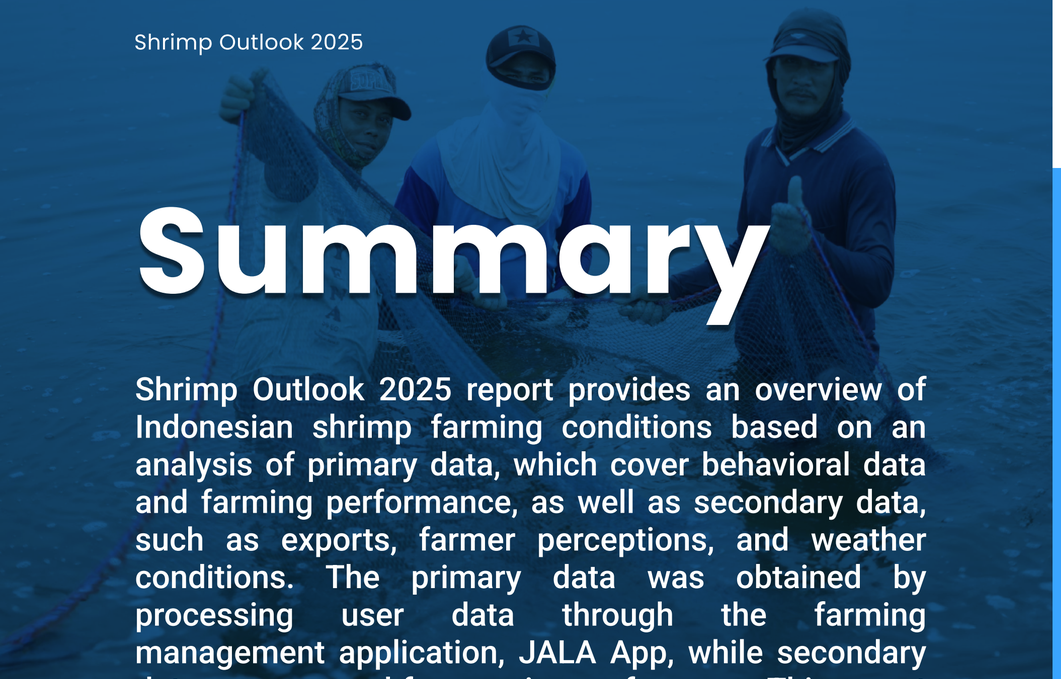
JALA

SHRIMP OUTLOOK 2025



Summary

Shrimp Outlook 2025 report provides an overview of Indonesian shrimp farming conditions based on an analysis of primary data, which cover behavioral data and farming performance, as well as secondary data, such as exports, farmer perceptions, and weather conditions. The primary data was obtained by processing user data through the farming management application, JALA App, while secondary data was sourced from various references. This report is intended to serve as a reference for shrimp industry players, enabling them to understand farming conditions, conduct comparisons, and support decision-making and strategic planning.

Indonesian shrimp industry closed 2024 with key evaluations, particularly concerning export dynamics and fluctuating shrimp prices. At the farm level, feed efficiency remains a primary concern, followed by disease infections that continue to hinder shrimp farming productivity.

Highlights

JALA

4th Position

Indonesia remains the world's fourth-largest shrimp exporter. However, the growth over the last three years has been negative.

Productivity

42.27

ton/ha

Top-performing shrimp farming productivity in Indonesia throughout 2024.

Eastern

Indonesia

emerged as a key driver of the nation's shrimp farming productivity.

73.3%

farmers

Are striving to maintain their stocking densities, a clear evidence of their resilience and optimism.

Per capita consumption

41.25

kg/person/year

According to data from Statistics Indonesia (BPS), Indonesia's per capita seafood consumption is high, indicating that the domestic market can serve as a solution to reduce reliance on exports.

40.3%

farmers

Identify shrimp diseases as the primary challenge in shrimp farming, followed closely by shrimp prices (39.5%).

