



Financial Analysis of Fishing Boat Rental Business at Kenyamukan Hamlet, District of North Sangatta, Regency of East Kutai

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Abstract

Research aimed to determine the actual condition of fishing boat rental business, determined the profit earned by the entrepreneur of fishing boat rentals, and determine financial feasibility based on the criteria of investment discounted, including NPV, IRR, NBCR and Payback Period on fishing boat rental business in Kenyamukan county, District of North Sangatta, East Kutai Regency. Sampling was conducted by survey method and 10 person's respondents. Research results showed the actual condition of fishing boat rental business its has been exist for 5 years, assisted by one crew (crew) and the rental cost its varies for Sangatta IDR 1,000,000 per trip, Miang Island IDR 2,000,000 per trip, Bira-Birahan IDR 4,000,000 per trip, Sekrat IDR 1,500,000 per trip, Teluk Lombok Rp 1,000,000 per trip, Manubar IDR 3,500,000 per trip and Sandaran IDR 6,000,000 per trip. Profit was earned from these businesses an average IDR 4,008,902 per month per respondent and an average IDR 48,106,825 per year per respondent. By the finacial a Fishing boat rental business in Kenyamukan County its reasonably to expanded at the present and future, this is evidenced by the value of the investment criteria that NPV = IDR. 316 079 901, IRR = 100%, Net BCR = 4.17, Pp = 1 year.

Keywords: Analysis Of Financial, Fishing Boats

Introduction

Regency of East Kutai is one regency in East Kalimantan province which rich in natural resources potential but not been used optimally. East Kutai Regency covered an area of 35747.50 km² and 240 kilometers of coastline, measured from border line of Bontang to Mangkaliat (Bapeda Kutai Timur, 2012). This Regency has 7 districts, located in coastal areas that directly facing the Makassar strait, one of which is District of North Sangatta. This district consisted of 4 Villages, namely North Sangatta, Swarga Bara, Teluk Lingga and Singa Gembara, and 23 Hamlets and 126 neighborhoods (Dinas Kelautan dan Perikanan Kutai Timur, 2013). Hamlet of Kenyamukan is included in North Sangatta Village. This hamlet has marine fisheries resources for fishing activities. Field survey show that most of people living in this hamlet works as fishermen. Ship/boat is one of fishing tools for fishing activities in the sea.

There are various kinds of marine and fisheries business activities can be found at Kenyamukan hamlet, such as fishing business, sales of fishery products, fishing boat rental business and so forth. Fishing boat rentals is one of the promising businesses in Kenyamukan as indicated by many people, both from Sangatta city and other city, frequently fishing by renting boat in this region. Fishing boat rental is managed by community of Kenyamukan. This business cannot be separated from various aspects of economy and the feasibility can be determined by financial analysis such as: cost, rental price, and present profits. Some economy aspects are greatly affects this boat rental continuity. As so far, there are no scientific data and information regarding the financial viability of fishing boat rental business in Kenyamukan. The business is very useful for people who interested and have high competence to develop the business as source of



livelihood. Due to the reason, it is important to conduct research on Financial Analysis of Fishing Boat Rental Business in Kenyamukan Hamlet, District of North Sangatta, East Kutai. The problems can be stated as follow: (1) how is the actual condition of fishing boat rental business in Kenyamukan Hamlet, District of Sangatta, East Kutai Regency, (2) how much profits received by fishing boats entrepreneurs in Kenyamukan Hamlet, District of Sangatta, East Kutai Regency, (3) how is the feasibility of fishing boat rental business measured from financial aspects in Kenyamukan Hamlet, District of Sangatta, East Kutai Regency. The research objectives are as follow: (1) to study actual condition of fishing boat rental business in Kenyamukan Hamlet, District of Sangatta, East Kutai Regency, (2) to analysisi profits received by fishing boats entrepreneurs in Kenyamukan Hamlet, District of Sangatta, East Kutai Regency, and (3) to analysis feasibility of fishing boat rental business measured from financial aspects in Kenyamukan Hamlet, District of Sangatta, East Kutai Regency.

