JURNAL PERIKANAN DAN KELAUTAN
Volume 30 No. 2 June 2025: 162-167

e-issn : 2721-8902
p-issn : 0853-7607

Business Analysis of KJA Hoven's Carp (*Leptobarbus hoevenii*) Managed by Bumdes Purnama Kampar, North Kampar Sub District, Riau

Analisis Usaha KJA Ikan Jelawat (Leptobarbus hoevenii) Dikelola Bumdes Purnama Kampar, Kecamatan Kampar Utara, Riau

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Received
15 March 2025

Accepted
15 May 2025

Abstract

The success of Hoven's carp (*Leptobarbus hoevenii*) production inputs determines fish farming. One of these production inputs is the availability of seeds for floating net cage cultivation. Hoven's carp are maintained in this KJA, and they are fed twice a day to produce large and healthy Hoven's carp. Hoven's carp fish harvest is directly sold to tauke or collectors. This study analyzes the investment, business feasibility, and business constraints of KJA Hoven's carp fish in BUMDes Purnama Kampar. The survey method used 15 respondents using a purposive sampling technique consisting of 1 Director, 1 Secretary, 1 Treasurer, 1 Head of Unit, and 11 Members of BUMDes Purnama Kampar. The types of data collected are primary data and secondary data. Data obtained from interviews, questionnaires, and literature. From the results of research with KJA size 11×4×3.4 (149.6 m^3), a total investment of KJA fish business of IDR 718,135,000 was obtained, business revenue of IDR 888,740,000/year, and net profit of IDR 437,971,000 / year. This business is only conducted once a harvest/year. The profit is divided into 50% for BUMDes members and 50% for BUMDes as the business manager. The RCR value of 1.9, FRR of 23.14%, and PPC of 4.3 years indicate that the business is feasible and the capital returns in 4.3 years. The primary constraints are disease attacks, low fish selling prices, and oversupply.

Keywords: Investment, Business feasibility, Profit sharing system

Abstrak

Keberhasilan usaha budidaya ikan jelawat (*Leptobarbus hoevenii*) ditentukan oleh input produksi. Salah satu input produksi tersebut adalah tersedianya benih untuk usaha budidaya keramba jaring apung. Pemeliharaan ikan jelawat di KJA ini diberikan pakan sebanyak dua kali dalam sehari sehingga menghasilkan ikan jelawat yang besar dan sehat. Hasil panen ikan Hoven's carp langsung dijual ke tauke atau pengepul. Penelitian ini bertujuan untuk menganalisis investasi, kelayakan usaha dan kendala usaha KJA ikan jelawat di BUMDes Purnama Kampar. Metode yang digunakan adalah metode survei dengan jumlah responden sebanyak 15 orang menggunakan teknik *Purposive sampling* terdiri dari 1 Direktur, 1 Sekretaris, 1 Bendahara, 1 Kepala Unit dan 11 Anggota BUMDes Purnama Kampar. Jenis data yang dikumpulkan data primer dan data sekunder. Data diperoleh dari wawancara, kuisoner, dan literatur. Dari hasil penelitian dengan ukuran KJA 11×4×3,4 (149,6 m^3) diperoleh total investasi usaha KJA ikan Hoven's carp Rp.718.135.000, penerimaan usaha sebesar Rp.888.740.000/tahun, dan keuntungan bersih sebesar Rp.437.971.000/tahun.

Usaha ini hanya dilakukan sekali panen/tahun. Keuntungan ini dibagi dua, yaitu 50% untuk anggota BUMDes dan 50% untuk BUMDes sebagai pengelola usaha. Nilai RCR sebesar 1,9, FRR 23,14%, dan PPC selama 4,3 tahun menunjukkan usaha layak dan modal kembali dalam 4,3 tahun. Kendala utama adalah serangan penyakit, harga jual ikan rendah, dan kelebihan pasokan.

Kata kunci: Investasi, Kelayakan usaha, Sistem bagi hasil

1. Introduction

Kampar Regency has a potential land area for aquaculture, especially freshwater fisheries of ± 6,521.30 Ha, which consists of 6,111.30 Ha of pond cultivation, 275 Ha of lake/reservoir (using floating net cages/KJA), and 135 Ha of river cultivation (using cages). Of the total available land potential, approximately 700.03 Ha, or 11.46%, is utilized for pond culture, and approximately 35.75 Ha, or 8.72%, is developed in the form of KJA and cages. Kampar Regency is among the regencies and cities in Riau Province that have 2,112 ha of fish ponds and 410 river and reservoir enclosures (Sastra et al., 2019).

Hoven's carp are reared by BUMDes Purnama Kampar and use floating net cages. They must be fed twice daily to produce large, healthy Hoven's carp fish. Every harvest of Hoven's carp is usually sold to tauke or collectors. Hoven's carp is a locally specific fish with a relatively high selling value compared to other introduced consumption fish. Hoven's carp has a high economic value, increasing the income of the Village-Owned Enterprises (BUMDes) and the community of Kampung Panjang Village (Ismi et al., 2022).

