

**ANALYSIS OF THE WELFARE OF THE FISHERMAN COMMUNITY OF
SIBOLGA CITY (COMPARATIVE STUDY OF TRADITIONAL
FISHERMEN AND MODERN FISHERMEN)**



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Abstract

The research findings indicate several distinctions in the well-being levels between modern and traditional fishermen in Sibolga City across various indicators. Firstly, a notable disparity exists in income and consumption indicators. Modern fishermen exhibit significantly higher well-being percentages (92.56%) categorized as highly prosperous (SS), while traditional fishermen score at a moderately prosperous level (58.64% - CS). This difference is supported by the Kruskal-Wallis test (Asymp. Sig. = 0.044 < 0.05), confirming the divergence in well-being between traditional and modern fishermen based on income and consumption. Second, no significant difference is observed in living conditions between modern and traditional fishermen. Both groups show high well-being percentages; modern fishermen at 99.30% (SS) and traditional fishermen at 90.99% (SS), supported by the Kruskal-Wallis test (Asymp. Sig. = 0.235 > 0.05), indicating a lack of disparity in well-being based on residential conditions. Thirdly, differences in the health status of family members indicate varied well-being levels between modern and traditional fishermen. Modern fishermen have a well-being percentage of 88.19% (SS), whereas traditional fishermen score at 78.49% (S). The Kruskal-Wallis test (Asymp. Sig. = 0.012 < 0.05) reinforces this disparity in well-being based on family health indicators. Lastly, disparities are found in educational accessibility indicators. Modern fishermen show significantly higher well-being percentages (97.08% - SS) compared to traditional fishermen (70.25% - S), backed by the Kruskal-Wallis test (Asymp. Sig. = 0.000 < 0.05), indicating distinct well-being levels between the two groups based on educational accessibility.

Keywords: Community Welfare, Fishermen, Sibolga City

INTRODUCTION

Indonesia is a country with a very large sea area. The area of Indonesia is 5,193,250 km² with a land area of 1,919,440 km² and a water area of around 3,273,810 km². The website of the Coordinating Ministry for Investment. Indonesia has the longest coastline in the world, with a coastline of more than 81,000 km. Of the 67,439 villages in Indonesia, approximately 9,261 villages are categorized as coastal villages where it is certain that the majority of the population is poor. Currently, it is estimated that 22% of Indonesia's population or around 41 million people live and live in coastal areas, whose livelihood is by utilizing natural resources (SDA) in coastal areas either as fishermen or pond farmers (Kristianti, 2016).

The vast area of Indonesia's waters causes the majority of the population to work as fishermen. Indonesian waters have very potential marine products, such as fish, crabs, shrimp and other marine products which are excellent sources of protein, and marine products contribute 17% to 50% of animal protein needs (Wahyuni, 2022). Fisheries and fishery products have coastal potential because they are one of Indonesia's most popular food sources (Primyastanto, 2015). Therefore, the fisheries sector plays an important role in Indonesia's food security.

Fisheries is one sector that is expected to be able to support improving the welfare of the Indonesian people. The fisheries subsector can play a role in the recovery and growth of the Indonesian economy because of the large number and diversity of potential fish resources (Mustapa, 2017). Fisheries resources can actually potentially be utilized to improve the standard of living and welfare of fishermen, but in reality there are still quite a lot of fishermen who have not been able to increase their catches, so that fishermen's income levels have not increased (Indra, 2017). Coastal communities or fishermen are communities that live, grow and develop in coastal areas, namely a transition area between land and sea areas. Coastal communities have social characteristics that are different from other communities because of the different characteristics of the resources they have, coastal economic prosperity is very dependent on fisheries resources, both sea capture fisheries and aquaculture, which until now access is still open, so that the environmental conditions of coastal and marine areas determine the sustainability of socio-economic conditions (Syafari, 2016).

Fishermen are one of the coastal communities who work in the fisheries sector, which until now has been categorized as poor and has many problems, especially for those who work as small fishermen or fishing workers, so they are very far from a prosperous life. This poverty is caused by complex, interrelated factors, and is the main source that weakens the community's ability to develop coastal areas and improve their social welfare. Therefore, poverty is one of the main issues in coastal area development (Kusnadi, 2007).

The development of aquatic resources is part of overall development, the basis of which is to improve the standard of living and welfare of fishing communities who have low incomes. The level of community welfare reflects the quality of life in a family. A better quality of family life means having a higher level of welfare, so that families that can create better conditions can ultimately improve their welfare (Syamsudin, 2023).

