

FINANCIAL FEASIBILITY ANALYSIS OF SEMI-INTENSIVE SHRIMP FARMING IN CIHERAS VILLAGE, TASIKMALAYA

Analisis Kelayakan Finansial Usaha Tambak Udang Semi Intensif Desa Ciheras, Tasikmalaya

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ABSTRACT

This study aims to analyze the economic feasibility of vaname shrimp farming (*Litopenaeus vannamei*) with a semi-intensive system in Ciheras Village, Tasikmalaya Regency. Data collection technique was conducted by census method on 10 shrimp farmers representing semi-intensive cultivation technology. Data collected include investment costs, operating costs, production results, and receipts from shrimp sales. Financial analysis is carried out through four main indicators, including profit (profit), Revenue Cost Ratio (R/C), Break Even Point (BEP), and Payback Period (PP). The results showed that the average net profit obtained by farmers per cycle reached Rp58, 750, 000. The pond business in Ciheras village was declared feasible based on financial feasibility test (Revenue Cost Ratio 1.35; Payback Period 2.54 years, and Break Even Point Rp413, 501, 004 per year). The implementation of pond operations in the rainy season is more profitable than the dry season with a value of Revenue Cost Ratio of 1.64; Payback Period of 2.82 years, and Break Even Point of Rp134, 576, 392. This finding shows that semi-intensive vaname shrimp farming in Ciheras Village is not only economically feasible, but has the potential to improve the welfare of coastal communities. One of the important keys to the profitability of this semi-intensive farm emphasizes the importance of production cost efficiency, especially in feed and fry components. The final result of this research is expected to be a reference for Pond operations for farmers, investors, and local governments.

Keywords: Business Feasibility, Shrimp Farming, Profit, RC Ratio, Break Event Point, Payback Period

ABSTRAK

Penelitian ini bertujuan untuk menganalisis kelayakan ekonomi usaha budidaya tambak udang vaname (*Litopenaeus vannamei*) dengan sistem semi-intensif di Desa Ciheras, Kabupaten Tasikmalaya. Teknik pengumpulan data dilakukan dengan metode sensus pada 10 petambak udang yang mewakili teknologi budidaya semi-intensif. Data yang dikumpulkan meliputi biaya investasi, biaya operasional, hasil produksi, dan penerimaan dari penjualan udang. Analisis finansial dilakukan melalui empat indikator utama, meliputi keuntungan (profit), Revenue Cost Ratio (R/C), Break Even Point (BEP), dan Payback Period (PP). Hasil penelitian menunjukkan

bahwa rata-rata keuntungan bersih yang diperoleh petambak per siklus mencapai Rp58.750.000. Usaha tambak di Desa Ciheras dinyatakan layak dijalankan berdasar uji kelayakan finansial (Revenue Cost Ratio 1,35; Payback Period 2,54 tahun, dan Break Even Point Rp413.501.004 per tahun). Penerapan operasional tambak di musim hujan lebih menguntungkan dibanding musim kemarau dengan nilai Revenue Cost Ratio 1,64; Payback Period 2,82 tahun, dan Break Even Point Rp134.576.392. Temuan ini memperlihatkan bahwa usaha budidaya udang vaname semi-intensif di Desa Ciheras tidak hanya layak secara ekonomi, namun berpotensi meningkatkan kesejahteraan masyarakat pesisir. Salah satu kunci penting profitabilitas tambak semi-intensif ini menekankan pentingnya efisiensi biaya produksi, terutama pada komponen pakan dan benur. Hasil akhir riset ini diharapkan menjadi acuan operasional tambak bagi pembudidaya, investor, maupun pemerintah daerah.

Kata Kunci: Kelayakan Usaha, Tambak Udang, Profit, RC Ratio, Break Event Point, Payback Period

INTRODUCTION

Whiteleg shrimp (*Litopenaeus vannamei*) is a cultivated fishery commodity that plays a vital role in international trade and the economic development of producing countries. According to the FAO (2023), global farmed shrimp production in 2023 reached 5.7 million tons, with a trade value exceeding USD 39 billion. Indonesia is a major producer due to its long coastline, supportive coastal ecosystems, and experienced human resources in pond management (KKP, 2022). This potential makes whiteleg shrimp cultivation not only a contributor to foreign exchange through exports but also a vital source of livelihood for coastal communities.