Method

This research was conducted in Kenyamukan Hamlet, District of Sangatta, East Kutai Regency in June 2015. The data was collected by survey method. Survey Method are studies that examined directly to the research site that is researchers know the condition of research location to prepare sampling from population using questionnaires as data collection tool. Questionnaire is a method of data collection by asking some questions to respondents (Singarimbun and Effendi, 1989). Primary data is obtained directly from primary sources through observation and interviews with respondents (fishing boat entrepreneurs) according to list of statements (questionnaire), which has been prepared in accordance with the purpose of research. Secondary data is supporting data obtained through library research, scientific research/journals, and relevant reports from related institution or office. Secondary data is include profile area. Fishing boat rentals entrepreneurs is used as respondent. Interviews with the Head of Kenyamukan show that there is 10 persons at RT. 26 who conducting fishing boat rental business. By considering that this rental business is a new business, the sampling technique is census. According to Sugiono (2011), when a population is < 30, all members of the population were sampled. The research objectives are to determine the feasibility of fishing boat rental business in Kenyamukan Hamlet. Data were presented in tabular form and then analyzed using financial analysis using investment criteria and payback period. Data from observations and interviews will be analyzed using the following formulas. Rosyidi (2000) states that revenue can be written according to formula:

$$TR = P \times Q$$

Where:

TR : Total Revenue (IDR)

P : Price (IDR /Trip)

Q : Quantity (per trip)

Total cost can be formulated as follow :

$$TC = TFC + TVC$$

Where:

TC : Total Cost (IDR)

TFC : Total Fix Cost (IDR)

TVC : Total Variable Cost (IDR)



Soekartawi (2003) states profits can be calculated using the following formula:

$$\pi = TR - TC$$

Where :

- π = Profit (IDR)
- TR = Total revenue (IDR)
- TC = Total cost (IDR)

Kadariah (2001) states that in financial analysis, some investment criteria approach can be used, including:

Net Present Value (NPV)

NPV is the difference between revenue or benefits and the cost, which has been converted in the present value:

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

Where :

- B_t = Gross Benefit at year t (IDR)
- C_t = Gross cost at year t (IDR)
- n = Economic age of Fishing Boat rental business
- i = interest rate (%)
- t = year

The investment criteria are as follow:

- 1) If NPV > 0, the business is feasible.
- 2) If NPV < 0, the business is not feasible.

Internal Rate of Return (IRR)

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

Where :

- NPV' = positive *Net Present Value* (IDR)
- NPV'' = negative *Net Present Value* (IDR)
- i' = *Discount rate* which gives positive NPV value (%)
- i'' = *Discount rate* which gives negative NPV value (%)

The investment criteria are as follow:

- 1) if IRR > OCC, the business is feasible.
- 2) If IRR ≤ OCC, the business is feasible.

Net Benefit Cost Ratio (*Net B/C Ratio*)

Net B/C Ratio is the ratio between the net benefit to the net costs in present value. Numerator is a positive and denominator is negative

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

Where :

- B_t = Gross Benefit at year t (IDR)



C_t = Gross Cost at year t (IDR)
n = Economic age (year)
i = Interest Rate (%)
t = Year

The investment criteria are as follow:

- 1) if *Net B/C* > 1, the business is feasible.
- 2) if *Net B/C* < 1, the business is feasible.

Payback Period (PP)

Payback Period (PP) Analysis is to determine the time of the return on investment for certain type of business.

$$PP = \frac{\sum I}{NBt}$$

where :

$\sum I$: investment at year 0

NBt : *Net Benefit* per year as long as business age (year 1 to n).

