

ANALYSIS OF THE PROFITS OF THE FLOATING NET CAGE BUSINESS AND ITS CONTRIBUTION TO HOUSEHOLD INCOME DURING THE COVID 19 PANDEMIC IN BENUA RIAM VILLAGE, ARANIO DISTRICT

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Abstract:

This study aims to determine: the production costs, revenues, and profits of floating net cages and their contribution to total household income during the covid 19 pandemic in Benua Riam Village, Aranio District in one production in 2020. This type of research uses quantitative research with descriptive analysis. The study started from January to May 2021. The population in the study amounted to 70 households who were active in the floating net cage business, the sampling method used criteria so that a sample of 32 households was obtained. Data analysis techniques used, production cost analysis techniques, revenues, and profits as well as the percentage of the contribution of the floating net cage business to household income. The results showed that: the production costs incurred by respondents in one production during the COVID-19 pandemic in 2020 amounted to Rp. 792,876,391 with an average of Rp. 24,186,876/person, while the revenue is Rp. 933,370,900/one harvest with an average income of Rp. 29,164,840/person, in one harvest. The benefits obtained during the COVID-19 pandemic in 2020 amounted to Rp. 140,472,509/one harvest, with an average profit of Rp. 4,389,765/person. The contribution given by the floating net cage business to the household income of respondents in Benua Riam Village during the Covid-19 Pandemic of 2020 was 37.91%, according to the contribution criteria, this contribution is classified as moderate because it contributes between 30 - 50%.

Keywords: Production Cost, Revenue, Profit, and Contribution

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INTRODUCTION

Indonesia's economic growth slowed down as a result of the COVID-19 pandemic, many changes occurred in the economy starting from the rate of economic growth which only grew by 27.9% in the first quarter of 2020 which was caused by many economic sectors experiencing a decline due to a large number of people's incomes. Decreased from large entrepreneurs to small entrepreneurs, this decline in income was due to the lack of demand at home and abroad which affected the income of entrepreneurs.

The floating net cage business is one of the businesses affected by the COVID-19 pandemic. This business is one of the businesses engaged in fisheries, namely fish cultivation, both freshwater and marine, fish demand has decreased due to the lack of activity in the market sector. Due to the COVID-19 pandemic, one of the villages that participated in this effort was Benua Riam Village, Aranio District, Banjar Regency South Kalimantan, this business is a new alternative for rural communities to get additional household income, to increase their income and improve their standard of living. The number of residents who carry out floating net cages business in Benua Riam Village is increasing every year, the following is data on the number of households operating floating net cages in Benua Riam Village:

Table 1. Number of Households Doing Floating Cage Business and Number of Floating Cages in Benua Riam Village, Aranio District 2014-2019

No	Year	Number of Households (KK)	Number of Net Cages Float (Fruit)
1	2014	2	4
2	2015	24	47
3	2016	18	42
4	2017	8	14
5	2018	7	12
6	2019	11	21
Total		70	140

Source: Banjar Regency Fisheries Service 2019 (Data processed).

Based on table 1 above, it can be seen that the number of people doing KJA business is increasing every year so that in 2019 it reached 70 who did this business with a total of 140 KJA.

However, after the pandemic there was a decline in the price of fish, based on the results of interviews, the price of fish fell from 38,000/kg to 25,000/kg in December 2020. Meanwhile, the price of fish feed continued to increase to Rp. 10,000/kg, the decrease in the selling price of this fish could have an impact on the profits obtained because in production they will buy fish feed for the survival of cultivators while the fish obtained are sold at a low price. Of course, it will have an impact on profits and the amount of contribution that will be given. The floating net cage business on household income is compounded by the lack of understanding of the community how to use production facilities properly and reduce the costs of the business they run.

Based on the explanation above, the researcher can identify the problems that occur: a decrease in the selling price of fish to cultivators while the price of feed increases.

