FINANCIAL FEASIBILITY OF CRAB NET CATCHING UNIT IN GALESONG SUBDISTRICT TAKALAR DISTRICT

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ABSTRACT

Appliance catch which is suited for catching existing crab type in coastal territorial water is called the gill net with one sheet or gill net. This research aim to know: (1) kind andinvesment needed at arrest unit crab net, and (2) financial feasibility arrest unit crab net.This research was executed in January until February 2015 inGalesongSubdistrictTakalarDistrict with MappakalompoVillage aslocation sample. This research use the survey method with the amount sample as much 40 fishermen crab netwho are taken with simple random sampling method.Analysis used by descriptive analysis of investment and financial feasibility analysis that areNet PresentValue (NPV), Net Benefit Cost Ratio(Net B/C) andInternal Rate of Return (IRR). Result of Research indicate that total of investment cost atarrest unit crab net that is equal to IDR 13.414.500with larger investment cost isboat purchasing andarrest unit crab net is feasible to be developedbecause result of financial analysisNPV > 0(IDR177,103,595.7), Net B/C > 1 (13.2)and IRR >interest rate (64%).

Key words: catching, fishermen, crab nets, investment, financial feasibility

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INTRODUCTION

Indonesia known as maritime axis of world was rich will various potency of sea resources, especially fisheries, becoming important shares in the effort secure and prosperous of society.Properties in the form of very big resouces Indonesia fishery become the authorized capital in national development at one blow own the very big potency for development of oceaninc and fishery.Export demand result of fishery from year to year progressively mount, also show the trend improvement of production though rather stagnan in range of the last year.And so do serious governmental progressively in development fishery and oceaninc through various program.Thereby, effort fishery in Indonesia show the very good prospect. Development of fishery sector, inclusive of fishery catch, aim to increase production, expand employment and business opportunities , as well as to contribute in improving the welfare of fishermen and boost the regional economy .However , the level of income of fishermen remains low , including in Takalar South Sulawesi Province . The low income of fishermen , among others, due to the location of the arrest were not settled and the concentration of fishing activities in coastal areas and also the inadequacy of fishing gear is used so that the fishing effort carried out by fishing less than the maximum.

To increase the income of fishermen it is very necessary that the efforts of the members to the fishermen alternate fishing business with technology that is easy to do, inexpensive, and can provide high income for fishermen. One of them is with the help of fishing gear. The type of fishing gear used by fishermen play an important role in the process of increasing the revenue received by the fishermen. This is consistent with the statement of Anonymous (2005) that the size of the income levels of fishermen is a picture of the efficiency of a fishing gear is used by fishermen and vice versa, in addition to the amount of income is also determined by the availability of resources that exist around the area of fishing operations .

South Sulawesi is a region which has the potential of a diverse fishery resources, especially marine fisheries. The potential of this resource will provide a higher rate of growth, if managed in a professional manner while maintaining the preservation of marine life. In 2010 the total production of 811,729 tonnes of fishery South Sulawesi adalah derived from marine fisheries and 277,510 tons of the

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rest comes from land fishery. Takalar District consists of eight subdistricts, namely Pattallassang, South Polombangkeng, North Polombangkeng, Galesong, South Galesong, North Galesong, Mappakasunggu and Mangarabombang with a population of 250,000. Takalar District with Pattalassang capital has an area of 566.51 km square, of which 240.88 km square of which is a coastal region with a coastline of about 74 km. Fishermen in Takalar especially in the Village of Mappakalompo Galesong Subdistrict conduct fishing effort with some folding fishing gear such as traps, nets and crab nets. Fishing activities can not be separated from economic activities, because in these activities results received greater than the costs incurred. Both the depreciation cost of investment and operational costs. In addition the business analysis is necessary given the uncertainty of considerable effort, especially to fishing are affected by fishing season. Therefore conducted a study to analyze the financial feasibility of a crab net fishing unit in Galesong Subdistrict, Takalar District.

RESEARCH METHODOLOGY

Location and Time

This study conducted in January to February 2015 in the Galesong Subdistrict Takalar District and Mappakalompo Village as sample sites. The location determination is done deliberately by the consideration that most of the people are fishermen who use fishing gear crab nets fishery potential large enough in Takalar District,especially Mappakalompo Village.

