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Analysis of Living Stages of Traditional Fishermen in Belang District Southeast Minahasa

Iftitah Khairunnisa Laside[1,*], Siti Suhaeni [2], Alfret Luasunaung [2], Suria Darwisito[2], Feny Mentang[2], Deiske Adeliene Sumilat[2]

[1]Student of Master of Aquatic Science Study Program, Faculty of Fisheries and Marine Science, University of Sam Ratulangi Manado
[2]Lecturer of the Master of Aquatic Science Study Program, University of Sam Ratulangi Manado
*Corresponding Author

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Abstract— *The purposive of this study, namely to find out how much and what are the sources of income for traditional fishermen's families in Belang District, and the expenses of traditional fishermen's families in Belang District is, te last step is to find out how the standard of living of traditional fishermen's families in Belang District is. The Method used in this research is a survey method. The population in this study are traditional fishermen in Belang District. The data collection method used is Sampling . The sampling method is using a quataed Multi-Stages Purposive Sampling, with the number of sample villages being 15 villages and the sample fishermen taken are fishermen with fishing rods and nets as much as 10% of the total population in each sample village. The data collected consists of primary data and secondary data. Primary data was collected through observation and interviews guided by questionnaires. Secondary data were obtained from the Belang District of office and related to this research. The data analysis used is descriptive qualitative and quantitative analysis. The standard of living of traditional fishing families is analyzed using the Engel index. Based on the results of the analysis, it is known that the income of traditional fishermen's families in Belang District comes from their main job as fishermen, side jobs outside the field of fisheries. The total incomes of traditional fishermen's families in Belang District on average for one year is Rp.53,394,000. There are 2 types of expenditures for traditional fishermen's families in Belang District, namely expenditures for food and expenditures for non-food such as clothing, housing, health, education, electricity, transportation and others. The total average expenditure for one year is Rp. 53,394,000, which is divided into expenditures for food needs of Rp. 32,284,500 and expenditures for non-food needs which are Rp. 21,109,500. The results of the analysis of the Engel index are 60 0.46% , meaning that the total income of traditional fishermen in Belang District is 60.46% used to meet food needs only. The proportion for food, which is 39,54 % . This is indicates that the standard of living of traditional fishermen in Belang District is still relatively low because more than half of their income is only sufficient to meet food needs.*

Keywords— ***Standard of living, traditional fishermen, Belang***

I. INTRODUCTION

Enormous marine potential should have a significant impact on its people . Indonesia 's marine wealth has not been able to improve the welfare of life, especially the fishing community, which of course has played an important role in the fisheries sector. Social facts in some coastal communities are still attached to the problem of poverty so that it seems ironic in the midst of abundant wealth of coastal marine resources (Mulyadi, 2014).

The fishing community is one part of Indonesian society that lives by managing the potential of fishery resources. People who live in coastal areas are fishing communities that have their own social characteristics that are different from people who live in mainland areas. In some coastal

areas that are relatively rapidly developing, the community structure is heterogeneous, has a high work ethic, strong social solidarity, is open to change and has characteristics of deep social interaction. Even so, the problem of poverty still plagues some residents of coastal communities. The very poor fisherman 's economy shows a real and ironic condition for those who live in the midst of marine resources and large fishery potential and high market demand (Dahuri, 2001).

Coastal communities in Belang District generally work as fishermen, which are still traditional because they still use simple fishing gear to catch fish in the sea. Fishermen's residential areas are generally located along the coast. Fishermen's income depends on the number of catches obtained and the selling price of their catch. The catch of fishermen is unpredictable because there are times when they get abundant results, but not infrequently they also go home empty-handed, because they do not get any results at all. The catch of traditional fishermen is much influenced by natural factors that cannot be controlled by humans. This of course greatly affects the income of fishermen. This erratic income of traditional fishermen is one of the reasons why the standard of living of traditional fishermen or the level of welfare of traditional fishermen is still being questioned.

