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SINTA 2

Performance of Gillnet Fishing Business Unit at Tawang Fish Auction Place, Pacitan Regency

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ABSTRACT

Pacitan Regency has quite prospective marine fishery potential. The fishing gears that are mostly used in Tawang Fish Auction Place (FAP) Ngadirojo, Pacitan Regency are hand line, krendet, parel and gillnet. Gillnets are fishing gear commonly used by fishermen to catch tuna (Euthynnus affinis) and layur (Trichiurus lepturus). The purpose of this research is to evaluate gillnet fishing techniques and assess the financial feasibility of gillnet fishing at Tawang Fish Auction Place (FAP) in Ngadirojo. This study was carried out in June 2022. A survey was used as the research approach. Technical analysis methods include examining the characteristics of the fishing fleet, fishing operations, and fishing regions. The business financial analysis method used is profit, R/C ratio, payback period, NPV, IRR, B/C ratio, and sensitivity analysis. According to the results of a study, gillnet boats are 1-3 GT in size and contain a 15 PK propulsion engine. Gillnet fishing gear is composed of polyamide monofilament with a length of 35-100 meters per piece and a width of 3-15 meters overall. The financial analysis of the gillnet fishing business at Tawang Fish Auction Place (FAP) Ngadirojo in Pacitan Regency shows that it is feasible to continue, with an average profit of IDR59.855.458,- per year, the R/C ratio is 2.06, and the net present value is IDR134.517.806,-. The IRR is 36.52%, the Payback Period is 1.27, and the analysis period is five years. According to sensitivity analysis, the limit for decreasing fish catch production was 73%. Based on the coefficient variation value, the level of production and price risk indicates that the gillnet fishing business has a low level of production and price risk and avoids losses.

Keywords:

gillnet; financial feasibility; coefficient of variance; production risk

INTRODUCTION

Pacitan Regency located on the south coast of East Java Province, bordering Central Java Province. Administratively, it is divided into 12 districts, 5 sub-districts, and 171 villages, with coordinates ranging from 110'55" – 111'25" East Longitude and 7'55" – 8'55" South Latitude. The potential that is owned is fairly diversified, beginning with marine potential, coastal potential, and potential for the development of land-based fish farming (Dinas Perikanan Kabupaten Pacitan, 2021).

The coastal potential of the Pacitan Regency is also quite promising where the length of the beach reaches 70.709 km

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with an area of up to 4 nautical miles reaching 523.82 km2, stretching through 7 sub-districts starting from Donorojo District to Sudimoro District (Syafruddin et al., 2014). Mangrove forests, coral reefs, seagrass beds, estuaries, natural seaweed, and white sand beaches are among the ecosystems found along the Pacific coast, which are popular with tourists. Reef fish, crustaceans (shrimp and lobster), and ornamental fish predominate in this coastal area.

Data from the (Syafruddin et al., 2014)(Dinas Perikanan Kabupaten Pacitan, 2022), marine fishery production in Ngadirojo District in 2017 reached 449.29 tons, in 2018 marine fishery production was 1,860.08 tons, in 2019 marine fishery production was 1,207.49 tons, in 2020 production marine fisheries 1,917.11 tons, and in 2021 marine fishery production will be 1,727.70 tons. Based on the total production of marine fisheries from 2017 to 2019, it can be seen that there were fluctuations in the production of fish caught in Ngadirojo District, Pacitan Regency. The highest marine fishery production in Ngadirojo in 2019 reached 1,917.11 tons. The marketing of the fishermen's catch is carried out at the FAP (Fish Auction Place) of Tawang, Sidomulyo Village.