Results and Discussion

Overview of Research Location

Position and Area

Fishing boat rental business has been operated by several residents of Kenyamukan, located in District of North Sangatta, on an area of 43940.5 km². Kecamatan Sangatta Utara terdiri dari 4 Desa yaitu Desa Sangatta Utara, Desa Teluk Lingga, Desa Singa Gembara dan Swarga Bara. Dusun Kenyamukan merupakan bagian dari wilayah Desa Sangatta Utara. Dusun ini berjarak 3 Km dari Desa Sangatta Utara. Adapun batas wilayah Desa Sangatta Utara, Sebagai berikut : District of North Sangatta is consists of 4 villages, namely North Sangatta, Teluk Lingga, singa Gembara and Swarga. Kenyamukan Hamlet is part of North Sangatta Village. This village is 3 km from North Sangatta Village. The border of North Sangatta is as follows:

- North side, bordering with district of Bengalon
- East side, bordering with Makassar Strait
- South side, bordering with District of South Sangatta
- West side, bordering with District of Rantau Pulung

Population

Kenyamukan hamlet is inhabited by 239 persons. The population comes from 84 KK (Family Head) and has high ethnic heterogeneity. The dominant tribes in this village are Bugis and Javanese, Kutai, Makassar, Banjar and Nusa Tenggara Timur (Monograph of North Sangatta Village, 2015). There are various Livelihoods found in Kenyamukan, including Farmers, labor, merchants, craftsmen, fishermen, and so on.



Table 1. Population Data of Kenyamukan Hamlet by Livelihood

No	Employment	Number (Person)
1	Farmer	12
2	Fishermen	70
3	Labor	35
4	Merchant / entrepreneur	10
5	Craftsmen	15
6	Teacher	4
7	Civil servant (PNS)	1
8	Private entrepreneur	10
9	Taxi driver	20
10	Builder	62
	Total	239

Source : Monograph of North Sangatta Village, 2014.

Table 2 showed that most of Kenyamukan population works as fishermen, and some residents operating fishing boat rentals. This is because East Kutai is rich with natural resources, and due to the position, the hamlet located along river side so that the residents take advantage by operating fishing boat rentals as livelihood.

Facilities

Generally, road transportation to Kenyamukan is in good condition. In addition, for river transportation, most people have boats and motors boat with the construction of Port and Fish Landing Sites (TPI).

Table 2. Public Facilities in Kenyamukan

No	Facilities	Number/ Unit
1	TPI	1 Unit
2	TPA	1 Unit
3	TK/PAUD	1 Unit
4	SD	1 Unit
5	Drug stores	4 Unit
6	Mosque	1 unit

Source : Monograph of North Sangatta Village, 2014.

Education and health facilities in Kenyamukan began to given attention by the presence of 4 units of drug stores and the establishment of elementary education such as kindergarten/early childhood education, TPA, mosques and Elementary school (SD).

Respondent Characteristics

According to research data, there are 10 persons who actively renting their fishing boat as livelihood as can be seen in Table 3 hereunder:

Table 3. Number of Fishing Boat Rental Entrepreneur in Kenyamukan

No	Name of Respondent	Name of Boat
1	Ms Salwatia	Km. Rahmat Gt. 09
2	Mr Jamal	Km. Samudera Gt. 05
3	Mr Asman	Km. Aditya Pratama Gt. 05
4	Mr Supiansyah	Km. Dolphin Gt. 05
5	Mr Hj. Andi Rahman	Km. Sarmina Gt. 05
6	Mr Ahmad Yani	Km. Wulan Sari Gt. 05
7	Mr Sugeng	Km. Dayuan Gt. 05
8	Mr Faisal Wonga	Km. Rakyat Biasa Gt. 09
9	Mr Topik Nur	Km. Rahmatyana Gt. 05
10	Mr Oceng	Km. Bintang Kehidupan Gt. 05

Source : Primary Data, Proceed, 2015.



