



Profit Analysis Financial and Marketing Snubnose Pompano (*Trachinotus blochii*) In Indonesia: A Review

Nurhidayat^{a*}, Iis Diatin^b, Tatag Budiardi^b, Yani Hadi^b dan Irzal Effendi^b,

^a Fisheries Research Center, National Innovation Research Agency, Cibinong, Bogor, West Java

^b Aquaculture Science Study Program, Postgraduate Faculty of Fisheries and Marine Sciences, Institut Agriculture Bogor, Bogor

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Abstract

The Star Pomfret (*Trachinotus blochii*), also known as Snubnose Pompano is a key species with potential as a leading fishery commodity in Indonesia. However, challenges lie ahead, particularly with the advent of the ASEAN Free Trade Area (AFTA), which demands increased efficiency to compete against the influx of pomfret from neighboring countries. Currently, most pomfret cultivation method faces several challenges, including harsh weather that complicates transportation, damages cages, and leads to high transport costs. *T. blochii* can be cultivated in low-salinity ponds (19-12 ppt). Economic analysis of *T. blochii*, shows a Net Present Value (NPV) of Rp. 2,894,229 with a sensitivity level of 24% from the base value. The Net Benefit-Cost (B/C) Ratio is 1.03, with a sensitivity level of 1.27%. In general, if the Net B/C Ratio is greater than 1, the business is considered viable or profitable. The Internal Rate of Return (IRR) is 49%, with a sensitivity level of 23%, and the Payback Period is 2 years and 8 days. These results indicate that the business of cultivating pomfret in cages is viable, as all four investment criteria meet the requirements.

Keywords: Fisheries; *Trachinotus blochii*; Economy; Free Market

1. Background

Fisheries is one of the sectors contributing to the increase in Indonesia's National GDP in 2014-2018 with an annual average of 2.60%. Based on the presentation of the Minister of Maritime Affairs and Fisheries in 2019, Susi Pudjiastuti, GDP from the fisheries sector in the second quarter of 2019 reached 6.25%. This value is higher than the GDP from the fisheries sector in the second quarter of 2018 (Ulya, 2019). In 2020, when Indonesia was affected by Covid 19, the fisheries sector provided optimism with the increase in the value of Indonesian fishery exports. This is because the demand for fishery products in China has decreased, so many countries are looking for fishery products from other countries and one of them is Indonesia. The value of Indonesian fisheries exports in the January-March 2020 period reached \$1.24 billion. This value increased by 9.82% compared to January-March 2019. The export destination countries for Indonesian fishery products include the United States, China, Japan and the European Union. The main commodities exported include fish, tuna, skipjack, squid, cuttlefish, octopus, seaweed, and crab (KKP, 2020). Indonesia has also been predicted to be the five highest exporting countries for fishery commodities in 2028 with a prediction of 2.92 million tons. (FAO, 2019). Based on the Performance Report of the Ministry of Maritime Affairs and Fisheries in the second quarter of April-

June 2020, the value of fishery exports also increased by 6.88% compared to 2019 in the same period. This value reached US\$2.41 billion, compared to US\$2.25 billion the previous year. The commodities that dominate are squid, cuttlefish, and octopus (KKP, 2020) (Table 1.). This achievement value shows that the fisheries sector has an influence on the Indonesian economy.

The following are the largest fishery commodities exported in the second quarter of 2020. The fisheries and marine sector also supports improving the welfare of society in Indonesia. Based on the KKP, the marine and fisheries community welfare index reached 57.66%. This value is higher than the previous 4 years. The investment value from the marine and fisheries sector in 2019 reached 5.48 trillion (Statistik KKP, 2023). Pomfret is one of the brackish water and marine cultivation commodities that has high economic value. Indonesia's 2021 pomfret cultivation production came from 571.19 tons (KKP, 2023). As a marine fish that is quite popular because of its delicious taste and large size, this fish has a high economic value as an Indonesian fishery product. The potential area for intensive cultivation is 6,391,975.00 ha, semi-intensive 484,789,118.00 ha, and a simple system 7,479,521,614.00 ha (KKP Statistics 2023). The presence of viral and bacterial diseases that attack Vaname cultivation has caused many ponds to be affected so that they are not used, this potential is very possible for cultivating Pomfret. In addition to

