

DESCRIPTIVE STUDY ANALYSIS OF FEASIBILITY VANAME SHRIMP (*LITOPENAEUS VANNAMEI*) IN PLASTIC PONDS IN TELUK PAMBANG VILLAGE

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ABSTRACT

This study aims to determine and describe the feasibility of vannamei shrimp cultivation in Teluk Pambang Village, Bantan District, Bengkalis Regency. This type of research is descriptive. In this study, interview techniques were used to collect data. Researchers are interested in studying how the business feasibility study on the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri is seen from two indicators, namely non-financial aspects and financial aspects. According to research results and conclusions, non-financial aspects have several indicators, namely: technical aspects, environmental aspects, marketing aspects, management aspects, economic and social aspects, human resource aspects, and legal aspects. From the non-financial aspect, it is stated that it is very feasible to run because it has met the assessment criteria for several non-financial aspect indicators. From a financial point of view, it is analyzed using the profit/loss (L/R) method at IDR 2,095,090,000, the benefit-cost ratio (B/C ratio) of 1.47, and the break-even point (BEP) at a BEP price of IDR 549,000,000. With a total of 8,280 units and a payback period (PP) of 1.2 years, the Vannamei shrimp farming business of the Mandiri Production Cooperative is declared very feasible to run.

Keywords: feasibility analysis, cultivation, non-financial aspects, financial aspects

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INTRODUCTION

Coastal and marine areas have an important role as a source of livelihood for the Indonesian population. These two regions are estimated to be the foundation for the development of the Indonesian nation in the future. This is because most of Indonesia's territory is a coastal and marine area that has a variety of resources and diverse environmental services. The contribution of aquaculture has continued to increase since 2010, with a growing contribution of 6.42 percent and an average contribution for five years of 62.35 percent. This shows that in the past five years and the next few years, aquaculture has considerable potential for Indonesian fishery production (Ministry of Marine Affairs and Fisheries, 2015; Pingky Dwi Septiana, 2020).

The development of the fishery and marine sectors is also part of the national development, which aims to ensure that every fishery and marine activity can be carried out

by the Indonesian people, both in production and processing as well as marketing activities. This is essentially an operational description of the long-term goals to be achieved to improve the welfare and standard of living of fishermen and fish farmers, one of which is through shrimp farming business activities in ponds (Womor et al., 2017) in Nainggolan (2020).

The Bengkalis Regency Government, Riau Province, encourages the community to run fishery cultivation businesses such as freshwater fish and vannamei shrimp. The Maritime Affairs and Fisheries Service (DKP) was asked to assist and facilitate the local community. Deputy Regent of Bengkalis, Bagus Santoso, said that the Fisheries Service must focus on empowering people who do business on the mainland. such as making fish ponds, vaname shrimp, and others. He also asked the Maritime Affairs and Fisheries Service to move quickly to discuss with the legislature the Bengkalis DPRD, so that in this year's revised budget there is already concrete data on how big the economic potential of the fish pond development.

Previously, the Maritime Affairs and Fisheries Service (DKP) of Riau Province held training to increase knowledge about pest control, fish diseases, and the environment for vaname shrimp cultivators in Bengkalis Regency, Riau, on Thursday (March 25). Riau DKP noted that Bengkalis have the potential for shrimp ponds; Vaname is around 1,300 hectares. However, only about 100 hectares have been used so far. Riau DKP Head Herman Mahmud, represented by the Head of the Aquaculture Service Office Odor Juliana, said this training activity aims to provide understanding and knowledge to practitioners and shrimp farmers in Bengkalis to apply environmentally healthy cultivation methods, healthy shrimp, healthy production, and healthy business.