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CEO Foreword

Liris Maduningtyas

Greetings, Indonesian Shrimp Farmers!

Gratitude fills our hearts as we are succesfully making it through 2024 together, a year filled with valuable lessons. My deepest appreciation goes out to all shrimp farmers and industry players for their unwavering dedication throughout the past year. A special thank you as well to JALA's valued users and business partners for the trust you have continually placed in us as we work together to advance Indonesia's shrimp farming industry.

The achievements of Indonesia's shrimp industry over the past year are proofs to the resilience and perseverance of our shrimp farmers. JALA remains steadfast in its commitment to supporting the industry's journey through innovation, sustainability, and a reliable supply chain ecosystem. The farming achievements throughout 2024 gives us optimism while also highlighting areas where we can strive for further improvement.

Based on our curated data, there is an increase in Indonesia's shrimp farm productivity. This is an encouraging development shaped by multiple factors and shifts in farming behavior. However, global shrimp markets have been less favorable with its fluctuating prices. We must also recognize the potential of Indonesia's domestic market and the sustainability aspect in shrimp farming.

The shrimp farming dynamics and opportunities in both global and domestic markets urge us all to move forward. JALA is committed to standing by Indonesian shrimp farmers, providing continuous support throughout 2025 and beyond.

Let's embrace 2025 with hope. Indonesia Produces Shrimp, Indonesia Eats Shrimp!

Keep up the spirit! 🫶🏻
Liris Maduningtyas

Glossary

In the data analysis, shrimp farms were categorized based on their stocking density with the description as follows:

Low Stocking Density

Farms with a **stocking density of less than 80 PL/m².**

Medium Stocking Density

Farms with a **stocking density of 80–150 PL/m².**

High Stocking Density

Farms with a **stocking density of more than 150 PL/m².**

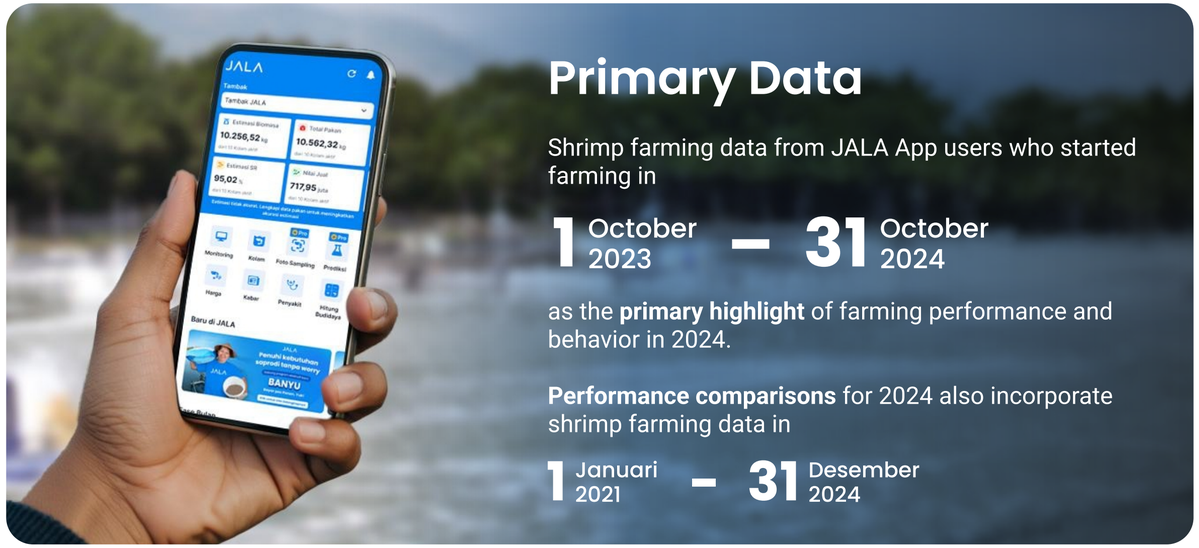
Average Body Weight (ABW) - Average weight per shrimp (unit: grams)
Acute Hepatopancreatic Necrosis Disease (AHPND) - A shrimp disease caused by various pathogens that lead to necrosis in the hepatopancreas
Average Daily Gain (ADG) - The average growth rate of shrimp each day (unit: grams per day)
Carrying capacity - The maximum population an ecosystem can support while ensuring sufficient food, habitat, space, and other essential resources (unit: kg/m²)
Days of Culture (DoC) - The duration of farming (unit: days)
EHP/HPM - A shrimp disease known as Hepatopancreatic Microsporidiosis (HPM), caused by the *Enterocytozoon hepatopenaei* parasite, leading to uneven shrimp growth rates
***Feed Conversion Ratio* (FCR)** - A metric indicating feed efficiency in shrimp farming, calculated from the total volume of feed given (unit: kg) divided by the total shrimp volume (unit: kg)
H1 - Refers to Half One or the first half of the year (January–June)
H2 - Refers to Half Two or the second half of the year (July–December)

