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Feasibility Analysis of the Fishing Equipment Business Bagan Perahu KM. Sembari 05 at Fish Landing Base (PPI) Air Bangis, Sungai Beremas District Pasaman Barat Regency, West Sumatra Province

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ABSTRACT

The feasibility analysis of the boatlift net business aims to find out whether the KM Sembari 05 Bagan perahu net with a boat weight of 30 GT is feasible to be made into a fishing business or not based on business feasibility analysis. The method used in this research is a survey method by making direct observations in the field by looking at fishing activities using Bagan perahu fishing gear. Investment costs incurred for the operation of the KM. Sembari 05 Bagan perahu net is IDR 1,005,400,000; production costs for 1 year for fixed costs and operational costs are IDR. 1,502,292,400. While the gross income earned for 1 year Rp. 2,315,731,000 and a net income of IDR. -556,601,900/year. KM. Sembari 05 ship has a payback period of the capital of 1 year 9.6 months, which means a payback period of at least 1 year 9.6 months is required from the total service life of the KM Bagan perahu while 05 is 20 years.

Keywords: Feasibilty, Bagan Perahu, Operational cost

1. INTRODUCTION

Air Bangis Village is located in Sungai Beremas District, West Pasaman Regency, West Sumatra Province. Air Bangis Village is one of the largest fish-producing areas in West Pasaman Regency. In Sungai Beremas District, there is the Air Bangis fish landing base (PPI), which is the only fish landing base and is classified as a type D fishing port (BAPPEDA of West Pasaman Regency, 2008).

The types of fishing gear at PPI Air Bangis include boat nets, gill nets; trammel nets, and purse seine. The majority of anglers at PPI Air Bangis use boatlift nets more because their main catch target is pelagic fish (Von Brandt, 2005).

However, fishing activities using boatlift nets require a lot of investment so it is necessary to plan so that the business does not suffer losses. The fishing business with the Bagan perahu fishing gear is a potential business with catches that have high selling prices. In this regard, it is necessary to know to what extent the activity or business of fishing for boat nets can still run and is feasible to be cultivated in that area.

2. RESEARCH METHODS

Method

The method used in this research is a survey method by making direct observations in the field by looking at fishing activities using Bagan perahu fishing gear. Data collection was carried out using a purposive sampling method and interviews with Bagan perahu anglers.

Procedure

The research procedure begins by collecting literature studies, preparation of tools and materials, and collecting primary data and secondary data. After the data is collected, the descriptive method is used and data processing is to determine the feasibility of the fishing business by using the formula of the Benefit Cost of Ratio (BCR), Financial Rate of Return (FRR), and Payback Period of Capital (PPC).

3. RESULT AND DISCUSSION

The Fishing Fleet

The fishing fleet used in this research was the Bagan perahu KM Sembari 05, which was registered at Teluk Bayur port with registration number 2021 AAA No. 1375/N.

The KM Sembari 05 Bagan perahu is made of wood with a gross tonnage of 30 GT, a net tonnage of 9 NT, a length of 17.50 m, a width of 5 m, and a depth of 1.50 m. The overall length of the ship is 24 m and the total volume is 91.88 m. The engine used is the Mitsubishi Fuso 6D 16/160 PK with the engine serial number C 052950, which has a hood with a length of 3.57 m and a volume of 14.27 m^3.

The Bagan perahu KM Sembari 05 has navigation aids in the form of GPS (the GPS type used is Garmin), radio communication (the radio used is FM Transceiver IC-2300H) and a compass.

The number of crew on KM. While 05 (30 GT) totaled 16 people, 1 person as a captain who was in charge of operating the ship, assisting and giving instructions in operation, and giving orders to the crew. Furthermore, 15 people became crew members whose job was to catch fish, cook and operate the fishing gear.

The operation of the boat chart consists of 7 stages, namely (1) preparation for the fishing ground, (2) fish collection, (3) net lowering setting, (4) net soaking (Soaking), (5) net hauling, (6) taking fish with a scoop (Brailing), and (7) sorting fish.