Overview on fishing boat rental activities

Fishing boat rental business in Kenyamukan has been operating since 2010. This business is promising for the local community due to level of public interest, both in Sangatta city and outside the city who have fishing by renting boat at this location. The fishing boat rental business can also add income for Kenyamukan peoples. Fishing boat rental price varies depending on fishing destination. These fishing destination route among other is as follows: Sangatta area IDR 1,000,000/trip, Miang Island IDR 2,000,000/trip, Bira-Birahan IDR 4,000,000/ trip, Sekrat IDR 1,500,000/trip, Lombok Gulf IDR 1,000,000/ trip, and Manubar IDR 3,500,000/ trip and Sandaran IDR 6,000,000/trip. Problems encountered during fishing boat rental operation among others are unfavorable weather conditions and boat's engine damage. The rented boat is 05 GT and 9 GT. The business is run by 10 persons; mainly residents of Kenyamukan, among them are Ms. Salwatia, Mr. Jamal, Mr. Asman, Mr. Supiansyah, Mr. Hj. Ahmad Yani, Mr Sugeng, Mr. Faisal Wango, Mr Topics Nur and Mr. Oceng.

Project Age

Kadariah (1978) explains that a period (duration) of approximately the same as the lifespan of a project is used in determining the longevity of a project. Project age used in this study is technical age, namely 5 years. Technical age is determined from investment equipment component such as boats, boat engines, anchors and other investment equipment with technical age of 5 years.

Production Cost

The costs incurred for fishing boat rental business is consisted of investment costs and operational costs. The breakdowns of these costs are:

Investment costs

Investment costs are costs incurred at business start up. The investment cost consists of Ship, Ship Engine, buoys, ropes, gas stove, pans, plates, cups, spoons, light bulbs, cable, gas bottles, jerry cans, pespinder, ganset, and fish box with technical aged between 1-5 years.

Table 4. Total Investment Cost incurred by Fishing Boat Rental in Kenyamukan

No	Name of Respondent	Total Investment Cost (IDR)
1	Ms Salwatia	81.396.000
2	Mr Jamal	71.504.000
3	Mr Asman	77.391.000
4	Mr Supiansyah	72.025.000
5	Mr Hj. Andi Rahman	81.369.000
6	Mr Ahmad Yani	71.453.200
7	Mr Sugeng	71.944.000
8	Mr Faisal Wonga	81.600.000
9	Mr Topik Nur	71.591.600
10	Mr Oceng	77.513.000
	Amount	757.786.800
	Average	75.778.680

Source : Primary Data, Proceed, 2015

Operating and Maintenance Cost

Efendi dan Oktariza (2006) explains that the operating costs are all expenses incurred during the production process. These costs are always routinely incurred. Maintenance costs are the costs to repair equipment during the production process. The operating costs consist of fixed costs and variable costs.



Fixed Cost

Fixed costs are costs in fixed amount and will not affect by size of production. The fixed costs incurred in fishing boat rental are taxes, maintenance costs, (paint, soap, and oil) and depreciation costs.

Table 5. Total Maintenance Costs for Fishing Boat Rental at Kenyamukan

No	Name of Respondent	Total maintenance cost (IDR/month)	Total maintenance cost (IDR/Year)
1	Ms Salwatia	1.865.000	22.380.000
2	Mr Jamal	1.767.000	21.204.000
3	Mr Asman	1.715.500	20.586.000
4	Mr Supiansyah	1.746.500	20.958.000
5	Mr Hj. Andi Rahman	1.748.000	20.976.000
6	Mr Ahmad Yani	1.765.000	21.180.000
7	Mr Sugeng	1.715.000	20.580.000
8	Mr Faisal Wonga	1.817.500	21.810.000
9	Mr Topik Nur	1.740.500	20.886.000
10	Mr Oceng	1.716.500	20.598.000
	Amount	17.596.500	211.158.000
	Average	1.759.650	21.115.800

Source : Primary Data, Proceed, 2015

Table 6. Total Fixed Costs for Fishing Boat Rental at Kenyamukan

Total depreciation costs (IDR/year)	maintenance costs (IDR/year)	Taxes (IDR/year)	Total Fixed Cost (IDR/month)	Total Fixed Cost (IDR/year)
72.026.375	21.115.800	1.000.800	7.845.248	94.142.975

Source : Primary Data, Proceed, 2015

The amount of total fixed costs that must be incurred by entrepreneur in Kenyamukan is IDR 7,845,248/month or IDR 94,142,975 per year.