Glossary

Hatchery - A facility for producing shrimp fry for aquaculture
IMNV/Myo - A shrimp disease caused by the Infectious Myonecrosis Virus (IMNV), which attacks shrimp muscle tissue
Ministry of Marine Affairs and Fisheries - The government agency of the Republic of Indonesia responsible for marine and fisheries affairs, including aquaculture and the shrimp industry
Quarter - A time reference representing one-fourth of a year (three months)
Median - The middle value in a dataset that has been arranged from the smallest to the biggest
Stocking Density - The density of shrimp fry within a pond area, calculated as the number of shrimp fry (post larvae/PL) per square meter (unit: PL/m²)
Positivity Rate - The proportion or percentage of test results that show positive results for a specific disease compared to the total number of tests conducted
Precipitation - The process of water falling from the atmosphere to the Earth's surface, influenced by high air temperatures (unit: mm)
Prevalence - The total number of disease cases occurring in a specific region at a certain time
Productivity - The achievement of shrimp production capacity within a specific area and time period (unit: tons/ha)
Shrimp farming production facilities - Shrimp farm production inputs and equipment utilized during the farming process
Cycle - A whole shrimp farming process, starting from shrimp fry stocking to harvest
Size - Shrimp size classification based on the number of shrimp per kilogram (unit: shrimp/kg)
Standard Deviation (Std Dev) - A value that measures the dispersion of data relative to the particular data mean value
Standard Operating Procedure (SOP) - Operational standards for farming, including feed management, biosecurity, water quality management, sampling, and more.
Survival Rate (SR) - The ratio of shrimp that survive in a certain period or by the end of the farming cycle (unit: %)
White Feces Disease (WFD) - A shrimp disease caused by Vibrio bacteria and causes the presence of white feces
White Spot Disease (WSD) - A shrimp disease caused by the White Spot Syndrome Virus (WSSV), marked by white spots on the shrimp's carapace

Data Source

There are two main data sources:



Primary Data

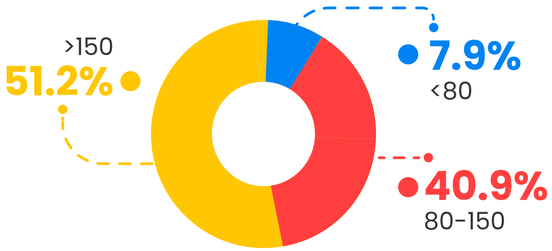
Shrimp farming data from JALA App users who started farming in

1 October 2023 – **31** October 2024

as the **primary highlight** of farming performance and behavior in 2024.