Furthermore, Tawang Fish Auction Place (FAP) is one of six FPAs in Pacitan Regency that continue to hold fish auctions. Tawang Fish Auction Place (FAP) has fish auctions practically every day. Small fisherman of less than 5 GT use Tawang Fish Auction Place (FAP) in Pacitan waters, whereas fishermen of 1 - 10 GT use nets and fishing rods as fishing instruments (Pane et al., 2019). Gillnets and handlines are the types of fishing gear utilized at Tawang Fish Auction Place (FAP). Gillnets are the primary subject of this investigation. Gillnets are a popular and commonly used fishing equipment for catching commercially important fish (Anggita et al., 2020)

Financial viability and risk levels in gill net fishing are important issues in fisheries resource management. Gill net as one of the widely used fishing gear has characteristics that affect the catch and business feasibility. Research by (Firmansyah et al., 2023) showed that vessel size has a significant effect on the feasibility of gill net fishing, where larger vessels tend to have higher productivity. In addition, financial analysis conducted by (Waileruny et al., 2022) showed that gill net fisheries can provide significant profits, depending on the management and strategies applied.

Risks in gill net fishing also need to be considered. Research by (Kholis et al., 2017) emphasizes the importance of analyzing the technical and economic aspects of fishing gear, which includes risks associated with fishing success and fluctuations in fish prices. In addition, external factors such as weather conditions and climate change can affect the catch and in turn the financial viability of the business (Rumkorem, 2021).

Gillnet used by fishermen in the vicinity of Tawang Fish Auction Place (FAP) has advanced significantly in the last three years, thus it is critical to understand the technical elements of gillnet as a reference for establishing gillnet fishing company. Fishermen utilize rampus fishing gear because the materials are easy to procure, theequipment is simple to operate, and the operational costs are low. However, many gillnet fishermen in Tawang Fish Auction Place (FAP) continue to ignore the total financial analysis of fishing effort. According to (Tambunsaribu et al., 2015), the purpose of a capture fisheries business study is to identify the level of success attained during the fishing business. Based on the description above, this research was conducted in order to analyze the technical aspects, financial feasibility, and the level of risk in gillnet fishing

METHODS

The research location is the Tawang Fish Auction Place (FAP) area, Sidomulyo Village, Ngadirojo District, Pacitan Regency. Data collection was carried out in June 2022 (Figure 1).

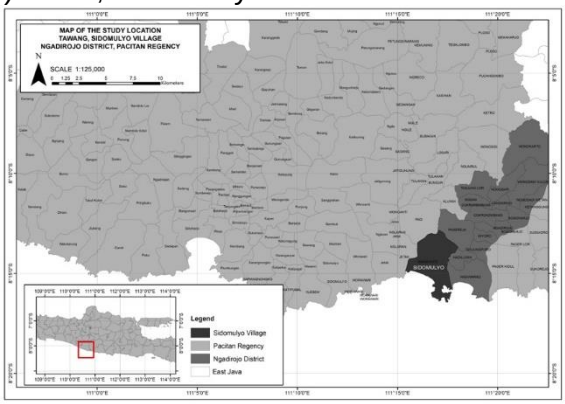

Figure 1
The Study Location

The samples used in this study were fisherman respondents using gillnets. The sampling method uses purposive sampling, namely sampling based on certain considerations. According to (Suharyadi & Purwanto, 2004) and (Sugiyono, 2014), purposive sampling is sampling with certain considerations. These concerns are based on the research objectives, which are as follows:

1. Respondents who live in the Tawang Fish Auction Place (FAP) area, Sidomulyo Village, Ngadirojo District, Pacitan Regency.
2. Respondents are fishermen using gillnets

In the implementation of the research, interviews were performed with 40 fisherman who were respondents in this study and met the following criteria. This is consistent with the perspective of (Roscoe, 1975), who suggests that the ideal sample size in research is between 30 and 500.

The survey method was employed in this study, and the data collection approaches were observation, documentation study, literature study, and interviews. The core data for this study was obtained through direct questions and answers with related stakeholders. Secondary data from this study included information on the number of fish produced, the number of fishing vessels, the number of fishermen, the number of fishing gear, and the fishery conditions in Ngadirojo District, Pacitan Regency.

