

Analysis of Shrimp Pond Business Income in Farmer Groups in Tambaksumur Village, Tirtajaya Sub-District, Karawang

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ABSTRACT

Indonesia is the largest tropical marine country in the world and has the largest biodiversity in the sea. Abundant water resources can be fully optimized to meet human economic needs. The length of the coast of Karawang Regency reaches 84.32KM, which crosses nine districts, including Cilamaya Kulon, Cilamaya Wetan, Tempuran, Pedes, Cilebar, Cibuaya, Tirtajaya, Batujaya, and Pakisjaya. Based on the Regional Autonomy Law, the marine area of Karawang Regency has a limit of 4 miles from the lowest tide, so that the total marine area is estimated to be around 621.27KM². Similarly, it is expected that the potential of ponds as part of the development of water areas, both at sea and on land, can be utilized by pond farmers. The purpose of this study was to determine the income of shrimp ponds in the village of tambak well, located in Tirtajaya District, Karawang Regency (1) and to know how the shrimp pond farmers anticipate a decrease in income during the dry season (2). The method used in this study using descriptive qualitative methods that data collection methods used in this study using primary data that is obtained through direct interviews with respondents combined with questions. Shrimp pond farmers get a harvest four times in one year, which occurs in March, June, September and December. The results of income from 50%-90% indicate a loss or decrease in income that occurs when the arrival of a prolonged dry season, because it determine the growth of shrimp to be sold and each shrimp has a different price (1) and the shrimp farmer to anticipate a decrease in income will look for shrimp elsewhere to be sold back to the market so that the income of the farmers can continue to run (2).

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1. INTRODUCTION

Indonesia is a tropical marine country with the largest potential for biological resources in the world. The marine biodiversity that Indonesia has is so extraordinary. To develop the economy and socio-culture of the community, the

utilization of the potential of marine biological resources in Indonesia's coastal and marine areas is always carried out optimally. This is strengthened by Law No. 27 of 2007 together with Law No. 1 of 2014 concerning the management of coastal and inland areas, which emphasizes the importance of the

utilization and conservation of these resources [1].

The length of the beach owned by Karawang Regency reaches 84.32KM which passes through nine sub-districts, including Cilamaya Kulon, Cilamaya Wetan, Tempuran, Pedes, Cilebar, Cibuaya, Tirtajaya, Batujaya, and Pakisjaya. Based on the Regional Autonomy Law, the sea area of

Karawang Regency has a boundary of 4 miles from the lowest tide, so the total sea area is estimated to be around 621.27KM². Karawang Beach is located in the northern part and has a flat sea topography. In general, the depth of the waters ranges from 0 to 20 meters, while along the coast inwards it reaches 0 to 5 meters. Karawang Regional Government (2003) quoted by [2].

Table 1. Aquaculture Production by Tirtajaya District, Karawang Regency

Aquaculture Production by Sub-district and Sub-Sector in Karawang Regency	
District	Pond Area
Cilama Wetan	3 396.86 ha
Cilama Kulon	904.59 ha
Tempuran	3 634.48 ha
Pedes	2 462.90 ha
Cilebar	2 516.38 ha
Cibuaya	7 200.56 ha
Tirtajaya	7 301.98 ha
Batujaya	7 277.11 ha
Pakisjaya	7 112.07 ha
Sum	41 806.93 ha

Source: Central Statistics Agency of Karawang district, 2022

Abundant water resources can be fully optimized to meet human economic needs. Similarly, it is hoped that pond farmers can take advantage of the potential of ponds as part of the development of aquatic areas, both on land and at sea [3].

In an effort to meet the food needs of the community, agriculture has a very important role. One of the main aspects in agriculture is shrimp cultivation which is often the main source of income for a number of farmer groups. Shrimp farming is a farming business that can be developed to meet market needs, so as to benefit farmers, this situation encourages them to increase production, which in turn can increase indirect income for shrimp farmer groups [4] Various types of marine life can reproduce optimally in Indonesian waters, including shrimp [5].

Shrimp is a significant fishery commodity because it has good business value in the market that has good nutritional content. The more shrimp enthusiasts, both in the national market and the international

market, the stronger the motivation to make shrimp business the most important livelihood [6].