Performance comparisons for 2024 also incorporate shrimp farming data in

1 Januari 2021 – **31** Desember 2024



Number of Cultivation Cycles Used as Primary Data

Based on the proportion of data per stocking density group, the data is dominated by high stocking density (>150 PL/m²).

Secondary Data

Survey Data:
The survey was conducted to gather secondary data, including the mapping of shrimp farming behavior, key issues, and disease prevalence in Indonesia's shrimp farming. The survey was carried out in **December 2024–January 2025.**

Total respondents

105 farmers

from **55 cities/regencies** across **Sumatra**, **Java**, **Sulawesi**, **Bali**, and **Nusa Tenggara**.

Data validation was also conducted through interviews with various shrimp industry players and representatives of each stakeholder to obtain a clearer context from the data.

Data Analysis Method

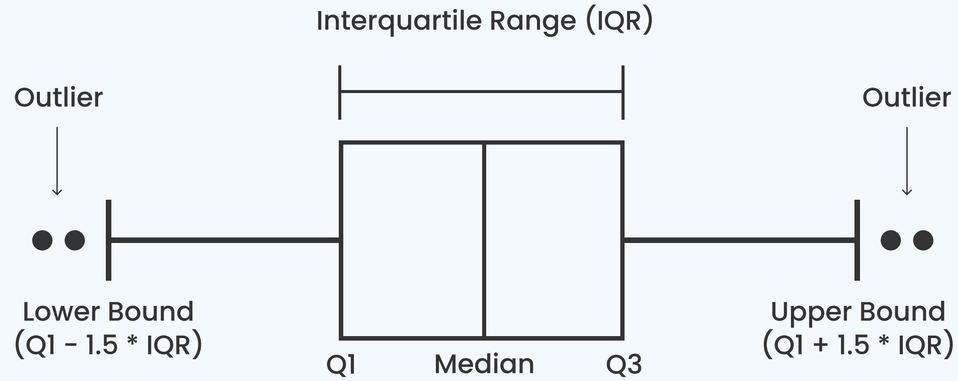
The analysis was conducted through two main steps: data cleaning and statistical analysis

The objective was **to ensure that all data used was relevant to the discussion context and could be accounted for**. Data cleaning was performed using the Interquartile Range (IQR) method and statistical analysis to interpret the conditions based on numerical insights.

Based on those steps, baseline criteria of farming data were established as the primary data used in this report. The following filter values were then obtained:

FCR	Size	SR
0.7–3.5	1–201	30–120%

Shrimp farming data that did not meet all three criteria were classified as outliers and were excluded from the data analysis.



Quartile (Q): A statistical term that describes the division of observations into four intervals based on data values and their comparison to the entire series of observation.

The Interquartile Range (IQR) method was applied to identify data outliers based on the calculations of the lower and upper bound values of the data quartiles. These values were obtained based on the following calculation:

- IQR = Q3 - Q1
- Lower bound = Q1 - (1.5 * IQR)
- Upper bound = Q3 + (1.5 * IQR)

Shrimp Industry Dynamics

Global Shrimp Export Market Competition

Shrimp export volumes have been on the rise since 2016

Ecuador remains the leading global shrimp supplier despite facing several challenges, such as extreme weather, low export prices, and declining demand from China. Meanwhile, India's shrimp export growth has fluctuated since 2022 due to oversupply in the global market. Same as Indonesia, India is highly dependent on the U.S. market, with the percentage of 80%.

Shrimp prices hit the lowest point in early 2024 but have since started to recover. However, uncertainty of demand from China and the potential increase in supply from Ecuador and India pose a threat of further price declines. At the same time, Ecuador is exploring expansion into Western markets(1). Some shrimp-producing countries, including Indonesia and Vietnam, continue to face the impact of U.S. anti-dumping and countervailing duties. The real effect of both trade measures is expected to become more evident in the second semester of 2024.

Meanwhile, the global shrimp market has been experiencing an oversupply of approximately 600,000 tons since 2022(2). This oversupply situation, driven by Ecuador and India's massive shrimp supplies, remains a key risk factor to shrimp price fluctuations.