Methods and Sample

This research was conducted by means of a questionnaire survey tools and the determination of respondents using simple random sampling method. Total population fishermen with fishing gear crab nets are 132 people with a total sample of 40 people (30 percent of total population).

Data Analysis

Analysis of the data used were:

1. Descriptive analysis to explain the type and amount of investment in units of catching crabs nets.
2. Analysis of financial feasibility to assess the feasibility of formula (Pasaribu et.al, 2005) :

a. Net Present Value (NPV)

$$NPV = \sum_{t=0}^{n} \frac{B_t - C_t}{(1+i)^t}$$

Where:

Bt = Benefit (Benefit) in year t
Ct = (Cost) in year t
i = the interest rate applicable
n = Periods of project (years)

With the eligibility criteria :

NPV > 0 , then the business viable (profitable)
NPV = 0 , then the business is not profit but also no loss
NPV < 0 , then the business is not worth (loss)

b. Net Benefit Cost Ratio (Net B/C)

$$\text{Net B/C} = \frac{\sum_{t=0}^{n} \frac{B_t - C_t}{(1+i)^t}}{\sum_{t=0}^{n} \frac{C_t - B_t}{(1+i)^t}}$$

Criteria :

Net B / C > 1 , then the business feasible
Net B / C = 1 , then the breakeven business
Net B / C < 1 , then the business is not viable

c. Internal Rate of Return (IRR)

$$IRR = i' + \frac{NPV'}{NPV' - NPV"} + (i" - i')$$

Criteria :

IRR > prevailing interest rates , efforts to develop.
IRR < prevailing interest rates , the effort is not worth to be developed

RESULTS AND DISCUSSION

Capture Device Description

Gill nets one sheet is one tentacle crab nets rectangular-shaped sheet with a length which is greater than the length of the net width. The main construction crab net consists of: body nets (webbing), some buoys (floats), weights (sinkers), and rope ris. Gill net terms based on the premise that the fish caught in gill nets entangled in the mesh near its opercolumn. In Indonesia, the naming of gill net is diverse, there is a call based on the type of fish caught (koro nets, shrimp nets, crab nets and so on), some are accompanied by the name of the place (shrimp nets Bayeman), and so on (Ayodhya, 1981). Crabnets assembled using ropes made from polyethylene which covers the top rope ris, ris rope down, and the buoy rope nets so that the overall length is 500 m. Vessels used nets crab has a length of 7 m, width 70 cm, and the tonnage of 0.2 tons. Engine used to move the ship is the power of 5.5 and 6 HP. Gill net fishing gear is operated seabed area with crab, shrimp and fish are being targeted arrests.

Business Analysis

In starting a business, there are some things that must be considered, one of which is the analysis of the feasibility as an entrepreneur must generate profits sustainable. Aim of business analysis is to determine the level of profitability, return on investment, as well as the business break-even point. Business analysis on fishing effort is necessary because the uncertainty revenues were very sizeable, such as fishing effort and the processing of fishery products is influenced by several factors, one of which is a factor fishing season. In analyzing the feasibility of fisheries could be tested on a few things, such testing will be conducted on the investment costs, fixed costs and variable costs, and the benefits received. Analysis of fishing effort can be done using several methods both quantitative and descriptive, so that the results of the analysis that we do will determine our decision to depanuntuk running a business, whether the continued or not. It is very important to streamline the capital we have (Effendi and Wawan, 2006).

Business Investment Analysis

The investment costs are costs required to finance the business establishment . Investment is very important to note because it can support the promotion of the business. Investment objective is to obtain benefits in the future. Investments used in fishing effort by using crab nets are fishing gear boats, engines , nets , rope anchors , lamps , baskets. For more details , details of the investment costs can be seen in the table below.

Table 1. Investment Cost Crab Nets In Galesong Subdistrict Takalar District

No.	Investment	Value (Rp)	Percentage (%)
1.	Boat	7,875,000	58.71
2.	Engine	4,975,000	37.09
3.	Gill Net	360,000	2.68
4.	Lamp	117,500	0.88
5.	Anchor rope	68,750	0.51
6.	Basket	18,250	0.14
	Amount	13,414,500	100.00

Source: Primary data processed, 2015.

Based on the above table shows that the average value of the highest is the type of investment the boat with a value of IDR 7,875,000, then the engine with an average value of IDR 4.975 million, and the lowest is the kind of investment basket with an average value of IDR 18,250 .

