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Financial Analysis and Business Development Strategy for Carp (*Cyprinus carpio* L) Floating Net at Pulau Harapan Village, Muara Muntai District

Analisis Kelayakan Finansial dan Strategi Pengembangan Usaha Keramba Jaring Apung Ikan Mas (Cyprinus carpio L) di Desa Pulau Harapan Kecamatan Muara Muntai

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Abstract

The purpose of this study was to analyze the feasibility of the business, and business sensitivity, and develop strategies for the development of a floating net cage business in Pulau Harapan Village, Muara Muntai District. Data collection was carried out in April - August 2021, with a purposive sampling method with a total sample of 34 respondents consisting of 30 respondents of carp floating net cage business farmers and 4 stakeholder respondents. Data were analyzed using financial analysis with discounted investment criteria NPV, IRR, Net B/C R, and undiscounted investment criteria Payback Period, for sensitivity analysis and determining policy strategies using SWOT analysis. The results showed that the calculation of the score value was in quadrant 1 where the floating net cage (KJA) business in Pulau Harapan Village, Muara Muntai District was financially feasible (profitable) so that it could be continued (Go Project) and the results of the sensitivity analysis of the business were still in the profitable category and feasible to continue and the strategy used for the development of the floating net cage business was an Aggressive strategy.

Keywords: Financial, SWOT, Pulau Harapan Village, Floating Net Cage

Abstrak

Tujuan Penelitian ini adalah untuk menganalisis kelayakan usaha, sensitivitas usaha, serta menyusun strategi pengembangan usaha keramba jaring apung (KJA) di Desa Pulau Harapan Kecamatan Muara Muntai. Pengambilan data dilakukan pada bulan April - Agustus 2021, dengan metode *purposive sampling* dengan jumlah sampel sebanyak 34 responden terdiri dari 30 responden pembudidaya usaha keramba jaring apung (KJA) ikan mas dan 4 responden pemangku kepentingan. Data dianalisis menggunakan analisis finansial dengan kriteria investasi terdiskonto NPV, IRR, Net B/C R dan kriteria investasi tidak terdiskonto Payback Periode, untuk analisis sensitivitas serta menentukan strategi kebijakan dengan menggunakan analisis SWOT. Hasil penelitian menunjukkan bahwa perhitungan nilai skor berada pada kuadran 1 dimana usaha keramba jaring apung (KJA) di Desa Pulau Harapan Kecamatan Muara Muntai layak (menguntungkan) secara finansial sehingga dapat dilanjutkan (*Go Project*) dan hasil analisis sensitivitas usaha masih tetap masuk pada kategori menguntungkan dan layak untuk di lanjutkan serta strategi yang digunakan untuk pengembangan usaha keramba jaring apung (KJA) adalah strategi agresif.

Kata kunci : Finansial, SWOT, Pulau Harapan, Keramba Jaring Apung (KJA)

1. Introduction

Fish farming businesses are generally located in rivers, reservoirs and lakes, brackish waters, namely ponds and mangrove forests, and marine waters. Fish farming in public waters has good prospects for business development. Fisheries business in public waters can develop intensively because these waters can be used as enlargement ponds for various types of freshwater fish (Effendi, 2004). Public waters are an alternative resource used to optimize fisheries production so that it will indirectly increase the income of farmers and fishermen. Optimization of fish production carried out in public waters also has an indirect positive impact, namely protecting the preservation of natural resources waters, increasing employment opportunities in various sectors such as the people's hatchery business, namely the feed industry, nets, fish processing industry, and others, and improving community nutrition (Cahyono, 2001).

The public water fisheries sector in East Kalimantan Province is almost mostly located in river waters; one of the rivers that are the center of public water fisheries production is the Mahakam River which is also the longest river on the island of Kalimantan. BPS (2020) states that the Mahakam River, which is located along 920 km, is widely used by people along the riverbanks for containers or media for raising fish, one of the potential sub-districts for raising fish in cages is Muara Muntai District. Muara Muntai Sub-district is a sub-district whose area is partly on the banks of the Mahakam River so some of its people earn a living as fishermen or cage fish farmers.

One of the villages in Muara Muntai Sub-district that makes floating net cage (KJA) cultivation as a superior commodity is Pulau Harapan Village. Pulau Harapan Village is located on the banks of the Mahakam River so many floating net cage (KJA) business activities are found in this village. Fishery households (RTP) of cage farming in Pulau Harapan Village have decreased. In 2016 and 2017, the number of cage farming households (RTP) was 265. Then, cage farming households decreased in 2018, 2019, and 2020 to 218. Generally, RTPs use carp for cultivation (BPS, 2020; 2021).