^{*}) Corresponding author: nurh041@brin.go.id

obtaining production results in the form of Pomfret, another advantage is that it can also prevent or break the chain of attacks from bacteria or viruses such as AHPND and WSSV which cause mass deaths. The supply chain of the Snubnose Pompano fishery is needed to determine the supply of fish from cultivation and the potential for carrying out cultivation activities to increase the production and economy of the Snubnose Pompano fishery. This New Paradigm of Marine-Based Development of Indonesia" initiated a paradigm of marine-based national development, namely a development

paradigm that provides direction in the utilization of marine resources to realize economic growth (prosperity), equitable welfare (social justice), and the maintenance of coastal and marine ecosystems in a balanced manner. The formulation of the development paradigm is based on the potential, opportunities, problems, constraints and conditions of existing marine development, also considering the influence of the strategic environment on national development such as regional autonomy and globalization (Dahuri, 2002).

Table 1. Export Volume of Fishery Products by Province (unit: tons) KKP Fisheries Statistics 2023

TOTAL EKSPORT (TON)	2018	2019	2020	2021	2022	2023*
	1125242.38	1184171.69	1262829.69	1221904.61	1224059.69	1103578.05
Aceh	803.51.00	584.31.00	2739.89	3398.39.00	3859.26.00	3981.55.00
Bali	27377.06	22116.77	21174.19	23337.62	23527.47	19011.72
Banten	31519.22	37123.2	42639.79	46797.79	44276.95	32759.67
Bengkulu					00.42	0,097916667
DI Yogyakarta	180.48.00	06.16	100.42.00	08.55	0,228472222	0,061805556
DKI Jakarta	249152.85	265204.78	289334.81	274950.85	237697.88	207703.22
Gorontalo	131.16.00	144.88	83.04.00	32.03.00	32.68	0,425
Jambi	10.36	0,773611111	23.13	84.48.00	85.25.00	0,565972222
West Javat	60941	71612.65	75626.25	73280.41	78659.46	78342.37
Center Java	53471.63	58246.62	58373.18	51504.59	60085.8	61914.7
East Java	328902.45	339465.7	359376.58	348202.8	352237.14	299718.25
West Borneo	2033.91	2072.02.00	1059.61	639.91	1582.97	1721.76
South Borneo	2174.74	2159.06.00	2059.05.00	2723.09.00	1973.37.00	1483.03.00
Center Borneo	0,651388889	0,193055556	0,227777778	06.14	07.33	0,4625
East Borneo	12381.64	4101.09.00	3611.02.00	4840.08.00	4899.03.00	7875.98
North Borneo	50228.01	47210.84	30968.2	33127.48	35779.44	35735.34
Bangka Belitung Island	7687.43.00	7911.81	9037.57.00	8832.07.00	11649.59	9093.46.00
Riau Island	18033.91	15233.75	15040.14	20833.44	25666.56	20548.76
Lampung	24901.69	21674.7	26570.97	31162.04	30987.57	23494.35
Maluku	2338.04.00	2495.07.00	9192.64	3257.19.00	11941.73	12035.83
North Maluku	309.65	946.21.00	308.21.00	1067.73	1682.92	1309.95
West Nusa Tenggara	1673.02.00	5135.16.00	7332.29.00	5499.48.00	4270.63	4746.04.00
East Nusa Tenggara	2235.01.00	1817.41.00	1780.73	3554.04.00	3909.22.00	2358.99
Papua	1684.69	3851.92	3457.26.00	1898.91	1574.21.00	1405.04.00
Riau	9270.05.00	10091.7	8794.23.00	7116.24.00	8572.65	10126.59
West Sulawesi	188.19.00	135.05.00	27.64	20.55	24	16.05
South Sulawesi	121903.51	140546.76	145058.26	165306.49	173650.58	163505.15
Center Sulawesi	5814.72	3493.47.00	1355.36.00	2552.05.00	1010.34.00	1894.32.00
Southeast Sulawesi	6475.38.00	3953.05.00	4815.52.00	5129.97	4310	6125.89
North Sulawesi	22620.67	25013.23	24139.55	20045.73	22335.28	22676.02
West Sumatera	344.32.00	283.12.00	159.65	164.11.00	124.98	128.08.00
South Sumatera	2289.05.00	2153.55.00	1550.28.00	1532.09.00	1287.07.00	751.13.00
North Sumatera	78149.16	89363.45	117034.89	80996.17	76352.39	73077.68