Shrimp farming systems in Indonesia have evolved from traditional to intensive, with semi-intensive systems being the primary choice for farmers. This system is more suitable for small and medium-sized farmers because it requires less capital than intensive systems, while still being able to produce large quantities (Kumar & Engle, 2016). According to Solin and Triyatmo (2021), semi-intensive whiteleg shrimp pond productivity can reach around 20–25 tons per hectare per cycle. Although lower than intensive systems, semi-intensive systems still provide financial benefits when properly managed, particularly in terms of operational cost efficiency and production management.

Production costs are the most crucial factor in the success of a shrimp farm. Feed is the largest cost component, accounting for approximately 50–60% of total production costs, so proper feed management significantly impacts profitability (Emerenciano *et al.*, 2020). Furthermore, the quality of shrimp seed also influences shrimp survival rates, and pond water quality is directly related to shrimp health (Boyd & McNevin, 2021). The location of Ciheras Village in Tasikmalaya Regency offers favorable potential for shrimp pond development, as it receives seawater from the southern coast of Java and freshwater from the Cikaengan River, creating ideal brackish water conditions for the survival of whiteleg shrimp. The presence of a mangrove green belt around the ponds also helps maintain the balance of the coastal ecosystem (Primavera, 2006).

Several previous studies have analyzed the feasibility of shrimp ponds in various regions of Indonesia. Ariadi & Permatasari (2021) reported that intensive ponds in Pekalongan have a R/C value of 1.77 with a payback period of 2.9 years. Yasin (2022) found that semi-intensive ponds in Cirebon have an R/C value ranging from 1.3–1.5 with a payback period of 1.9–2.4 years. This comparison demonstrates that intensive systems tend to be more profitable but require greater capital, while semi-intensive systems remain feasible and relevant for coastal communities with limited capital.

Despite the significant potential of whiteleg shrimp farming, challenges in providing quality seeds, affordable feed, and limited supporting infrastructure such as cold storage and distribution access remain serious obstacles (Iskandar & Hanafi, 2020). These conditions can

reduce the competitiveness of shrimp farming businesses, especially among small and medium-sized farmers. Therefore, an economic feasibility analysis is crucial for objectively assessing the prospects of shrimp farming in a given area.

Based on this background, this study was conducted to analyze the economic feasibility of semi-intensive whiteleg shrimp farming in Ciheras Village. A financial analysis was conducted to evaluate profit, revenue-cost ratio (R/C), break-even point (BEP), and payback period (PP). This study is expected to provide a comprehensive overview of the prospects of shrimp farming in Ciheras and serve as a reference for farmers, investors, and the local government in formulating strategies for developing a sustainable aquaculture sector.

METHOD

This study uses a quantitative descriptive approach. According to Arikunto (2006), a sample is a portion or representation of the population being studied. In this study, primary data was obtained through a selected sample of farmers using semi-intensive technology. The data collection technique was carried out using a census survey method, resulting in a sample size of 10 people, all of whom used semi-intensive technology. The variables evaluated were Profit, Revenue Cost Ratio (R/C), Break Even Point (BEP), and Payback Period (PP) (Kusumawardani, 2018; Shang, 2022) using the following formula:

$$\pi = TR - TC$$

$$R/C = \frac{\text{Total Revenue}(TR)}{\text{Total Cost}(TC)}$$

$$BEP_{unit} = \frac{FC}{P-VC} \quad BEP_{Rp} = \frac{FC}{1-\frac{vc}{S}} \quad (3)$$

$$PBP = \frac{\text{Total Investment}}{\text{Net Cash Inflow}} \times 1 \text{ Tahun.}$$

Description:

π	: Profit
TR	: Total Revenue
TC	: Total Expenditure
BEP	: Break Event Point
P	: Price per Unit
FC	: Fix Cost
S	: Sales Volume
VC	: Variable Cost

Data were analyzed using Microsoft Excel to calculate profit, revenue-cost ratio, break-even point, and payback period. The criteria used to select respondents in this study were farmers in Ciheras Village, Cipatujah District, Tasikmalaya Regency, who cultivate whiteleg shrimp ponds. Data were collected directly through questionnaires and interviews with farmers engaged in shrimp farming in Ciheras Village, Cipatujah District, Tasikmalaya Regency. Data collection was conducted through observation, interviews, and documentation at the research site.