(1) RaboResearch Food & Agribusiness Global animal protein sector team. (2024). *Global aquaculture update 2H 2024.* Rabobank.
(2) Tanco, C. (2024). *How The Asian Region Can Win Together*. DSM-Firmenich.

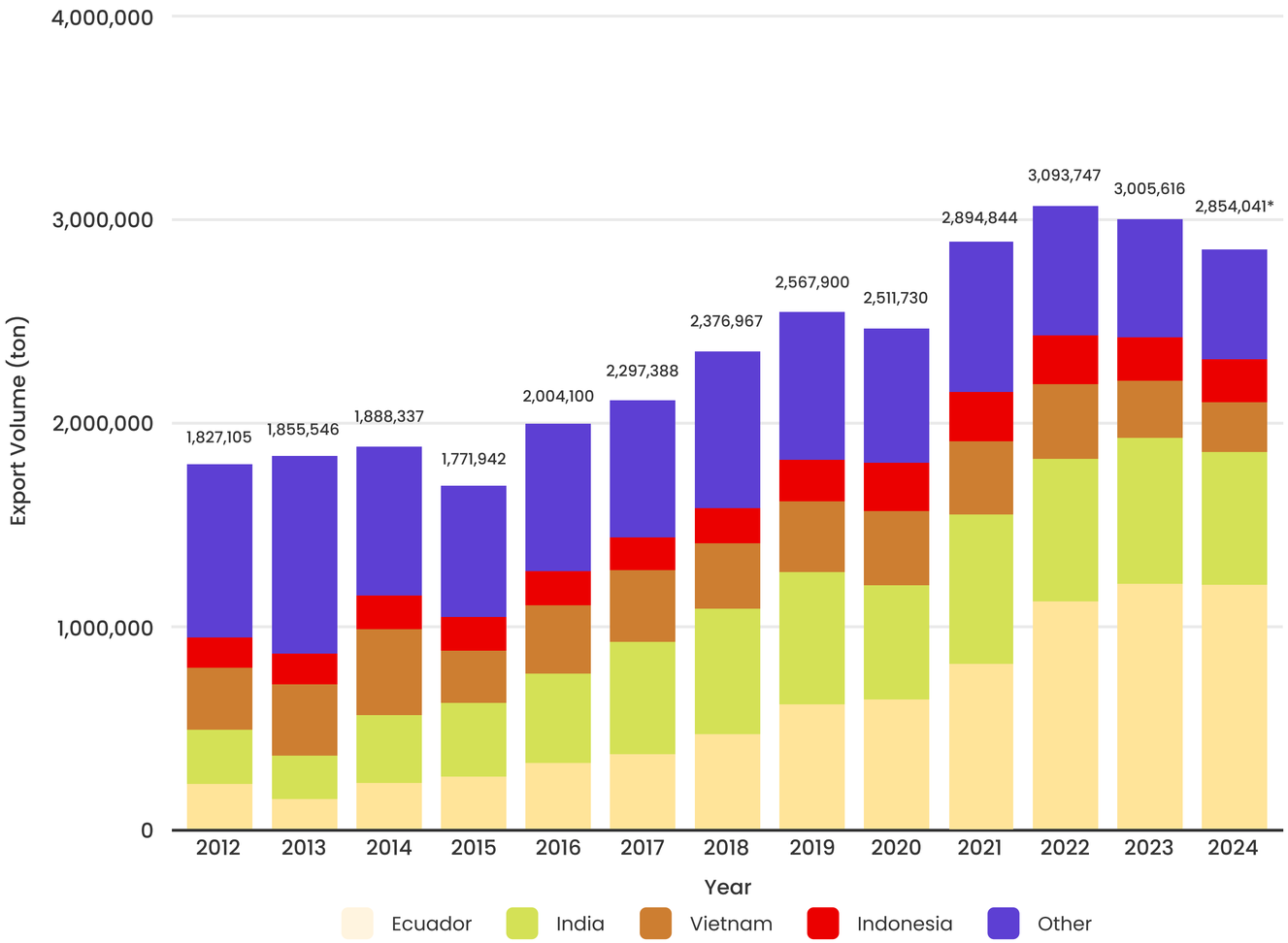


Figure 1.1. Export Performance of Shrimp-Producing Countries (**Source: Shrimp Insights, 2024**)