Total Variabel Cost

Variable costs are any costs may change according to the amount of product. In other words, variable costs are the costs incurred and will be consumed in one production process. In this study, variables costs is including consumption, fuel (diesel), fuel (gasoline), gas refills, labor wage.

Table 7. Total Variable Costs for Fishing Boat Rental at Kenyamukan.

No	Name of Respondent	Total variable cost (IDR/month)	Total variable cost (IDR/Year)
1	Ms Salwatia	8.976.500	107.718.000
2	Mr Jamal	8.684.000	104.208.000
3	Mr Asman	9.389.000	112.668.000
4	Mr Supiansyah	8.360.000	100.320.000
5	Mr Hj. Andi Rahman	8.634.000	103.608.000
6	Mr Ahmad Yani	8.201.500	98.418.000
7	Mr Sugeng	8.589.000	103.068.000
8	Mr Faisal Wonga	8.034.000	96.408.000
9	Mr Topik Nur	8.251.500	99.018.000
10	Mr Oceng	7.339.000	88.068.000
	Amount	84.458.500	1.013.502.000
	Average	8.445.850	101.350.200

Source : Primary Data, Proceed, 2015

On average, total variable costs incurred for fishing boat rental in Kenyamukan per respondent is Rp. 8.44585 million per month or Rp 101.350.200 per year



Table 8. Total Operating Costs for Fishing Boat Rental in Kenyamukan.

TFC /Total Fixed Costs (IDR /Year)	TVC/Total Variable Costs (IDR /year)	Total Operating Cost (IDR /Year)
94.142.975	101.350.200	195.493.175

Source : Primary Data, Proceed, 2015

On average, total operating costs incurred for fishing boat rental in Kenyamukan is IDR 195.493.175 per year.

Revenue and Profit

Revenue

Revenue of this business generate from fishing boat rental to various destination area by the tenant. The fishing route is among others Sangatta Estuary, Lombok Strait, Sekrat, Miang Island, Bira-Birahan, Sandaran and, Manubar.

Table 9. Total Revenue of Fishing Boat Rentals at Kenyamukan.

No	Name of Respondent	Total Revenue (IDR /Month)	Total Revenue (IDR /year)
1	Ms Salwatia	18.500.000	222.000.000
2	Mr Jamal	17.000.000	204.000.000
3	Mr Asman	31.500.000	378.000.000
4	Mr Supiansyah	18.000.000	216.000.000
5	Mr Hj. Andi Rahman	17.500.000	210.000.000
6	Mr Ahmad Yani	25.500.000	306.000.000
7	Mr Sugeng	18.500.000	222.000.000
8	Mr Faisal Wonga	16.000.000	192.000.000
9	Mr Topik Nur	23.500.000	282.000.000
10	Mr Oceng	17.000.000	204.000.000
	Amount	203.000.000	2.436.000.000
	Average	20.300.000	243.600.000

Source : Primary Data, Proceed, 2015.

Total revenue from fishing boat rental business is IDR 243.6 million per year on average.

Profits

Profit is the difference between revenue from rental business with total cost to be incurred.

Table 10. Profit from Fishing Boat Rental in Kenyamukan.

Total Revenue (IDR /year)	Total cos (IDR /year)	Profit (IDR /year)	Profit (IDR /month)
243.600.000	195.493.175	4.008.902	4.008.902

Source : primary data, proceed, 2015.

Based on the calculations, profit of fishing boat rental per respondent is IDR 4,008,902 per month or IDR 48,106,825 per year on average.