The income level of traditional fishermen, which is not necessarily large, must be spent on various needs. The basic needs of fishermen's families are reflected in the expenses to buy their household needs . These expenditures are in the form of expenses for food, clothing, housing, education, health, transportation, credit, savings and others. One way to find out a person's standard of living or level of prosperity or welfare is to find out the percentage comparison between spending on food and the total expenditure. The richer a person is, the smaller the percentage of spending on food, on the contrary, the poorer a person is, the greater the percentage of spending on food, and often his entire income is only enough for daily meals. This is what attracted the attention of researchers to conduct research in Belang District, to determine the standard of living of traditional fishermen who were there.

II. RESEARCH METHODS

The method used in this research is a survey method. The survey method is a critical observation or investigation to obtain good information on a particular problem in a particular area or location which is patterned to obtain the required information. Survey is a research conducted by collecting data, investigating and interpreting data in general as available in the field (Creswell, 2009).

Data Retrieval Method

The population in this study were all traditional fishermen in Belang District. The data collection method is done by sampling, where the population is only taken partly to be used as a sample. The sampling technique used the Multi-Stages Purposive Sampling method with quotas, with the number of sample villages being 15 villages and the sample fishermen taken were fishermen with fishing rods and nets as much as 10% of the total population in each sample village.

The data collected in this study are primary data and secondary data. Primary data in this study were taken by means of direct observation and interviews with respondents who were guided by a questionnaire. Secondary data in this study were obtained from other parties, namely records from the Belang sub-district office. In addition, it also looks at relevant studies that have been published such as journals, proceedings that can be used either as comparisons or references in conducting research.

Data analysis

The data obtained in this study were analyzed descriptively qualitatively and descriptively quantitatively. Qualitative descriptive analysis is an analysis using the author's sentences in a systematic and easy to understand manner in accordance with the data obtained to provide an overview and information. Quantitative descriptive analysis is an analysis of data by providing a discussion or study of existing data using calculations . The first objective in this study is achieved by using the calculation of fishermen's household income which is calculated by the formula (Suratiyah 2009):

P rt = P on farm + P off farm + P non farm

Where: P rt = fisherman household income per year

P on farm = Income from fishing business

P off farm = Income from farming outside of fishing

P non farm = Income outside of farming

Fisherman household income is income derived from fishing business (on farm) and other income outside fishing. Other income outside of fishing, such as farm income outside of fishing (off farm), because most fishermen also have agricultural land, especially when they are not fishing. Businesses outside of farming (non-farm) for example, income from opening a shop business, wife becoming a fish trader and others.

The second goal is achieved by using household expenditure analysis, according to BPS (2017), household expenditure analysis is formulated by:

C t = C1 + C2

Where: Ct = Total household expenditure of fishermen (Rp/year)

C1 = Expenditure for food needs (Rp/year)

C2 = Expenditure for non-food needs (Rp/year

Fishermen's household expenditure is the total expenditure used to finance their basic needs. Fishermen household expenditure is divided into 2, namely expenditure for food needs and expenditure for non-food needs.

The third objective is achieved through the analysis of the Engel Index, because the Engel index is one way to reflect the standard of living of a person or group of people. Wan (1996) in Puspita and Agustina (2018) formulates the Engel Index as follows:

Engel Index= (Expenditure on food)/(Total expenditure) X 100%

The size of the Engel Index reflects the standard of living of fishermen. The smaller the Engel index obtained means the higher the standard of living of fishermen, conversely the greater the Engel index value obtained means the lower the standard of living of fishermen. The richer a person is, the smaller the percentage of spending on food.

III. RESULTS AND DISCUSSION

Belang sub-district is one of the sub-districts in the Southeast Minahasa Regency, North Sulawesi Province whose population is mostly fishermen because of its geographical location on the coast . The fishing community in Belang District as well as fishing communities in general in Indonesia are still using traditional fishing gear, low education, limited access to capital & poor financial management.

