in the same way, with a slight difference in percentage between the two groups. Most fishermen earn between Php5,000 and Php6,000 monthly, which falls significantly short of the minimum required for a family of five to cover essential monthly living expenses, pegged at Php13,797 for the first semester of 2023. Additionally, 8.7% of Filipinos, roughly 9.79 million people, live below the food poverty line, unable to afford basic food needs. According to the Philippine Statistics Authority, the average monthly cost to feed a family of five is Php9,550 (PSA, 2023). A small percentage have an income of Php7,000-8,000 and Php8,000-9,000, which is 6.9% and 5.7%, and a few percentages of the fishermen have an income of Php9,000-10,000 at 10.4%

3.2 Health Status of the Fisherfolks

Table 2. Descriptive statistics of the health status of the fisherfolks

Indicators	Mean	Interpretation	SD
Able to get medical check-up	1.80	Low extent	0.626
Able to buy medicine	2.17	Low extent	0.892
I get sick	1.72	Low extent	0.710
I was admitted to the hospital	1.48	Very low extent	0.662

Based on the health status results, most fishermen do not prioritize their health and overlook it (see Table 2). The mean score for those who could have medical check-ups is 1.80, indicating a low extent of verbal interpretation. This shows that most fishermen prefer alternative medications rather than undergoing the costly and additional expense of a check-up. During the survey, most participants reported using herbal remedies that are still available in their area, which they claim are more cost-effective and efficient than prescription medications. Similarly, the mean score for those who can purchase medications is 2.17, which is also low, indicating that fishermen would much rather use herbal remedies than purchase expensive medications from pharmacies. They do not even consume vitamins for their health. The mean score for "I get sick" is 1.72, indicating that people try not to take medicines and, if they feel under the weather, try to ignore it. If not, they turn to herbal remedies or alternative treatments to feel better. Finally, the mean score for "when I was admitted to the hospital" was 1.48, which is very low. This indicates that many fishermen choose to stay home when they become ill rather than be admitted to the hospital because hospital bills can be expensive. The fishermen's definition of illness is that they may even stand and attend to duty; in their minds, feeling under conditions does not equate to illness. The findings suggest that most fishermen do not save money for their future health. According to Jani (2014), small-scale fishers were classified as underprivileged if their take-home pay was less than what was required to pay for basic food and non-food bills in their household.

3.3 Sanitation Status of the Fisherfolks

Many people get most of their drinking water from mineral sources because of pollution and overcrowding (see Table 3). Even though the water district is deemed unsafe for drinking, some underprivileged fishermen continue using it. Those who cannot afford to buy mineral water often boil their water from NAWASA or the water district before drinking it. On the other hand, some families obtain their drinking water from a water pump since they are not a part of the water district. Before drinking the water, they additionally boil it. Since deep wells are less expensive, those not affiliated with the water department frequently use public or private deep wells. Most people in this area use water district connections for personal and household water requirements. Moreover, this fishing community has a separate electric pump for their water supply. The research shows that the fishermen's primary sources of water access are the deep well and the district water connection, depending on where they reside. If there is a water district connection in their neighborhood, they take advantage of it, and if not, they prefer to use alternative sources.

Table 3. Descriptive statistics of the sanitation status of the fisherfolks

Indicators	Frequency	Percentage
A. Source of Drinking water		
Bottled water/Mineral	84	96.6
Faucet or from the water district	2	2.3
others	1	1.1
B. Water Connection		
Water District	42	48.3
Deep well	38	43.7
Water Pump	6	6.9
Others	1	1.1
C. Toilet Facilities		
Flush	14	16.1
Open pit (hole in the ground)	2	2.3
Closed pit (hole in the ground but covered)	3	3.4
Pail system (buhos)	68	78.2

According to the findings, purchasing piped domestic water connections on the highest rung of the drinking water ladder is a wise investment by the World Health Organization (WHO) and can improve the water sources in this area. Most people who use pail systems or buhos, use these facilities because they are practical and use less water than other options. Some fishermen have secure homes and can afford decent plumbing and sanitary facilities. Very few use closed pits because of the congested environment, making this practice obsolete. According to Tan's study (2020), nearly all (95%) of the Sampiruhan household respondents have a septic tank and a simple, low-cost water-sealed toilet. Many of these toilets, especially the ones without piped water connections, are thought to be flushless. Notably, 82% of Sampad houses own toilets, but since the barangay does not yet have piped water, none likely have flush toilets. Nearly every home with a toilet says it has a septic tank.