This research uses descriptive and quantitative analysis. According to (Nursalam, 2011), the use of descriptive methods aims to describe important events that are happening at this time. Quantitative analysis uses quantitative methods to examine certain populations or samples with the aim of testing hypotheses (Sugiyono, 2016).

Testing the first hypothesis about the characteristics of the gillnet fishing business using descriptive analysis. Testing the second hypothesis regarding financial parameters and gillnet fishing business investment criteria. Financial parameter analysis includes profit analysis (TR-TC), RC ratio (TR/TC), and Payback Period (PP). Calculation of investment criteria uses Net Present Value (NPV), Benefit Cost Ratio (BCR), Internal Rate of Return (IRR), and Payback Period (PP). Profit formula, R/C ratio, NPV, IRR, Payback Period and Sensitivity Analysis (Rahim & Hastuti, 2007); (Astanu et al., 2013); (Fitria et al., 2013) (Brigham & Houston, 2014); (Ambarita et al., 2015);

(Yunita, 2017); (Risa et al., 2018) (Picaulima et al., 2022) as follows:

Profit

$$\pi = TR - TC = (Y.Py) - (FC + VC) \quad (1)$$

Revenue Cost Ratio

$$R/C\ ratio = \frac{TR}{TC} \quad (2)$$

Net Present Value (NPV)

$$NPV = \sum_{t-1}^{n} \frac{Bt-Ct}{(1+i)^t} \quad (3)$$

Internal Rate Return (IRR)

$$IRR = i + \frac{NPV_1}{NPV_1 - NPV_2}(i_2 - i_2) \quad (4)$$

Payback Period (PP)

$$PP = \frac{n+(a+b)x1}{(c-b)} \quad (5)$$

Sensitivity analysis

$$S = \frac{\left[\frac{X_1-X_0}{X}\right]x100\%}{\left[\frac{Y_1-Y_0}{Y}\right]x100\%} \quad (6)$$

Description:

π is Profit (IDR/Year), TR is Total Revenue (IDR/Year), TC is Total Cost (IDR/Year), Y is Production (Kg/Year), Py is Item Unit Price (IDR/Kg), FC is Fixed Cost (IDR/Year), VC is Variable Cost (IDR/Year), R/C Ratio is Revenue cost ratio, NPV is Net Present Value, t is Time of cash flow, Bt is Benefit, Ct is Cost, i is Discount rate (interest rate), NPV1 is Positive NPV, NPV2 is Negative NPV, n is The number of periods in the future the cash flow is, a is Initial investment, b is The cumulative amount of cash flows in the 'n' year, c is The cumulative amount of cash flows in the n+1, S is Sensitivity, X_1 is NPV/IRR/R/C ratio after a change, X_0 is NPV/IRR/R/C ratio before changes occur, X is The average change in NPV/IRR/R/C ratio, Y_1 is Production after changes, Y_0 is Produksi before changes, Y is Average change in production

Criteria: If R/C > 1, then the business is profitable or feasible; NPV > 0, then the business activity is feasible; IRR > discount rate (interest rate) then business activities are feasible to be developed.

The third hypothesis test uses the method of variance, standard deviation, coefficient of variation, and Lower Limit of Highest Yield (L) to determine the level of production risk in the gillnet fishing business. According to (Mbanasor, 2011) risk measurement consists of variance values, standard deviations, and coefficients of variation.

1) *Variance*

Variance is the sum of the squared difference between the expected value (expected return) and return (production) then multiplied by the probability. Mathematically written (Elthon & Gruber, 1977):

$$\sigma_i^2 = \sum_{j=1}^{m} Pij\ (Rij - Ri)_2 \quad (7)$$

Where: P_{ij} is Probability, R_{ij} is *Expected return,* R_i is *Return* (production), σ_i^2 is *Variance*