Fish Catch

The catch of the KM Sembari 05 Bagan perahu is a type of small pelagic fish, namely as follows:

Table 1. Composition of Bagan perahu Catch by Type and Price/kg

No	Types of Fish Catches	Price/kg
1.	Mackerel tuna (*Euthynnus affinis*)	IDR 25,000
2.	Indian mackerel (*Rastrelliger kanagurta*)	IDR 35,000
3.	Anchovies (*Stolephorus* sp)	IDR 18,000
4.	Yellowstripe scad (*Selaroides leptolepis*)	IDR 24,000
5	Mackerel scad (*Decapterus macarellus*)	IDR 13,000
6.	Tembang (*Sardinella* sp)	IDR 7,000
7	Squid (*Loligo* sp)	IDR 50,000

Source: Air Bangis PPI Interview Data March 2022

Table 2. Fisheries Business Investment Costs

No	Investment	Price (IDR)
1	Bagan perahu Ship	825,000,000
2	Catching tool	33,200 000
3	Main Machine	28,000,000
4	*Coolbox*	18,000,000
5	Auxiliary Machine	19,500,000
6	*Rollers*	7,500,000
7	Lamp	62,000,000
8	Basket	1,400,000
9	Radio	1,800,000
10	GPS	5,700,000
11	Compass	800,000
12	Anchor	1,800,000
13	Scrap	700,000
	Total	**1,005,400,000**

Cost Analysis

Determination of whether or not a business is feasible must be seen from various fields of analysis such as investment cost and production cost. These costs consist of fixed costs and variable costs.

Fixed costs are costs that are incurred periodically and the amount is always constant or fixed, not affected by the size of the business volume or business processes that occur in that period (Table 2).

Production Cost

Production costs are costs incurred during the fishing process using a Bagan perahu (Table 3-5).

Variable Cost

Variable costs are costs that directly depend on the results obtained. Fixed costs are (Table 6).

Table 3. Grouping based on age and depreciation rates for Bagan Perahu KM Sembari 05

No	Investment	Group	Lower rates (%)	No. Group	Source
1	Boat Chart Ship	4	5	Ex. 4. No. 2. E	
2	Catching tool	2	12.5	Ex. 2. No. 2. B	
3	Main Machine	3	6.25	Ex. 3. No. 5	Regulation of the
4	*Coolbox*	2	12.5	Ex. 2. No. 1. C	Minister of Finance No.
5	Auxiliary Machine	3	6.25	Ex. 3. No. 5	96/PMK.03/2

6	*Rollers*	2	12.5	Ex. 2 No. 2 B	009
7	Lamp	1	25	Ex. 1.No. 1 C	
8	Basket	1	25	Ex. 1.No. 1 A	
9	Radio	3	6.25	Ex. 3. No. 7	
10	GPS	3	6.25	Ex. 3. No. 7	
11	Compass	2	12.5	Ex. 2. No. 11.	
12	Anchor	3	6.25	Ex. 3. No. 4. B	
13	Scrap	2	12.5	Ex. 2. No. 1 A	

Table 4. Cost of depreciation of the Bagan Perahu KM Sembari 05

No	Investment	Price (IDR)	Age	Depreciation rates (%)	Cost of depreciation (IDR)
1	Boat Chart Ship	825,000,000;	3 years	5	41,250,000;
2	Catching tool	33,200 000;	3 years	12.5	4,150,000;
3	Main Machine	28,000,000;	3 years	6.25	1,750,000;
4	*Coolbox*	8,000,000;	2 years	12.5	2,250,000;
5	Auxiliary Machine	19,500,000;	3 years	6.25	1,218,000;
6	*Rollers*	7,500,000;	3 years	12.5	937,000;
7	Lamp	62,000,000;	2 years	25	15,500,000;
8	Basket	1,400,000;	2 years	25	350,000;
9	Radio	1,800,000;	2 years	6.25	112,500;
10	GPS	5,700,000;	2 years	6.25	356,250;
11	Compass	800,000;	2 years	12.5	100,000;
12	Anchor	1,800,000;	3 years	6.25	112,500;
13	Scrap	700,000;	2 years	12.5	87,500;
		1,005,400,000			**68,175,000;**