Financial Analysis

Financial analysis is used to analyze the feasibility of a business from financial aspects. Financial analysis in this study is using investment criteria, namely Net Present Value (NPV), Internal Rate of Return (IRR), Net Benefit Cost Ratio (NBCR) and Payback Period (PP). Descriptions of each investment criteria are as follows:

Net Present Value (NPV)

Benefit and cost of fishing boat rental was calculated on 5 years life of project. The value is converted in present value and known as Net Present Value (NPV). NPV is the difference between the benefits and costs which has been converted to present value. The feasibility criteria are as follows:



- a. If $NPV > 0$, the business is financially feasible.
- b. If $NPV = 0$, means investment return is exactly equal to the interest rate generate berarti usaha mengembalikan dana persis sama besar dengan tingkat suku bunganya.
- c. If $NPV < 0$, the business is not financially feasible.

Based on calculations, the NPV is IDR. 316.079.901, thus the fishing boat rental business is financially feasible.

Internal Rate of Return (IRR)

IRR shows the ability of capital to provide benefits in the form of discount rate or in other words IRR value is the discount rate (the interest rate) that makes the NPV of fishing boat rental business in Kenyamukan equal to zero. The Feasibility criteria for the IRR are as follows:

- a. If $IRR >$ the interest rate (OCC), the business is financially feasible.
- b. If $IRR \leq$ the interest rate (OCC), the business is not financially feasible.

The calculations show that IRR value is 100%, higher than bank interest rate (7%) when the study was conducted (OCC). These results indicate that the capital invested in this business will be able to provide benefits during ongoing business that is equal to the value of IRR.

Net Benefit Cost Ratio (NBCR)

Investments capital made in this business, should determine by level of productivity based on NBCR (net benefit cost ratio). NBCR is the ratio between the net benefit to the net costs that has been converted in present value. The Feasibility criteria for the NBCR are as follows:

- a. If $NBCR > 1$, the business is financially feasible.
- b. If $NBCR < 1$, the business is not financially feasible.
- c. If $NBCR = 1$, whether business operated is depending on investor.

The calculations show NBCR value is $4.17 > 1$, means that the business is able to provide benefits (net benefit) as long as businesses running at 4.17 times the investment costs already incurred. In other words, investment capital IDR.1 capable to generating profit (net benefit) IDR 4.17 during ongoing business so that the fishing boat rental business is financially feasible.

Payback Period

Payback Period is period of the investment cost return from the benefits. Based on the value of the financial component namely investment costs, operating costs and the benefits, Payback *Period* for fishing boat rental is 12 months. The results show that fishing boat rental is financially feasible and can be developed n the future due to payback period is shorter than the life of the project. Recapitulation of financial analysis for fishing boat rental in Kenyamukan by actual calculation is shown in Table 11 below.

Table 11. Recapitulation of Financial Analysis for Fishing Boat Rental in Kenyamukan.

No	Feasibility Criteria	Value	Condition	Feasibility Justification
1	NPV (IDR)	316.079.901	$NPV > 0$	Feasible
2	IRR (%)	100 %	$IRR > 7 \% (OCC)$	Feasible
3	NBCR	4,17	$NBCR > 1$	Feasible
4	PP Year	1 year	$PP <$ the life of project (5 years)	Feasible

Source : Primary Data, Proceed, 2015.



Conclusion

Fishing boats rental business has been operated for 5 years. The number of entrepreneurs who operating this business is 10 persons, who are resident of Kenyamukan hamlet. Each entrepreneur is assisted by a crews. Fishing boat rental prices vary namely Sangatta area Rp 1,000,000/trip, Miang Island IDR 2,000,000/trip, Bira-Birahan IDR 4,000,000/ trip, Sekrat IDR 1,500,000/trip, Lombok Gulf IDR 1,000,000/ trip, and Manubar IDR 3,500,000/ trip and Sandaran IDR 6,000,000/trip. Profit derived from fishing boat rental in kenyamukan is IDR 4,008,902 per month or IDR 48,106,825 per year on average. Financial analysis shows that fishing boat rental business in Kenyamukan, District of North Sangatta is feasible due to investment criteria, namely NPV: 316 079 901, IRR: 100%, NBCR: 4.17 and PP 1 year or 12 months.

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