Tirajaya is one of the sub-districts in Karawang Regency which has an agricultural area of 5,658 hectares. Most of the residents in Tirajaya Village work as farmers and they have a pond covering an area of 4,200 hectares, which is the largest in two villages, namely Tambaksumur and Tambaksari Villages. The residents of Tambaksumur village rely on the fisheries sector (ponds) as one of the businesses they run, besides that fisherman are the main pillar in the village economy, which consists of extensive pond management and rice field agriculture and also many residents who have the potential to be fishermen. Fisheries and livestock are the flagship potential of Tambaksumur village because they are only carried out on a scale that is quite limited to a small scale or only at the household level, without any large investment so that productivity is very limited [7].



Picture 1. Shrimp Pond in Tambaksumur Village

Source: Author, 2023

Facing market demand, it greatly affects income, because income is closely related to the level of production to be achieved, the amount of fishermen's income is influenced by production and price levels, if production increases, then the possibility of income will increase. Productivity can be affected by two factors, namely external factors and internal factors such as less supportive weather, and internal factors such as less optimal such as using traditional systems [8].

According to Research [9] regarding income analysis, a case study of Coffee Farming Business Income Analysis in East Purworejo Village. The results of the study show that the production cost and selling price of coffee affect the high and low income of farmers. The income in East Purworejo Village is obtained through a reduction between total sales and total costs and profits, making it suitable for business.

According to research [8] Rice farmers get income through the result of subtracting the amount of costs received by the total cost used. Basically, the indicator of the success of a farming business can be seen from the increase in production of a farming business. However, in paddy rice farming that depends on the costs received by farmers and the cost of using agricultural inputs, high income cannot be guaranteed by the production of a commodity in a high unit of land area.

Meanwhile, according to [10] about income analysis case study Income Analysis of Rice Farming in Mlonggo District, Jepara Regency, the results of the study show that the production factors in the rice cultivation pose that affect the income of rice farming in Mlonggo District, Jepara Regency, include land area, amount of production and various other costs. These costs include seed costs, pesticide costs, fertilizer costs, and labor wages that are in accordance with the right standards.

The conclusion can be drawn from the study, that in the coffee farming business in East Purworejo Village, Modyag District, the results of the analysis show that the coffee farming business in East Purworejo village is profitable and worth cultivating while the results of the research on the Analysis of Rice Farming Income in Mlonggo District, Jepara Regency revealed that the average income of rice farmers in Mlonggo District, Jepara Regency per planting season is IDR 8,924,425,- / 0.5 ha. The average monthly income is IDR 1,487,404,- lower than the regional minimum wage (UMR) of Jepara Regency, which is IDR 1,600,000,-.

Based on the research, the author is interested in knowing more about how farmers earn income and anticipate a decrease in income at the turn of the season, therefore the author made the title "Analysis of Shrimp Business Income in Farmer Groups in Tambaksumur Village, Tirtajaya Karawang"

2. LITERATURE REVIEW

2.1 Definition of Financial Management

Financial management is the activity of planning, regulating, directing and supervising the flow of money, such as the purchase and utilization of company funds [11]. Meanwhile, according to [12] Financial management is a unity of words consisting of two words that each have a meaning. [13] Income That Financial management is the management of financial operations related to fund income (rising of funds) and use of funds (allocation of funds).

2.2 Definition of Income

Income can be understood as the process of earning money that is received as a result of activities, efforts, and work, and can also be obtained from the sale of a product to the market. The survival of a person or a company is highly dependent on income. If the income generated is getting bigger, then the ability of a person or company to finance all needs is also getting bigger [14].

Hery [15] Explain that it is an inflow of assets, asset enhancement, or the completion of important responsibilities that include the delivery of goods, provision of services, or other assets that are the main activities of the business.