Based on the identification of the problems above, the formulation of problems related to this research are:

- 1) What are the floating net business's production costs, revenues, and profits in Benua Riam Village?
 - 2) How Big is the Contribution of Floating Net Cage Business to Household Income During the Covid 19 Pandemic in Benua Riam Village?
- Research purposes
- 1) Knowing the production costs, receipts, and profits of the floating net cage business during this pandemic.
 - 2) Knowing the Contribution of Floating Net Cage Business to Household Income During the Covid 19 Pandemic in Benua Riam Village, Aranio District, Banjar Regency (2020).

METHODS

Research location: This research was conducted in Benua Riam, Aranio District, Banjar Regency, South Kalimantan.

Research variables: The variables in this study are cost analysis which includes fixed costs, variable costs, and total costs in one production, as well as income, profits, contributions, and household income.

Source of data: the data used are primary and secondary data, primary data comes directly from respondents, while secondary data is obtained from agencies related to the research.

Data collection technique: The technique of collecting is the survey technique, by collecting information from samples used for research using questionnaires, interviews, and documentation. Hardani, et al. (2020:54).

Population and Sample: The population in this study amounted to 70 households, while the sampling method used was purposive sampling, which means determining the sample with specific considerations or criteria. Suharyadi and Purwanto S.K. (2016:19). The criteria chosen in

determining this sample are fishery households that only have two floating net cages and have an area of 8x8 m² floating net cages, so based on the data obtained from the fisheries service from a population of 70 fishery households As a population, based on the above criteria, 32 households can be obtained that match these criteria, so the sample in this study was 32 households.

Data analysis technique: the collected data will be tabulated and analyzed according to the variables in this study, which are as follows:

1. Analysis of Floating Net Cage Business

The analysis is carried out to find out how much revenue or gross income and costs incurred by cultivators and the profits are made.

a) The formula for the production cost of a floating net business. Sadono. (2015:21).

$$TC = TFC + TVC$$

Information:

TC = Total cost (Rp). TFC = Total fixed costs (Rp).

TVC = Total variable costs (Rp).

b) Acceptance as follows: Sadono. (2015:22).

$$TR = Q \cdot P$$

Where

TR = Total revenue from floating net cage cultivation (Rp). Q = Total production of fish produced (Kg).

P = price of fish (Rp).

c) The profit of the floating net cage business is analyzed using the formula: Sadono. (2015:21).

$$= TR - TC$$

Where:

= profit (Rp).

TR = Total Revenue (Revenue). TC = Total Cost (Cost).

2. The concept of measuring household income

Household income can come from the income of the floating net cage business and non-floating net cage business, the equation for measuring household income is as follows: Gegon et al. (2015:3).

$$TI = IK + INK$$

Where:

TI = Total Household Income (Rp).

IK = Total Household Income from Floating Net Cage Business (Rp).

INK = Household Income in Non-Floating Cage Business (Rp).

3. Contribution

The contribution of floating net business income to household income can be found using the following formulation: Gegon. et al. (2015:6).

$$(\%) = \text{total pendapatan rumah tangga} \%$$

With the following criteria: Balqis, et al. (2018:33).

a) If the contribution of the floating net business is < 30% of the total household income, it is categorized as a low contribution.

b) If the contribution of the floating net business is 30 – 50% of household income, it is categorized as moderate.

c) If the contribution of the floating net business is > 50% of the total household income, it is categorized as a high contribution.

RESULT AND DISCUSSION

General Condition and Geographical Location. Benua Riam Village is one of the villages located in Aranio District, Banjar Regency with an area of 59.46 km² the day after tomorrow which is about 12 km² from the sub-district. Dea Benua Riam is 1 of 12 villages located on the edge of the

Riam Kanan Reservoir located in Aranio District where this reservoir is used as a hydroelectric power plant in Banjar Regency, if you want to go to the sub-district/city it takes about 2 hours if you go by road.

Water/reservoir using means of transportation, namely ships. Several villages, namely border Benua Riam Village:

- North is next to Artin Village
- East next to Kalaan Village
- South next to Tiwingan Baru Village
- West next to Apuai Village

The Number of Villagers of the Riam Continent

The residents of Benua Riam Village are known to have 238 families consisting of 777 people consisting of 404 men and 377 women.