To develop a fish farming business in floating net cages, it is necessary to know the level of business feasibility. According to Hesti (2016), Business feasibility is a study that can determine whether a business production is profitable and feasible to develop. This study is one of the references to find out how the feasibility level of the floating net cage system cultivation business is by analysing how many aspects in the preparation of this study, namely the total investment cost, revenue, income, profit, calculating the Revenue Cost of Ratio (RCR), Financial Rate of Retrun (FRR) and Payback Period of Capital (Warningsih et al., 2023). This study analyzes the investment, business feasibility, and business constraints of KJA Hoven's carp in BUMDes Purnama Kampar.

This study analyzes the investment, production costs, revenue, profit, business feasibility, and constraints of KJA Hoven's carp in BUMDes Purnama Kampar.

2. Materials and Methods

2.1. Time and Place

This research was implemented from 26 August to 01 September 2024 in Kampung Panjang Village, North Kampar District, Kampar Regency. The selection of the research location was carried out purposively with the consideration that Kampar District is one of the sub-districts in Kampar Regency, which has a Village-Owned Enterprise (BUMDes), Purnama Kampar, which manages the business unit of Hoven's carp farming in floating net cages (KJA)

2.2. Methods

This research uses the survey method in the case of the KJA fish business managed by BUMDes Purnama, namely by making observations and collecting data directly regarding the analysis of the KJA fish business managed by BUMDes Purnama. In the case of Hoven's carp, KJA business managed by BUMDes Purnama, the survey method takes samples from a population and uses a questionnaire as the primary data collection tool.

2.3. Data Analysis

Financial analyses were carried out to determine the results of business feasibility, such as total investment, operating costs, net income, BCR, FRR, and PPC According to Hendrik (2013), investment is an investment in a business. Investment consists of fixed capital and working capital. The formula is used to calculate the total investment:

$$TI = MT + MK$$

Description:

TI = Total Investment
MT = Fixed Capital
MK = Working Capital

Operational Costs Total production costs (Total Cost) are the sum of fixed costs (Variable Cost) and non-fixed costs. The formula can calculate the total cost of Hoven's carp fish farming using floating net cages (KJA) (Syah et al., 2016).

$$TC = TVC + TFC$$

Description:
TC : Total Cost
TVC : Total Variable Cost
TFC : Total Fixed Cost

Cost of Revenue (Gross Income) is the total production of fish farming multiplied by the selling price of catfish (Arisa et al., 2024). The formula used is as follows:

$$GI = Y \times Py$$

Description:
GI : Gross income
Y : Fish production
Py : Selling price of fish (IDR/Kg)

Net profit or income is the difference between revenue and total production costs incurred (Syah et al. 2016), which can be written with the formula:

$$\pi = TR - TC$$

Description:
π (revenue) : Profits from the fish farming business (IDR)
TR (total revenue) : Total revenue of the fish farming business (IDR)
TC (Total cost) : Total cost of fish farming business (IDR)

With the following business criteria: If TR> TC, the business is said to be profitable; if TR < TC, then the business is said to be a loss; and if TR = TC, then the business is said to be neither profitable nor a loss.

Return Cost of Ratio (RCR) is a comparison between gross income (GI) and total costs (TC) incurred. RCR and BCR calculations are the same, but the names are different. This analysis is used to see the feasibility of the business (Mayasari et al., 2017).

$$RCR = TR/TC$$

Description
RCR : Revenue Cost Ratio
TR : Revenue (IDR)
TC : Total Cost (IDR)

With the following business criteria: If RCR> 1, then the KJA fish farming business is said to be profitable and feasible to continue; RCR < 1, then the KJA fish farming business is said to be unprofitable and not feasible to continue; RCR = 1, then the KJA fish farming business breaks even (Balance). Financial Rate of Return (FRR) is a comparison between net income and investment multiplied by 100% (Zurmansyah & Hidayat, 2023), with the formula:

$$FRR = NI/TI \times 100\%$$

Description:
FRR : Financial Rate of Return
NI : Net income
TI : Total investment

Payback period of capital (PPC) is the length of time required for the invested capital (investment) to be recovered within a certain period (Harefa et al., 2021). with the formula: PPC = TI/ NI x Periode

Business Constraints: To answer the third objective, identify the constraints and challenges of KJA Hoven's carp fish in Kampung Panjang Village with descriptive analysis. Descriptive analysis systematically and accurately describes the facts and characteristics of the population or activities carried out in a particular field, which makes the research subject based on data from variables obtained from the group of subjects studied and facts that occur in the field.