*Data is subject to change

JALA

Ecuador

The fastest-growing shrimp-producing country

1,211,624 tons

Total shrimp export in 2024

0%

Export Growth in 2024 (YoY)

2.2-2.4 USD/kg

Production cost (2023)

The highest shrimp export growth in Ecuador happened in 2022, reaching 15%. Ecuador becomes the shrimp producer with the fastest growth globally[1]. However, in H1 2024, the country's shrimp production growth slowed due to extreme weather, low export prices, and declining demand from China. Ecuador's shrimp export in 2024 was stagnant, unlike the conditions in H1 2023, which increased by 38%. This slowdown in growth rates is expected to be a long-term trend, continuing until 2025[2].

(1) Nikolik. G. (2024). *Global Shrimp Aquaculture Production Survey and Forecast.* Rabobank.
(2) van der Pijl, W. (2024). *H1 2024 Shrimp Trade Statistics Update.* Shrimp Insights.

India

Rising exports driven by improved demand

733,148 tons

Total shrimp export in 2024

3%

Export Growth in 2024 (YoY)

2.7-3 USD/kg

Production cost (2023)

India consistently exports frozen shrimp to the United States (U.S.), China, Japan, and Vietnam[3]. India's largest export market is the U.S., with the percentage of 80%[4]. According to Shrimp Insights (2024), India's shrimp exports grew by 3% in 2023, while in H1 2024 the growth reached 5%, compared to H1 2023. The country's shrimp supply is gradually increasing as global demand improves. However, the impact of antidumping and price fluctuations remains uncertain.

(3) FAO. (2024). Quarterly Shrimp Analysis. Food and Agriculture Organization (FAO) of the United Nations
(4) Tanco, C. (2024). How The Asian Region Can Win Together. DSM-Firmenich.

Vietnam

Export dynamics stabilize after experiencing a decline

239,714 tons

Shrimp export in 2024 (Jan-Oct)

7%

Export Growth (Jan-Oct 2024)

3.5-4.2 USD/kg

Production Cost (2023)

Following a decline in 2023, Vietnam's shrimp exports stabilized in H1 2024. Export volume in 2024 grew by 7% compared to 2023[2]. According to Tanco (2024), Vietnam is shifting its shrimp export focus toward European and Chinese markets, reducing reliance on the U.S.. This shift is due to the U.S. antidumping duties to Vietnam. Additionally, Vietnam's shrimp exports comes from imported shrimp, not just domestic production.