Fishing communities generally live in coastal areas with low or below average socio-economic conditions so that they are synonymous with poverty. This condition originates from the weak human potential of fishing communities and the lack of environmental support capacity in utilizing natural potential and available natural resources (Syamsudin., 2023). Coastal areas are known to have a very high diversity of potential natural resources, both biological and non-biological, therefore the growth rate of the number of fishermen in Indonesia is very rapid. This is due to the large yield of marine fisheries resources. However, apart from that, there are also many obstacles experienced by fishermen, so that the income they earn is only small, this condition results in poor fishing communities.

Fishermen have a very substantial role in advancing human life. Fishermen are among the agents of development that have the most influence on environmental change, their nature is more open than community groups living in the interior, becoming a stimulator for accepting the development of a more modern civilization (Hudoyo, 2006). However, there are still many fishermen who live at the poverty level. Small-scale fishing community groups, fishing workers and their communities are very dependent on existing marine resources. The fishing community's income is less than optimal, which automatically means it is not optimal and makes their level of welfare low. This is what causes the poverty of fishing families to increase.

In measuring the welfare of fishing communities, indicators are needed that can provide a clear picture. In Law Number 11 of 2009 concerning Community Welfare, it is stated that community welfare is a condition of fulfilling the material, spiritual and social needs of citizens so that they can live a decent life and be able to develop themselves, so that they can carry out their social functions. The issue of welfare is always related to the concept of living needs, fishing communities or fishing households will fulfill their living needs until they are met so that then there will be prosperity in life.

The Central Statistics Agency (BPS) states that to determine people's welfare there are 7 (seven) measurements including population, health and nutrition, education, employment, levels and patterns of expenditure, housing and environment and social and cultural (BPS, 2021). Meanwhile, BKKBN (2021) has its own criteria for measuring family welfare, including household income and consumption, living conditions, housing facilities, health of family members, ease of sending children to school, ease of obtaining transportation facilities and social participation. Furthermore, BKKBN (2021) divides welfare levels into 5 (five) groups, namely Pre-Prosperous families, Prosperous families I, Prosperous families II, Prosperous families III and Prosperous families III Plus. These indicators will determine the level of community welfare from social and economic aspects.

Sibolga is a coastal area with good fishing facilities. This is supported by the Nusantara and Tangkahan fishing ports along the Sibolga coast. The city of Sibolga has the potential to develop the fisheries subsector as a support for the regional economy (Rizal, 2022). Sibolga is a city on the West Coast of Sumatra. The area is at an altitude of 0 – 150 m above sea level. Sibolga has an area of 10.77 km² or 107,700 Ha and consists of 4 sub-districts, namely Sibolga City with an area of 2.73 km² or 273.23 Ha, Sibolga Sambas with an area of 1.57 km² or 156.59 Ha, Sibolga Selatan with an area of 3.14 km² or 313.85 Ha, and North Sibolga with an area of 3.33 km² or 333.33 Ha (BPS Sibolga City, 2022).

The city of Sibolga has abundant fisheries resources which are used to improve the welfare of fishermen. However, the large number of fish catches is a factor that influences fishermen's income, thus forcing fishermen to have other jobs to improve their welfare. The following is the number of fishermen in Sibolga City for 2010 - 2019.

REVIEW OF LITERATURE

Fisherman

Fishermen are a group of people whose livelihoods depend directly on marine products, either by catching or cultivating them. They generally live in coastal areas, a residential environment close to the location of their activities. According to the Department of Maritime Affairs and Fisheries, fishermen are people who take part in fishing from a fishing vessel, either from platforms or nets (sedentary equipment or other floating equipment) or from the beach.

Fishermen are people who actively work in fishing operations at sea to resell some or all of the results to meet family needs.

Income Theory

Fisherman's income is the difference between receipts (Total Revenue / TR) and all costs (Total Cost / TC). So $P = TR - TC$. Fishermen's income (Total Revenue / TR) is the multiplication of the production obtained (Y) and the selling price (Py). Fishermen's costs are usually classified into two, namely fixed costs and variable costs. Fixed costs (FC) are costs that are relatively fixed in amount and continue to be incurred whether the production obtained is large or small. Variable costs (VC) are costs whose size is influenced by the production obtained, for example labor costs (Soekartawi, 2016).