3. Result and Discussion

Kampung Panjang Village is dominated by the Malay tribe, also known as orang ocu, and the religion adopted by the residents of Kampung Panjang Village is 100% Muslim. The livelihoods of Kampung Panjang Village people are dominated by floating net cage (KJA) farmers, oil palm and rubber plantation farmers, and breeders. Financial analysis of KJA's business aims to determine its feasibility in terms of fixed capital, working capital, investment, fixed costs, total cost of income, and profit.

The capital required to make Hoven's carp fish cages 11 m x 4 x 3.4 m and ship-shaped amounts to IDR 29,635,000. Suppose the fixed capital invested by BUMDes Purnama Kampar in making cages is IDR 29,635,000 per cage. In that case, the total fixed capital spent by BUMDes Purnama Kampar is IDR 325,985,000, as shown in Table 1.

Table 1. Fixed capital of KJA cultivation business for 1 unit of cage in BUMDes Purnama Kampar in 2023

No	Description	Total	Unit Price (IDR)	Total (IDR/ Harvest)
1.	KJA framework	1 unit	3.000.000	18.200.000
2.	Tin roof	24 lbr	65.000	1.560.000
3.	Nails	10 kg	15.000	150.000
4.	PE rope	1 kg	750.000	750.000
5.	Plastic drum	16 pieces	300.000	4.800.000
6.	Roof joiner	8 mL	20.000	160.000
7.	Waring	1 roll	100.000	100.000
8.	Net	5 kg	3000	15.000
9.	scales	2 unit	150.000	300.000
10.	Wages for cage construction	3 People	1.200.000	3.600.000
Total		29.635.000		

Total investment is the sum of all capital invested by BUMDes Purnama Kampar, which is the sum of fixed and working capital. Fixed capital IDR 325,985,000 + Working Capital IDR 392,150,000, then the total investment invested by BUMDes Purnama Kampar is IDR 718,135,000 in Table 2.

Table 2. Total Investment in KJA Cultivation Business at BUMDes Purnama Kampar in 2023

No	Description	Total (IDR/Harvest)
1	Total Working Capital	392.150.000
2	Fixed Cost	325.985.000
3	Total Investment	718.135.000

Table 2 shows that KJA's total investment in BUMDes Purnama Kampar is IDR 718,135,000. The most significant expenditure is in working capital. Production costs are the most critical component because they affect determining the cost of goods and overall costs, where there are elements of direct labour and maintenance costs. Production costs are fixed and non-fixed. Fixed costs are the total costs that BUMDes Purnama must incur in purchasing goods needed during the production of Hoven's carp fish farming. The total depreciation costs for 11 cage units are IDR 38,819,000, the cost of cage maintenance for 11 cage units is IDR 13,200,000, and the total electricity costs are IDR 6,600,000. The total amount of all fixed cost components is IDR 58,619,000. Non-fixed costs are variable costs that change in parallel with the production volume. Components of non-fixed costs of KJA cultivation businesses managed by BUMDes Purnama per harvest include the purchase of seeds amounting to IDR 2,500,000, feed/pellets amounting to IDR 21,900,000, natural feeding amounting to IDR 10,950,000, and vitamins and medicines amounting to IDR 300,000. Total operating costs are the sum of fixed costs and variable costs. The total fixed costs are IDR 58,619,000, and the non-fixed costs are IDR 392,150,000. Table 3 shows the total operating costs.

Table 3. Total operational costs of KJA cultivation business in BUMDes Purnama Kampar in 2023

No	Total Cost Component	Average fixed costs (IDR/Harvest)
1.	Total Fixed Costs	58.619.000
2.	Total Non-Fixed Costs	392.150.000
	Total	450.769.000

Based on Table 3, the total cost incurred by BUMDes Purnama for 11 cage units is IDR 450,769,000. The profit-sharing system in the Hoven's carp floating net cage (KJA) cultivation business managed by BUMDes has a total revenue of IDR 888,740,000, with total operational costs reaching IDR 450,769,000. Thus, the net profit from this business was IDR 437,971,000. The profit is then divided in half, 50% for the BUMDes and 50% for the BUMDes members. However, from the share received by the BUMDes, the BUMDes subdivided the proceeds by IDR 52,800,000 to pay the salaries of the four administrators responsible for managing the BUMDes. After deducting the administrators' salaries, the total profit received by the BUMDes was IDR 166,185,500, which can be seen in Table 4.