2) *Standard Deviation*

According to (Widiyanto, 2013), standard deviation and variance as a measure of the variation in a data set are very related. This is because the standard deviation is the square of the variance, and vice versa. Standard deviation can be mathematically written with the formula:

$$\sigma_i = \sqrt{\sigma_i^2} \quad (8)$$

Where: σ_i^2 is *variance,* σ_i is standard deviation

3) *Coefficient Variation*

According to (Oladimeji et al., 2019), is a measure of relative risk in which the value of the coefficient of variance is obtained from dividing standard deviation by the expected value. Coefficient variation can be mathematically written with the formula

$$CV = \frac{\sigma i}{\mu} \quad (9)$$

Where: σi is standard deviation, μ is Average catch (kg)/Average price (IDR), CV is coefficient of variation

Criteria: Coefficient of variance value (CV) < 0,5, then the business has a little risk; Coefficient of variance value (CV) > 0,5, then the business has a big risk.

4) Lowe Limit of Highest Yield (L)

Lower limit of highest yield represent a lowest face value possible received by fisherman. Mathematically, the lower limit value (L) is formulated as follows:

$$L = Qi - 2V\alpha \quad (10)$$

Where: L is Lower limit value, Vα is Standard deviation, Qi is Average catch (kg)/Average price (IDR)

The lower limit of the highest yield (L) and the coefficient of variation (CV) are related as follows: If CV > 0,5 then L < 0, that means there is an opportunity to lose on the business; If CV ≤ 0,5 then L ≥ 0, that means the business will always avoid losses;

RESULT AND DISCUSSION

Social Economic Profile of Fishermen

All of the respondents were men, with an average age of 40-44. The majority of respondents had junior high school and senior high school education levels, with an average of four family members. The most of respondents had 21 years of gillnet fishing experience (Table 1).

Table 1
Socio-Economic Profile of Small-Scale Fishermen in Sidomulyo Village, Ngadirojo District, Pacitan Regency

Variable	Category	Total	%
Age (years)	25-29	1	2,27
	30-34	4	9,09
	35-39	6	13,64
	40-44	17	38,64
	45-49	6	13,64
	50-54	5	11,36
	55-59	1	2,27
	60-64	3	6,82
	65-69	1	2,27
Education	Elementary School	12	27,27
	Junior High School	16	36,36
	Senior High School	16	36,36
Variable	Category	Total	%
Family members (people)	2-3	7	15,91
	4-5	34	77,27
	6-7	3	6,82
Ocean-experience activities (years)	2-8	3	6,28
	9-15	9	20,45
	16-22	17	38,64
	23-29	7	15,91
	30-36	5	11,36
	37-43	1	2,27
	44-50	2	4,55

Source: Primary Data, (2022)

Characteristics of Fishermen's Fishing Vessel

The boats used for fishing in the waters of Pacitan Regency are outboard motor boats built of fiberglass that range in size from 1-3 GT. The fiberglass motor boat measures 9 meters in length, 1 meter in width, and 1 meter in height. Outboard motor boats at Tawang Fish Auction Place (FAP) Ngadirojo are also known as daplang because the right and left sides of the boat have fiber wings joined with bamboo. The purpose of the wings, or daplang, is to keep the boat balanced when it is pounded by waves. The bamboo linking the daplang is 6 meters long, and the daplang is 3 meters long on each side.

Fishermen using outboard motor boats at Tawang Fish Auction Place (FAP), Ngadirojo use a 15 HP outboard motor with the Yamaha brand. Outboard motor gasoline with a fuel tank capacity of 20 liters. The propeller number 4 is utilized in the average outboard motor.

Monofilament gillnets are used by fisherman at Tawang Fish Auction Place (FAP), Ngadirojo. The net body of gillnet multifilament is made of polyamide monofilament. The length of each gillnet component is 35-100 meters, with an overall breadth of 3-15 meters. In one fishing operation, fisherman at Tawang Fish Auction Place (FAP) Ngadirojo typically carry 1 unit of Gillnet comprising of 10-25 pieces (Table 2).