Table 1. Population by gender

No	Gender	Total Population	Percentage (%)
1	Males	404	51,99
2	Female	377	48,50
	Total	777	100

Source: Benua Riam Village Office (2020)

Table 1 above can be seen from the population of Benua Riam Village which lives in the village as many as 777 people consisting of 404 men with a percentage of 51.99% and 377 women with a percentage of 48.50%.

Floating Net Cage Business. The floating net cage business is a fish rearing cultivation business that can be carried out in fresh and marine water glasses. Benua Riam Village is one of the villages that carry out this business, because of the strategic location of the village, which is on the edge of the Riam Kanan Reservoir, the people there are starting to take advantage of existing water sources for their business activities.

The floating net cage business is one of the other businesses run by some people in Benua Riam Village apart from agriculture, plantations, trading, and other businesses to get new sources of income to increase household income to meet the needs of life and increase income.

Floating net cage. The floating net cage business in Benua Riam Village began actively carried out by the community in 2014. That year, two households started this business with four cages. As time goes by, the number of people who do floating net cages business continues to grow until in 2019 70 households did it with a total of 140 cages, the many benefits that some households who did this business got became one of the triggers for the community to do business.

The sizes of floating net cages used by the community for fish cultivation activities vary, there are 8x8 m², 6x10 m², and 6x12 m², usually for making this pond as desired. People who run a cage business or according to the budget they have. Business capital for this cage requires a large amount of capital, based on the results of the study, the researchers found out that the capital obtained by households to carry out this business was partly owed to some who owed it to close relatives and some who owed it to fish collectors, for those who did debt with relatives. Usually, they are in debt to buy their fish feed when they use their fish not enough until the harvest season because this feed costs a lot, and then after the new harvest they will pay this debt.

As for those who owe a debt to collectors, they usually do barter or remuneration, those who owe money to collectors, namely fish feed debt, will continue to owe fish feed until the fish is harvested on the condition that the fish they harvest will be sold to collectors until they run out.

Respondent's Age. Age is an important aspect in business activities, especially in the floating net cage business, where the age aspect plays an important role in activities when production or

this business is being carried out because the location of this business is in the middle of a lake, so the age aspect is significant for smooth business.

At a young age, they are physically stronger when doing this business activity than in old age, because the place of business is above the water sometimes making some parents unable to stand there for long. After all, the waves that keep crashing on floating net cages can make them dizzy and nauseous and reduce work effectiveness when feeding or other activities. The research results from 32 cultivators respondents showed that the youngest age of the cultivators who did this business was 29 years and the oldest age was 50 years. For more details, see table 2 below.

Table 2. Characteristics Of Respondents Based On Cultivators

No	Age group (years)	Number of respondents (person)	Percentage (%)
1	29 - 34	13	40,62
2	35 - 39	9	28,13
3	40 - 44	3	9,37
4	45 - 50	7	21,87
	Total	32	100

Source: Primary Data 2021 Processed Data.

Table 2 above shows that the age of respondents 29-34 years is 13 people with a percentage of 40.62%, ages 35-39 years is nine people with a percentage of 28.13%, three people aged 40-44 and a percentage of 9.37%, and ages 45-50 years totaling seven people with a percentage of 21.87%.

The researcher can conclude that of the 32 respondents, the age most engaged in the floating net cage business is the age of 29 - 34 years with a total of 13 people and a percentage of 40.62%.

PRODUCTION COSTS FOR FLOATING CRAPS

Production cost. Production costs are all expenses incurred by entrepreneurs for production activities, used to purchase goods/tools for production activities and other raw materials to produce products. Production costs are divided into three namely fixed costs, variable costs (changes), and total costs.

Production costs in the floating net cage business in Benua Riam Village include fixed costs, variable costs (changes), and total costs where these costs are calculated in production costs for one time of production, namely six months during the COVID-19 pandemic in 2020. Based on the study results, It can be seen that the production costs incurred by farmers are for a one-time production.

Fixed cost. Fixed costs are costs incurred by entrepreneurs during the production period where these costs are not affected by the size of the product produced. Fixed costs incurred by respondents when implementing floating net cages include building depreciation costs, buckets, mosquito nets/small nets, dippers, and boats.