Cost Analysis

A business unit in the course of production would require a fee calculated in accordance with the magnitude of the amount of production that will be produced so that by looking at the costs incurred by a business unit, it can be used as a determinant in pricing because a price level that does not cover the costs would cause harm conversely, if a price level exceeds all the costs it can be ascertained that the business benefit. The costs incurred to produce something determining the cost price of the products produced. Cost is fundamental in price determining. There used two types of fees that cost analysis fixed costs and variable costs.

Fixed cost

Fixed costs are costs that do not change (constant) for each level of a number of outcomes produced or the cost of the use of which is not exhausted in one production period and still be issued even if not producing, among others, the cost of depreciation of tools. Depreciation tool occurs due to the age or due to wear until the end of the technical age. One way to calculate depreciation is the difference between the initial value of goods to the value of final goods divided by long usage. According Prawirokusumo in Nurdin (2006) that the depreciation can be calculated by a straight line that is the initial value minus the final value divided by time wear. For more details, the average value of the depreciation of business equipment crab fishing nets can be seen in the table below.

Table 2. Type and Value Depreciation Annual of Investment

No.	Investment	Value Penyusutan (Rp)	Percentage (%)
1.	Boat	787,500	36.55
2.	Engine	1,257,083	58.34
3.	Gill Net	36,417	1.69
4.	Lamp	22,083	1.05
5.	Anchor Rope	40,625	1.88
6.	Basket	10,758	0.49
	Amount	2,154,467	100.00

Source: Primary data processed, 2015.

The above table shows that the greatest shrinkage business unit is the crab gill net boat engine with a mean average value per year Rp 1,257,083 , and is the smallest shrinkage basket with an annual average value of Rp 10,758 . To calculate the cost of depreciation seen from the technical life of the investment business. Mean large depreciation cost of investment is Rp 2,154,467 .

Variable Costs

Variable costs are costs which runs in a single operation arrests or charges incurred during a business process taking place, that the cost of fuel, food, cigarettes, oil, and beverages. Variable costs are always being released all the time production and its value is always changing depending on the size of the production .

Table 3. Type and Variable Costs Annual Crab Nets

No.	Variable Cost	Value (Rp)	Percentage (%)
1.	Premium	7,200,000	43.58
2.	Consumption	3,866,400	23.41
3.	Drink (coffee, tea, milk)	702,000	4.25
4.	Engine Oil	1,998,000	12.09
5.	Cigarettes	2,754,000	16.67
Amount		16,520,400	100.00

Source: Primary data processed, 2015.

The above table shows that the crab fishing nets arrests of 144 trips per year to the number of variable cost of Rp 16.5204 million where the number of variable costs in the quiet flow is greater than the strong currents due to the quiet stream fishermen do 96 trips per year at a cost of IDR 11.0136 million and the strong currents just do 48 trips per year at a cost of IDR 5.5068 million .

Total Cost

The total cost or total cost is the sum of the fixed costs and variable costs incurred in fishing effort within a year to finance the fishing effort using crab nets . The amount of total production costs in this business can be seen in the table below .

Table 4.Type and Total Cost Annual Crab Nets

No.	Kinds of Cost	Value (Rp)	Percentage (%)
1.	Fixed Cost	2,154,467	11.54
2.	Variable Cost	16,520,400	88.46
Amount (Total Cost)		18,674,867	100.00

Source: Primary data processed, 2015.

In the table above shows that the total cost of production of crab nets of fishing effort is the sum of fixed costs and variable costs . The average total cost incurred fishermen IDR 18,674,867. From the table above can also be seen that the variable cost is the most important costs incurred. Expenditure on fixed costs do not influence the amount of output produced but affect the level of profits of fishermen.

Business Revenue

Total revenue is the amount of the catch multiplied by the sale price of the catch. The types of catches are caught by nets crabs are crabs, shrimp, and fish. There are two seasons that occur in a year is the dry season (east) and the rainy season (west). Where the rainy season (west) took place in October to March, and the dry season (east) occur in April through September. But the crab fishing nets is not based on the traditional season, but still that is by looking at the moon at night. Within a month of the Hijra, occurred twice that atus strong currents and calm currents. The strong currents occur at night to 7-12 and 20-28 the current state of calm, while the night to 13-18 and 29-6 state of strong currents. In the quiet stream, arresting eight fishing trips / month, while the strong currents only 4 trips / month. The amount and proceeds from the crab nets can be seen in the table below

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Table 5. Crab Nets Amount Revenue Annual

No.	Season	Revenue Value (Rp)	Percentage (%)
1.	Peak Season	63,794,400	91.85
2.	Low Season	5,664,000	8.15
Amount (Total Revenue)		69,458,400	100.00

Source: Primary data processed, 2015.