Table 2
Gillnet Components

Component	Material	Size
Net body	Polyamide Monofilament	35-100 m per piece
Top rope	Polyethylene (PE)	6 mm
Lower rise rope	Polyethylene (PE)	6 mm
Lifeline	Polyethylene (PE)	4 mm
Weight rope	Polyethylene (PE)	4 mm
Big float	Plastic	d=27 cm
Small float	Rubber	d=27 cm; length=6 cm
Big ballast	Stone	weight=5 kg
Little ballast	Tin	weight=5 kg; d=11,5 mm; length=1,5 cm

Source: Primary Data, (2022)

On average, gillnet fishing activities begin at 16.00 WIB, departing from the fishing base and arriving to the fishing site at 15.00 WIB. Nonetheless, there are gillnet fishermen who prefer to fish in the morning, departing from the fishing base at 03.00 WIB and arriving at the fishing field at 05.00 WIB.

One person serves as a crew member and one as the captain in the gillnet operation. The travel to the fishing spot is 20 to 30 miles long and takes 2 to 3 hours. The fishing ground is determined by information gathered by fishermen using fish finders or by looking at signals of the surrounding nature, such as the presence of birds and frothy or white sea water. After arriving at the fishing location, gillnets are set up. Setting begins with the huge buoy at the end of the gillnet and large ballast being lowered, followed by progressively lowering the net body while the ship moves gently so that the net body can stretch perfectly. Gillnets must be set up upright and against the current to be effective at catching fish. The next step is to immerse it when it has been correctly installed. The nets were lifted and immersed for roughly 3 hours before being lifted again. Gillnet fisherman at Tawang Fish Auction Place (FAP), Ngadirojo never leave their fishing gear because they are afraid the gillnets may become entangled in the water or become caught in the coral. The final and most difficult procedure in the gillnet fishing gear operation cycle is raising nets or hauling. This is due to the fact that hauling is still done manually

without the assistance of an auxiliary machine. In this process, two crew members will stand in a row, one on each side tugging and holding the net while the other in the middle releases the fish caught on the body of the net. If the catch is deemed insufficient after a series of fishing operations, fishermen will relocate to the middle, not far from the first fishing area, for around 15 minutes before returning to setting. Fishermen typically repeat this process two or three times.

Financial Feasibility Analysis

The capital required for gillnet fishing at Tawang Fish Auction Place (FAP) Ngadirojo is IDR 60.956.389,- which includes boats, engines, and gillnets. Boat engines are the most expensive investment in gillnet fishing (Table 3).

Table 3
The Average Investment Cost of Gillnet Capture Fisheries

Components	Total (IDR)
Boat	23.875.000
Machine	27.327.778
Gillnets	9.753.611
Total of Investments	60.956.389

Source: Primary data is processed, (2022)

Fixed and variable costs are included in the operational cost structure analysis (Table 4). The variable cost allocation is 81.44 percent, while the fixed cost allocation is 18.56 percent.

Table 4
Operational Cost Structure of Gillnet Capture Fisheries Business

Variable		Total	%
Fixed Cost	Depreciation (IDR)	6.154.282	58,59
	Vessel maintenance costs (IDR)	1.700.000	16,18
	Machine maintenance costs (IDR)	1.278.261	12,17
	Gillnet maintenance costs (IDR)	1.371.429	13,06
Variable		Total	%
Total Fixed Cost		10.503.972	18,56
Variable Cost	Fuel (IDR)	35.964.669	78,05
	Lawuhan (Rp)	8.941.522	19,40
	Water (IDR)	1.172.380	2,54
Total Variable Cost		46.078.571	81,44
Total Cost		56.582.543	100

Source: Primary data is processed, (2022)