This fixed cost is calculated using the depreciation cost of the equipment, the following is an explanation and the average cost of depreciation of buildings and equipment for the floating net cage business in Benua Riam Village.

Tool Shrink. Depreciation costs for tools are a decrease in the value of an item or tool due to increasing age of use, this decrease in use-value can be due to some parts being damaged due to prolonged use, which makes the goods/tools unable to work like new again.

Based on the results of the study, it can be seen the cost of depreciation of buildings and equipment in the floating net cage business in Benua Riam Village which consists of buildings, mosquito nets/small nets, buckets, dippers, and boats used when doing this business, to find out how large the number and average are. The average depreciation expense incurred by the respondents can be seen in table 3:

Table 3. Total and Average Depreciation Cost of Buildings and Equipment for Floating Cage Business Equipment In the Rim Continent Village

No	Description	Total (Rp)	Average (Rp)
1	Building	28.800.000	900.000
2	Mosquito Net (small net)	4.680.000	146.250
3	Bucket	400.020	12.501
4	Dipper	177.000	5.531
5	Boats	10.127.371	398.514
	Jumlah	44.184.391	1.380.762

Source: Primary Data 2021 Processed Data.

Table 3 shows that the respondents incurred the total and average equipment removal costs while running the floating net cage business amounted to Rp. 44,186,391 with an average of Rp. 1,380,762 one person.

The cost of depreciation of the equipment with the largest expenditure is the cost of building depreciation where the costs incurred are Rp. 28,800,000 with an average expenditure of Rp. 900,000 for one person, this is because the floating net cage building is made of several components such as boards, nets, drums, and other components, so the costs required are also significant.

Variable cost. The variable costs referred to in this study are costs incurred by cultivators, in one production or six months during the COVID-19 pandemic, the size of these costs depends on how many respondents want to produce. Based on the study results, it can be seen that the fixed costs incurred by respondents consist of costs for seeds, fish feed, medicine, fuel, and labor wages. To see how much the total costs and the average variable costs of respondents in the floating net cage business can be seen in table 4:

Table 4. Total and Average Variable Costs incurred by Respondents in Floating Net Cage Business in Benua Riam Village

No	Type	Total (Rp)	Average (Rp)
1	Seed	98.080.000	3.065.000
2	Feed	629.660.000	19.676.880
3	Medicines	2.760.000	75.000
4	Fuel	8.704.000	310.583
5	Labor wages work	9.510.000	297.188
	Total	748.714.000	23.397.312

Source: Primary Data 2021 Processed Data.

Table 4 shows that the non-fixed costs incurred in one product for the floating net cage business during the COVID-19 pandemic amounted to Rp. 748,714,000 with an average of Rp. 23,397,312. The following is an explanation of the variable costs in the floating net cage business: Total Cost Based on the results of the study, it can be seen that the total cost consisting of fixed costs and variable costs in the floating net cage business in one production during the covid 19 pandemic amounting to Rp. 792,898,391 with an average expenditure of Rp. 24,778,074/ person, for more details, can be seen in Table 8 below:

Table 8. Total and Average Total Costs Expended by Respondents on Business Floating Net Cages in Benua Riam Village

No	Type of fee	Total (Rp)	Average (Rp)
1	Biaya Tetap	44.184.391	1.380.762
2	Biaya Tidak Tetap	748.714.000	23.397.312
		792.898.391	24.778.074

Source: Primary Data 2021 Processed Data.

Production and Acceptance of Floating Net Cages. Research conducted by researchers on floating net cage entrepreneurs shows that in one production/harvest this cage business produces fish in the amount of 34,330.25 kg for one harvest with an average gain of 1,072.82 kg./ person in one harvest. While the average fish price prevailing in Benua Riam Village is Rp. 27,188/kg.