Demand for carp tends to remain constant or even increase every year. Carp are popular because they have a savory taste, and the cultivation is quite easy. Carp are also economically valuable, based on a pre-survey conducted in August 2020 in Pulau Harapan Village, the price of carp ranges from IDR. 25,000 to IDR 32,000/kg. Carp farmers in Pulau Harapan Village use floating net cages (KJA) because the Pulau Harapan Village area is surrounded by tributaries of the Mahakam River. Therefore, carp farming is prospective to be developed in Pulau Harapan Village, Muara Muntai Sub-district.

The favorable physical environment to support carp farming is not directly proportional to the availability of production factors and technology (Nitisemito, 1997; Assauri, 1999). Cultivators experience several obstacles that hinder the business, including the increasing price of feed, the increasing price of seeds, and the limited source of seeds due to the risk of death in hatching so farmers in Pulau Harapan Village have to buy seeds from outside the area. This is a problem that can be discussed and researched so it is necessary to find a carp farming business development strategy that can explain the phenomena that occur in the carp floating net cage (KJA) business in Pulau Harapan Village, Muara Muntai District.

2. Material and Method

2.1. Time and Place of Research

This research was conducted in Muara Muntai District in April - August 2021.

2.2. Methods

The method used is a survey method where researchers collect qualitative data. Sampling using purposive sampling method so that the number of samples obtained was 30 people with the criteria of active floating net cage (KJA) cultivators and carp commodity cultivation. Other stakeholder respondents consisted of 4 people, namely the village head, village secretary, group leader, and collector (Gray et al., 2002; Rangkuti, 2006)).

2.3. Data Analysis

The data obtained were then analyzed using 6 (six) types of analysis, namely analysis with discounted (NPV, IRR, and NBCR) and undiscounted (payback period) investment criteria, sensitivity analysis, and SWOT analysis.

3. Result and Discussion

3.1. Overview of Floating Net Cages

Floating net cage (KJA) found in Pulau Harapan Village locally called "peti" is generally made of wood/tree trunks, bamboo, or floats in the form of used drums. Choosing materials for the Floating net cage should be adjusted to the availability of materials at the cultivation site and the economic value of these materials. The wood used for the floating nets (KJA) is a type of ironwood that has a strong enough resistance and is easy to

obtain in the Muara Muntai District. Floating net farmers in Pulau Harapan Village generally use a wooden frame with a size of 5 x 5 x 3 m^3. The framework of the floating net is generally made of not only one plot but one unit. One unit of the floating net cage (KJA) consists of 4 - 10 plots.

Some farmers also build huts or warehouses above the construction of floating net cages (KJA), this warehouse functions as a storage place for equipment and materials used during the process of carp farming production activities in Pulau Harapan Village. Other equipment used in this floating net cage (KJA) cultivation business are ladders, buckets, boxes, baskets, ropes, and scales. These are commonly owned by farmers.

The stocking density of seeds carried out by farmers is 500 - 1000 fish per plot. In addition to stocking density, seed size also plays an important role in determining the success of production. The yield obtained by farmers after doing business for one production cycle (3 - 4 months) averages around 3 to 4 pikul (quintals), with a weight of 500 - 600 g/fish. This result is if the farmer conducts a total harvest. The sales price range for carp at the farm level in Pulau Harapan Village is IDR 25,000 to IDR 32,000.

3.2. Financial Analysis

Financial analysis is used to determine whether the carp farming business in Pulau Harapan Village is feasible or not to be run sustainably; in this case, it is analyzed using discounted investment criteria including NPV, IRR, Net B / C Ratio, and those that are not discounted namely the payback period. The analysis results show an NPV value of IDR 88,075,485, an IRR of 361%, a Net B/C R of 17.97, and a payback period of 0.22 years or 2.62 months.

3.3. Sensitivity Analysis

Sensitivity analysis on the floating net cage (KJA) cultivation business in Pulau Harapan Village using several scenarios, namely: 1) actual condition, 2) feed price rising 3%, and 3) production down 50%. The results of the sensitivity analysis of floating net cage (KJA) cultivation in Pulau Harapan Village can be seen in Table 1.