2.3 Farmer Groups

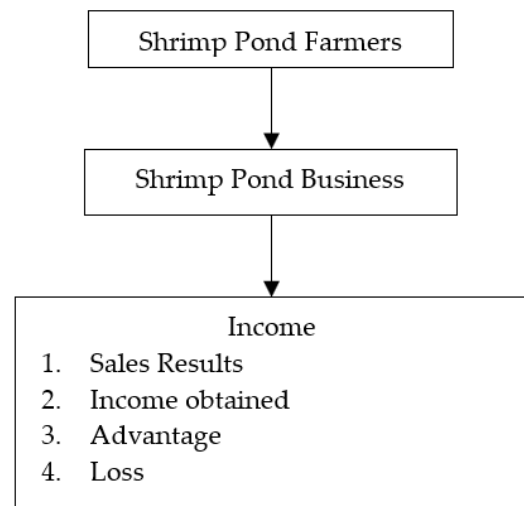
Farmer groups play an important role in the life of the farming community as an organizational forum that has cooperation between members, this is because farmer groups carry out all activities and problems in farming [16].

According to Pramudya [17] A Farmer Group is a body consisting of a group of farmers who often unite in the production of commodities in order to achieve a mutually beneficial common goal.

FRAME MIND

Farming Business in Ponds in Tambaksumur Tirtajaya Village, Karawang Regency is a Shrimp Producing Business. The acquisition of income levels can be affected by the number of demands that continues to increase. Revenue is the result of the difference between receipts and all expenses, or in other words, revenue includes gross income or total receipts and net income.

For more details, the Shrimp Pond Business in Tambaksumur Tirtajaya Village, Karawang Regency, can illustrate the framework chart in figure 1 below:



Picture 2. Research Paradigm

3. METHODS

This study uses the Qualitative Descriptive method. The research was carried out in Karawang Regency. The location of the research is in Tirtajaya District, Tambaksumur Village, this research was carried out in November - January 2024 the data used in this study used primary data, which was obtained through direct interviews with respondents combined with questions. Interviews were conducted with farmers to obtain information and data related to the research topic, along with the documentation needed to collect data by recording events or situations at the research site through taking pictures or photos. This aims to provide significant support in the implementation of the research that is being conducted.

4. RESULTS AND DISCUSSION

The author carried out research in the Tambaksumur Area, Tirtajaya District, Karawang Regency, which is located in the province of West Java with the geographical location of Tirtajaya District, located as far as 8 kilometers from the North Coast of Java Island with an altitude of 3 meters above sea level.

Tambaksumur Village is a large rice field area. Therefore, nature conservation is the main concern in the development of areas adjacent to the sea. Tambaksumur Village has

a geographical position at longitude coordinates 107.265666 and latitude -6.002484. The area reaches 2610 hectares.

4.1 Shrimp Business Income in Farmer Groups in Tambaksumur Village, Tirtajaya Karawang District

The following is a table of 2 types of shrimp sold by pond farmers in Tabaksumur Village.

Table 1. Types of Shrimp

Rata-rata Jenis Udang yang dijual	Rata-rata Harga Udang Per 1Kg
Udang Vename	Rp 75.000 - Rp150.000
Udang Peci	Rp 50.000 - Rp100.000
Udang Bago	Rp120.000 - Rp170.000

Source: Shrimp Pond Farmers and the author's results, 2023

From table 2 above, it can be seen that there are several types of shrimp that are sold at relatively different prices and there are several types of shrimp that have prices according to the size of the shrimp.

Farmers in Tambaksumur Village earn income only at the time of shrimp harvest, which in one year only occurs four harvests in March, June, September and December, in one harvest it takes up to three months, at the time of harvest pond farmers will send shrimp to the market which is a supplier in the market with a payment system given one to two days after delivery, So Pond farmers are very important to optimize the results from the sales they have gotten. With the crops they have obtained, pond farmers must make records for their business, so that pond farmers can make better decisions in managing ponds.



Picture 3. Udang Vename



Picture 4. Bago Shrimp



Picture 5. Peci Shrimp

With the prices that have been explained in table 2 above, you can see the table of income obtained by shrimp farmers in Tambaksumur Village as follows:

Table 2. Revenue Results in July – September 2023

No	Nama	Luas Lahan (ha)	Hasil Panen Permusim / selama 3 Bulan Rata-rata	Penjualan Rata-rata Udang /Hari	Penjualan Rata-rata Udang Selama 3 bulan	Pendapatan Rata-rata selama 3 bulan
1.	Bapak Ade	700	270.004 kg	300 kg	27.000 kg	Rp40.500.000,00
2.	Bapak Abidin	200	180.001 kg	200 kg	18.000 kg	Rp25.000.000,00
3.	Bapak Tarya	10	91.001 kg	100 kg	9.100 kg	Rp13.000.000,00
4.	Bapak Cucun	12	91.001 kg	100 kg	9.100 kg	Rp10.000.000,00
5.	Bapak Iik	10	91.002 kg	100 kg	9.100 kg	Rp 9.000.000,00
6.	Bapak Syaqi	12	180.002 kg	200 kg	18.000 kg	Rp27.000.000,00
7.	Bapak Karsiman	10	91.002 kg	100 kg	9.100 kg	Rp12.000.000,00
8.	Bapak Herman	10	91.002 kg	100 kg	9.100 kg	Rp 9.000.000,00

Source : Shrimp Pond Farmers and the author's results, 2023

Table 3 shows that shrimp pond farmers in Tambaksumur Village get a different average income for each sale and land area. From the table above, it can be seen that Mr. Ade's shrimp pond in July-September obtained a harvest of 270.00kg so that he obtained an average income of Rp40,500,000.

Shrimp pond farmers in running their businesses do not always get the same income for every harvest four times a year. This is due to several bad factors in October – December which results in the growth of shrimp that are not suitable for harvesting. The following is

table 4 in the form of revenue loss data in October-December.

Table 3. Decline or Loss of Revenue October-December 2023

No	Nama	Luas Lahan (ha)	Penurunan Rata-rata Pendapatan (%)	Rata-rata Kerugian Pendapatan	Hasil Pendapatan (Oktober-Desember)	Bulan Kerugian
1.	Bapak Ade	700	90%	Rp 36.450.000,00	Rp 4.050.000,00	Oktober-Desember
2.	Bapak Abidin	200	70%	Rp 17.500.000,00	Rp 7.500.000,00	Oktober-Desember
3.	Bapak Tarya	10	50%	Rp 6.500.000,00	Rp 6.500.000,00	Oktober-Desember
4.	Bapak Cucun	12	60%	Rp 6.000.000,00	Rp 4.000.000,00	Oktober-Desember
5.	Bapak Ik	10	70%	Rp 6.300.000,00	Rp 2.700.000,00	Oktober-Desember
6.	Bapak Syaqi	12	70%	Rp 18.900.000,00	Rp 8.100.000,00	Oktober-Desember
7.	Bapak Karsiman	10	50%	Rp 6.000.000,00	Rp 6.000.000,00	Oktober-Desember
8.	Bapak Heman	10	80%	Rp 7.200.000,00	Rp 1.800.000,00	Oktober-Desember

Source: Shrimp Pond Farmers and the author's results, 2023

Table 4 shows that the crop yield in October-December suffered a loss. From this data, it can be seen that Mr. Ade suffered the greatest loss because he had the largest land, an area of 700ha and the income obtained was Rp40,500,000 in July - September, so the losses obtained were also getting bigger. Likewise, Mr. Karsiman and Mr. Ade, even though they have the same pond land area of 10ha and the same loss of 50%, but have different incomes. This loss can be caused by waterways that do not work, limited capital, the feed and vitamins needed, and the weather that causes everything to be constrained, if the largest loss is 90% and the smallest is 50%.

4.2 Anticipating a Decline in Revenue at the Turn of the Season

When experiencing crop failure, pond farmers must find solutions so that income continues to run. One way that can be done is to look for shrimp in other ponds. Here are table 5 supplier data from other ponds

Table 4. Supplier Data

Data Pemasok	Pembelian Udang	Keadaan tambak tidak baik (Bulan)
Sungai Buntu	50-100kg	Mei-Juni
Sungai Terong	50-100kg	Agustus-September

Source: Shrimp Pond Farmers and the author's results, 2023

Sungai Buntu and Sungai Terong became the first suppliers for farmers in Tambaksumur Village, because with a close distance and also a pond area close to the coast, when their shrimp pond business experienced problems in their ponds, such as unsuitable harvests or small yields so that the farmers would take shrimp at suppliers to be sold back to the market.