Hundreds of pools this year were built in several villages in Bantan and Bengkalis Districts. Among them are Penebal Village and Temeran Village in Bengkalis District. Likewise in Bantan District, in Teluk Pambang Village and Kembung Baru Village. The potential for vaname shrimp cultivation in Bengkalis Regency, especially in Teluk Pambang Village, is quite large. Fertile soil, flowing water sources, and well-maintained nature can support all forms of fishing and livestock activities in the area. Coupled with its location close to the beach The shrimp culture system in Teluk Pambang Village, Bantan District, and Bengkalis Regency is an intensive, semi-intensive, and traditional shrimp farming system. Each of these techniques has different costs and production results. The more intensive a shrimp pond, the higher the cost and production yield. Vannamei shrimp production will be projected in the next five years using a linear or simple regression trend.

Every business needs to understand whether or not it is feasible to run. In this research, a "business feasibility study" is a method that consists of various aspects of assessment to determine whether a business to be run is feasible or not. As a result, it can also be described as a very capable and accurate forecasting tool for determining the possibilities that will occur and making immediate decisions based on the results obtained, namely accepting or rejecting the business.

A business feasibility study is an activity that studies in depth a business or business that will be run to determine whether or not the business is feasible or not. Studying in depth means examining the existing data and information seriously, then measuring, calculating, and analyzing the results of the research using certain methods. To obtain the best results from the research, research was conducted on a specific size of business (I, Made Adnyana, 2020).

Based on the background of the problems above and to learn more about the feasibility study of vaname shrimp (*Litopenaeus vannamei*) cultivation in Teluk Pambang Village. The purpose of this study was to determine and describe the feasibility of vannamei shrimp cultivation in Teluk Pambang Village, Bantan District, Bengkalis Regency. This research is

expected to contribute to the development of knowledge, especially the development of literature on financial management, especially for business feasibility.

METHOD

Data and Samples

The location of this research was Teluk Pambang Village, Bantan District, Bengkalis Regency. According to Sugiyono (2014: 41), the object of research is "a scientific goal to obtain data with specific goals and uses about something objective, valid, and realistic about something." In this study, the object of research was the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri in Teluk Pambang Village.

According to Sugiyono (2018: 80), a population is a generalized area consisting of objects or subjects that have certain qualities and characteristics determined by researchers to study and then draw conclusions. This study's population was vannamee shrimp farming in Teluk Pambang Village. The sample is part of the number and characteristics of the population (Sugiyono, 2018: 81). Sample measurement is a step to determine the size of the sample taken in conducting a study. The sample in this study was the vannamee shrimp farming business of the Cooperative Produksi Generasi Mandiri in Teluk Pambang Village. The data in the research is primary data which is obtained directly from research through interviews with parties who are considered competent in providing the information needed in research.

Data analysis

The data analysis method is a method used in processing data. The data analysis method used in this study is the descriptive method to explain the data that has been obtained during the research. Where the data obtained is in the form of sentences, words, and pictures that can provide information or explanations.

RESULTS AND DISCUSSION

Non-Financial aspects Results

A business or business feasibility study is important to be carried out by a producer to avoid losses and for business development and continuity. Aspects that need to be considered before starting a feasibility study in the non-financial aspect can be categorized as follows.

Technical Aspect

The technical aspect is an aspect related to the process of technically establishing a business and operating it after the business has been completed. This includes the business location, the production area, and the manufacturing process. Following are the results of the analysis of each technical aspect criterion in the vannamee shrimp farming business of the Cooperative Produksi Generasi Mandiri. The business location of the Cooperative Produksi Generasi Mandiri is located in Teluk Pambang Village, Bantan District, Bengkalis Regency. The availability of water as the main medium in vannamee shrimp farming is very important. Cooperative Produksi Generasi Mandirigets its water from a nearby river, which is not far from the pond's location. The quality of the water used is quite good. It has not been contaminated with factory or household chemicals because it is far from the city center. The business location of the Cooperative Produksi Generasi Mandiri is located in a village that already has paved road facilities in good condition. There are four-wheeled vehicle facilities

in the form of pickup cars to transport crops to market locations.