Respondent Profile According to Age

Respondents in this study amounted to 192 traditional fishermen spread over 15 coastal villages in Belang District. The social profile of respondents from traditional fishermen in Belang District can be seen from their age, education level, number of dependents, experience and types of side jobs. For more details can be seen in table 1.

Table 1 . Respondent's Social Profile

N o	Description	Amount	Percentage
1.	**Age**		
	- < 15 years old	-	-
	- ≥15 - 65 years old	190	98.96
	- > 65 years old	2	1.04
	Total	**192**	**100.0**
2.	**Level of education**		
	- SD	107	55.8
	- JUNIOR HIGH SCHOOL	63	32.8
	- high school	22	11.4
	Total	**192**	**100.0**
3.	**Number of Family Dependents**		
	- 1-3 people		
	- 4-6 people	111	57.8
	- > 6 people	78	40.6
		3	1.6
	Total	**192**	**100.0**
4.	**Length of work**		
	- < 5 years	0	0
	- 5-10 years	17	8.9
	- > 10 years	175	91.1
	Total	**192**	**100.0**

	Side job		
	- Farmer		
	- Fish processing	18	9.4
	- Craftsman	10	5.20
5	- Miner	15	7.81
	- Bentor Driver	5	2.60
	- Village Tool	3	1.56
	- None _	1	0.52
		140	72.91
	Total	**192**	**100.0**

Source: Research Results, 2022

P in table 1 It can be seen that the majority of respondents are in the productive age between 15-65 years as many as 190 people or 98.96%, because only 2 respondents are of unproductive age. Those whose age is not productive are 68 years old and 73 years old. At a productive age, fishermen have high productivity because they are supported by strong physique, better knowledge and experience.

The education level of respondents as shown in table 1 at most only reached elementary school (SD), namely 107 people or 55.8%, the rest were junior high and high school, but none of them graduated from college. This reflects that fishermen in Belang District have a low level of education. A low level of education will affect the pattern of thinking, perspective and skills as well as management in the business they are engaged in.

The family dependents referred to in this study are the number of family members whose living expenses are borne by the respondent consisting of himself, his wife, children and other responsibilities who live in the same house . In table 1 it can be seen that the number of dependents of fishermen in Belang District is between 1-3 people or 57. % . The more the number of families that must be borne, the more costs incurred to meet the needs of life.

The length of work will determine the amount of experience gained during work and will be used as lessons in the future. Table 1 shows that most of the respondents have more than 10 years of experience as fishermen, namely 175 people or 91.1 % . The experience of working as a fisherman is expected to be sufficient experience and knowledge to manage business in fishing .

Table 1 also shows that not all respondents have a side job other than being a fisherman. Side jobs should be very important for fishermen, because work as a fisherman cannot be done all the time, because it depends on the season. When the weather is not friendly, such as strong winds and high waves, fishermen cannot carry out their work as fishermen so they do not get income to support their family life. That is why fishermen should have a side job in order to survive when they cannot catch fish. However, fishermen in Belang District 72.91 % or as many as 140 people do not have side jobs, so they are very dependent on work as fishermen. It can be imagined how their life is when the weather is not friendly which causes fishermen to not be able to go to the sea. That is why it is not surprising that most fishermen live in poverty and are in debt.

However, there are also fishermen in Belang District who have side jobs, as many as 33.1 % or 52 people. Some of them work as farmers, construction workers, fish processors , Bentor drivers and gold miners in Ratatotok as well as fish processors, farmers , and some are even village officials. This side job is a strategy to survive in times of famine

Fisherman's Household Income

Household income is the sum of all income earned from all family members in the form of money as a result of their work. Household income has a very important role in determining the purchasing power of food and other facilities such as clothing, education, housing and health and others. Household income will be related to the level of fulfillment of the basic needs of fishermen, because low income will have an effect on the low purchasing power of households.