DISCUSSION

Income

Based on the results of the study, income from 50%-90% shows a loss or decrease in income that occurs during the arrival of the prolonged dry season, because it greatly affects the growth of shrimp that will be sold, the economy in Tambaksumur Village has a decrease in sales that is almost felt in the people of Tambaksumur Village, because the majority of the residents of Tambaksumur Village mostly make a living from shrimp or fish businesses.

The dry season that occurs at this time causes farmers' land to be dry and there is no water channel to enter, which has the potential to not be able to sow shrimp seeds to be harvested again, "if the estuary water is opened, maybe it can still be tried to sow shrimp seeds, but the water channel in the estuary is closed, so it becomes a drought," said Mr. Ade. In addition, it can also have a negative impact on economic and agricultural life. Pond farmers in Tambaksumur village, Tirtajaya District, Karawang, in facing the dry season, must use their experience wisely so that the pond does not fail. So, there are several obstacles related to the decline in income, such as poor feed, inappropriate shrimp produced, water quality, and the existence of shrimp diseases such as viruses that cause mass deaths in shrimp.

During normal weather, farmers get good shrimp products so that they can be sold to the market, the marketing carried out in Tambaksumur Village goes through two stages, shrimp pond farmers are directly distributed to the city or out-of-town market and even traded around. This results in the price of shrimp at farmers being more expensive, and farmers will get great profits because there is no price reduction from agents or collectors anymore but directly to wholesalers to reach consumers.

There are several things that can affect the estimate in addition to the occurrence of a prolonged dry season because there are still many shallow pond waterways, besides that capital, seed quality and the occurrence of oil spills carried into the pond

area are also predicted to still affect the income that will be obtained.

Anticipating a Decline in Revenue at the Turn of the Season

In the Shrimp Pond Business, experiencing failure when harvesting shrimp, farmers will get huge losses, so farmers have to think hard to find a side job if there is a problem with shrimp ponds that cause crop failure in shrimp that have been stocked, because most of the Pond Farmers in Tambaksumur Village are mainly engaged in selling shrimp from ponds.

- 1) The farmers will try their best to find shrimp in other places to be resold to the market that always receives shrimp income from shrimp sellers in Tambaksumur Village. With that, pond farmers can maintain their income.
- 2) If the crop fails, some of the pond farmers only rely on debt to meet their daily needs until the business is running back to normal.

According to the Karawang Regency Government, in this case, the Karawang Regency Fisheries Service through the Participatory Pond Irrigation Management (PITAP) activity program from the Directorate General of Aquaculture Fisheries of the Ministry of Marine Affairs and Fisheries which is carried out in a self-managed manner by the Fisheries Irrigation Management Group (Poklina) in Tirtajaya District. Poklina Pesona Tambak supports the development of shrimp and fish pond businesses in the Tambaksumur area. The activity carried out is to rehabilitate shallow pond channels so that the water supply from the sewer sea can smoothly enter the pond map. In addition to PITAP activities, the Karawang Regency Fisheries Service also through the Aquaculture Management program in 2023 also distributes activities in the form of pond water pump machine assistance to shrimp or

fish pond cultivation groups to overcome the need for incoming water supply so that drought does not occur.

5. CONCLUSION

Based on the research that has been conducted on "Analysis of Shrimp Pond Business Income in the Farmer Group of Tambaksumur Village, Tirtajaya District, Karawang" can be concluded as follows:

- 1) Based on the results of the Revenue Analysis from 20%-90%, it shows that there is a loss or decrease in income that occurs during the arrival of the prolonged dry season in October-December, because it greatly affects the growth of shrimp to be sold.
- 2) The farmers will try their best to find shrimp in other places to be resold to the market that always receives shrimp income from shrimp sellers in Tambaksumur Village. With that, pond farmers can maintain their income. If the crop fails, some of the pond farmers only rely on debt to meet their daily needs until the business is running back to normal.

IMPLICATION

From the discussion and conclusion, there are suggestions that the author can give, including:

- 1) Shrimp pond farmers should pay special attention to the health of shrimp during the dry season and monitor the health of shrimp so that at the time of shrimp harvest there are no losses too much.
- 2) To anticipate a decrease in income, shrimp farmers should expand shrimp suppliers in each pond, so that when the harvested shrimp fails, they can take the shrimp and resell them, so that the farmers do not suffer large losses.

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