Revenue is the difference between revenue and total costs. The relationship between income, receipts and costs can be written in mathematical form as (Suratiah, 2006):

$$P = TR - TC \dots\dots\dots(2.1)$$

Where P is income, TR is total revenue or total revenue and TC is total cost or total costs.

Income

Income is income that comes from the costs of production factors or productive services. Income is obtained from the costs of production factors and the total output produced for all production in an economy within a certain period of time. Income is used as a measure in assessing the success of a business and a determining factor for business sustainability which is expressed as the amount of money generated within a certain period of time. Fisherman's income is the difference between gross income and production costs calculated annually, monthly or per season.

Fishermen's income is divided into gross income, namely all income obtained by fishermen while fishing for one year which can be calculated from the sale or exchange of production results which are valued in rupiah based on the price per unit weight at the time of collection/obtaining the results and net income, namely all income received. obtained by fishermen in one year minus production costs during the production process (Gustiyana, 2004).

RESEARCH METHOD

This research is field research by surveying fishermen in Sibolga City. Therefore, the scope of research is needed to limit the extent of this research activity. The scope of research in this study consists of:

1. The variable studied is the level of welfare which consists of indicators of family income and consumption, living conditions, children's health, and education.
2. The subjects in this research were fishermen in South Sibolga District and Sibolga Sambas District.

The data used in this research consists of quantitative data. Quantitative data is data that is measured using numbers and can be divided into interval data and ratio data (Kuncoro, 2013). Quantitative data can be measured directly and describes information expressed in numbers or figures (Sugiyono, Qualitative, Quantitative and R & D Research Methodology, 2019). Quantitative data in this research was obtained from distributing questionnaire results to research respondents.

RESULTS AND DISCUSSION

Comparative Welfare of Income and Consumption Indicators

Community income is the income earned by individuals or family groups within one month or from the results of their business to meet their daily needs. The level of expenditure is very dependent on the family's ability to manage income. Community income is the income earned by individuals or family groups within one month or from the results of their business to meet their daily needs. The level of expenditure is very dependent on the family's ability to manage income.

Household consumption patterns are an indicator of household or family welfare. The size of the proportion of expenditure on food consumption to all household expenditure can provide an overview of the household's welfare. Households with a greater proportion of expenditure on food consumption indicate low-income households. The higher the household income level, the smaller the expenditure on food in total household expenditure. In other words, it can be said that a household or family will be more prosperous if the percentage of expenditure on food is much smaller than the percentage of expenditure on non-food.

Consumption is spending made by households on final goods and services with the aim of meeting needs to maintain survival. The level of community welfare can be said to improve if income increases and part of this income is used to consume non-food needs (Yulindawati, 2023). The shift in expenditure patterns for consumption from food to non-food can be used as an indicator of increasing social welfare, with the assumption that after food needs are met, excess income will be used to meet non-food needs (Abdillah, 2019).

Table 1.

Comparison of Fishermen's Welfare Income and Consumption Indicators

No	Statement	Fisherman Modern	Traditional Fishermen
1	Monthly income can only meet daily needs	8.33	52.39
2	There is a side job	83.33	30.95
3	Some income to save	100	71.43
4	Income obtained in accordance with the expenditure	54.17	54.76
5	The family eats 2 times a day/more with consume rice as a staple food	100	100
Average (%)		69.19	61.91
Category		S	S
Difference(%)		7.25	
6	Income every month	100	71.42
7	Family expenses every month	100	58.73

8	Savings amount	98.61	74.60
9	Balanced food composition	98.61	36.50
Average (%)		99.30	56.34
Category		SS	CS
Difference (%)		38.98	
Average Income and Consumption		84.24	59.12
Income and Consumption Categories		SS	CS

Source: 2023 Research Data Analysis

In Table 1, the research results show that there are differences in the level of welfare between modern fishermen and traditional fishermen in terms of income and consumption indicators. Modern fishermen have a welfare percentage of 92.56% in the very prosperous category, while traditional fishermen have a welfare level of 58.64% in the moderately prosperous category.

Table 2.
Kruskal Wallis Test Comparing Fishermen's Welfare Income and Consumption Indicators

Test Statistics^{a,b}

	Pendapatan dan Komsumsi
Chi-Square	4.058
df	1
Asymp. Sig.	.044

a. Kruskal Wallis Test
 b. Grouping Variable: Kode Nelayan

These results are also supported by Table 4.31 Kruskal Wallis Test which shows the Asymp value. Sig. equal to 0.044 or Asymp.Sig < 0.05, namely 0.044 < 0.05. This means that there is a difference in the level of welfare of traditional fishermen and modern fishermen in Sibolga City based on income and consumption indicators.

