

Exchange Rate of Fishermen Business Fishing in Kalinaun Village, East Likupang District, North Minahasa Regency

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Abstract— Kalinaun Village is one of the villages located in East Likupang District, North Minahasa Regency, North Sulawesi, Indonesia. Fisherman. The analysis used in this research is a descriptive quantitative analysis and descriptive qualitative. The economic situation in the form of fishing rods owned by fishermen in Kalinaun village is their own. The initial capital of Rp. 10,000,000 – Rp. 15,000,000 with a percentage of 80 %. the largest investment cost spent on the purchase of a rainbow boat was Rp. 7,500,000, - with a percentage of 70.09% of the total investment cost and the smallest cost for the purchase of a catinting machine was Rp. 3,200,000, - with a percentage of 29.91%. Fishermen go to sea also vary between 1 – 6 times a week, but on average 4 times a week go to sea. Their income as fishermen is only Rp. 48,000,000 in a year. The profit rate in a year is Rp. 41.930.000, - is the profit earned and can be used for saving or making/procuring new fishing units. The caught fish are marketed to the Girian Village or some consumers come to the fish landing site/beside the beach.

Keywords— Fishing Line, Kalinaun Village, Fisherman's Exchange Rate.

I. INTRODUCTION

1.1 Background

Mission: 1. Improving the quality of tri dharma, 2: Developing innovations in science, technology, and arts and culture oriented to the Pacific Region, Mission-3: Improving access and the role of universities to improve the standard and quality of life of the community. and mission-4: Improving higher education governance.

This research will support these missions, especially the third mission, namely increasing access and the role of universities in improving the standard and quality of life of the community; and in this regard, it will focus on the fishing community in hand-line and their families as well as the Kalinaun Village community in general in the coastal area of East Likupang District so that according to the Unsrat Strategic Plan, one of the

research topics will be the maritime sector. The fishing business is an activity of fishermen to fulfill their daily needs. This business can improve the economy and utilize aquatic biological resources to gain profits. The effort from time to time.

Kalinaun Beach, which is located in the Likupang Timur District, North Minahasa Regency is an area used by the local community as a place of livelihood where some residents are fishermen. Of the many used, hand line fishing gear is one of the fishing gears operated in Kalinaun Village. The hand line used by local fishermen is not much different from what is found in neighboring villages in West Likupang District. The success of fishing with handlines is strongly influenced by the knowledge of fishermen about the fishing gear itself, fish behavior, environmental conditions, and fishermen's skills in using

the fishing gear. All of this will result in good products so that the condition of fishermen, both economic and social conditions will be good too. I am interested in conducting research in these locations related to their socio-economic problems and according to the existing literature, it turns out that there are still few studies or visits for scientific research in that location.

II. LITERATURE REVIEW

2.1 Fishing Line

A hand line is a fishing tool consisting of a rope with a fishing rod shaped like an anchor. The bait is attached to the hook. Based on the 2008 DKP classification, handlines are included in the classification of hook and line fishing gear.

2.2 Social Aspects

In general, according to the KBBI social understanding is matters relating to society or social characteristics that pay attention to the public interest (KBBI, 2014) argues that the meaning of the word social is something that can be achieved, produced, and determined in the process of daily interaction between citizens. a country with its government (Lewis, 2010).

Basrowi and Juariyah (2010) social conditions are all other people or humans that affect us. Social conditions affect individuals in two ways, namely directly and indirectly. Directly as in the daily interactions of family, friends, and work. Indirectly through mass media both print, audio, and audiovisual. Furthermore, it is also explained that the social environment that is very influential on the process and results of education is friends, neighbors, and activities in the community. The following are the social aspects:

1. Education
2. Family dependents
3. Health
4. Age

2.3 Economic Aspect

Economics is a social science that studies human activities related to the production, distribution, and consumption of goods and services. The term economics itself comes from the Greek, namely (Oikos) which means family, household, and (nomos) which means regulations, rules, and laws. Broadly speaking, the economy is defined as household rules or household management. Meanwhile, what is meant by economists or economists are people who use economic concepts and data in their work (Muflikhati et al, 2010).

Economics is the study of human behavior in choosing and creating wealth. The core of the economic problem is the imbalance between unlimited human needs and limited means of satisfying these needs. These problems then lead to scarcity. Broadly speaking, the economy is defined as household rules or household management. Husein (2010) economic conditions are influenced by several aspects:

1. Income
2. Expenses
3. Capital
4. Tool Ownership

III. RESEARCH METHODS

3.1 Basic Method

The method used in this research is a survey method. The survey is research conducted by collecting data, investigating, and interpreting data in general as available in the field (Creswell, 2009). The survey was conducted on all handline fishermen who were active and willing to be interviewed.