Respondent characteristics were obtained using a census method, consisting of 10 farmers and owners of semi-intensive shrimp ponds in Ciheras Village who are still actively cultivating shrimp ponds (Tables 1 and 2).

Table 1. Percentage of Cultivators' Age

No	Age Range (Years)	Frequency	Percentage (%)
1.	20-29	2	20
2.	30-39	2	20
3.	40-49	3	30
4.	50-59	3	30
5.	60-70	0	0
Total		10	100

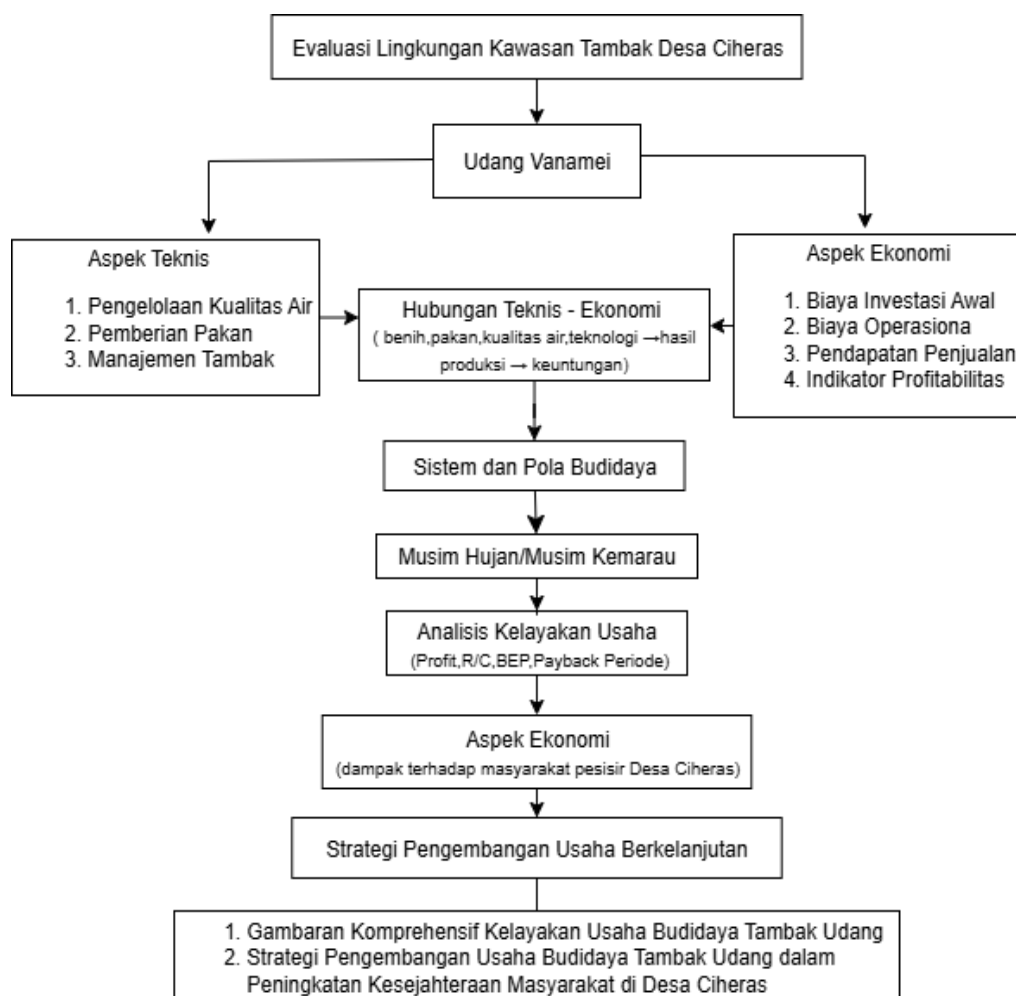
(Primary Data Processed, 2025)

Table 2. Frequency of Education Level of Cultivators

Main Job	Frequency	Percentage (%)
Shrimp Farmers	10	100
Farmers	0	0
Entrepreneurs	0	0
Fishermen	0	0
Total	10	100

(Primary Data Processed, 2025)

Based on Table 1 above, it shows that the 40-49 and 50-59 age groups are the highest age groups of shrimp farmers in Ciheras Village, Cipatujah District, namely 3 people with a percentage of 30% and the lowest percentage is the 20-29 and 30-39 age groups as many as 2 people with a percentage of 20%. The data in Table 2 shows that work as a shrimp farmer is the main job with a percentage of 10 people. The evaluation of the feasibility of intensive shrimp farming business is analyzed descriptively analytically with a study of the technical aspects of cultivation and economics as a framework for approaching the problem in the research method (Figure 1).