3.4 Dwelling Conditions of the Fisherfolks

Table 4. Descriptive statistics of the dwelling conditions of the fisherfolks

Indicators	Frequency	Percentage
A. Dwelling Status		
Concrete and galvanized iron	19	21.8
Semi-concrete, wood, galvanized iron	59	67.8
Wood, nipa, cogon	9	10.3
B. House Ownership		
Own	61	70.1
Rent	1	1.1
Squat	24	27.6

Some of the fishermen's homes in Binalbagan are stable, but a greater proportion of the homes are built of semi-concrete, wood, and galvanized iron (see Table 4). This suggests that some fishermen prioritize the stability of their homes because they are naturally vulnerable to changing weather conditions. However, there are still a small number of fishermen whose homes are made entirely of wood, nipa, and cogon, indicating that there are still fishermen who are not financially stable enough to consider securing their homes. Inadequate housing is a significant public health concern (Krieger & Higgins, 2002). According to the Joseph Rowntree Foundation (2015), unfavorable housing conditions impact public spending, jobs, incomes, and health over the long run. The research also mentions how poor housing conditions make the poor more vulnerable to harsh weather and climate change (Tran et al., 2012). Most fishermen own the property on which their homes are built because of government programs in their community, allowing them to purchase the land at a lower price. There is a program in Brgy. Canmoros; however, it is in Brgy. Enclaro of the fishermen that are squatting. The government owns this land.

3.5 Economic Benefits of the Participants

As shown in Table 5, according to the survey, most fishermen's daily household expenses are between Php500 and Php1,000, accounting for 79 out of 87 fishermen, or 90.8% of the total. The fishermen's daily net revenue correlated with their expenses, as determined by their daily expenditures. The typical daily expenses are determined by their net daily income.

Table 5. Descriptive statistics of the economic benefits of the participants

Indicators	Frequency	Percentage
A. Daily Household Expense		
Php 500 – 1,000	79	90.8
Php1,000 – 2,000	7	8.0
Php2,000 – 3,000	1	1.1
B. Net Daily Income		
Php 500 – 1,000	66	75.9
Php1,000 – 2,000	16	18.0
Php2,000 – 3,000	3	3.4
Php3,000 – 4,000	2	2.3
C. Saving		
Daily	11	12.6
Weekly	10	11.5
Monthly	14	16.1
Quarterly	3	3.4
Yearly	1	1.1
None	48	55.2
D. Saving amount		
No savings	48	55.2
200-1,000	31	35.6
1,001-6,000	8	9.19
E. Years of saving		
No savings	48	55.2
15 years below	31	35.6
15 years above	8	9.19
F. Investment		
Buy or build more bancas	9	10.3
Buy or make more fish gears	32	36.8
Open a sari-sari store	9	10.3
Buy a residential lot	1	1.1
Others	36	41.4

These figures show that living circumstances in these fishing communities are poorer than those of the average Filipino household, which is 42.6% of total household expenditures in the Philippines (PSA, 2020). When more than half of the spending is allocated to food, there is very little money left over for other necessities, including housing, utilities (such as electricity and water), personal hygiene, health care, and education (Tan, 2020). The Philippine Statistics Authority (PSA) (2023) lists fishermen as one of the groups with the highest incidence of poverty. The study by Giles et al. (2019) supports the comparatively high reported poverty incidence of 30.6% among fishermen in Eastern Visayas. Lower fish catches hurt fishermen's livelihood and income, which worsens the incidence of poverty. This will affect food security, as about 30% of people in the Visayas region are supposedly affected by food poverty. However, the drop in catch (caused by ecological and technological causes) and the rise in the price of other inputs, like gasoline, are to blame for the loss in income per vessel (Santhakumar et al., 2019).

Based on the findings, 75.9%, or 66 of 87 fishermen, earn a daily net income ranging from Php500 to Php1,000 after deducting all fishing-related expenses. The fishing boat owner divides this amount among the four crew members, the maximum number of crew on one fishing boat. This amount is hardly enough to cover their daily living expenses. The primary factors affecting fishermen's income are the number of fishing boats and the quality of fish, conforming with the study of Muallil (2014), with the principal fishing gear, the type of boat that fishermen presently own, the gear that is utilized, and the most common species that fishermen catch were also questioned. Because there is only one fishing boat and the gear used to catch fish is a gillnet meant to catch little fish for dried fish, more fishermen earn this daily. These instruments primarily gather commercially significant fisheries resources and tend to remove larger individuals from fish stock. However, a small percentage of them, 18%, or 16 out of 87 fishermen, have a daily net income of Php1,000–2,000 because they utilize hooks and lines to catch fish, which enables them to catch high-quality fish that can be sold for a premium. Fishing gear is essential for capturing aquatic animals that the local population eats. These devices capture the layout and techniques to explain the species' traits (Balisco et al., 2019). They may have more than one fishing boat, which accounts for the Php2,000–3,000 daily net income at 3.4% or 3 out of 4 and the Php3,000–4,000 daily net income at 2.3% or 3 out of 87 potential causes. They have multiple fishing boats, so there is an opportunity to capture much fish, which could lead to

extra money. Fishing capacity has two dimensions: the overall amount of effort put into the fishery and the fishing vessels' and gears' ability or efficacy in catching fish (Balisco et al., 2019).