Table 1. Results of sensitivity analysis of floating net cage business (KJA)

No.	Scenario	NPV (IDR)	IRR (%)	Net (B/C R)	PP (Year)	Justification Eligibility
1	Actual	88.075.485	361	17,97	0,22	Worth
2	Feed Prices Rise 3%	87.904.900	360	17,94	0,22	Worth
3	Production Down 50%	24.390.268	117	5,93	0,66	Worth

3.4. SWOT Analysis

The strategy for the development of a floating net cage (KJA) aquaculture business is carried out by making a SWOT matrix. The SWOT matrix is built based on internal (strengths-weaknesses) and external (opportunities and threats) factors. After calculating the weight of each internal and external factor, it is then analyzed using a position matrix to see the position of the floating net cage (KJA) cultivation business development strategy in Pulau Harapan Village. Based on Table 1, the Y value is 1.53 and the X value is 1.29.

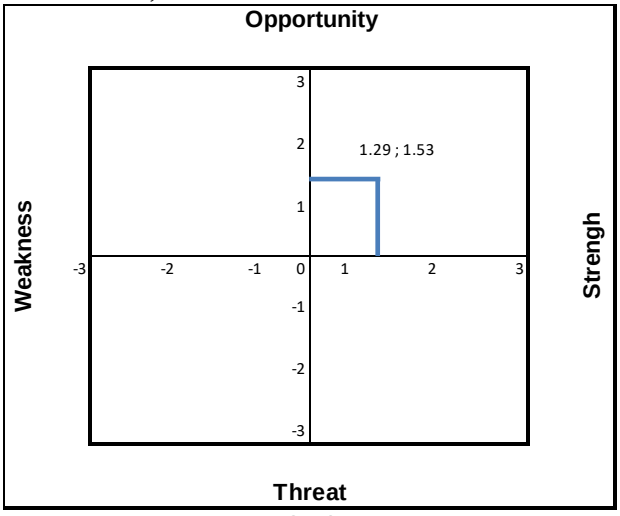

Figure 1. SWOT Matrix

The results of the internal and external matrices obtained from the total value of the weighting score on the floating net cage (KJA) cultivation business in Pulau Harapan Village, Muara Muntai District are for the internal value of 1.29 which means that this value is the difference between strengths and weaknesses where strengths are greater than weaknesses. For external factors, the value is 1.53, which means that this value is the difference

between opportunities and threats where opportunities are greater than threats. This shows how this floating net cage (KJA) cultivation business is in a position I (Aggressive Strategy). This position I situation is a very favorable situation. The strategy that must be applied in this condition is to support an aggressive growth policy (Growth Oriented Strategy). This aggressive strategy maximizes strengths and opportunities so that all strengths and opportunities can be utilized properly and effectively for fish farmers. An aggressive strategy or S-O (Strength-Opportunity) strategy looks at using strengths to take advantage of opportunities, where the strategies used in the development of carp floating net cage (KJA) cultivation in Pulau Harapan Village, Muara Muntai District are as follows:

Utilizing the experience of farmers in the development of floating net cages (KJA). Based on interviews in the field, the activity of floating net cage (KJA) cultivation emerged in Pulau Harapan Village more than 40 years ago. This floating net cage (KJA) business has become part of the local community's life activities, so the experience of floating net cage (KJA) cultivation business techniques, or what local people call "peti" is very adequate. This is an added value for stakeholders to improve aquaculture programs in the Mahakam River region.

Utilizing the availability of land/river cage cultivation areas and KJA construction materials to cultivate carp. This is a very good opportunity for the community in increasing the production of floating net cage (KJA) fisheries accompanied by local government support. Capitalize on the high demand for carp and its relatively high price to increase the productivity of floating net cages (KJA) based on the community's high work ethic in fish farming development. Utilizing the availability of regular customers who can absorb the harvest of floating net cage (KJA) cultivation in improving the welfare of the community in Pulau Harapan Village, Muara Muntai District.

4. Conclusions

Carp floating net cage (KJA) cultivation business in Pulau Harapan Village, Muara Muntai District with discounted and undiscounted investment criteria obtained a value analyzed NPV of Rp. 88,075,485, IRR of 361%, Net B/C R of 17.97, and Payback Period for 0.22 years so that the business is declared financially feasible (profitable) so that it can be continued (Go Project). The results of the sensitivity analysis based on 2 scenarios resulted in an insensitive value, meaning that the business is still in the profitable category and feasible to continue. The results of the internal and external matrix obtained from the total weighting score on the floating net cage (KJA) cultivation business in Pulau Harapan Village are for internal, namely 1.29 which is the difference from strengths (score 1.96) and weaknesses (score 0.67). For external is 1.53 which is the difference between opportunities (score 2.18) and threats (score 0.65). The strategy that is prioritized in the floating net cage (KJA) cultivation business in Pulau Harapan Village is in the position I (Aggressive Strategy) which is an SO (Strength-Opportunities) strategy. This strategy maximizes and makes good use of strengths and opportunities to minimize weaknesses and threats.

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