Table 5. Maintenance Cost

No	Maintenance	Cost of repairs (IDR)	Maintenance Fee/Year
1	Bagan perahu	Care And ship painting/2 months = 10,000,000	IDR 60,000,000;
2	Main engine and auxiliary engine	Machine maintenance / 2 months = 6,000,000	IDR 36,000,000;
3	Catching tool	Fishing gear maintenance costs / 2 months = 5,000,000	IDR 30,000,000;
4	*Rollers*	Cost of rope replacement / 6 months= 9,000,000	IDR 18,000,000;
Total cost		**30,000,000**	**IDR 144,000,000;**

Table 6. Operational Costs of Bagan Perahu KM 05.

No.	Operating costs	Requirement	Unit price (IDR	Total Cost/Year (IDR)
1	Ingredient Burn oil	4,000 L/month	5.125	246,000,000
2	Ice Cube	440 sticks/month	20,000	105,600,000
3	Supplies	IDR 224,400,000/year	-	224,400,000
4	Captain's Salary	IDR 347,359,650;/year		347,359,650
5	Crew salary	IDR 38,595,517/person/year	(15 people)	578,932,750
Total Operational Cost (IDR) 1,502,292,400				

Total Production Cost of Bagan Perahu KM Sembari 05

Total production costs are variable/ operational costs added to fixed costs, namely IDR 1.714.467.400.

Based on the business feasibility analysis, the boat net fishing business can provide benefits, these profits are very large, because the catch of the boat net has a high economic price and the number of catches is

still high. The investment costs incurred for the operation of the KM Sembari 05 Bagan perahu gear with a 30 GT boat weight amount to IDR 1.005.400.000, production costs for 1 year for fixed costs and operational costs are IDR. 1.502.292.400. While the gross income earned for 1 year IDR 2,315,731,000 and a net income of IDR -556.601.900/year.

The results of the calculation of the Benefit Cost Ratio (BCR) of the KM Sembari 05 Bagan perahu, a value of 0.67 is obtained which is the division of 50% of the ship owner's net income and the total production costs for 1 year, so it can be interpreted that this business is less profitable and less feasible to continue because the BCR value is lower than 1.

The percentage ratio of net income to investment from the KM Sembari 05 Bagan perahu is -0.55%, which means it is lower than the 3% bank interest rate (PIPU, 2021), which means that the KM Sembari 05 Bagan perahu fishing business will be more profitable if invested to the Bank from the fishing business.

Based on the calculation of the Payback Period value above, it shows 1 year 9.6 months, meaning that to return venture capital it takes an additional minimum of 1 year 9.6 months from the economic age. According to Ministerial Regulation No. 96/PMK.03/2009 the time limit for the economic life of the charter boat KM. While 05 is 20 years.

Therefore, the KM Sembari 05 ship is included in the category of slow return on capital and is less effective for making a fishing business. It will be more profitable if this capital is invested in a bank, because it has a higher interest rate, which is 3% according to the 2021 PIPU. Meanwhile, on the KM 05 Bagan perahu has an interest rate of 0.55% and allows a faster return on capital when invested in a bank according to this comparison.

4. CONCLUSION

From the results of the feasibility analysis of the Bagan perahu fishery business, it is known with the following assessment results: 1) the benefit-cost ratio (BCR) is 0.67, meaning BCR <1, so this business is less profitable and less feasible to continue. 2) The financial rate of return (FRR) is -0.55%, meaning that it is better to invest the results from the boatlift net fishing business in the Bank than in the fishing business. 3) The payback period of capital (PPC) was obtained for 1 year and 9.6 months, meaning that the bagan perahu fishing business was not able to cover all the initial investment costs incurred for Rp. 1,005,400,000 with a predetermined economic time limit.

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