Cultivation technology is closely related to the cultivation system used. The cultivation system used by the Cooperative Produksi Generasi Mandiri is an intensive system cultivation uses a fairly high level of technology in this system. The cultivation system used by the Cooperative Produksi Generasi Mandiri is intensive. Where in this system shrimp cultivation uses a fairly high technology. The continued growth of shrimp is entirely dependent on artificial feed. and efforts to control water quality, especially waterwheels to maintain dissolved oxygen levels and management of very high organic matter content.

Environment Aspect

This aspect is closely related to the environment surrounding cultivation. In general, industrial business activities have negative effects and impacts on the surrounding environment because they produce the end product in the form of hazardous waste. This vannamei shrimp farming business only produces waste in the form of water that has been mixed with leftover feed and shrimp feces. However, this does not harm the surrounding community by monitoring the cultivation waste. The application of WWTP can degrade or resolve around 20–30% of aquaculture waste. The application of WWTP can be carried out by providing one plot of waste treatment reservoir for three vannamei shrimp cultivation plots. Reservoirs adapt to the characteristics of the land. Reservoir 40–50% of the pond area, namely 1: 1, where one reservoir is for one pond, or it can also be a ratio of 40% inlet reservoir, 30% pond, and 30% UPL. Cooperative Produksi Generasi Mandiri filters the cultivation waste in the disposal pond three times and settles it for 4-5 days, after which it is then flown into the river. The cooperative also maintains the mangrove ecosystem that already exists in locations around the ponds.

Marketing Aspect

The market aspect is used as an indicator of how big the opportunities and demands for the shrimp consumption market are now and in the future. To know market opportunities or demand, it is necessary to know the level of market demand in the past, present, and future. The market aspect is said to be feasible if it has a market opportunity where the demand is greater than the supply. Success in running a business requires a marketing strategy and a careful study of market aspects.

In the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri, the market aspects that will be studied include the demand for the vannamei shrimp market. Although the location of the Cooperative Produksi Generasi Mandiri is in Bungkalis Regency, marketing is carried out in the areas of Medan City, Batam, Lampung, and abroad. Based on an analysis of the market and marketing potential, the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri, which produces consumer shrimp products, namely vannamei shrimp, has good marketing potential.

Management Aspect

Cooperative Produksi Generasi Mandiri has formal management and organization. This business is in the form of a cooperative, with business management in the fields of administration, finance, supervision, and providing funds for a highly organized production process. Cooperative Produksi Generasi Mandiri is led at the highest level by its director, Mr. Muhammad Muzamil; the cooperative management section is led by Mr. Dedi Arianto; the finance section is led by Ms. Reni Safitri; the cultivation manager is led by Mr. Yanto;

and the marketing section is led by Mr. Muhammad Amri. Currently, the company has 12 employees, including 3 cultivation technicians and 9 pond employees.

Economic and Social Aspects

Cooperative Produksi Generasi Mandiri, the assessment is carried out based on the results of observations and interviews with business owners. The existence of the Cooperative Produksi Generasi Mandiri business does not have a negative impact on the economic and social conditions of the area around the business. The existence of this business has a positive impact on the entrepreneurs themselves, increasing their income and living standards while also creating job opportunities for the surrounding community. Employees for the Cooperative Produksi Generasi Mandiri are recruited at various levels, from elementary school to university. However, the Cooperative Produksi Generasi Mandiri prioritizes the willingness and ability of employees to work. This business also provides benefits to the community and the village where the Cooperative Produksi Generasi Mandiri contributes to community social activities.

Human Resources Aspect

A business will run well if it is managed with competent human resources. Superior human resources have a significant impact on business continuity, the Cooperative Produksi Generasi Mandiri has 12 permanent employees to manage shrimp ponds, with a wage and a 6% bonus per harvest cycle. The Cooperative Produksi Generasi Mandiri also includes employees in various cultivation training to provide insight to employees in the process of vannamei shrimp cultivation.