3.2 Types and Data

The data to be collected in this study consists of primary data and secondary data. Primary data was obtained by direct interviews at the location and if there is still insufficient data, additional data will be carried out for complete analysis, by telephone directly with the respondent or also through the Village Head and environmental heads in Kalinaun Village. Secondary data was obtained from reading materials related to the data needed, as well as citing existing data in Kalinaun Village or also through reading in related journals and other literature that support this research.

3.3 Sampling Techniques

sampling technique using a simple random sampling technique is a random sampling technique or elements, where each element or member of the population has the same opportunity to be selected as a sample.

3.4 Data Analysis

Soegiyono's (2014) descriptive data analysis method or technique is a research method that aims to describe or provide an overview of an object of research being studied through samples or data that have been collected and draw conclusions.

For the first purpose, the data needed include a description of the handlines in the research location, how to operate, and the activities of handline fishermen, while for the data needs for the second purpose, social data are

needed in the form of age, education, condition of the house where they live, duration of being a fisherman, side jobs and economic data in the form of capital, business income, and operational expenses, marketing, the time required to go to sea, ownership of hand-drawn fishing rods and family expenses.

In addition, it will discuss economic conditions in the form of investment costs, fixed costs, variable costs, total costs, marketing, expenses, and profit levels through the following formulas:

a. Total Cost = Fixed Cost + Variable Cost

b. Operating Profit, namely the absolute profit of a kite fishing business is the difference between gross income and variable costs.

Formula: $OP = TR - VC$

c. Net Profit, i.e., absolute profit which is the difference between all receipts or sales results with all expenses.

Formula: $= TR - TC$

d. Fisherman's exchange rate (NTN)

In general, NTN produces 3 meanings:

- NTN > 100 means NTN in a certain period is better than NTN in the base year, in other words, fishermen experience a surplus. The price of production rose more than the drag on the price of consumption. The income of fishermen increases and becomes greater than their expenditure.

- NTN = 100 means NTN in a certain period is the same as NTN in the base year, in other words, fishermen break even. Subject to a decrease in the price of production is the same as the percentage decrease in the price of consumer goods, with regards to the understanding that fishermen's income is the same as their expenditure.

- NTN < 100 means NTN in a certain period decrease compared to NTN in the base year, in other words, fishermen experience a deficit. The push-button price of production is relatively smaller than the push-button price of consumer goods. Fishermen's income is lower and less than their expenses.

The NTN formula is described as follows:

$$NTN = (It/Ib) \times 100$$

Where:

NTN = Fisherman's Exchange Rate

It = the Price index received by fishermen

Ib = Price index paid by fishermen

NTN > 100, means that fishermen have increased purchasing power because the price of production is

greater than the price of production inputs and household consumption.

NTN = 100, which means that fishermen break even. The decline in product prices is equal to the percentage decrease in prices for production inputs and household consumption goods.

NTN < 100, means that fishermen experience a deficit/decline in their purchasing power because the production price is relatively smaller than the price of production inputs and household consumption goods.

NTN is the quotient of $It/Ib \times 100$, which will result in the number < 100; equal to 100, and >100 depending on whether it is smaller or greater than Ib. The resulting index figure can be used as an indicator of increasing the ability to exchange products with goods & services purchased for household production and consumption, as can be seen in the development of the Index. So, by looking at the NTN figures, it is possible to determine policies in the field of hand line business in East Likupang District, Bitung City.

IV. RESULTS AND OUTCOMES

4.1 General Condition of the Village

Kalinaun village has an area of 700 ha. The boundaries of this village are:

- North of Marinsow Village,
- Southside with Rinondoran Village,
- East of the Maluku Sea,
- West side with Rinondoran Village.

This village consists of 6 Jagas with a population of 1383 people (428 families) of which 670 people are male and 713 females. Most of the population work as farmers (198 people) and laborers (112 people).

The education level of the population is Strata 2 and 3 each 1 person, Bachelor and Diploma 6 people each, 48 people high school, 95 junior high school, and 215 elementary school people. This village has educational facilities for senior high school and junior high school, each with 1 building and 2 elementary schools. For worship, there are 4 churches and 2 mosques.