RESULT

The research findings presented include an analysis of the economic feasibility of a semi-intensive whiteleg shrimp farm in Ciheras Village, calculated based on four main indicators: profit, Revenue Cost Ratio (R/C), Break Even Point (BEP), and Payback Period (PP). Each analysis result is compared with financial feasibility standards and previous research findings to ensure consistency and strengthen the academic contribution of this study. The discussion focuses on how cost structure, revenue, and production management efficiency influence the level of business feasibility. Furthermore, these findings also provide a practical overview of the potential for developing semi-intensive shrimp farms in coastal communities, particularly for small and medium-sized farmers operating with limited capital.

Profit Analysis

The results of the study indicate that the vaname shrimp farming business in Ciheras Village provides significant profits for the farmers. The farmer with the highest profit is PT Organic Vaname Indonesia, which earned a profit of Rp 61,963,833/year, while the farmer with the lowest profit is H Encep with a total profit of Rp 38,713,583/year. Based on these profits, the shrimp farming business in Ciheras Village has a positive economic value, which means this activity is able to provide benefits for the farmers (Table 3) below.

Table 3. Profitability of Ciheras Shrimp Ponds

Name of Cultivator	Total cost	Income	Profit
H. Encep	Rp163.086.417	Rp201.808.333	Rp38.713.583
H. Asep Rizki	Rp153.596.792	Rp201.075.188	Rp47.175.208
H. Wildan	Rp155.286.333	Rp198.792.000	Rp43.538.667
Pak Agung	Rp138.762.233	Rp196.950.000	Rp58.187.767
Pak Eli	Rp138.144.679	Rp180.398.400	Rp42.253.721
Pak Suryana	Rp143.528.433	Rp202.622.550	Rp59.094.117
Pangestu Vaname	Rp152.791.133	Rp209.889.333	Rp57.098.200
Yayasan Al Barkah	Rp148.606.567	Rp199.200.000	Rp50.593.433
PT Organic Vaname Indonesia	Rp155.561.167	Rp217.525.000	Rp61.963.833
PT Golden Shrimp	Rp131.898.792	Rp185.452.750	Rp53.553.958

(Primary Data Processed, 2025)

Revenue Cost Ratio Results (RC)

The RC Ratio analysis is a calculation of the ratio of the level of profit earned to the total costs incurred. This means that if the RC Ratio is greater than 1, the project's profits exceed its expenses, making it acceptable or worth continuing. If the RC Ratio is less than 1, the project's profits are less than its expenses, making it unfeasible and requiring review. If the RC Ratio is equal to 1, the profits and expenses are considered balanced, or break-even. The RC Ratio value for the shrimp pond cultivation business in Ciheras Village can be seen in Table 4.

Table 4. Revenue-Cost Ratio for Vaname Shrimp Pond Cultivation Business

Name of Cultivator	R/C	R/C	R/C
	Rainy Season	Dry Season	(Years)
H. Encep	1,45	1,02	1,24
H. Asep Rizki	1,57	1,05	1,31
H. Wildan	1,51	1,05	1,28
Pak Agung	1,71	1,13	1,42
Pak Eli	1,57	1,04	1,31
Pak Suryana	1,69	1,13	1,41
Pangestu Vaname	1,65	1,10	1,37
Yayasan Al Barkah	1,61	1,07	1,34
PT Organic Vaname Indonesia	1,68	1,12	1,40
PT Golden Shrimp	1,79	1,02	1,41

(Primary Data Processed, 2025)

Break Even Point Results (BEP)

The break-even point (BEP) is the point at which total revenue equals total costs. BEP is an analytical method that relates total costs to a certain sales volume, where a company neither experiences a loss nor earns a profit. According to Engle (2010), BEP is defined as the point at which total revenue equals total production costs, resulting in neither profit nor loss. Kumar *et al.*, (2016) state that BEP analysis is crucial for determining the minimum production level that must be achieved for a shrimp farming business to be economically viable. The BEP value for shrimp farming in Ciheras Village is presented in Table 5.