Legal Aspect

This legal aspect analyzes the type of legal entity that is run and the business license that the company obtains. This business is in the form of a cooperative with the Deed of Establishment No. 888/BH/KDK4.2/1.2/IV/2002, Amendment No. 888a/PAD/IV.9/DISKOP.UMKM/III/2016, and Notary Deed No. 24. No. 1408050020013, dated January 15, 2016. Permits and legality currently in effect are the Cooperative Identification Number (NIK) and the Good Fish Cultivation Practices Certificate.

Financial Aspect Analysis Results

A financial feasibility analysis was carried out to determine the feasibility of the vannamei shrimp farming business of the Mandiri Generation Production Cooperative and to provide information to the owner to further develop the existing business. Some things that must be considered in the financial aspect are the flow of income and expenses.

Investment Cost

Investment is a number of costs incurred once during the life of the project to obtain economic benefits until it can no longer provide benefits, and the amount of investment issued to vannamee shrimp pond farmers in various aquaculture systems in ponds can be seen in the following table.

Table 2
Investment Cost

No	Description	Cost
1	Land Reconstruction	IDR 2,025,000,000
2	HDPE plastic (ponds+Biosecurity)	IDR 1,093,500,000
4	Wheel 1 HP	IDR 400,000,000
5	Water Pumps in the Sea	IDR 300,000,000
6	Generator-set 100 KVA	IDR 300,000,000
7	Work equipment	IDR 31,500,000
8	Guard house	IDR 240,000,000
9	Feed Warehouse, Equipment, and Genset	IDR 180,000,000
10	Sea Water Installation	IDR 195,000,000
11	Electrical Installation in Ponds	IDR 750,000,000
	Total	IDR 5,515,000,000

Source: Processed Data (2022)

Production Cost

The production costs of the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri are the costs incurred during the implementation of the business. The production costs of the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri are divided into two categories: fixed costs and variable costs.

Fixed costs are costs incurred by business actors that are not affected by the size of the production of the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri. Variable costs are costs incurred by business actors that are affected by the size of the production amount. Following are the components of production costs incurred by vaname shrimp cultivators in the study area (see Tabele 3).

Based on table 3, it can be seen that the total costs incurred by vannamei shrimp farming business actors in 20 ponds for one production process for 4 months is IDR 4,504,910,000. These costs include fixed costs and variable costs. In the fixed cost component, costs incurred by business actors include Rp. 219,600,000 per harvest season with a time scale of 4 months. While the variable cost components incurred include IDR 4,285,310,000 per harvest season.

Income

The acceptance of the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri depends on the multiplication of the product obtained by the selling price. The size of the production and the price of the products also have a big impact on receipt. To further clarify, the revenue obtained from the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri can be seen in the table 4. It can be seen that the total income of farmers per season is IDR 6,600,000,000. The total production produced by vannamei shrimp farming business activities in 20 ponds is 100,000 kg per cycle. The average selling price of vannamei shrimp is IDR 66,000 per kilogram, with a

weight of 40 heads per kilogram.

Table 3
Production Cost
Fixed Cost

No	Description	Cost
1	Electricity	IDR 45,000,000
2	Employee salary	IDR 131,600,000
3	Consumption	IDR 43,500,000
	Total	IDR 219,600,000

No	Description	Cost
1	Benur	IDR 466,560,000
2	Feed	IDR 2,800,000,000
3	Drugs	IDR 1,000,000,000
4	Oil	IDR 18,750,000
	Total	IDR 4,285,310,000
	Sub Total	IDR 4,504,910,000

Source: Processed Data (2022)

Table 4
Income

No	Description	Amount
1	Revenue	100,000 Kg
2	Price	IDR 66,000
	Total	IDR 6,600,000,000

Source: Processed Data (2022)

The production of vaname shrimp culture can be harvested after the shrimp reach 4 months of age with an average weight per head of less than 40 heads per kilogram. From the results of the study, it was found that the total production of vannamei shrimp farming per pond ranged from 5,000–6,000 kg/pond. The results of the study show that the selling price for vannamei shrimp ranges from Rp. 66,000 kg per July 27, 2022. Farmers generally sell their produce to collectors.