4.2 Village History

In 1907 as many as 8 people from North Nusa arrived at the beach. They found a place with fertile land in addition to the sea rich in fish resources. In the span of 5 years the news of soil fertility spread widely, more and more people came and they and the eight previous people together began to build a village. At that time, they lived by cultivating rice fields, and the results were very

abundant. The fishing life is also occupied with a lot of catches. In the daily life of residents, there is a place in the form of a large thatch that is often used as a meeting place. The elders said “we have met in this place so many times, so we should name this place/village Kallunau – meaning “shady tree”. After a long time, the name Kallunau has changed to KALINAUN only for reasons of ease of pronunciation.

4.4 Description of Fishing Lines in Kalinaun Village

The handline fishing gear in Kalinaun village is a simple fishing rod. This fishing line consists of fishing rods, fishing line, hooks numbered 17 -18, and artificial bait made of rubber balloons, cloth, and duck feathers. . The number of hooks in one piece can also be more. This fishing line in operation can use natural or artificial bait. The size of the fishing line is adjusted to the size of the fish to be caught. The type of rope commonly used is monofilament rope with a diameter that varies according to the type of fish. The length of the rope is changed according to the depth of the fish swimming. This hand line includes an active fishing tool and is also environmentally friendly. The operation of the tool is relatively simple, it does not use many tools like other fishing gear.

4.5 Fishing Line Method

The process of catching using handlines has several stages, namely, preparation, looking for bait, the process of catching fish, and returning from the fishing

ground to the fish landing site. After arriving at the fishing location, the handline fishing gear is ready to operate, starting with hooking the bait to the fishing line, then lowering the fishing line into the water.

The method of operation on handlines is generally the same as the method of operation on other fishing gear. After all the preparations have been completed and have arrived at a predetermined fishing area. After that, the main rope is held or held tightly while waiting until the bait is eaten by the fish. If the bait has been eaten by the fish, then the rope is quickly lifted onto the boat, then the fish that is attached to the hook is released and placed in the boat. When the fish is released from the hook, the fishing line is lowered back into the water, and so on. While the withdrawal of fishing gear is done when it has been in the water for 1-6 hours. Withdrawal is done using a line hauler or it can also be pulled using a normal hand (manual).

This hand line fishing operation is carried out at night and the preparation stage starts from noon until the afternoon. Fishermen leave at 16.00 WITA and return home at 06.00 or 10.00 WITA. Once launched into the sea, the fishing line is tied with 30 hooks and bait. The average yield obtained is 6/30.6 of the bait eaten by fish out of 30 that are stretched out to sea.

4.6 Types of Fish Caught and Handling

4.6.1 Types of Fish Caught

Types and catches of fish using handline fishing gear can be seen in Table 1.

Table 1. Types of Fish Caught

No	Fish Type		
	Region Name	Indonesian name	Latin name
1.	Tude Fish	Selar Fish	<i>Selaroides leptolepis</i>
2.	cockroach	Mackerel	<i>Rastrelliger sp</i>
3.	Deho Fish	Mackarel tuna	<i>Euthynnus affinis</i>
4.	Malalgis Fish	Flying fish	<i>Decapterus spp</i>
5.	Goropa Fish	Grouper	<i>Epinephelus</i>

Source: Primary Data Processing Results, 2022

4.6.2 Catch Handling

Juniato (2004) states that the most common way of handling fish so that fish freshness remains maximal is by lowering the body temperature of the fish, decreasing the body temperature of the fish by using a cooling medium that functions to save the growth of destructive bacteria in the fish's body. Handling carried out by fishermen in Kalinaun on their catch is generally put in a

coolbox filled with ice cubes. There is no such thing as product diversification yet; so, everything is sold raw either fresh or already iced.

4.7 Catching Areas and Factors Affecting Catches

The fishing ground for hand line fishermen is only about 70 meters from the village to catch pelagic fish such as tude, malalagis, and kombong and 100 meters to

the sea to catch goropa fish. The factors that influence the success of fishing are physical water factors such as currents, waves, and winds.

4.8 Fishing Equipment Maintenance

To maintain the need for fishing gear in good condition and not easily damaged, the things that need to be considered are:

1. The remnants of bait on the fishing line must be cleaned, because if there is still bait on the body of the fishing line, it will rot and cause an unpleasant aroma and make the fishing line rust quickly.
2. If any part of the fishing line breaks when the fishing gear is operated or the hook breaks when releasing the entangled fish, the damaged part is immediately repaired or replaced.
3. After all the fish caught are released from the hook, the hand line fishing gear is washed with seawater until clean so that there are no fish or fish flesh flakes attached to the fishing line.