2. Economy and Growth Of Indonesia Fisheries

World Fisheries Market Conditions the world's ever-increasing human population provides both opportunities and challenges. The more people there are, the more energy, thoughts and ideas that can be given for progress. The more human resources there are, the more people can manage various sectors for human welfare. However, on the other hand, the increasing population also presents many challenges. These challenges include the increasing demand for food and nutrition, the increasing need for employment opportunities, the need for a clean environment and so on. If various sectors are not managed well, the higher population will cause environmental pollution, low economic levels, high crime, world hunger and various other problems. Therefore, various countries need to prepare themselves to be able to respond to various challenges that will occur in the future from now on. One important sector that has the potential to be developed to answer current and future challenges at the global level is the fisheries sector. The fisheries sector provides various benefits for human life in the world. These benefits include playing a role in meeting food and nutritional needs, absorbing labor, being able to be used for purposes other than consumption, improving the world economy, and so on, which will be explained in the following discussion.

2.1. Marketing of Fishery Products

Fish marketing Product flows Fish product flows can follow various channels from fish producers including fishermen and fish farming product to final consumers and can involve a varying number of stages. Therefore, the fish market is divided into four main stages: producer stage, wholesale stage including processing, retailer stage, and consumer stage including export and institutional consumer markets. Because the producer stage is divided into two main sub-sectors, namely fishing, and cultivation, the flow of fish products can be divided into two types, one for fishermen and another for aquaculture. In reality, fish marketing channels are very complicated because they may be carried out by market operators. Therefore, they carry out more than one marketing function. Between each type of market operator there may be an internal flow of fish products as in the case of wholesalers. As discussed in the previous chapter, wholesalers are divided into four main types, including what fish products are traded. To simplify fish marketing channels, the main types are calculated as a proportion of total sales to each market operator, excluding the portion traded internally in the calculated market.

1.2. Fishing Market

Ex-vessel value to the commercial fishers range between USD 8.88 to USD 1.11 per kg. Nilai jual ikan pompano hasil budidaya komersial berkisar antara USD 8,88-10,11 per kg. Penjual grosir ikan Snubnose pompano umumnya meminta harga USD 13,33-17,77 per kg. Pasar eceran umumnya berkisar antara USD 20,00-31,11 per kg. Nilai tertinggi pada tahun 2014 yang terlihat untuk fillet ikan Snubnose Florida adalah USD 60,00 per kg di Florida utara, Amerika Serikat. Penilaian ini tidak dapat dianggap berlaku untuk semua tingkat dan lokasi pasar (FAO, 2012).

The flow of fish products from fishermen to wholesalers, then processors and exports, is the main channel for fish marketing (Fatwawati, 2016). More than 90 percent of the captured product is sold to fish wholesalers, of which 62.1 percent is sold to fish processors. The processors in turn export 94 percent of this product. In the context of the fishing sector, these flows show that export markets play an important role (Fatmawati, 2016). Until now, the supply chain in the fish trade, both freshwater and sea fish, is still not optimal, thus potentially reducing the quality of the fish being marketed (Wardah *et al.*, 2019).

3. The Role of the Indonesian Fisheries Sector

The fisheries sector is one of the important sectors for Indonesia's progress, especially since 62% of Indonesia's territory is water. The total area of Indonesia's waters is 6,400,000 km². The diversity of Indonesia's fisheries and marine resources is also high, namely around 8500 species of fish, more than 700 species of macro algae, more than 2500 species of mollusks, and more than 1400 species of echinoderms. With the large area of water and biodiversity of fisheries and marine resources, this sector has many important roles for Indonesia. The following is the role of the fisheries sector in Indonesia.