Arimawan's research (2022) states that income and consumption patterns can be indicators that determine the welfare of fishing communities. If there is an increase in income, the welfare of fishing families will also increase, and if there is an increase in

consumption patterns, the welfare of fishing families will also increase. On the other hand, if there is a decrease in income, the welfare of fishing families will also decrease, and if there is a decrease in consumption patterns, the welfare of fishing families will also decrease.

Afifah's research (2020) shows that the consumption patterns of fishing families measured from economic indicators can be said to be prosperous, namely large fishing families. The income of small fishermen is only able to meet primary needs. Sumual's research (2016) shows that the income earned by fishermen from fish caught while at sea determines the consumption patterns of fishing communities.

Income will determine a person's purchasing power which will then influence their consumption patterns. The higher a person's income, the greater the chance of entering the upper-class category (Yulindawati, 2023). As the amount of income received increases, the level of welfare of fishermen's families increases, and vice versa, as the amount of income received decreases, the level of welfare of fishermen's families decreases. Research by Wahbi (2020) and Triana (2020) states that welfare can be measured by the level of income received.

Income is an important part and an absolute must for fishing families to increase their family's level of welfare. Without income, it will be very difficult for fishing households to meet the family's daily needs. Even though fishermen's income depends on natural conditions, household needs will continue, so fishermen's families must continue to try to continue to earn income.

To obtain a high income, there is a need for high participation from all family members so that they receive more sources of income. This is because the more sources of income received, the standard of living of fishing families will increase. The income earned will influence consumption patterns. The more consumption needs that are met will increase the level of family welfare, conversely, the lower the consumption needs that are met, the level of family welfare will also decrease.

Therefore, to realize the welfare of fishing families, it is necessary to plan and manage household consumption patterns well so that needs can be met according to each level, starting from primary, secondary and then tertiary needs. The income of fishermen's families is uncertain, there is a need to regulate consumption expenditure well. This means

that consumption patterns are based on the level of importance of the needs they have, needs that are deemed less important should be ignored so that the remaining income can be saved. This aims to ensure that the consumption patterns of fishermen's families can still be met properly even when income falls.

Household prosperity can be achieved if there is effective management of family consumption regulations by the standard consumption patterns they have. Income and consumption patterns have an important role in the level of family welfare. With an increase in income and wisely regulating consumption patterns, the level of need will increase and will be fulfilled well which will have an impact on the level of family welfare.

Comparative Welfare Indicators of Housing Conditions

A house is one of the basic human needs, besides the need for clothing and food. The house functions as a place to live and is used to shelter from climate disturbances and other living creatures. The house is also a place where family members gather to spend most of their time. Article 28H paragraph (1) of the 1945 Constitution states that every person has the right to live in physical and spiritual prosperity, to have a place to live, and to have a good and healthy environment, which are basic human needs.

A good house must have a good roof, walls, and floors. The roof is the top covering of a building that can protect against excessive heat radiation, reduce the impact of rain, and inhibit the movement of wind which usually carries dust. Therefore, the type of roofing material can affect the comfort of the occupants. Walls also affect the quality of the house. Walls have the function of supporting the roof and ceiling and protecting against intrusion and weather. Meanwhile, the floor is the lower part of the room which has a function, one of which is to prevent the rise of ground water into the building to provide comfort.

Table 2.

Comparison of Fishermen's Welfare Indicators of Housing Conditions

No	Statement	Fisherman Modern	Traditional Fishermen
1	The land on which the house is built is owned personal	100	64.28
2	The house occupied is private property	83.33	64.28
3	House Which occupied is type permanent	100	92.85

4	An occupied house has floors, walls and a good roof.	95.83	92.85
5	The floor of the house is cement/ceramic	100	97.61
Average (%)		95.83	82.38
Category		SS	SS
Difference (%)		13.45	
6	Ownership of clean water sources	100	100
7	Lighting source	100	100
8	Toilet ownership	100	98.41
9	Fuel usage	100	100
Average (%)		100	99.60
Category		SS	SS
Difference (%)		0.4	
Average Living Conditions		97.91	90.99
Housing Condition Category		SS	SS

Source: 2023 Research Data Analysis

Description: SS: Very Prosperous, S: Prosperous, CS: Quite Prosperous, BS: Not Prosperous, TS: Not Prosperous

In Table 2, the research results show that there is no difference in the level of welfare between modern fishermen and traditional fishermen based on indicators of living conditions. Modern fishermen have a welfare percentage of 97.91% in the very prosperous category and traditional fishermen have a welfare level of 90.99% in the very prosperous category.