The income obtained by the entrepreneur in one production amounted to Rp. 933,370,900 obtained from the multiplication of fish produced by entrepreneurs as much as 34,330.25 kg multiplied by the average prevailing fish price of Rp. 27,188, while the average acceptance of respondents is Rp. 29,167,840/person obtained from Rp. 933,379,900 divided by the number of respondents, namely 32 people, then the average acceptance obtained by the respondents.

Advantages of Floating Net Cage Business. Profits in business activities are obtained by subtracting revenues from all expenses incurred in business activities within a certain period. Based on the results of research on floating net cage business respondents in Benua Riam Village, it can be seen that the profits obtained by cultivators in one production during the COVID-19 pandemic in 2020 amounted to Rp. 140,472,509 with an average profit of Rp. 4,389,766/person, more details can be seen in appendix 9 and table 9 below:

Table 5. Total and Average Profits Obtained by Respondents in Floating Net Cage Business In the Rim Continent Village

No	Description	Total revenue/ TR (Rp)	Total Cost /TC (Rp)	Profit/ π (Rp)
1	Jumlah	933.370.900	792.898.391	140.472.509
2	Rata-rata	29.167.840	24.778.074	4.389.766

Source: Primary Data 2021 Processed Data.

Income Other Than Floating Net Cages. Income other than from the floating net cage business is income from trading, farming, gardening, and other business activities as well as other income from central and regional government grants during the COVID-19 pandemic in 2020, which is calculated for six months or more details can be seen in Table 6 below:

Table 6. Total and Average Income of Respondents Apart from Floating Net Cage Business for 6 Months

No	Type of Business	Income (Rp)
1	Trade	25.200.000
2	Tapping Rubber	117.000.00
3	Private Teachers	24.000.000
4	Chili Gardens	40.500.000
5	Other income	
	BLT	- 5.400.000
	BST	- 3.600.000
	Fisheries Service	- 14.400.000
	Total	230.100.000
	Average	7.190.625

Source: Primary Data 2021 Processed Data.

Table 6 above shows that the income of respondents apart from the floating net cage business consists of several livelihoods such as trading, tapping rubber, private teachers, and chili gardening, as well as other income consisting of assistance received by the community during the COVID-19 pandemic in 2020.

Based on the table above, the researcher can conclude that the respondent's source of income other than the floating net cage business, whose income is the largest for six months is the income from the rubber tapping business, which is Rp. 117,000,000 in 6 months, this is because most of the respondents' main job is rubber tapping, while the floating net cage business is a side job to take advantage of their free time so that they can get new sources of income to increase their income and fulfill their household needs.

During the COVID-19 pandemic, the community also received assistance from the government due to the pandemic, so it became another source of income for respondents. In table 6, it can be seen that there are three other sources of income which are assistance from the central/regional government for the community because they are affected by the COVID-19 such as BLT (Direct Cash Assistance), BST (Cash Social Assistance) and the fisheries service provided to affected communities. The impact during the pandemic was given through village intermediaries, then distributed to the community once a month for Rp. 300,000.

"Based on an interview with the financial officer of Benua Riam Village for this assistance, especially BLT and BST, it will continue to be given to and will continue until now in 2021 and will stop if there is an order from the central/regional government that this assistance will be terminated, while for assistance from the regional government, this assistance will be terminated. Fisheries is direct assistance from the fisheries service for those who do floating net cage business, and this assistance ended in December 2020 yesterday". So it can be concluded that there are two sources of income for respondents, namely from the floating net cage business and in addition to the floating net cage business which consists of income from business activities and assistance received by the respondent during the covid 19 pandemic.

Respondent's Total Household Income. The total income of the respondent's household is all income earned by household members originating from the floating net cage business activities and apart from the floating net cage business within a 6-month deadline, the following is the number and average total income of the respondent's net cage business which can be seen in Table 7 below:

Table 7 . Total Household Income of Cultivators Respondents in Floating Net Cage Business in Benua Riam Village

No	Source of income (Rp)	Amount (Rp)	Average (Rp)
1	Net Cage Business Float	140.472.509	4.389.766
2	Apart From Business Floating Net Cages	230.100.000	7.1990.625
	Total	370.572.509	11.580.391

Source: Primary Data 2021 Processed Data.