The total income of traditional fishermen households in Belang District, the majority only depends on income as fishermen, because of the 192 respondents only 52 people have side jobs. For more details, the total household

income of traditional fishermen in Belang District can be seen in table 2.

Table 2. Income of Household Fishermen per Year

Description	Main income (Rp)	Income Side (Rp)	Total Income/year (Rp)
Total income	9 . 156 . 000 . 000	1 . 095 . 600 . 000	10.251.600.000
Average	47 . 687 . 500	5 . 706 . 250	53,393,750
Rounding	47,688,000	5,706,000	53,394,000

Source: Primary data processed (2022)

Table 2 only shows the total main income for all respondents (192 fishermen) of fishery per year is Rp. 9,156,000,000 and the average main income per fisherman household per year is Rp. 47,688,000 . The amount of side income of fishermen's households per year is Rp. 1,095,600,000 and the average side income per fisherman household per year is Rp. 5,706,000. The total income of fishermen's households as a whole per year is Rp. 10.251.600.000, the average total income of fishermen's households per year is Rp. 53.394.000.

The income of a fisherman's household or a fisherman's family is the sum of all income both generated from main work and side jobs. The calculation of fishermen's household income is calculated by the formula:

P rt = P fisherman + P side

Where: P rt = fisherman household income per year

P on farm = Income from fishing business

P off farm = Income from side work

P rt = P fisherman + P side

= Rp. 47,688,000 + Rp. 5,706,000

= Rp. 53,394,000

The income of traditional fishermen in Belang District on average per year is Rp. 53,394,000 or Rp. 4,449,500 per month. When compared with the North Sulawesi Provincial Minimum Wage (UMP), which is Rp. 3,310,723 which is the third largest UMP in Indonesia, in fact, the income of traditional fishermen in Belang District is more than sufficient.

Fisherman Family Expenses

The fishermen's household income is entirely used to meet the living needs of fishermen and their families. The needs of fishermen 's household life can be divided into two, namely food and non-food needs. The definite need for food is to buy daily food ingredients, while non-food needs such as clothing, housing, education, health, electricity, transportation, credit and others.

The food needs of fishermen's households in Belang District are different for each household, which is definitely influenced by the large number of dependents who must be fed and the amount of income from the fishermen's families themselves. The amount and type of food also varies greatly depending on the amount of family income they earn. A fishing family with a large number of dependents but a small total household income will find it very difficult to manage household finances in order to meet all family needs. If a fishing household has a large total income, especially if the family's dependents are few, it will be much easier to manage household finances to meet all family needs .

The basic need of living people is food, so the basic expenditure of fishermen's households is to meet the food needs of their families. In addition to spending to meet the food needs of fishermen's families, they also have other needs that must be met. Other needs besides food, for example, to buy clothes, to repair a house, to pay for the education of children or grandchildren who are still in school, to buy medicine or to the doctor when they are sick, to pay the electricity bill every month, for transportation costs if you want to travel and also to facilitate communication. Today's pulse is needed. In addition to the needs already mentioned, there are many other needs that are social in nature, such as donating to people for celebrations, visiting sick or bereaved people, giving money to parents or relatives, alms, social gathering, savings and so on. other expenses. The costs incurred to meet all the needs of fishermen's families in Belang District per year can be seen in table 3.

Table 3. Total Fisherman's Household Expenditure per Year

Uraian	Makanan	Pakaian	Perumahan	Pendidikan	Kesehatan	Listrik	Transport	Pulsa	DLL	Total
Jumlah	6.198.600.000	629.280.000	347.640.000	462.000.000	110.304.000	227.400.000	364.497.600	232.051.200	1.679.827.200	10.251.600.000
Rata2	32.284.375	3.277.500	1.810.625	2.406.250	574.375	1.184.375	1.898.425	1.208.600	8.749.100	53.393.625
Pembulat	32.284.500	3.277.500	1.810.500	2.406.500	574.500	1.184.500	1.898.500	1.208.500	8.749.000	53.394.000

Sumber: Data primer diolah 2022

In table 3, it can be seen that the annual expenditure on food for traditional fishing families in Belang District is Rp. 32,284.5 000 and non-food expenses (clothing, housing, education, health, electricity, transportation, credit and others) of Rp. 2 1. 109 . 5 00 , so the total expenditure of traditional fishing families in Belang District per year is Rp. 53. 394 000.