4.9 Activities of Fishing Line Fishing Equipment

Coastal communities in Kalinaun Village on average use handlines as fishing tools to improve the family economy so that fishermen who use handlines are always enthusiastic about working to meet their needs, and household needs and support their children and families. their grandchildren. This fishing gear cannot damage the sustainability of natural resources. The activity of fishermen before going to sea is to provide the necessities that will be used, such as preparing the fishing gear needed when going to sea. Generally, these hand-line fishermen used to work as crew members of the Soma Pajeko fishing gear in Kalinaun as well. They go out to sea in the afternoon and return home the next morning. The target fish are selar fish, and the accompanying fish are tuna and kite fish.

4.10 Fishermen's Economic Condition

Economic conditions are influenced by several aspects from an economic perspective:

1. Tool Ownership
2. Income
3. Capital
4. Expenditure

4.10.1 Tool Ownership

The fishing rods owned by the fishermen in Kalinaun village are their own. This tool they make themselves at their own expense. The skills to make handline fishing gear were obtained from his parents and they told each other from one fisherman to another. This is due to a sense of equality of fate, especially the type of

livelihood. Fishermen groups are usually formed based on the equation of the fishing gear used (Atihuta, 2014)

The duration of the business they have run, on average they have worked as hand line fishermen for 10 – 30 years as much as 90% and more than 30 years as much as 10% (some have just run a business in the last 5 years replacing their father)

4.10.2 Initial Capital

In managing a business in the field of fisheries, the capital factor is very important, especially to improve and develop a more advanced and successful business. There are two types of capital needed in a handline business, investment capital, and working capital. What is meant by investment capital in a fishery business is the capital needed to purchase boats, ice cubes, engines, fishing rods, and fishing lines. While labor capital is capital that is used up once in the production process and the process is short-term. This capital is usually used for the cost of fishing operations. Likewise with fishermen in Kalinaun Village who obtain capital from their own business and have never received assistance from the government. In managing a business in the field of fisheries, the capital factor is very important, especially to improve and develop a more advanced and successful business. Fishermen in Kalinaun Village obtain capital from their businesses and have never received assistance from the government. One way of getting their capital is by saving money when they were crew members of the Soma Pajeko ship in Kalinaun. The number of fishermen by initial capital can be seen in Table 7.

Table 2. Number of Fishermen by Initial Capital

No	Description (Rp)	Number of people)	Percentage (%)
1.	10,000,000 – 15,000,000	8	80
2.	16,000,000 – 25,000,000	2	20
Amount		10	100

Source: Primary Data Processing Results, 2022

Table 2 shows that the initial capital is Rp. 10,000,000 – Rp. 15,000,000 with a percentage of 80% and Rp. 16,000,000 – Rp. 25,000,000 with a percentage of 20%. Most fishermen have this capital from their results not borrowed from the bank. From the interviews, they said that their capital was obtained from the results of their hard work and then in the tube until they could buy fishing equipment such as rainbow boats, outboard engines, kite fishing gear, and others.

4.10.3 Investment Cost

Investment costs are funds that are not directly consumed but rotate to generate new revenues (Mantjoro, 1996). Investment costs in the fishing line business in the form of costs incurred to obtain investment goods in the form of rainbow boats, katinting machines

No	Description	Price (Rp)	Percentage (%)
1.	rainbow boat	7,500,000	70.09
2.	Katinting Machine	3,200,000	29.91
Total Investment Cost		10,700,000	100

Table 3. Investment Cost

No	Description	Price (Rp)	Percentage (%)
1.	rainbow boat	7,500,000	70.09
2.	Katinting Machine	3,200,000	29.91
Total Investment Cost		10,700,000	100

Source: Primary Data Processing Results, 2022

Table 3 shows that the largest investment cost incurred for the purchase of a rainbow boat is Rp. 7,500,000, - with a percentage of 70.09% of the total investment cost, and the smallest cost for purchasing a katinting machine is Rp. 3,200,000, - with a percentage 29.91%. From the research results, the investment costs of fishermen in Kalinaun Village are their capital, and do not borrow from banks.

4.10.4 Gross Income/Total Revenue/Year

Gross income/total revenue is the overall production result multiplied by the selling price of fish. The size of the gross income earned by fishermen is highly dependent on the number of fish caught.