Table 5. Break-Even Point for Vaname Shrimp Farming Business

Name of Cultivator	Rainy Season Shrimp BEP (Rp)	Dry Season Shrimp BEP (Rp)	Rainy Season Shrimp BEP (Kg)	Dry Season Shrimp BEP (Kg)
H. Encep	Rp207.024.968	Rp449.605.165	8.281	17.984
H. Asep Rizki	Rp241.067.730	Rp515.224.391	9.740	20.817
H. Wildan	Rp99.496.819	Rp198.895.511	4.020	8.036
Pak Agung	Rp60.698.892	Rp102.649.659	2.404	4.065
Pak Eli	Rp31.981.348	Rp60.771.611	1.088	2.067
Pak Suryana	Rp61.699.121	Rp104.716.693	2.434	4.131
Pangestu Vaname	Rp93.998.970	Rp172.381.527	3.615	6.630
Yayasan Al Barkah	Rp284.807.044	Rp577.350.046	11.392	23.094
PT Organic Vaname Indonesia	Rp64.985.409	Rp113.921.783	2.552	4.413
PT Golden Shrimp	Rp203.542.395	Rp490.190.965	8.308	20.008

(Primary Data Processed, 2025)

Payback Period Results (PP)

Payback period (PBP) analysis is the time required for a business entity to recoup its initial investment/capital. If the payback period is shorter than the specified time, the investment is considered feasible/acceptable. If the payback period is longer or exceeds the specified time, the investment is considered unfeasible. The shrimp farmer with the fastest payback period is PT Golden Shrimp, at 2.08 years. Meanwhile, the longest payback period is held by Mr. Eli, at 4.01 years, or approximately 4 years. Table 6 displays the evaluation of the PP parameters for shrimp farming businesses in Ciheras Village.

Table 6. Payback Period for Shrimp Farming in Ciheras Village

Name of Cultivator	Rainy Season Payback Period	Payback Period Dry Season	Payback Period (Years)
H. Encep	3,2	70,4	3,06
H. Asep Rizki	2,6	30,9	2,38
H. Wildan	3,1	35,2	2,85
Pak Agung	2,7	14,8	2,27
Pak Eli	4,3	55,0	4,01
Pak Suryana	2,6	14,2	2,23
Pangestu Vaname	2,6	16,8	2,23
Yayasan Al Barkah	2,4	20,2	2,15
PT Organic Vaname Indonesia	2,5	14,5	2,16
PT Golden Shrimp	2,1	78,1	2,08

(Primary Data Processed, 2025)

$$*: PP = (\text{investment costs/profits (rainy season + dry season)}) \times \text{years}$$

DISCUSSION

Profit Analysis

Based on Table 3 above, the research results show that the whiteleg shrimp farming business in Ciheras Village provides significant profits for farmers. The farmer with the highest profit is PT Organic Vaname Indonesia, which earned a profit of IDR 61,963,833/year, while the farmer with the lowest profit is H Encep, with a total profit of IDR 38,713,583/year.

From a revenue perspective, production volume is a crucial factor, as shrimp pond production is heavily influenced by the season. During the rainy season, freshwater availability is more sufficient, resulting in more stable salinity levels in brackish water. This condition supports the shrimp molting process and accelerates growth, allowing for earlier harvesting with relatively higher yields. Conversely, during the dry season, freshwater supplies are limited, resulting in increased salinity levels in the ponds. This inhibits shrimp molting and leads to slower growth, potentially even delaying harvest time. These delayed harvests result in reduced production, which directly impacts farmer income.

In addition to affecting production, seasonal conditions also impact operational costs. During the dry season, farmers must operate pumps more frequently to maintain stable water quality, particularly salinity. This increases electricity consumption, adding to variable costs. The increase in production costs during the dry season reduces profit margins, even though shrimp prices are relatively stable on the market. Therefore, the difference between the rainy and dry seasons not only affects the amount of harvest income but also significantly determines the amount of net profit received by farmers.

This study indicates that shrimp pond cultivation in Ciheras Village has positive economic value, meaning it generates profits for the farmers. The sustainability of this business can be further enhanced through better management strategies, such as the use of more efficient feed technology, optimization of shrimp stocking densities, and market diversification to increase the competitiveness of fishery products from Ciheras Village.