Within one year of arrest as many as 144 fishing trips / year , where the quiet stream as many as 96 trips to the acceptance of Rp 63,794,400 and the strong currents as many as 48 trips to the acceptance of Rp 5,664,000 , total revenues in one year is Rp 69,458,400 .

Business Profits

The advantages are the results obtained from the reception (sales of production) minus total costs. Fixed costs are generally defined as costs are relatively fixed amount and continue to be issued even though production gained a lot or a little. While the variable costs are variable costs that the size is influenced by the production obtained. Crab net profits of the business can be seen in the table below.

Table 6. Analysis Business Profit Annual Crab Nets

No.	Description	Value (RP)
1.	Total Revenue	69,458,400
2.	Total Cost	18,674,867
3.	Profit (TR – TC)	50,783,533

Source: Primary data processed, 2015.

Based on the table above , it can be seen that the amount of average annual profit businesses crab nets IDR 50,783,533 where the acceptance number is greater than the total costs used . Reception were successfully obtained IDR 69,458,400 , while the total cost of IDR 18,674,867 .

Financial Feasibility Analysis

Feasibility analysis is the ability of a business or do business with the investment project succeed or make a profit from the venture. Feasibility level is measured viewed from the financial aspects with some financial metode.aspek fishing effort crab using crab nets in the village of MappakalompoGalesong SubdistrictTakalarDistrict measured value NPV, Net B/C and IRR. In calculating the financial feasibility, discount factor used benchmark interest rate applicable bank credit (Wibowo , 2007) . Bank lending rates in Indonesia ranges from 14 % - 20 % , BRI lending rate of 16% so that the interest rate used in analyzing the financial feasibility of the venture is 16 %

Net present value or net present value is calculated based on the difference between the present value of revenue from the sale of production minus the present value on the costs incurred during the life of the project (Anonymous, 2005). When evaluating a particular project has been declared eligible then the NPV> 0. When NPV = 0, meaning the project is to restore exactly for Social Opportunity Cost of Capital, and when NPV <0 then the project is not feasible to develop. Net benefit cost ratio is the ratio between the number of positive NPV by the number of negative NPV. This shows that the magnitude of benefit and how many times the cost of investment to obtain a benefit. IRR or measuring tool to determine the project's ability to repay interest on loans from financial institutions to finance the project. Basically IRR is showing that the Present Value (PV) benefits will be the same as the Present Value (PV) cost in other words that the IRR shows NPV = 0 (Pasaribu, 2005). The results of the analysis of financial feasibility crab nets of fishing effort can be seen in the table below.

Table 7. Feasibility Analysis Results In Arrest Unit Crab Nets

No.	Feasibility Analysis	Value	Feasibilty Criteria
1.	Net Present Value (NPV)	Rp177,103,595.7	Feasible
2.	Net Benefit Cost Ratio (Net B./C)	13,2	Feasible
3.	Internal Rate of Return (IRR)	64 %	Feasible

Source: Primary data processed, 2015.

The above table shows that the NPV value of IDR 177,103,595.7 meaningful unit net catching crab fishermen who sought favorable assuming a period of 5 years. Likewise, seeing the value of Net B/C amounted to 13.20 which means that each cost value (investments) by 1 unit will provide the benefits of 13.20 times. The IRR of 64% indicates that the unit has the ability to arrest nets crab payments at an interest rate of up to 64 %. The value obtained is greater than the value of the bank interest rate applicable is 16 %.

Thus the fishing effort fishermen using crab nets feasible to be developed because the NPV value greater than 0 , the value of the Net B / C is greater than 1 , and the value of IRR is greater bank lending rates .

CONCLUSION

1. Total cost of the investment in crab nets of fishing effort that is IDR 13,414,500 with the cost of the largest investment was the purchase of a boat.
2. Enterprises catching crab net worth to be developed for getting the NPV of IDR 177,103,595.7 , Net B/C at 13:20 and an IRR of 64 %.

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