Profit and loss

After knowing the amount of income and the total costs incurred, the amount of income earned by farmers is known. Income is calculated by subtracting the total revenue from the total costs incurred by the business; it is said to be profitable if the revenue exceeds the total costs, and it is said to be a loss if the total costs exceed the revenue. The amount of income from the vannamei shrimp farming business of the Cooperative Produksi Generasi

Mandiri can be seen in the table 5.

Table 5
Profit and loss

No	Description	Amount
1	Revenue	IDR 6,600,000,000
2	Total cost	IDR 4,504,910,000
	Income	IDR 2,095,090,000

Source: Processed Data (2022)

Based on Table 5, the revenue from the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri is IDR 6,600,000,000, and the total costs for farmers are IDR 4,504,910,000 per harvest cycle. Then the income of the vannamei shrimp farming business of the Mandiri Generation Production Cooperative is IDR 2,095,090,000 per harvest cycle.

Benefit Cost Ratio (B/C Ratio)

To find out whether the vanname shrimp farming business carried out by the Cooperative Produksi Generasi Mandiri is feasible or not, it can be analyzed using a benefit-cost ratio (B/C) analysis. Ratio) namely

$$\text{B/C Ratio} = \frac{\text{IDR 6,600,000,000}}{\text{IDR 4,504,910,000}} = 1.47$$

From the results of the calculation above, the B/C value is 1.47. Value = 1.47 > 1, so it can be concluded that the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri is feasible to run, meaning that if each cost sacrificed by farmers is IDR 1, farmers will get revenue of IDR = 1.47.

Break Even Point (BEP)

BEP is a calculation used to determine the position of a business in a state of no profit and no loss. By using primary data that has been processed, the BEP value of the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri is equal to

$$\text{BEP (price)} = \frac{\text{IDR 219,600,000}}{1 - (\text{Rp 39,480} : \text{Rp 66,000})} = \text{IDR 549,000,000}$$

or

$$\text{BEP (Units)} = \frac{\text{IDR 219,600,000}}{\text{IDR 66,000} - \text{IDR 39,480}} = 8,280 \text{ Kg}$$

From the results of the calculation of the BEP in the vanname shrimp farming business of the Cooperative Produksi Generasi Mandiri, the BEP price was IDR 549,000,000. It can be concluded that this business is profitable because it is smaller than the total sales of IDR 6,600,000,000. While for BEP units the results are 8,280 kg, it can be concluded that this

business is profitable because it is smaller than the total production of 100,000 kg.

Payback Period (PP)

This method is used to measure how fast an investment can return. In general, the business is feasible to run if the payback period (PP) is less than the maximum life of the project. The payback period (PP) analysis calculation is as follows.

$$PP = \frac{\text{IDR } 5,515,000,000}{\text{IDR } 4.190.180.000 + \text{IDR } 551,500,000} \times 1 \text{ year} = 1,2$$

From the calculation results, it is obtained that the PP (payback period) under normal conditions in the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri is 1.2 years.

Feasibility Study Analysis Of Non-Financial Aspects

Based on the analysis and feasibility categorization for technical aspects, in terms of technical aspects, the vannamei shrimp farming business is declared very feasible to run. Criteria for evaluating the technical aspects of vannamei shrimp farming include the Cooperative Produksi Generasi Mandiri, where the business location is near a river as a water source and the availability of water as the main medium in vannamei shrimp farming is very important. The quality of the water used is quite good. It has not been contaminated with factory or household chemicals because it is far from the city center. The business location of the Cooperative Produksi Generasi Mandiri is located in a village that already has paved road facilities in good condition. There are four-wheeled vehicle facilities in the form of pickup cars to transport crops to market locations. Cultivation technology is closely related to the cultivation system used. The cultivation system used by the Cooperative Produksi Generasi Mandiri is intensive. Where shrimp cultivation uses a fairly high level of technology in this system.

The vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri has been declared very viable to run based on an environmental analysis. This shows that vannamei shrimp farming does not have a negative impact on the environment. This vannamei shrimp farming business only produces waste in the form of water that has been mixed with leftover feed and shrimp droppings. However, this does not harm the surrounding community because the remaining aquaculture water is filtered in the disposal pond three times and then deposited for 4-5 days, after which it is then flown into the river. By carrying out an analysis of market aspects, information is obtained about market share and the right marketing mix strategy to be applied in running a business. Based on the market and marketing analysis, the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri is declared to be very feasible to run. The following is the result of an analysis of meeting the market aspect assessment criteria. In the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri, the market aspects that will be studied include the demand for the vannamei shrimp market. Although the location of the Cooperative Produksi Generasi Mandiri is in Bengkalis Regency, marketing is carried out in the areas of Medan City, Batam, Lampung, and abroad.

Based on management analysis, the Cooperative Produksi Generasi Mandiri vannamei shrimp farming business is declared to be very feasible to run. Cooperative

Produksi Generasi Mandiri has formal management and organization. This business is in the form of a cooperative, with business management in the fields of administration, finance, supervision, and providing funds for the highly organized production process.

In terms of economic and social aspects, what is seen is how much the business being carried out has a positive and negative impact on the entrepreneur himself and the community around the business location. Based on the analysis carried out from an economic and social perspective, the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri is declared very feasible to run. The existence of this business has a positive impact on the entrepreneurs themselves, increasing the income and living standards of families and opening job vacancies, which, of course, provide jobs for the surrounding residents. This business also provides benefits to the community and the village, where the Cooperative Produksi Generasi Mandiri contributes to community social activities.

Based on the analysis conducted from a legal perspective, the vannamei shrimp farming business of Cooperative Produksi Generasi Mandiri is declared very feasible to run. This vannamei shrimp farming business is in the form of a cooperative with the Establishment Deed No. 888/BH/KDK4.2/1.2/IV/2002, Amendment No. 888a/PAD/IV.9/DISKOP.UMKM/III/2016, and Notary Deed No. 24. Dated January 15, 2016, No. Cooperative Parent: 1408050020013. The current licenses and legalities are the Cooperative Registration Number and the Certificate of Good Fish Farming Practices.

This is in line with Abdul Rosyid's research with the title "An overview of the non-financial feasibility aspects of agribusiness vannamei shrimp farming (*Litopenaeus vanamei*) at the Aquaculture Production Business Service Center (BLUPPB) Karawang, West Java." The ponds used are 8 ponds of 4,500 M² with a soil base covered with mulch plastic. The stocking density is 100 individuals/m², and the rearing period is 100–110 days. The activities yielded an SR of 89.60-97.94% and an FCR of 1.17-1.34, with a harvest size of 51.0-62.0 heads/kg. Pond productivity with semi-intensive technology ranges from 10,956 to 15,464 kg/hectare. In terms of non-financial aspects, which include market aspects, technical aspects, aspects of production facilities, management aspects, legal aspects, socio-economic aspects, and environmental aspects, vannamei shrimp farming is worthy of being developed as an agribusiness in the field of aquaculture because the benefits obtained increase farmers' income and increase foreign exchange.

In both studies, in the non-financial aspect, vannamei shrimp farming is determined by technical aspects, environmental aspects, marketing aspects, management aspects, economic and social aspects, human resource aspects, and legal aspects. One of them is proven by the location where the business can determine the feasibility of the vannamei shrimp farming business. The potential for vaname shrimp cultivation in Bengkalis Regency, especially in Teluk Pambang Village, is quite large. Fertile soil, flowing water sources, and well-maintained nature can support all forms of fishing and livestock activities in the area. Coupled with its location close to the river.

Feasibility Study Analysis Of Financial Aspects

The analysis of the financial aspects of vannamei shrimp farming in this study obtained sufficient results to be able to conclude whether the business activities carried out on vannamei shrimp farming in the Cooperative Produksi Generasi Mandiri are feasible to run or not.