This result is supported by the results of the Kruskal Wallis Test in Table 4.33 which shows the Asymp value. Sig. equal to 0.235 or Asymp.Sig > 0.05, namely 0.235 < 0.05. This means that there is no difference in the level of welfare of traditional fishermen and modern fishermen in Sibolga City based on indicators of living conditions.

Table 3.
Kruskal Wallis Test Comparing Fishermen's Welfare Indicators of Housing Conditions

Test Statistics^{a,b}

	Keadaan Tempat Tinggal
Chi-Square	12.404
df	1
Asymp. Sig.	.235

a. Kruskal Wallis Test

b. Grouping Variable:
Kode Nelayan

Source: SPSS 26.0 output

Madzakir's (2019) research states that living conditions are a factor that can influence fishermen's welfare due to fishermen's uncertain income. Udin's research (2021) states that living conditions affect fishermen's welfare because the economic situation of fishermen tends to be poverty-stricken, making fishermen have to try to provide a good place to live. Meanwhile, Hamzah (2019), said that whether the social and economic conditions of a household are good or not can be measured by the quality of the residence.

Homeownership is an indicator of wealth and social status, which is closely related to a person's income and socio-economic status. A residence is a house building occupied by humans for shelter which has walls, floors, a building area, and roof. The condition of residence is one of the criteria that shows the social condition of households in society.

The status of the home can reflect whether the home is privately owned, rented, rented, or owned by other family members such as parents or in-laws. The majority of fishing household respondents have their house status as their own or privately owned house. Homeownership status indicates that the majority of fishing households have full ownership and control over their residence. This can indicate the stability and security of residence and provide freedom in managing and developing property assets.

Owning your own home has advantages, such as not being dependent on the owner or other parties in terms of rent or contract payments. Apart from that, home ownership can also have a positive impact on economic well-being, because a privately owned house can become a valuable asset and increase the family's financial stability. The majority of fishing

households have house status, indicating that the head of the family can meet housing needs and has the encouragement and ability to own and manage property assets as part of efforts to improve household welfare and stability.

The economic trend of fishermen, which can be said to be within the poverty line, proves that good housing conditions and private property determine the welfare of the fishing community. This is because fishermen have been successful in managing their finances from fishing to providing decent housing facilities for their families.

Comparative Welfare of Family Members' Health Indicators

Health is an important indicator to describe the quality of human development in a region. The healthier the condition of a society, the more it will support the process and dynamics of development so that the economy of a country or region will be better. The results of economic activities will realize the level of productivity of the population of a region so that in the end it will improve the welfare of the community.

The degree of public health is used to assess the success of health development and as a basis for preparing plans for the future (Ministry of Health, 1999). Apart from that, health development plays an important role in improving human welfare and also plays an important role in developing humans as a development resource. A high degree of health will increase labor productivity. This increase in productivity will sharpen the nation's competitiveness in a world of increasingly fierce competition.

Table 4.

Comparison of Fishermen's Welfare Indicators of Health of Family Members

No	Statement	Fisherman Modern	Traditional Fishermen
1	The family is in good health, approximately 3 last month.	87.50	97.62
2	Family easy get facility Health	95.83	73.81
3	The family has never had any complaints health problems	79.17	90.48
4	Availability of health funds for families	95.83	88.10
5	Always provide vitamins for the family	87.50	40.48
Average (%)		89.17	78.10
Category		SS	SS
Difference (%)		11.07	

6	Availability of health funds	80.55	74.60
Average (%)		80.55	74.60
Category		SS	S
Difference (%)		5.95	
Average Health of Family Members		88.19	78.49
Family Member Health Category		SS	S

Source: 2023 Research Data Analysis

Description: SS: Very Prosperous, S: Prosperous, CS: Quite Prosperous, BS: Not Prosperous, TS: Not Prosperous

On Table 4. The results of the research show that there are differences in the level of welfare between modern fishermen and traditional fishermen based on the health indicators of family members. Modern fishermen have a welfare percentage of 88.19% in the very prosperous category and traditional fishermen have a welfare level of 78.49% in the prosperous category.