The total expenditure of fishermen's households or fishermen's families per year is the sum of all expenditures for food and non-food expenditures. Non-food expenditures consist of expenses for clothing, housing, education, health, electricity, transportation, credit and others. The calculation of fishermen's household income is calculated using the calculation, namely the analysis of household expenditures is formulated by:

C t = C 1 + C 2

Information:

Ct = All fisherman household costs (Rp/year)

C1 = Cost for food needs (Rp/year)

C2 = Cost for non-food needs (Rp/year)

C t = C 1 + C 2

C t = Rp.32,284.5 00 + Rp. 2 1 . 109 . 5 00

Ct = Rp . 53. 394 000

Belang District on average per year is Rp. 53. 394 000 , which consists of spending on food an average of Rp.32,284.5 00 and expenses for non-food an average of Rp. 2 1 . 109 . 5 00 .

Fisherman Family Life Standard

Family expenditure is one indicator that can provide an overview of the family's standard of living. Family expenditure consists of two groups, namely expenditure on food (food) and expenditure on non-food (non-food). Food expenditure is the amount of money purchased for food consumption, while non-food expenditure is the amount of money spent for purposes other than food such as clothing, housing, health, education, electricity, water, communication, transportation, savings, and other non-food items.

The higher the standard of living of a society, the smaller the proportion of food expenditure for its members , and vice versa. Household food expenditure will increase in line with increasing income, but the proportion of food expenditure from total income will decrease, this phenomenon is known as Engel's Law (Mankiw, 2007).

The Engel index is one way to reflect the standard of living of a person or group of people. Wan (1996) in Puspita and Agustina (2018) formulates the Engel Index as follows:

Engel Index= (Expenditure on food)/(Total expenditure) X 100%

The size of the Engel Index reflects the standard of living of fishermen. The smaller the Engel index obtained means the higher the standard of living of fishermen, conversely the greater the Engel index value obtained means the lower the standard of living of fishermen. The richer a person is, the smaller the percentage of spending on food.

Belang District are :

Engel Index= (Expenditure on food)/(Total expenditure) X 100%

Engel index =32.284.500/53.394.000 X 100%

= 60 0.46 %

Analysis using the Engel index obtained 60 0.46% results, this means that the total income of traditional fishermen in Belang District 60.46% is used to meet food needs only. The proportion for food, which is 60.46%, is much larger than the proportion for non-food, which is 39.54%. It can be concluded that the standard of living of traditional fishermen in Belang District is still low or less prosperous because more than half of their income is only sufficient to meet food needs.

IV. CONCLUSION

The income of fishermen's families comes from their main job as fishermen and side jobs . The total income of traditional fishing families in Belang District on average per year is Rp. 53. 394 000 . There are 2 types of expenditures for traditional fishing families in Belang District, namely expenditures for food and expenditures for non-food such as clothing, housing, health, education, electricity, transportation, credit and others. The total average expenditure per year is Rp. 53. 394 000 which is divided into expenditures for food needs of Rp . 32,284.5 00 and expenditure for non-food needs, which is Rp. 2 1 . 109 . 5 00 .

The Engel index obtained is 60.46%, this means that the total income of traditional fishermen in Belang District is 60.46% used to meet food needs only. The proportion for food, which is 60.46%, is much larger than the proportion for non-food, which is 39.54%. This indicates that the standard of living of traditional fishermen in Belang District is still relatively low because more than half of their income is only sufficient to meet food needs.

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