Table 5
Feasibility Study Analysis Of Financial Aspects

No	Information	Results
1	Investment Cost	IDR 5,515,000,000
2	Production cost	IDR 4,504,910,000
3	Income	IDR 6,600,000,000
4	Profit and loss	IDR 2,095,090,000
5	Benefit Cost Ratio (B/C Ratio)	1.47
6	BEP Prices	IDR 549,000,000
7	BEP Units	8,280
8	Payback Period (PP)	1.2

Source: Processed Data (2022)

Based on Table 5, the revenue from the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri is IDR 6,600,000,000, and the total costs for farmers are IDR 4,494,810,000 per harvest cycle. Then the income from vannamei shrimp farming for the Cooperative Produksi Generasi Mandiri is IDR 2,095,090,000 per harvest cycle.

The results showed that the value of the B/C ratio of vannamei shrimp farming at the Cooperative Produksi Generasi Mandiri was 1.47. where the value of the B/C ratio of cultivation is greater than 0, so that it can be concluded that the business is feasible to run, and the calculation of the value of the B/C ratio. Then it can also be seen that the cultivation system used in the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri is experiencing profits, which are obtained based on an analysis of the income of each farmer in one period divided by the total costs incurred to obtain the value of the B/C ratio.

The volume BEP value is obtained by dividing the total cost by the average selling price. Thus, the results of the Volume BEP study show that the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri will experience a return on the principal in one period. The BEP value is known based on Table 6, which is obtained by dividing the total cost by the amount of shrimp production or harvest. Thus, the results of the Price BEP study show that the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri will experience a return on principal when the selling price of the shrimp is From the results of the study, the volume BEP value and the price BEP value obtained are the breakeven points for the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri. In the acceptance results, it was found that the amount of production and the selling price of vanname shrimp was greater than the volume BEP and price BEP. So, it can be concluded that the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri is experiencing profits.

The amount of investment costs can be compared with the net benefits obtained each year during this payback period. From the calculation results, it is obtained that the PP (payback period) under normal conditions in the vannamei shrimp farming business of the Cooperative Produksi Generasi Mandiri is 1.2 years. In these results, it can be seen that the time for the return on invested capital is 1 year and 2 months.

This is in line with the research of Abdul Muq̄sith, Heri Ariadi, et al. (2021), "Analysis of financial feasibility and level of business sensitivity in intensive cultivation of white vannamei shrimp (*Litopenaeus vannamei*).". The results showed that the shrimp culture

business was categorized as feasible and profitable with an NPV value of IDR 63,417,262,006, Net B/C 29,11, R/C 2,14, IRR 42.46%, and PP 1.4 years. Sensitivity analysis shows that the business is not so sensitive to the increase in feed prices and decreased revenue, but is very sensitive if both conditions change simultaneously, but is still in the financially feasible category. So, it can be concluded based on NPV, Net B/C, R/C, IRR, and payback period indicator analysis that intensive white shrimp farming is very feasible and profitable to use with a low level of business sensitivity due to feed price fluctuations and uncertain operational business revenues.

In both studies, in the financial aspect, intensive vannamei shrimp farming is very feasible and profitable to use with a low level of business sensitivity due to fluctuations in feed prices. and uncertain operating income. The results of this study are proven from the feasibility categorization of the financial aspect where from a financial perspective it is analyzed using the profit/loss (L/R) method of IDR 2,095,090,000, the benefit-cost ratio (B/C ratio) of 1.47, and the breakeven point (BEP) at BEP the price is IDR 549,000,000. With a total of 8,280 units and a payback period (PP) of 1.2 years, the vannamei shrimp farming business of the Mandiri Production Cooperative is declared very feasible to run.