This result is supported by the results of the Kruskal Wallis test in Table 4.25 showing the Asymp. Sig. equal to 0.012 or Asymp.Sig < 0.05, namely 0.012 < 0.05. This means that there is a difference in the level of welfare of traditional fishermen and modern fishermen in Sibolga City based on the health indicators of family members.

Table 5.
Kruskal Wallis Test Comparing Fishermen's Welfare Indicators of Health of Family Members
Test Statistics^{a,b}

Kesehatan Anggota Keluarga	
Chi-Square	6.356
df	1
Asymp. Sig.	.012

a. Kruskal Wallis Test

b. Grouping Variable:
 Kode Nelayan

Source: SPSS 26.0 output

Fariied's (2018) research states that the health condition of fishermen's families is a factor that influences the quality of life of coastal fishermen. Akbar's research (2018) states that the opportunity to increase the welfare of fishing families can be seen from the health condition of their families. Ndacularak's research (2014) states that the quality of a person's

health depends greatly on a person's ability to access health services. To reach health services requires quite a large expenditure. The greater the amount spent on health, the better a person's health status, thus having an impact on welfare.

Health is an inseparable element of human well-being and is a normal condition that is the natural right of every person living to adapt to the environment. In an effort to achieve optimal health conditions, optimal public health development is needed. Health development plays an important role in human development as a source of development. A high degree of health will increase labor productivity, thereby sharpening the nation's competitiveness in a world of increasingly fierce competition (Ardhy, 2020).

Health is a measure of people's welfare that can describe the level of people's health about their quality of life. A healthy population is one of the assets for the success of national development because, with a healthy population, it is hoped that development can run smoothly. In economic development, attention must also be paid to the implementation of health development which must be balanced to achieve the desired goals for all, namely prosperity and well-being for all Indonesian people.

Health development is a process of changing the level of public health from a poor level to a better one in accordance with health standards (Safira, 2019). Therefore, health development is a development carried out as an investment to build the quality of human resources. The health of fishermen's family members is supported by health facilities as an indicator of fishermen's welfare (Mudzakir, 2019). This is strengthened by increasing the ability of fishermen to work both in quality and quantity so that catches increase which will increase income and have an impact on their welfare. A healthy mind will facilitate fishermen's work so that they get more income and ultimately increase the welfare of fishermen's families.

Comparative Welfare Indicators of Ease of Obtaining Education

Education is a human activity and effort to improve his personality by developing within himself, namely thought, intention, taste, creativity and conscience (Rahman, 2022). Education is a human right of every citizen and for this reason every citizen, regardless of social status, economic status, tribe, ethnicity, region where a person comes from, religion and gender, has the right to obtain quality education according to their interests and talents.

owned (Fiqh, 2021). Therefore, the government must continue to strive to implement a program of equitable access to education for the entire community accompanied by improving the quality of education so that it is hoped that it can make citizens have good life skills and skills to encourage the realization of holistic human development as well as a civil and modern society that is imbued with values of Pancasila.

Education level is an indicator that is necessary to measure the quality of human resources (HR). Good quality human resources are needed as an important capital in implementing regional development. Increasing the quality of human resources is prioritized by providing the widest possible opportunities for the population to pursue the highest possible level of education. Educational pathways are a means of obtaining adequate human resources.

Table 6.
Comparison of Fishermen's Welfare Indicators of Ease of Obtaining Education

No	Statement	Fisherman Modern	Traditional Fishermen
1	Ease of obtaining educational facilities.	91.67	66.67
2	Family members of educational age can read write.	100	57.14
3	Children aged 7 – 15 years in the family go to school.	95.83	92.86
4	Can send children to higher education higher	87.50	26.19
5	There is a reserve fund for children's education.	95.83	64.29
Average (%)		94.17	61.43
Category		SS	S
Difference (%)		32.74	
6	Ability to provide education	100	69.84
7	Family education level	100	97.89
Average (%)		100	83.37
Category		SS	SS
Difference (%)		16.62	
Average Ease of Obtaining Education		97.08	72.4
Ease of Obtaining Education Category		SS	S

Source: 2023 Research Data Analysis

Description: SS: Very Prosperous, S: Prosperous, CS: Quite Prosperous, BS: Not Prosperous, TS: Not Prosperous

In Table 6, the research results show that there are differences in the level of welfare between modern fishermen and traditional fishermen based on the indicator of ease of obtaining education. Modern fishermen have a welfare percentage of 97.08% in the very prosperous category and traditional fishermen have a welfare level of 70.25% in the prosperous category.