Revenue Cost Ratio (RC)

Based on Table 4 above, the research results show that the shrimp farming business in Ciheras Village has a high Revenue-Cost Ratio (RCR) value, indicating high economic feasibility. The RC Ratio is an indicator in business feasibility analysis, describing the ratio between total profits earned and total costs. If the RC Ratio is >1 , the business is considered economically feasible to operate and develop.

Based on the analysis, the shrimp farming business with the highest Revenue-Cost Ratio (R/C) is owned by farmer Pak Agung, at 1.42 per year. This means that for every Rp1.00 spent on costs, he generates Rp1.42 in revenue. This high R/C value is influenced by a relatively high selling price of Rp50,500/kg and efficient management of production costs. With a total production of 7,800 kg per year, consisting of 4,700 kg in the rainy season and 3,100 kg in the dry season, Pak Agung managed to generate revenue of up to Rp393,900,000. This indicates that the business, although not as large as other farmers with larger ponds, is more efficient in its use of costs, resulting in optimal profits.

Meanwhile, H. Encep achieved the lowest R/C ratio of 1.24. This means that for every Rp1.00 of costs incurred, he only generates Rp1.24 in revenue. This value still indicates a profitable business, but his efficiency is lower than that of Mr. Agung. H. Encep's total production is 24,217 kg per year (14,230 kg in the rainy season and 9,987 kg in the dry season), resulting in revenue reaching Rp1,210,850,000. However, high production costs of Rp978,518,500 per year result in a narrower profit margin. This indicates that a larger business scale does not necessarily guarantee higher efficiency, as the costs incurred also increase.

When viewed by season, the RC ratio remains above 1 in both the rainy and dry seasons, indicating that the shrimp farming business remains viable. However, the RC Ratio is generally higher during the rainy season than during the dry season. This indicates that during the rainy season, farmers' profits exceed their costs, while during the dry season, profits are relatively reduced. This decrease is closely related to environmental conditions, where freshwater supplies become limited during the dry season, resulting in increased salinity in the ponds. This condition inhibits the shrimp molting process, resulting in slower growth and decreased production. Furthermore, during the dry season, farmers must operate water pumps more frequently to maintain pond quality, increasing electricity costs and further squeezing profit

margins.

For example, H. Encep has an RC Ratio of 1.45 during the rainy season, indicating a fairly profitable business with revenue exceeding costs. However, during the dry season, the RC Ratio drops to 1.02. While still above 1, making it viable, this decline indicates that profits are very slim. This situation illustrates the significant impact of the dry season on business efficiency, primarily due to reduced production and increased operational costs, resulting in a tendency for shrimp pond profitability to decline compared to the rainy season.

According to Amrullah (2020), a shrimp pond is economically feasible and feasible to develop if its RC Ratio is greater than 1, meaning that the total benefits obtained exceed the total operational costs. The results of this study indicate that shrimp pond cultivation in Ciheras Village is not only economically viable but also has the potential for further development to increase farmer income. With more optimal management strategies, such as increasing feed efficiency, utilizing cultivation technology, and managing market risks, this shrimp pond cultivation business can grow further and provide higher profits for farmers.

Break Event Point (BEP)

Based on Table 5 above, the research results show that the shrimp farmer with the highest production break-even point is the Al Barkah Foundation, which is a minimum of 23,094 kg per year or equivalent to an income of Rp577,350,046 per year to avoid losses. This high BEP value is influenced by the large production costs and fixed costs that must be borne. The Al Barkah Foundation's total variable costs reach Rp1,203,154,000 per year, plus fixed costs in the form of depreciation and bank interest of Rp350,102,044 per year. These large costs arise from the large scale of the business with a production capacity of 23,904 kg in the rainy season and 15,936 kg in the dry season, so the need for production facilities such as feed, probiotics, electricity, labor, and supporting equipment also increases. The Al Barkah Foundation itself manages 10 ponds or 10 pond plots, so its investment requirements are also much greater than those of small-scale farmers. With this capacity, the production break-even point that must be achieved is relatively high. Despite this, with total revenue reaching Rp1,992,000,000 per year and a net profit of Rp505,934,333 per year, the Al Barkah Foundation was still able to break even, declaring its business viable.