3.1. Food and Nutritional Needs

One of the problems facing Indonesia in the health sector is malnutrition among toddlers. The prevalence of malnutrition in 2018 reached 17.7% and one in three children in Indonesia experienced stunting. The prevalence value of malnutrition is better than the prevalence of malnutrition in 2013 which reached 19.6%. This means that the number of Indonesian people experiencing malnutrition has decreased. This can be achieved, in part, due to the fish-eating movement promoted by the KKP (Ministry of Maritime Affairs and Fisheries). KKP encourages this movement because fish contains various nutrients, especially protein, which plays a role in fulfilling nutrition. If the level of fish

consumption in the community increases, it is hoped that the number of people suffering from malnutrition and stunting will decrease from year to year. The fish consumption value based on data from the KKP in 2019 reached 54.49 kg/cap/year (Statistik KKP, 2023).

3.2. Employment

Fisheries is also one of the sectors in Indonesia that absorbs quite a lot of labor. Based on data from the Central Statistics Agency in 2018, the number of workers in fishing companies reached 24,853 people. The number of companies with cultivation activities reached 285 companies with a total workforce of 9,930 people consisting of 3,510 workers, 15 workers in pond companies, 1,874 in hatchery companies, 3,831 in marine cultivation companies, and 715 workers in freshwater cultivation companies. This workforce does not include fishermen and independent cultivators. The Minister of Maritime Affairs and Fisheries also stated that in 2020, Indonesia still needs a lot of workers in the fisheries sector (Statistik KKP, 2023).

4. Marketing Aspects

Request the business planning for this business does not change the demand for pomfret fish in ponds, which is increasing every year. Judging from the development of each harvest cycle and the demand for pomfret fish is always increasing for demand in local areas as well as outside the city or outside the province. The demand for pomfret fish has increased every year, making pomfret fish a source of household consumption, processing in factories, and exports abroad.

4.1. Marketing channel

The marketing channel in business planning for the pomfret fish rearing business in ponds is direct marketing with an intermediary in the form of a website created by the researcher. This marketing channel has short stages, where there are only producers and consumers. Such a marketing channel is efficient marketing.

4.2. Financial Aspect

For financial planning, namely by increasing output by increasing the volume or number of fish kept, several aspects involved are as follows (Figur 1.):

1. Market Aspect Demand and orders increase
2. Technical aspects of facilities, facilities and infrastructure
3. Management and Legal Aspects of Organization, Supervision and SIUP/SITU
4. Social, Economic and Cultural Aspects of Work and Income
5. Environmental aspects of land, water and air

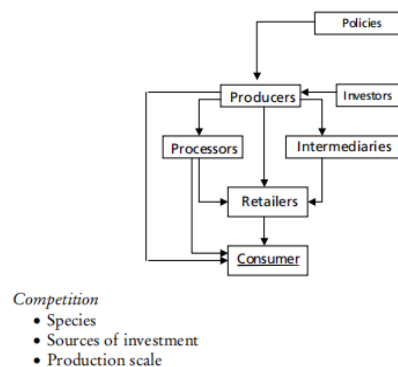


Figure 1. Fisheries Market Process and Policy in Indonesia

Non-financial feasibility is influenced by several aspects, of which these aspects have indicators to determine whether a cage pomfret fish rearing business is feasible or not. In the market aspect, in the marketing process and demand increases. In the technical aspect, every implementation of cage pomfret fish rearing business has adequate facilities, means and infrastructure in terms of growing, transporting and marketing cage pomfret fish. In the management and legal aspects of the cage pomfret fish rearing business, it is not adequate, because in this aspect the business actors are only individual or individuals, therefore it cannot be declared feasible. In the social, economic and cultural aspects, it has a good impact so that the employment and income indicators for business actors and local communities can enjoy the process of raising pomfret fish in cages. In the environmental aspect, this does not have a significant or permanent impact on the environment because the waste produced from the cage pomfret fish rearing business does not pollute the environment, be it land, water or air because the waste can decompose.

5. Business Analysis

Investment Eligibility Criteria analysis of the feasibility of investing in a cage-based pomfret fish rearing business NPV, IRR, Net B/C Ratio and PP criteria with a discount factor of 12%. For makes it easier to calculate, so that the flow of costs and the flow of benefits exist during the production process, expenses and income are arranged every year can be clearly known. To see NVP analysis, Net B/C Ratio, IRR and Payback Period as follows;

5.1. Financial analysis

What is carried out is a quantitative calculation in the form of cost and benefit analysis, cash flow value, then several investment criteria are used to calculate, namely Net Present Value (NPV), Internal Rate Return (IRR), Net Benefit Cast Ratio (Net B/C) and Payback Period (PP). Based on the age of the

business project, namely 5 years, which is determined from the economic life of the cage as the most important asset in the business project. Next, a switching value analysis is carried out to measure the maximum change that can still be tolerated from changes in a component such as a decrease in production, a decrease in output prices and an increase in input prices.