This result is supported by the results of the Kruskal Wallis test in Table 4.29 which shows the Asymp value. Sig. equal to 0.000 or Asymp.Sig < 0.05, namely $0.000 < 0.05$. This means that there is a difference in the level of welfare of traditional fishermen and modern fishermen in Sibolga City based on the indicator of ease of obtaining education.

Table 7.
Kruskal Wallis Test Comparing Fishermen's Welfare Indicators of Ease of Obtaining Education
Test Statistics^{a,b}

	Kemudahan Mendapatkan Pendidikan
Chi-Square	35.542
df	1
Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable:
Kode Nelayan

Source: SPSS 26.0 output

Napitupulu's research (2020) states that the ease of fishing communities in obtaining education can be seen in school fees, distance to school, and the school admission process. Syamsudin's research (2023) states that fishermen are only able to send their children to school, namely up to high school level. This is because the school fees for tertiary institutions are quite expensive and the cost of living is quite high, making fishermen unable to afford to send their children to school outside the village. However, in this research, fishing families in Sibolga City were able to send their children to college level. This shows that fishermen in Sibolga City can be said to be prosperous.

Education is a dominant factor in lifting people from various disadvantages, including poverty. Education apart from gaining intelligence in the form of thinking skills, humans also gain new insights that will help in efforts to raise the dignity of their lives. The higher the education, the greater the quality of human resources, and the higher the opportunity to get a job the greater the hope for a prosperous life (Siregar, 2017). Education is one way to improve the quality of human resources (HR), and quality human resources are the main factor in successful development in a country (Napituplu, 2020). Education plays a key in shaping society's ability to absorb modern technology and to develop a person's capacity to create sustainable growth and development. Therefore, education is considered a tool to achieve sustainable targets, namely community welfare.

CONCLUSION

Based on the results of the analysis in the previous chapter, the results of this research can be concluded:

1. There are differences in the level of welfare between modern fishermen and traditional fishermen in terms of income and consumption indicators. Modern fishermen have a welfare percentage of 92.56% in the very prosperous (SS) category, while traditional fishermen have a welfare level of 58.64% in the moderately prosperous (CS) category. These results are also supported by the Kruskal Wallis test which shows the Asymp value. Sig. equal to 0.044 or Asymp.Sig < 0.05, namely $0.044 < 0.05$. This means that there are differences in the welfare levels of traditional fishermen and modern fishermen in Sibolga City based on income and consumption indicators.
2. There is no difference in the level of welfare between modern fishermen and traditional fishermen based on indicators of living conditions. Modern fishermen have a welfare percentage of 99.30% in the very prosperous (SS) category and traditional fishermen have a welfare level of 90.99% in the very prosperous (SS) category. This result is supported by the results of the Kruskal Wallis Test which shows the Asymp value. Sig. equal to 0.235 or Asymp.Sig > 0.05, namely $0.235 > 0.05$. This means that there is no difference in the level of welfare of traditional fishermen and modern fishermen in Sibolga City based on indicators of living conditions.

3. There are differences in the level of welfare between modern fishermen and traditional fishermen based on the health indicators of family members. Modern fishermen have a welfare percentage of 88.19% in the very prosperous (SS) category and traditional fishermen have a welfare level of 78.49% in the prosperous (S) category. This result is supported by the Kruskal Wallis test results showing the Asymp value. Sig. equal to 0.012 or Asymp.Sig < 0.05, namely $0.012 < 0.05$. This means that there is a difference in the level of welfare of traditional fishermen and modern fishermen in Sibolga City based on the health indicators of family members.
4. There is a difference in the level of welfare between modern fishermen and traditional fishermen based on the indicator of ease of obtaining education. Modern fishermen have a welfare percentage of 97.08% in the very prosperous (SS) category and traditional fishermen have a welfare level of 70.25% in the prosperous (S) category. This result is supported by the results of the Kruskal Wallis test which shows the Asymp value. Sig. equal to 0.000 or Asymp.Sig < 0.05, namely $0.000 < 0.05$. This means that there is a difference in the level of welfare of traditional fishermen and modern fishermen in Sibolga City based on the indicator of ease of obtaining education.

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