Meanwhile, the farmer with the lowest break-even production was Mr. Eli, producing 2,067 kg per year, or a minimum income of Rp60,771,611 per year. This low BEP value is influenced by the small scale of the business, with production of only 1,841 kg during the rainy season and 1,227 kg during the dry season. His variable costs of Rp105,288,012 per year, plus fixed costs of Rp32,856,667 per year without additional bank interest, are much lower than those of the Al Barkah Foundation. Mr. Eli only manages one pond or one fishpond, so his production costs are much lower. With total revenue of Rp180,398,400 per year and a net profit of Rp42,253,721 per year, Mr. Eli is easily able to break even, making the BEP achievement more realistic and achievable compared to farmers with larger businesses.

Thus, based on the research results, it can be concluded that shrimp farming has a significant opportunity for profitability. Therefore, strategies that farmers can implement to accelerate the BEP achievement include increasing production efficiency, such as optimizing feed use and employing appropriate marketing strategies to maintain competitive selling prices. Based on the BEP data, it can be concluded that all shrimp farming businesses in Ciheras Village are still considered viable and have the potential to be maintained or further developed.

Payback Periode (PP)

Based on Table 6 above, the results of the Payback Period (PP) study on shrimp farming in Ciheras Village indicate differences in payback periods among farmers. This is due to differences in initial investment costs and the scale of the shrimp farm. The shrimp farmer with the fastest payback period was PT Golden Shrimp, at 2.08 years, demonstrating high efficiency

in covering initial investment costs. Meanwhile, Mr. Eli had the longest payback period, at 4.01 years, or approximately four years. At PT Golden Shrimp, the rapid return on investment was influenced by high revenues, reaching Rp1,483,622,000 per year with a profit of Rp567,311,067. The larger production scale and optimal operational management resulted in a high cash flow per cycle, accelerating the return on investment.

In Mr. Eli's shrimp farming business, the profit was Rp42,253,721 from an initial investment of Rp169,250,000. With profits not significantly exceeding capital, cash flow per period is relatively small. One reason is the small scale of the business, with only one pond, limiting production to 1,841 kg in the rainy season and 1,227 kg in the dry season. With simple production facilities and lower investment costs, the payback period is longer than that of the larger-scale PT Golden Shrimp.

Besides being influenced by business scale, significant differences between PP during the rainy and dry seasons are also largely determined by environmental conditions. During the rainy season, freshwater availability is more abundant, resulting in more stable pond salinity, which supports the smooth shrimp molting process. Shrimp growth is faster, harvest size is reached more quickly, and the cultivation cycle is shorter. Conversely, the dry season is characterized by a dwindling freshwater supply and increased salinity, resulting in less than ideal water quality. This often disrupts molting, slows growth, and even delays harvesting because the shrimp do not reach market standards. Furthermore, during the dry season, operational requirements increase due to the increased use of pumps and aerators to maintain water quality, increasing electricity and fuel costs. The combination of harvest delays, decreased production volume, and increased operational costs results in lower cash receipts during the dry season, resulting in a significantly longer payback period (PP) than during the rainy season.

A comparison of the semi-intensive farming system studied in Ciheras Village with the intensive system in previous research shows a significant difference in the payback period (PP). The results of this study indicate that the PP for the semi-intensive system ranges from 2.08 to 4.01 years, with a tendency for the PP to be significantly longer during the dry season compared to the rainy season due to limited freshwater supplies and molting constraints that hamper shrimp growth. Meanwhile, research by Abdul Muqsih, Heri Ariadi, and Abdul Wafi (2024) on intensive whiteleg shrimp farming showed a PP of approximately 1.4 years, indicating a much faster payback period than for the semi-intensive system. Despite the variation in payback periods, calculations indicate that all whiteleg shrimp farming operations in Ciheras Village have a PP that is still considered feasible, as it falls within the reasonable investment horizon.

According to Akbar (2018), a lower PP value indicates that the business has a fast return on investment. The shorter the PP value, the faster the initial capital can be recovered, thus lowering the business risk. The speed of this return on investment is influenced by factors such as the selling price of shrimp, operational efficiency, and the level of shrimp pond productivity. Therefore, farmers can consider optimal strategies in the cultivation process and operational cost efficiency to increase the profitability of their business.

CONCLUSION

This study shows that the semi-intensive vaname shrimp farming business in Ciheras Village is feasible to run using financial feasibility parameters (Revenue Cost Ratio 1.35; Payback Period 2.54 years, and Break Even Point Rp413,501,004 per year). Implementing pond operations in the rainy season is more profitable than the dry season with a Revenue Cost Ratio value of 1.64; Payback Period 2.82 years, and Break Even Point Rp134,576,392.

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