Table 7 above shows that the total household income comes from 2 business activities, namely the floating net cage business, the income is Rp. 140,472,509 and the average is Rp. 4387,766/person in one production and the second income is income other than floating net cage business, namely income from business activities such as chili gardening, trading, other business fiber, and other assistance income, amounting to Rp. 230,100,000 with an average income of Rp. 7,190,625/person and the total household income is Rp. 370. 572,509 with an average income of Rp. 11,580,391/person with a period of 6 months.

Contribution of Floating Net Cage Business to Household Income. Contribution is a donation in the form of money or other activities. In contrast, the contribution referred to by the researcher in this study is the contribution of income from the floating net cage business to the total household income. The household in question is households that do floating net cages with the criteria only have two cages with the same area, namely 8x8 m2 so that 32 respondents can be used as research objects to find out the number of other contributions to total household income, see table 8 below. This:

Table 8. Contribution of Floating Net Cage Business to Total Household Income

No	Income Source	Total Income (Rp)	Percentage (%)
1	Net Cage Business Float	140.472.509	37,91
2	Businesses Apart from Cages Floating Net	230.100.000	62,09
	Total	370.572.509	100

Source: Primary Data 2021 Processed Data.

Table 8 shows the contribution of each business activity carried out by the respondent, so the researcher can conclude that the contribution of the floating net cage business to household income during the covid 19 pandemic is 37.91% with a total income of Rp. 140,472,509 in one production in 2020, while the contribution of businesses other than floating net cages is 62.09% with a total income of Rp. 230,100,000 within 6 months.

The contribution from the floating net cage business is 37.91% to household income in Benua Riam Village where based on the business contribution criteria, the contribution given by the floating net cage business to the total household income is classified as a moderate contribution because the amount of the floating net cage business contribution is in between 30 - 50% of the total household income.

CONCLUSION

Based on the results of research regarding the analysis of the advantages of floating net cage business and its contribution to household income during the Covid 19 pandemic in Benua Riam Village, Aranio District, the researchers can conclude as follows:

- a. The financing expenditure for the production of the floating net cage business in one production during the 2020 COVID-19 pandemic in Benua Riam Village reached Rp. 792,896,391/one-time production with an average expenditure of Rp. 24,186,876/ person.
- b. Receipts obtained by respondents amounted to Rp. 933,370,900/one harvest during the COVID-19 pandemic in 2020 with an average income of Rp. 29,167,840/person.
- c. The profits of floating net cage entrepreneurs in Benua Riam Village in one production during the COVID-19 pandemic. There was a decrease in the price and the price of expensive fish feed. The profits obtained amount to Rp. 140,472,509/one-time production with an average profit per person of Rp. 4,389,765/one-time production.
- d. The contribution of the floating net cage business to the total household income in Benua Riam Village during the COVID-19 pandemic in one production was 37.91%. The contribution of the floating net cage business is included in the medium contribution category because it contributes between 30 - 50%, therefore this floating net cage business can be developed to increase the household income of the community in Benua Riam Village, Aranio District, both during the pandemic and after the pandemic.

SUGGESTION

- a. Based on the study results, it is known that production costs are the most significant costs incurred by entrepreneurs, especially the cost of fish feed which can reach 50% more than other costs in society. This is intended so that the government can participate in regulating or taking part in determining the applicable feed prices and fish selling prices for cultivators both in Benua Riam Village and in other villages/areas so that there is no sale of costly feed or feed sellers who are selling feed at a high price thereby reducing the burden on farmers in the fish feed section. The prevailing selling price of fish also needs attention from the government, this is to minimize the arbitrary situation of fish collectors who can sometimes lower the price of fish as they wish and they can benefit more from the reduced cost/price of the feed they spend, especially during the current pandemic in Indonesia, where the price of fish goes down while the price of feed remains expensive.
- b. The results showed that the contribution of the floating net cage business to the total household income was classified as moderate, so the government's attention is needed to further support and develop the floating net cage business in Benua Riam Village so that this business can develop better and be able to become the main source of income for the people in the village. To increase the income and welfare of the people there.

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