Table 2. Average Sales Results/year

Catch/day (kg)	Catch/week (kg)	Catch/month (kg)	Catch/year (kg)
30	4x 30 = 120	120 x 2 = 240	240 x 8 = 1,920
Income / day (Rp)	Income/week (Rp)	Income/month (Rp)	Income/year (Rp)
30 x 25,000 = 750,000	120 x 25,000 = 3,000,000	240 x 25,000 = 6,000,000, -	1,920 x 25,000 = 48,000,000,

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Source: Primary Data Processing Results, 2022

Table 4 shows that their income also depends on the frequency of fishing in a month where the more diligent or the more frequent they go to sea, the more likely they are to get a lot of catches compared to those who fish less often. The catch varies, but on average each time they go to sea, they get 5 kg of selar fish as a target fish and in Kalinaun waters there is a potential for a lot of selar fish. Fishermen go to sea also vary between 1 – 6 times a week, but on average 4 times a week go to sea. So that their income as fishermen is only Rp. 6,000,000, - in a month it can be said to be less than the price of basic commodities such as rice, which has increased in price, especially before the holidays. Junal Acculturation in Daud's writing (2018) states that income is the result of a business that fishermen earn and is expressed in the form of money. To find out the income level of the fishermen is calculated based on their income as fishermen and other business income. Other business income referred to here is fishermen's income from other businesses or income from fishermen's wives or fishermen's families. However, fishermen in Kalinaun are not like that, where they only get income from the livelihoods of the fishery sector, namely by using handline fishing gear.

4.10.5 Fixed Cost/Year

Fixed costs consist of maintenance costs and depreciation costs.

Table 5. Fixed Cost (Fixed Cost)

No	Description	Economic Life (years)	Depreciation Cost (Rp/Year)	Maintenance Fee (Rp/Year)	Amount (Rp/year)	Percentage (%)
1.	Rainbow Boat	20	375.000,-	630,000	1.005.000	56.62
2.	Car tinting machine	10	320,000,-	450,000	770,000	43.83
Total Fixed Cost (Fixed Cost)			655,000	1,080,000	1.755.000	100

Source: Primary Data Processing Results, 2022

rainbow boats are the largest costs incurred each year, ranging from Rp. 1.005.000, - of the total fixed costs. The least fixed costs are removed from the fixed costs for the catering machine, which is Rp. 770,000, - or 43.83% of the Total Fixed Cost.

4.10.6 Variable Costs/Year

Variable costs are costs that are directly related to the fishing ground and the length of time for fishing operations, namely the total operational costs of fishing.

Table 6. Variable Cost/Year

No	Description	Quantity/ trip	Number of trips/years	Price (Rp)	Amount (Rp)	Percentage (%)
1.	Gas	5 liters	4x2x8	10,000	3,200,000	52.72
2.	Artificial bait				150,000	2.47
3.	Oil	bottle	4x2x8	45,000	1,440,000	23.72
4.	Ice packs	10 packs	4x2x8	2,000	1,280,000	21.09
Total Variable Cost					6,070,000	100

Source: Primary Data Processing Results, 2022

Based on Table 6, it is known that the overall operational costs in the hand line business in Kalinaun Village are Rp. 6,070,000, - and the most expenses incurred in operating costs are gasoline Rp. 3,200,000, - with a percentage of 52.72%. Gasoline also greatly affects income, if fuel prices increase, income will decrease and if gasoline is running out at the place of purchase, fishing activities cannot be carried out so they do not get income.

4.10.7 Total Cost (Total Cost/TC)/Year

Total costs are fixed costs plus variable costs. The total cost can be seen in Table 7.

Table 7. Total Cost/Year

No	Description	Cost (Rp)	Percentage (%)
1.	Fixed cost	1.755.000, -	22.43
2.	Variable cost	6,070,000, -	77.57
Total Cost		7,825,000	100

Source: Primary Data Processing Results, 2022

Based on Table 7, it is known that the variable cost incurred per year is Rp.6.070.000, - with a percentage of 77.57% greater than the fixed costs incurred at Rp.1.755.000, - with a percentage of 22.43. %.

4.10.8 Profit Rate (Operating Profit/OP)

The level of Profit/Operating Profit (OP) is the profit of the handline business which is the difference between all gross income and variable costs.