CONCLUSION

According to research results and conclusions, non-financial aspects have several indicators, namely: technical aspects, environmental aspects, marketing aspects, management aspects, economic and social aspects, human resource aspects, and legal aspects. From the non-financial aspect, it is stated that it is very feasible to run because it has met the assessment criteria for several non-financial aspect indicators. From a financial point of view, it is analyzed using the profit/loss (L/R) method at IDR 2,095,090,000, the benefit-cost ratio (B/C ratio) of 1.47, and the break-even point (BEP) at a BEP price of IDR 549,000,000. With a total of 8,280 units and a payback period (PP) of 1.2 years, the Vannamei shrimp farming business of the Mandiri Production Cooperative is declared very feasible to run. Pond farmers are expected to make innovations from shrimp harvests that are not included in the sales category to be processed into food preparations so that they have a selling price. For further research, it is better to examine the feasibility and development of vannamei shrimp farming and post-harvest technology to increase the selling value of vannamei shrimp.

REFERENCES

- Abdul, H. A. (2021). Financial Feasibility Analysis And Business Sensitivity Level On Intensive Aquaculture Of Vaname Shrimp (*Litopenaeus vannamei*). *Journal of Economic and Social of Fisheries and Marine*.
- Adnyana Made, (2020). Studi Kelayakan Bisnis. Jakarta Selatan: Lembaga Penerbitan Universitas Nasional.
- Aldy, R. (2017) Studi Kelayakan Bisnis, Unmuh Ponorogo Press, Ponogoro.
- Aulia Deni, S (2018). Budidaya Udang Vaname. Jakarta.
- Dadang Husen Sobana, M. (2018). Studi Kelayakan Bisnis. Bandung: Cv Pustaka Setia.
- Harahap Sunarji, M. (2018). Studi Kelayakan Bisnis. Medan: FEBI UIN-SU Press.

-
- Husada, R. H. (2021). Business analysis of vaname shrimp (*Litopenaeus*) culture in traditional ponds with monoculture system in Sedati, Sidoarjo. *Earth and Environmental Science*.
- K, A. A. (2021). Feasibility study and seasonal variations in physicochemical parameters of water and soil quality analysis and management of the Vannamei shrimp farms in Kerala, India. *International Journal of Fisheries and Aquatic Studies*.
- Nainggolan, D. P. (2020). Analisis Kelayakan Usaha Budidaya Udang Vannamei (*Litopenaeus vannamei*) Di Desa Tanjung Ibus. *SKRIPSI*, 2.
- Muri Yusuf, (2014). *Metode Penelitian: Kuantitatif, Kualitatif, Dan Penelitian Gabungan*. Jakarta: Kencana.
- Rahmawati, Absirin, Hidayatullah, Saputra, Pratama, Dwiarto, Syarif, Junaed, Cahyadi, Saputra, Prabowo, Kartamiharja, Noviyanto and Rochman (2020). Economic feasibility study of *Litopenaeus vannamei* shrimp farming. *Jurnal Akuakultur Indonesia*.
- Septiana P. D, (2020). Analisis Kelayakan Finansial Dan Sensistivitas Usaha Tambak Udang Vaname Di Kecamatan Ketapang Kabupaten Lampung Selatan. *Jiia*, Volume 8 No. 1, Februari 2020.
- Sugiyono. (2018). penelitian deskriptif. Retrieved June 20, 2022, from serupa.id: <https://serupa.id/metode-penelitian-deskriptif/>.
- Sugiyono (2018). Definisi Populasi. Retrieved June 20, 2022, from unpas.ac.id: <http://repository.unpas.ac.id/43550/5/8.%20BAB%20III.pdf>.
- Sugiyono (2016). Definisi operasional variabel. Retrieved June 20, 2022, from deepublish: <https://penerbitdeepublish.com/definisi-operasional/>.
- Sugiyono (2013). *Metode Penelitian Kuantitatif*,. Bandung: Alfabeta, Cv.
- Rosyid Abdul (2015). Tinjauan Aspek Non-Finansial Kelayakan Agribisnis Usaha Budidaya Udang Vaname (*Litopenaeus Vanamei*) Di Balai Layanan Usaha Produksi Perikanan Budidaya (Bluppb) Karawang Jawa Barat. Retrieved September 20, 2022, from Onesearch.id: http://repository.ut.ac.id/1617/1/fmipa2015_20.pdf.