The survey of 87 fishermen revealed varied saving habits largely dependent on their income. Only 12.6% saved daily, while roughly 11.5% and 16.1% saved weekly and monthly, respectively. A significant portion, 55.2%, had no savings, primarily due to income barely covering daily family expenses. Small-scale fishermen are often classified as in or below poverty, with studies indicating a poor socioeconomic position among this group. Despite this, a minority still manages to save, with 35.6% saving between Php 200-1,000 and 9.19% saving Php1,001-6,000, highlighting income fluctuation as a major factor influencing saving habits. According to Jani (2014), small-scale fishermen were classified as being in or below poverty at the time of their assessment. Studies by Adeleke (2013) and Oladimeji et al. confirm that most fisherfolks have a poor socioeconomic position. Bluwey (2015) and Arthur (2017) in Ghana, as well as (Olaoye et al., 2012).

Theoretically, under specific economic assumptions, investments rise with savings as income rises (Blanchard, 2003; Dornbusch et al., 2008; Handa, 2004). It is assumed that as the municipality's economy grows, so does the residents' disposable income. A survey of fishermen revealed varied saving habits: 35.6% saved for 15 years or less, 9.19% for over 15 years, and 55.2% had not saved at all. Their saving behavior was income-dependent, with higher income enabling more savings, although these savings are often depleted during financial hardships. According to Arthur (2017), it is important to recognize the state of affairs affecting fishermen and implement policies to solve their problems and improve their quality of life. One of the social groups experiencing financial difficulties is the fishing community (Olaoye et al., 2012). The research showed that the fishing community as a whole was marked by poverty, but some participants engaged in savings and had passive incomes. Regarding their spending and saving habits, these fishermen generally prioritize personal savings, even if they do so in small amounts (Ramaratnam, 2016; Rameshkumar et al., 2011; Swathi, 2011).

Most fishermen do not have investments, while some invest their savings in buying or making new fishing gear or opening sari-sari stores. A small percentage of people invest in residential land or buy or build more bancas to generate another source of income, based on Tadeo's (2018) study, which states that savings are essential to people's well-being. It allows people to increase their purchasing power and infusion of capital. A significant part of human existence worldwide is the fishing industry. In actuality, the global economy depends on the combined output of the fishing industry, which accounts for two-thirds of the total.

3.6 Challenges Encountered by the Fisherfolks

Table 6. Descriptive statistics of the challenges encountered by the fisherfolks

Indicators	Frequency	Percentage
A. Catch Fish		
Weather condition	79	90.8
Coastal and habitat degradation	1	1.1
Declining fish stock	7	8
B. Market condition		
Lack of access to financing	21	24.1
Restricted market access	5	5.7
Quality of fish	36	41.4
Oversupply of fish	1	1.1
Weak government support	8	9.2
Others	16	18.4
C. Securing daily needs		
Not enough income to secure the daily needs of the family	61	70.1
No additional source of income other than fishing.		
Others	24	27.6
	2	2.3

As shown in Table 6, the primary challenge fishermen face is the impact of weather conditions on their income and catch, accounting for 90.8% of their issues, which they cannot control. Their income is impacted by the weather season, which also affects the amount of fish they catch. Another significant problem is overfishing, leading to decreased fish stocks and habitat degradation, even under government supervision. This issue affects offshore catches and coastal environments and has sparked conflicts among Southeast Asian fishers over limited resources,

threatening food, livelihood, and environmental security. Illegal fishing practices, such as bottom trawling and fishing without a permit, contribute to habitat degradation and are banned by local governments. Despite these regulations, Illegal, Unreported, and Unregulated (IUU) fishing remains a prevalent threat to the marine ecosystem, involving both commercial trawlers and small-scale local fishermen. This issue was confirmed by Season's study (2008) and DeRidder and Santing's research (2018).