Table 4. Description of the profit-sharing system of KJA Hoven's carp fish cultivation business managed by BUMDes Purnama Kampar

No	Description	Total (IDR)
1.	Revenue	888.740.000
2.	Total Cost	450.769.000
3.	Business Profit	437.971.000
4.	Total Net Income of BUMDes	166.185.500
5.	Total Member Income	218.985.500

His profit-sharing system is implemented to ensure that the business can run well, provide economic benefits to members, and support the sustainability of BUMDes's business management. In contrast to research that has been conducted by Hendrik (2013) in his study applying a profit-sharing system of 70% for capital owners and 30% for cultivators, this study uses a balanced profit-sharing system, namely 50%: 50% between BUMDes and BUMDes members. In the study, the net income received by the owner of the capital for scale I businesses was

IDR 51,594,200 per harvest, while for scale II cultivation businesses, the net income received by the owner of the capital was IDR 107,589,300 per harvest. The income received by scale I cultivators is IDR 22,111,800 per harvest, and scale II is IDR 46,109,700 per harvest.

Meanwhile, in this study, the total net income received by BUMDes from 11 cages was IDR 166,185,500 per harvest. The net income BUMDes members receive is 218,985,500 per harvest, shared by 11 BUMDes members. This shows that each application of the profit-sharing system is carried out by agreement that has been made between the owner of the capital and the cultivator. For the KJA fish farming business, profit is the target to be achieved by BUMDes Purnama Kampar. The feasibility analysis of cultivating catfish using the KJA system in Kampung Panjang Village is seen by calculating the business's RCR, FRR, and PPC, including the revenue cost ratio (RCR). The purpose of finding the RCR value is to indicate how much of the business feasibility value is obtained. The results of the RCR value can be used as a criterion for business feasibility (Achyar et al., 2020), as seen in Table 5.

Table 5. Feasibility of Hoven's carp Fish KJA Cultivation Business managed by BUMDes Purnama Kampar

Description	Total (IDR)
RCR	1,9
FRR (%)	23,14
PPC	4,3 (4 years 3 months)

The RCR value in the KJA fish cultivation business managed by BUMDes Purnama Kampar is 1.9, which means that the RCR value is> 1, and this business is profitable and feasible to continue. If the FRR has a value of 23.14%, then it is better to invest in the business because it is more profitable than being deposited in the bank. PPC with a value of 4.3 means it takes 4.3 years to return the investment or capital invested by BUMDes Purnama Kampar.

The results of this study indicate that the RCR value of the Hoven's carp fish KJA business managed by BUMDes is 1.9. At the same time, research conducted by Srimaryani et al. (2022) shows a higher RCR value of 3.3 small strata, 3.2 medium strata, and 3.2 large strata. This difference indicates that the profit level in this study is lower than that of the previous research. This difference is due to several factors, namely differences in business income, such as the selling price of crops, and higher production costs, such as increasing feed prices.

The FRR value is 23.14%, which is lower than the research conducted by Alwi (2021), which obtained an FRR value of 39.14% for small-scale, 40.93% for medium-scale, and 50.68% for large-scale. Differences in the scale of the business under study cause this difference. Previous research discussed three business scales, while this research only focuses on businesses managed by BUMDes with only one size scale. The financial rate of return determines whether capital should be invested in the business or kept in the bank. If the FRR value is smaller than the bank interest rate, the capital should be kept in the bank, and vice versa (Hendrik, 2022). In line with research conducted by Alwi (2021), the results of calculating the FRR value of each scale are small scale 39.14%, medium scale 40.93%, and large scale 50.68%.

The PPC value is 4.3, which means 4.3 years. This value is higher than the research conducted by Ramadhani et al. (2021), which obtained a PPC value of 1.6, so the investment can return in a shorter time. This difference is due to several factors, namely the difference in initial investment costs in this study, which is greater than in previous studies. This is due to increased raw materials, additional operational costs, and differences in business scale.

Constraints. Although Hoven's carp fish farming business, managed by BUMDes, has excellent potential to improve the village economy, it is not free from various constraints and challenges that can affect its success. These constraints arise from technical and non-technical factors requiring serious attention so that the aquaculture business can run optimally and sustainably. Internal constraints include water quality, disease and pest attacks, and natural disasters (floods and droughts). Internal constraints include fish selling price, oversupply, low demand, and decline in fish quality due to delayed harvest.

4. Conclusions

The total investment made by BUMDes Purnama is IDR 718,135,000. The revenue obtained by BUMDes Purnama in one year in 11 cages with a size of 11×4×3.4 m is IDR 888,740,000. The total profit earned by BUMDes Purnama in one year is IDR 166,185,500. The RCR value in the KJA fish cultivation business managed by BUMDes Purnama Kampar is 1.9, which means the RCR value is> 1, and this business is profitable and feasible to continue. FRR with a value of 23.14% is better to invest in business because it is more profitable than being deposited in the Bank. PPC with a value of 4.3 means it takes 4.3 years to return the investment or capital invested by BUMDes Purnama Kampar.

Constraints in the KJA fish business that can affect production's success consist of internal and external aspects. Internal aspects include water quality, disease and pest attacks, and natural disasters. External aspects include fish selling price, oversupply, low demand, and decreased fish quality due to delayed harvest.

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