Gillnet fishing business requires several investment costs and operational costs. The size of the costs incurred affects the profits of the gillnet fishing business. In this study, the allocation of the use of variable costs is greater than fixed costs. Variable costs are incurred for each fishing operation, resulting in higher costs. Likewise, (Pham et al., 2014); (Syarif et al., 2016); (Tambunan et al., 2018); (Firdaus et al., 2021); and (Matei et al., 2022) stated that the allocation for variable costs in the gillnet fishing business ranged from 67 percent to 96 percent, higher than the allocation for fixed costs of 4 percent to 33 percent. Most of the variable cost allocation for the cost of fuel oil. According to (Ayu et al., 2016) and (Mappasessu & Welliken, 2021), the cost of fuel oil ranges from 39 to 45 percent of total variable costs. Fuel oil is a critical component in the gillnet fisheries sector since it affects fish catch production (Kusumasuci et al., 2018); and (Supriadi et al., 2020).

The total revenue size is controlled by total production. The results revealed

that the profit value of the gillnet fishing business was around IDR59.855.458,- per year, with an R/C ratio of 2.06, indicating that this gillnet fishing business is feasible to develop (Table 5).

Table 5
Analysis of the Financial Feasibility of Gillnet Capture Fisheries Business

Variable	Total
Investment (Rp)	60.956.389
Fixed Cost (IDR)	10.503.972
Variable Cost (IDR)	46.078.571
Total Cost (IDR)	56.582.543
Total Revenue (IDR)	116.438.000
Profit (IDR)	59.855.458
R/C Ratio	2,06
NPV	134.517.806
BCR	2,26
IRR (%)	36,52
PBP (Year)	1,27

Source: Primary data is processed, (2022)

Based on the income assessment and business feasibility research, the gillnet fishing business has a good profit value. The R/C ratio obtained in the gillnet fisheries sector is more than one (R/C ratio > 1). Similarly, (Tunde et al., 2015); (Juliani et al., 2019); (Isaac et al., 2020); (Prasetiyo et al., 2019); and (Huda et al., 2021) found that fishing efforts carried out by fishermen are feasible and profitable in the future since the R/C ratio value is more than one (R/C ratio >1).

The financial feasibility analysis indicates that the gillnet fishing business can be sustained. The NPV value for gillnet fishing effort is Rp. 134,517,806, -, indicating that the gillnet fishing business will create profits at the end of the project. The NPV value is > 0, indicating that gillnet fishing is feasible to continue. The IRR value obtained in gillnet fishing effort is 36.52%. The IRR value is greater than the discount factor, which is 6%, which indicates that gillnet fishing is feasible. The payback period for gillnet fishing at Tawang Fish Auction Place (FAP) Ngadirojo shows that the average return on investment is 1.27, namely 1 year 2 months 7 days. The BCR value for gillnet fishing effort is 2.26. The BCR value is > 1, indicating that the gillnet fishing business investment is feasible. Similarly, the results of research by (Prabowo et al., 2012); (Saputra et al., 2016); (Setiawan et al., 2018); (Tran et al., 2020); (Diatin et al., 2021); (Dirja & Anarki, 2021); and (KN et al., 2021) that the results in the fishing business are financially feasible with NPV > 0, Net B/C > 1, Payback Period < 5 years, and IRR > 6%.

Changes in the production performance of gillnet fisherman's catches are a significant aspect in gillnet fishermen's business performance because they affect the number of fish sold, affecting the value of profits earned by fishermen. Because the amount of fish catch production is varied by the season, a sensitivity analysis is required to establish the limitations of gillnet fisheries that are feasible to develop if fish catch production decreases (Table 6). The following assumptions and sensitivity scenarios were utilized in the cash flow estimation and sensitivity analysis of gillnet fishing effort:

1. The project has a 5-year life cycle, assuming that it is not accepted in year 0;
2. All capital is owned, with no credit from banks or other parties;
3. Applying a discount factor of 6% based on the current average BRI bank KUR interest rate;
4. The only source of revenue is the sale of catches;