The study's findings reveal that fishermen are encountering difficulties due to the presence of brokers and intermediaries in the market. This has led to growing resentment and a potential shift back to the local market Austin (2015). Many fishermen struggle to sell their catch directly to consumers, often selling at inflated prices to middlemen. Quality of the catch is a major concern, with government restrictions and scarcity of high-quality fish cited as significant issues. Santhakumar et al. (2019) discussed the issue of overfishing, causing an oversupply of fish in the market, which leads to a decrease in prices and profitability for fisherfolks, particularly affecting small-scale fishing enterprises. Despite their struggles, these smaller ventures persist due to overfishing, which results in an excess of fish that makes it challenging for vendors to market their products effectively. The text also mentions government programs to support small-scale fishermen by restricting illegal fishing activities yet cautions that such interventions can sometimes backfire. These unintended consequences include promoting overfishing, increasing illegal, unreported, and unregulated fishing activities, and harming the sustainability of fish resources and ecosystems. Consequently, policies that undermine fish stocks not only impact the economy by reducing the resilience of the fishing industry through lower yields and higher costs but also affect societal food security and ecosystem services and contribute to broader environmental issues like global warming, according to Hilborn et al. (2020).

The predominant response from survey participants indicates that 18.4% have no difficulty selling their goods. Most of their merchandise comprises dried fish, which is more marketable than fresh fish. Both Barangay Pasil and Canmoros have adopted this alternative and are familiar with the process. Instead of marketing fresh fish, they prefer to process their fish catch into dried form. Small fish, often referred to as "the milk of South-East Asia," play a crucial role in providing calcium to the poorest populations in certain areas, as they are frequently processed and consumed whole (Jensen, 2001). Nonetheless, a small group of fishermen encounter challenges in selling their catch due to oversupply in the market and the low quality of the fish.

Another issue that fisherfolks face is the oversupply of fish. There is downward pressure on prices to drop to be able to dispose of the fish stock because there is a greater supply accessible in the market, conforming to the study of Santhakumar et al. (2019), where large-scale fishing became unprofitable due to the quick rise in fishing capacity and the ensuing overfishing, which caused a gradual shift back to smaller-scale enterprises. As a result, the labor-intensive, small-scale fishing industry continues to exist and faces several fishermen. Overfishing has resulted in an abundance of fish on the market, making it more difficult for suppliers to advertise their goods. A government program aimed at protecting the interests of small-scale fishermen in the area by prohibiting illicit fishing would ensure that all fishermen receive a fair share of the catch and a stable income. According to Hilborn et al. (2020), government assistance for these goals may occasionally have unfavorable effects by altering the economic climate in which fishermen operate. The accumulation of surplus fishing capacity, overfishing, and incentives for illicit, unreported, and unregulated (IUU) fishing are some of these negative effects that disrupt ecosystems and fish resources' sustainability. In the end, policies that damage stocks hurt the people they are intended to assist economically since decreased stock abundance affects the fishing industry's resilience by lowering sustainable yields and raising harvesting costs. Both society and the environment suffer from such policies. When more fishing is done than is necessary, it leads to lower contributions to food security and ecosystem services (such as supplying food to other ecosystem components) and larger impacts on non-target species, ecosystem habitats, and global warming.

Securing everyday necessities is the primary concern for fishermen. Despite earning insufficient daily income (70.1%), fishermen struggle to set aside money for their basic needs. According to Giles et al. (2019), the declining fish catch has worsened the fishermen's poverty, affecting their lifestyle and income. The Philippine Statistics Authority (2023) reports that around 30% of people in the Visayas suffer from food poverty, with fishermen being heavily impacted, and the poverty rate among fishermen in Eastern Visayas stands at 30.6%. Moreover, 27% of fishermen rely solely on fishing for their livelihood, often being the sole breadwinners in their families due to a

lack of alternative income sources. Additionally, small-scale fishing communities are among the poorest socio-economic groups, with only a small fraction of fishermen having an alternative source of income, such as owning a tricycle for public transportation (Tan, 2020).

4.0 Conclusion

Fishermen in Binalbagan are grappling with significant financial difficulties. They struggle to earn enough to cover basic family needs due to their unpredictable income, which is heavily influenced by weather conditions. This instability leaves little room for healthcare or savings, plunging many into poverty and facing a constant battle against financial insecurity. The community's challenges are largely attributed to the unpredictability of weather, which directly impacts their earning potential and contributes to widespread financial strain. The Agriculture Office of the Municipality of Binalbagan, under the administration of the Local Government Unit, should establish a farm-to-market program to connect local fishermen with the market directly. This will provide a reliable outlet for their daily fish catch and increase their earnings. Additionally, the fishermen should use their expertise in fish drying to meet the high demand for dried fish. Fishermen should seek financial support from government bodies or associations to sustain the fish drying process and align production with market demand. This will increase their output of dried fish and improve their livelihoods.