5.2. Cashflow

There are two financial cash flows, namely based on the previous month or looking at the previous year to find out the position of the business development carried out (Carole, 2012). Cashflow Analysis of Pomfret Fish Rearing Business Cost components incurred by Pomfret fish entrepreneurs includes investment costs and operational costs. The investment costs incurred by pomfret entrepreneurs at the beginning of the business year are relatively large and are not used up in one production period. Investment costs are incurred by pomfret fish-rearing entrepreneurs at the beginning of the business year in the form of investments in cages. The investment component is in the form of tools or analysis of the outflow of the pomfret fish rearing business. The cost components incurred by pomfret fish entrepreneurs include investment costs and operational costs. The investment costs incurred by pomfret entrepreneurs at the beginning of the business year are relatively large and are not used up in one production period. Investment costs are incurred by pomfret fish-rearing entrepreneurs at the beginning of the business year in the form of investments in cages. The investment component in the form of tools or technology used with an economic life of less than the age of the business (5 years) must be reinvested (Assyifa, *et al*, 2019). The equipment that will be reinvested is cages, drums, buckets, and nets, which have an economic value of less than 5 years. Based on the income of the pomfret fish rearing business in cages, it fluctuates due to unstable prices and production, which is caused by price fluctuations which are influenced by price changes due to the influence of unstable supply and demand. Variations in the value of income are influenced by long-term economic fluctuations so that variations in sales income can increase according to demand and supply. The technology used with an economic life of less than the life of the business (5 years) must be an investment is carried out. The equipment that will be reinvested is cages, drums, buckets, and nets, which have an economic value of less than 5 years. NPV is Rp. 14,371,560, Net B/C > 1, namely 1.07 and IRR > the applicable bank interest rate, namely 9% and the payback period is achieved at the age of 8 years 5 months 6 days (Assyifa, 2019). Based on the income of the pomfret fish rearing business in cages, fluctuates due to unstable prices and production, which is caused by

price fluctuations, and rises which are influenced by price changes due to the influence of unstable supply and demand. Variations in the value of income are influenced by long-term economic fluctuations so that variations in sales income can increase according to demand and supply.

5.3. Net Present Value (NPV)

Net Present Value (NPV) is an investment criterion that is widely used to determine whether a business is worth running or not. NPV pays attention to the time value of money. This means that the current value of money is not the same (higher) than later. For example, a calculation using the Bank Indonesia interest rate of 12% results in an NPV of IDR. 3,805,415, this means that the investment plan for the pomfret rearing business in the research area for the next 5 years is profitable and feasible to develop because the cage pomfret fish rearing business has been declared feasible and can be implemented because the benefits obtained are greater than the costs incurred, namely Criteria Investment Value Net Present value (NPV) (Rp) 3,805,415 Internal Rate of Return (IRR) (%) 64% Net Benefit Cost Ratio (BCR) 1.04 Payback Period (PP) 2 Years 8 Days amounting to IDR 8,040,000. For more details regarding this calculation, you can see the NPV, Net B/C Ratio, and IRR analysis (Assyifa, 2019).

5.4. Internal Rate of Return (IRR)

Internal Rate of Return (IRR) is the discount rate value that makes up the Net Present The value (NPV) of the project is equal to zero. This criterion describes whether A business can be said to be worth pursuing or not based on the comparison between the investment interest rate and the prevailing interest rate. Based on the results of calculations using a discount factor of 12% The resulting NPV is IDR. 3,805,415. Based on the NPV value, the results are obtained IRR is 64%. This means that the business of raising pomfret fish in cages is profitable and worth pursuing because the IRR value is greater than the interest rate Bank interest

5.6. Net Benefit Cost Ratio (B/C ratio)

Net B/C Ratio is a method for assessing the feasibility of evaluation based on between comparison of the present value and positive net benefit value with the present value and negative net benefit value, each of which has been discounted first. Based on the calculation results which can be seen in Appendix 1, the Net B/C value of the ratio is 1.7 (Wahyudi *et al.*, 2016) and 0.60-1.37 (Wijayanto *et al*, 2022) This value shows that the pomfret fish rearing effort this cage is worthy of being continued, because it is based on the provisions of the investment criteria If the Net B/C Ratio is greater than 1, then the business is said to be profitable.