5. The sensitivity scenario for a 5% decline in fish yield is based on actual fishing conditions.

Table 6
Sensitivity Analysis of Gillnet Capture Fisheries Business

Production (%)	NPV (IDR)	BCR	IRR (%)	PBP (Year)
95	110.118.573	2,03	30,47	1,42
90	85.719.339	1,80	24,24	1,59
85	61.320.105	1,57	17,79	1,83
80	36.920.872	1,34	11,03	2,13
75	12.521.638	1,12	3,88	2,57
Threshold (%)	73	-	-	-

Source: Primary data is processed, (2022)

Analysis of Production Risk and Price Risk for Gillnet Fishing Business

Assessment of the level of production risk and price risk is carried out to avoid losses in the gillnet fishing business (Table 7).

Table 7
Analysis of Production Risk and Price Risk for Gillnet Fishing Business

Description	Production Risk (kg)	Price Risk (Rp)
Average	6.179,54	13.659,09
Standard Deviation	180,66	316,97
Coefficient of variation	0,03	0,02
Lower Limit (L)	5.818,21	13.025,15

Source: Primary data is processed, (2022)

The coefficient of variation is less than 0.5, indicating that gillnet fishermen suffer little production and price risk. The results of calculating the value of the coefficient of variation (CV) 0.5 and the lower limit value (L) 0 of the relationship between the lower limit of the highest yield (L) and the coefficient of variation (CV) show that the gillnet fishing business will avoid production risk losses and price fluctuations. Production risks in fishing using gill nets are strongly influenced by various factors, one of which is the influence of climate and weather. These factors affect the high sea waves, the higher the sea waves, the fishermen will not dare to fish so that the catch will decrease. In overcoming this risk, the local government has provided information about weather and climate forecasts every week/month to fishermen to be more aware of weather and climate changes when going to sea. Seasons also play an important role in determining catches.

Some studies show that fish catches can increase or decrease depending on the season, which is related to fish migration patterns and food availability in the waters (Soumokil, 2023); (Ulukyanan et al., 2019). The results of the research conducted (Kholilullah et al., 2019) showed that the distribution of tuna catch areas using the highest gill net occurred at a certain time, indicating a seasonal pattern in catches.

Gill net fish catches such as mackerel tuna, mackerel scads, sword fish, and long jawed mackerel are important commodities in local and regional markets. Demand for these fish remains stable throughout the year as they are the main source of protein for the community. Research results show that gill nets are one of the most efficient fishing gears in catching various fish species, including pelagic fish such as tuna, mackerel and kale, which are often marketed fresh (Okeyo, 2014); (Olopade

et al., 2020). This allows fishers to sell their catch quickly, reducing the risk of price declines due to delays in marketing (Matrutty et al., 2023). Fishermen can avoid losses that may occur due to deterioration in fish quality caused by prolonged storage (Hasibuan, 2024).

Similarly, (Pentury et al., 2017); (Alobaidy & Jbara, 2021); and (Supriyadi et al., 2022) determined that a coefficient variation ≤ 0.5 implies that the fishing business is low risk or there is no risk of loss.

CONCLUSION

Outboard motor boat for fishing operations with a size of 1-3 GT, a length of 9 meters, a width of 1 meter, and a height of 1 meter, and wings or daplang on the right and left sides of the boat. Gillnet fishing gear is made of polyamide monofilament and has a length of 35-100 meters per piece and a width of 3-15 meters overall. Fishing operations take place in the late afternoon and early morning. The fishing area is between 20 and 30 kilometers long and takes 2 to 3 hours to complete. The financial study of the gillnet fishing operation at Tawang Fish Auction Place (FAP) Ngadirojo in Pacitan Regency shows that it is feasible to continue. The level of production and price risk based on the coefficient variation value indicates that the gillnet fishing business has a low level of risk and avoids losses. The results of this study are expected to be input for local governments in determining policy steps for the development of gillnet capture fisheries at Tawang Fish Auction Place (FAP), Ngadirojo, Pacitan Regency.

DECLARATION OF INTEREST

The authors declare no conflict of interest in this study.

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