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9.0 References

- Arthur, T. (2017). Poverty alleviation strategies employed by fisher Folks in Elmina in the Komenda-Edina-Eguafo-Abrem (KEEA) Municipality (Dissertation). University of Cape Coast
- Balisco, R. A., Tahajudjin, C. J., Vigonte, A. C. (2019). Fishing gears and their common catch in two coastal area of Palawan, Philippines: Implications to fisheries. *Management Internal Journal of Fisheries and Aquatic Studies*, 7(2), 216-222. <https://rb.gy/owszyg>
- Belardo, S. B., & Candelaria, A. P. (2023). Aspirations of Fisherfolk Communities on Their Children's Education in Albay, Asid, and Ragay Gulfs of Bicol, Philippines. *Journal of Geoscience and Environment Protection*, 11(7), 136-155. <https://doi.org/10.4236/gep.2023.117009>
- Blanchard, O. (2003). *Macroeconomics* (Third Ed.). Place of Publication: Pearson Education (Asia) PTE LTD.
- Bluwey, F. A. (2016). Measures of Poverty among Fisherfolks and Crop-Based Farming Households in Komenda Edina Eguaf Abriem (KEEA) Municipality of the Central Region, Ghana. *Journal of Educational Policy and Entrepreneurial Research*, 3(7), 62-76. <https://catalog.ihnsn.org/citations/71494>
- DeRidder, K. J. & Nindang, S. (2018). Southeast Asia's fisheries near collapse from overfishing. In *Asia's insight and analysis*. The Asia Foundation.
- Degorio, N., D., Centino, M. H., Delima, G., & Serino, M. N. V. (2023). Impact assessment of the integrated coastal resource management on the livelihood of small-scale fishers in Cuatro Islas, Leyte. *Review of Socio-economic Research and Development Studies*, 7(1), 41-65. <https://rb.gy/2eaemp>
- Handa, J. (2004). *Monetary economics* (1st ed.). New York: Routledge.
- Jani, J. M. (2014). The perceptions of poverty among small-scale fisher-folks in Terengganu, Malaysia. *Dynamiques Internationales*, 9(0), 1-21. <https://bit.ly/3B7gAJs>
- Oladimeji, Y. U., Abdulsalam, Z., Ajao, A. M., & Adepoju, S. A. (2015). Determinant of rural household poverty nexus fuel consumption among Fisherfolks in Kwara State, Nigeria. *Journal of Scientific Research and Reports*, 7(3), 185-194. <https://doi.org/10.9734/JSRR/2015/17360>
- Olaoye, O.J., Idowu, A.A., Omoyinmi, G.A.K., Akintayo, I.A., Odebiyi, O.C., & Fasina, A.O. (2012). Socio-economic analysis of artisanal Fisher folks in Ogun water-side local government areas of Ogun state, Nigeria. *Global Journal of Science Frontier Research Agriculture & Biology*, 12(4), 9-22. <https://bit.ly/4et0vML>
- Ramaratnam, M. S., & Jayaraman, R. (2016). A study on savings pattern of rural households in the select clusters of Kanchipuram districts. *International Journal of Engineering and Management Research*, 6(2), 608-615. <https://bit.ly/3BagW21>
- Rameshkumar, S., Excece, A. J., Padma Parvathy, G., & Priyanka, T. (2011). Income and expenditure pattern of fisherfolk in selected rural coastal villages of Tuticorin in Tamil Nadu. *Indian Journal of Fisheries*, 58(3), 153-155. <https://bit.ly/4evstax>
- Swathi Lekshmi, P. S. (2011). Livelihood and level of aspiration of coastal fisherfolk of Ta-milnadu. *Indian Journal of Social Research*, 52(1), 31-54. <https://eprints.cmfri.org.in/8376/>
- Santhakumar, V., & Kurien, J. (2019). The education of children from fisher communities: Lesson from Indonesia, India, and Brazil. Retrieved from <https://bit.ly/4esszzM>
- Suzuki, A. (2018). *Rising importance of aquaculture Asia: Current status, issues and recommendations* (Background Paper). The University of Tokyo
- Tan, P. (2020). Economic vulnerabilities of fishing-dependent households around Laguna Lake, Philippines. *Philippine Journal of Science*, 149(3a), 815-831. <https://bit.ly/3BbLcK0>
- Tadeo, J. (2018). *The Savings and Investments Behavior of Selected Fisherfolks in The Municipality of Rosario, Cavite* (Thesis). Cavite State University, Philippines