Calculation of the three investments that have been made to test the feasibility of the business the caged pomfret fish cultivated by this entrepreneur is profitable, for the third reason The investment criteria have been met, where the NPV is greater than zero, Net B/C Ratio 1,7 greater than 1, the IRR is greater than the Bank Indonesia interest rate (Wahyudi et al., 2016).

5.7. Payback Period (PP)

The payback period can be interpreted as the period required for a business to return the investment amount incurred at the beginning of the business period. The Payback Period (PP) value of this business is 2 years and 8 days. This values how all investment costs invested in the business rearing caged *Trachinotus blochii*, an example of the case in Teratak Buluh Village, Hulu District Kampar Regency, business capital can be returned in 2 Years 8 Days Payback Period has a smaller period than the life of the fish rearing business pomfret is 5 years (Rizki et al, 2023). Thus, it can be concluded that business fish rearing is appropriate to carry out criteria based on the payback period. Business aspects of the pompano fish seeding activity with a land area of 500 m² with an investment of Rp696-585 million, with a profit of Rp224-164 million, in the 1st year with an R/C ratio of 1.31-1.12 and a payback period (PP) of 3.10-3.55 years. Seeding and rearing are declared feasible to be used as a business because they have an R/C ratio > 1 (Wiyanto et al, 2022). Other research results for the cultivation of silver pomfret in fixed net cages with a selling price of Rp. 80,000.00/kg. One cultivation cycle produces a profit of Rp. 18,9 million. The break-even point after the business has been running for 68 days and the PP production volume is 1.073,6 kg (Assyifa et al, 2019).

5.8. Sensitivity Analysis

Sensitivity analysis is used to see a condition if changes occur towards certain variables that are considered to be the most influential in the process of production. In this analysis, it is carried out based on several possible changes follows (Wijayanto et al 2022):

1. Decrease in the selling price of pomfret fish by 2.4%, while other factors are considered.
2. Increase in all operational costs (total costs) by 2.4%, while other factors are considered constant.
3. Decrease in pomfret rearing production by 2.4% The inflation used in the sensitivity analysis was 2.4%, by forecasting inflation based on current prices according to business fields in Kampar Regency for the next five years starting from 2020-2025.

This analysis aims to see the feasibility of the cage pomfret fish rearing business carried out by entrepreneurs if there is a change in the influencing factors, namely a decrease in selling prices, an increase in operational costs, a decrease in production which are important factors in pomfret fish rearing business activities. It is assumed that if there is a decrease in production, a decrease in selling prices, and an increase in operational costs, there will be changes to investment indicators/criteria. Increase in Operational Costs The first condition to be tested is if operational costs increase by 2.4%. This is because the prices of all production facilities fluctuate greatly (BPS-Kampar, 2023). This increase in operational costs will also affect the value of benefits and net benefits. With an increase in total costs, the net benefit decreases. However, this decrease was not as big as what occurred when the price of Pomfret decreased. This can be seen from the NPV value obtained when the price of pomfret fell by 2.4%, smaller if compared to the NPV value when operational costs rose 2.4%. The calculation results show an NPV value of Rp. 2,894,229 have a level sensitivity of 24% of the base value, Net B/C Ratio value is 1.03 sensitivity level of 1.27% to the base value, IRR value of 49% has a level sensitivity to the base value of 23%, and a Payback Period is 2 years 8 days has a rate of change of 53. Results of sensitivity analysis on conditions show that the efforts to raise pomfret fish in cages in the research area are worth pursuing because the large value of the four investment criteria meets the investment requirements. The NPV value is positive, which shows that this business is acceptable because the higher the NPV value, the better the business. With a Bank Indonesia interest rate of 6,25% (in 2024) it produces the Net B/C Ratio is 1.04% which shows that the Pomfret cage fish business is feasible to pursue, because based on the provisions of the investment criteria if the Net B/C value the ratio is greater than 1, then a business is said to be feasible or profitable. Meanwhile, the IRR value is greater than the bank interest rate use research (6.25% in 2024).