Formula:

$$OP = TR - VC$$

Where: OP = Profit from the fishing line business

TR = Total Revenue

VC = Variable Cost

Table 8. Profit Rate (Operating Profit/OP) Per-year

No	Description	Total cost (Rp)
1.	Gross Income	48,000,000, -
2.	Variable cost	6,070,000, (-)
Operating Profit (OP)		41.930.000, -

Source: Primary Data Processing Results, 2022

Based on Table 8, Operating Profit in a year is Rp. 41.930.000, - is the profit earned and can be used for saving or making/procuring new fishing units. Called profit because. Because gross income is greater than variable costs.

4.10.9 Household Expenditure

Fishermen in their daily life must and are obliged to support their families from the results of their business or their work. If it is not sufficient, the fisherman must look for alternative work so that his family and him self can still live their daily lives without hunger and there is a shelter equipped with lights at night. In general, the basic expenditures of fishermen can be read in Table 9.

Table 3. Average Household Expenditure/Year

No	Description	Amount (Rp)
1	Food	7.500.000,-
2	Drink	2.500.000,-
3	Electricity	1.000.000,-
4	Children's education	5.000.000,- (+)
Total	Amount	16.000.000,-

Source: Primary Data Processing Results, 2022

Table 9 shows the total amount of family expenditure in a year at a minimum of Rp. 16,000,000, -. This amount can still change when there are additional expenses such as buying side dishes, health, cellphone credit, and so on. If associated with a year's income of Rp.

48,000,000, - then it can be said that their economic condition is still good.

4 1.1 1 Fishing Line Fishermen Exchange Rate

The results of the analysis of the fishing line business in Kalinaun Village, East Likupang District, obtained the NTN value, as follows.

Table 10. Average Income, Expenditure, NTN Line Fishing Business in Kalinaun Village, East Likupang District

No.	Description	Amount (Rp)
A.	Fishing Family Income	
1.	Hand Fishing Business (a)	48,000,000,-
2.	Non-Hand Fishing (b)	0
	Total (c)	48,000,000 _
B.	Fishing Families Expenses	
	Hand Fishing Business (d)	1. 333,000 _
	Family Consumption (e)	16,000,000
	Total (f)	17,755,000
C.	Fisherman's Exchange Rate (NTN)	
1.	Total Revenue (g) = c/fx 100	270,346
2.	Capture Fisheries Income(h) = a/dx 100	3,600,90

Source: Primary Data Processing 2022

NTN in this calculation is described in the total income and income of hand line fishermen, along with the divisor factor of total family expenditure and expenditure on hand line fishermen. An explanation of the types of NTN can be seen in the following discussion.

4. 12.1 The Exchange Rate of Fishing Rods in Total Income

The exchange rate for hand line fishermen on total income is calculated based on the comparison between the total family income of hand line fishermen, both from fishing and non-fishing businesses compared to the expenditures of hand-line fishing families both from fishermen and family consumption. Based on the results of the calculation of NTN for hand-line fishermen, the total income is 270,346. This NTN value is greater than 100, which indicates that the income from hand-line fishermen can cover the subsistence needs (basic needs) of the family.

hand line fishermen in Kalinaun Village, East Likupang District. Expenditures for the family of fishing line fishermen are an average of Rp. 1,333,000 per month can be covered by the total income from the fishing line business income of an average of Rp. 48,000,000.

This NTN of 270,346 when compared to North Sulawesi's NTN in 2020 of 107.83, Indonesia's NTN of 103.25, then the achievement of NTN specifically for the hand line business in Kalinaun Village is quite good.

4. 12.2 NTN on the income of hand-drawn fishermen

The exchange rate of hand line fishermen on the income of hand line fishermen is calculated based on the comparison between the total income from the seaweed cultivation business and the expenditure from the seaweed cultivation business. Based on the results of the calculation of the NTN for seaweed cultivators, the income of seaweed cultivation is 3,600.90. This can value is greater than 100, which indicates that the income from the hand line business can cover the costs incurred from the hand line business in Kalinaun Village, East Likupang District. Expenditure of hand-line fishermen average of Rp. 1. 333,000 _ per year can be covered by fishing line business income, which is Rp. 48,000,000 per year.

V. CONCLUSION

Based on the results and discussion of this study, it can be concluded:

1. The results of the calculation of NTN for hand-line fishermen business with a total income of 270,346. This NTN value is greater than 100, which indicates that income only from hand-line business can cover the subsistence needs (basic needs) of the fishing - handle fishermen family in Kalinaun Village, East Likupang District.
2. NTN for fishing business and fishing for income. Hand line of 3600.90. This NTN value is greater than 100, which indicates that the income from the fishing line fishermen business can cover the costs incurred from the hand line fishermen business in Kalinaun Village, East Likupang District.

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