5.9. Decrease in Selling Price

The second condition assumes that there is a decrease in the price obtained by cage pomfret fish-rearing entrepreneurs by 2.4% (Afandi, 2013, Wijayanto, 2023). This condition is taken 106 because price is one of the factors that influences its operation the effort. If there is a change in this price, the amount of business revenue from the sale of pomfret will change, so that the net profit obtained by the entrepreneur will also change. The benefits obtained after the selling price of Pomfret decreased by 2.4. %. The analysis results show that the NPV, Net B/C Ratio, IRR and Payback Period values have decreased (Yuniardi, 2016). The NPV value of IDR

3,257,681 has a change of 14% from the base value, the Net B/C Ratio value of 1.05 has a change of -2.76 and the IRR value of 68% has a change of -6% and the Payback Period is as long as 2 years 8 days has a rate of change of 24%. Thus, the pomfret rearing business is still feasible to continue but is no longer optimal (Irwan, 2010, Afandi, 2013, Wahyudi, 2016). Financial analysis of rearing using 8x3x2 m cages, R/C value of 1.55; FRR of 105.89; and PPC of 0.94. While the 10x3x2 m cage, the R/C Ratio value of 1.57, FRR of 11.90, and PPC of 0.89 (Rizki, et al., 2023)

5.10. Production

Economic business activities cannot be separated from the criteria for financially feasible investments. If there is an increase in costs and a decrease in income, this can be detected using Sensitivity Analysis (Darwis *et al.*, 2023). The third alternative assumption from the sensitivity analysis is that there is a decline in total production of 2.4%. This condition was taken because the production was wrong one factor that influences income. Based on a decrease in production volume of 2.4% caused changes to investment criteria. The NPV value has decreased from the basic condition (condition without changes) with a decrease of 64% with a value of Rp. 3,257,681 from the base value, the Net B/C Ratio value of 1.05 has changed from the sensitivity level from the base value of 76 and the IRR value of 68% has changed by -6% from the base value (Affandi, 2013, Asyari and Hasim, 2018). Likewise, Florida pompano (*Trachinotus carolinus*) is a popular sport fish targeted by land-based RAS due to its impressive market value and euryhaline capacity. This study investigated the impact of rearing Florida pompano larvae at salinities close to their iso-osmotic salinity. This salinity change was driven more by metamorphosis, which led to increased expression of antioxidant genes than by the presence of potentially pathogenic genera, which failed to induce immune responses and tolerance of Florida pompano to low salinity of 10 ppt in cultured larvae during early developmental stages (Bradshaow *et al.*, 2023).

6. Conclusion

Trachinotus blochii can be cultivated in low salinity ponds (19-12 ppt) and is resistant to sudden changes from water media salinity of 32 ppt to 19 ppt. Likewise, Florida pompano (*Trachinotus carolinus*) is a popular sport fish targeted by land-based RAS due to its impressive market value and euryhaline capacity. This study investigated the impact of rearing Florida pompano larvae at salinities close to their iso-osmotic salinity. This salinity change was driven more by metamorphosis, which led to increased expression of antioxidant

genes than by the presence of potentially pathogenic genera, which failed to induce immune responses and tolerance of Florida pompano to low salinity of 10 ppt in cultured larvae during early developmental stages. Snubnose Pompano economic calculations show an NPV value of Rp. 2,894,229 has a sensitivity level of 24% of the base value, a Net B/C Ratio value of 1.03 has a sensitivity level of 1.27% to the base value, an IRR value of 49% has a sensitivity level of 23% to the base value and a Payback Period of 2 years 8 days has a rate of change of 53%. The results of the sensitivity analysis in this condition indicate that the cage pomfret fish rearing business in the research area is worth pursuing, because the value of the four investment criteria meets the investment requirements. The NPV value is positive, which shows that this business is acceptable because the higher the NPV value, the better the business. With a Bank Indonesia interest rate of 6,25%, it produces a Net B/C Ratio of 1.04% which shows that the pomfret fish business is worth pursuing, because based on the provisions of the investment criteria if the Net B/C Ratio value is greater than 1 then a business is said to be feasible or profitable.

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