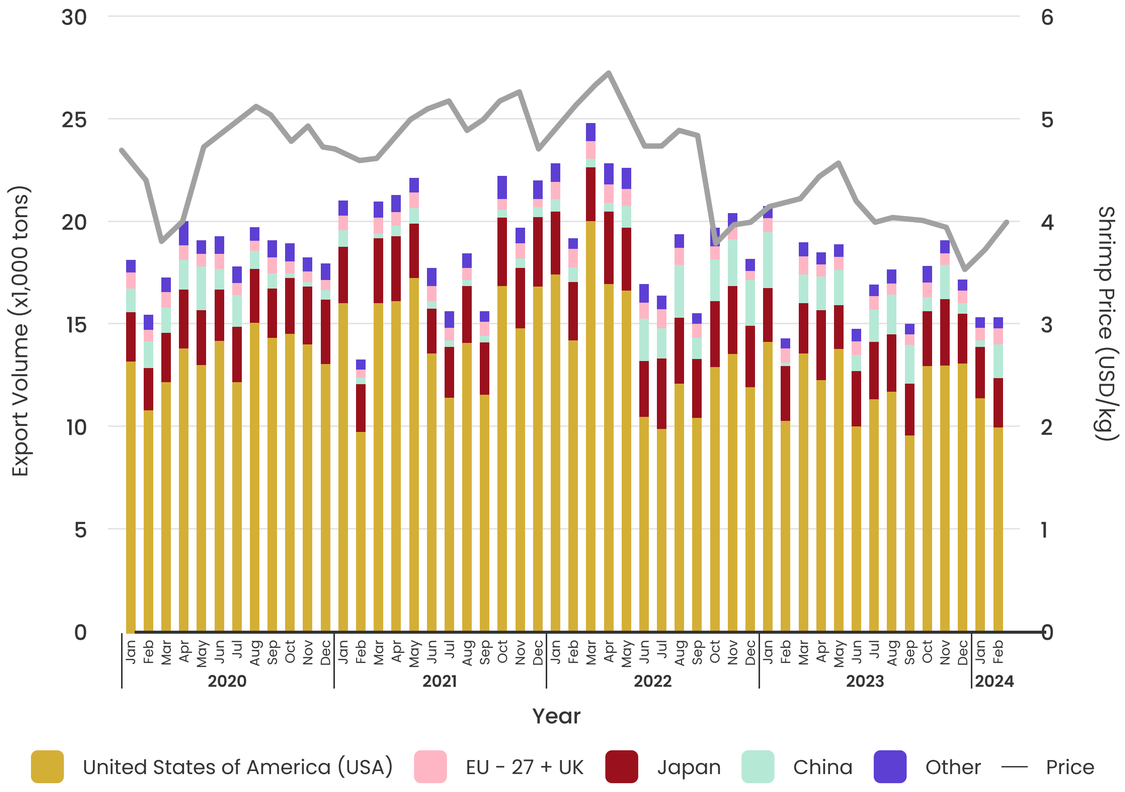


Figure 1.2. Indonesia’s Shrimp Export Performance (Source: Rabobank, 2024)

Production Cost (2023)
2.5–3.5
USD/kg

Export Volume Total (2024)
202,464
tons

Export to USA (2024)
135,407
tons

Source: Dr. Tran Huu Loc from Ho Chi Minh City University of Agriculture and Forestry & the Data Portal of the Ministry of Marine Affairs and Fisheries of Indonesia

Indonesia’s Export Performance

Indonesia's shrimp export volume has declined since 2022

During the COVID-19 pandemic, Indonesia experienced positive shrimp export growth, with an annual increase of 8% from 2018 to 2021. However, in recent years, Indonesia’s shrimp export volume has declined, particularly from 2022 to 2023. The decline reached 9% that year, from 231,413 tons in 2022 to 209,066 tons in 2023. The oversupply of shrimp since early 2022 has been one of the causes of the decline in Indonesia's shrimp export performance.

The occurrence correlates with the decrease in shrimp exports to the U.S. from 2022 to 2023, despite the fact that Indonesia is heavily reliant on the U.S. market. This dependency is further exacerbated by U.S. anti-dumping duties, which have become a key challenge for Indonesia’s shrimp exports. Indonesia needs to diversify its export markets and product offerings rather than relying predominantly on the U.S.

Indonesia’s shrimp exports declined by 8% in the first quarter of 2024, followed by a 12% year-on-year decline in the second quarter of 2024[5]. The country's shrimp exports are projected to decline by 3% in 2024. Additionally, Indonesian shrimp price is known to be higher compared to other producing countries, one of the reasons is the higher production costs.

(5) van der Pijl, W. (2024). *H1 2024 Shrimp Trade Statistics Update.* Shrimp Insights.

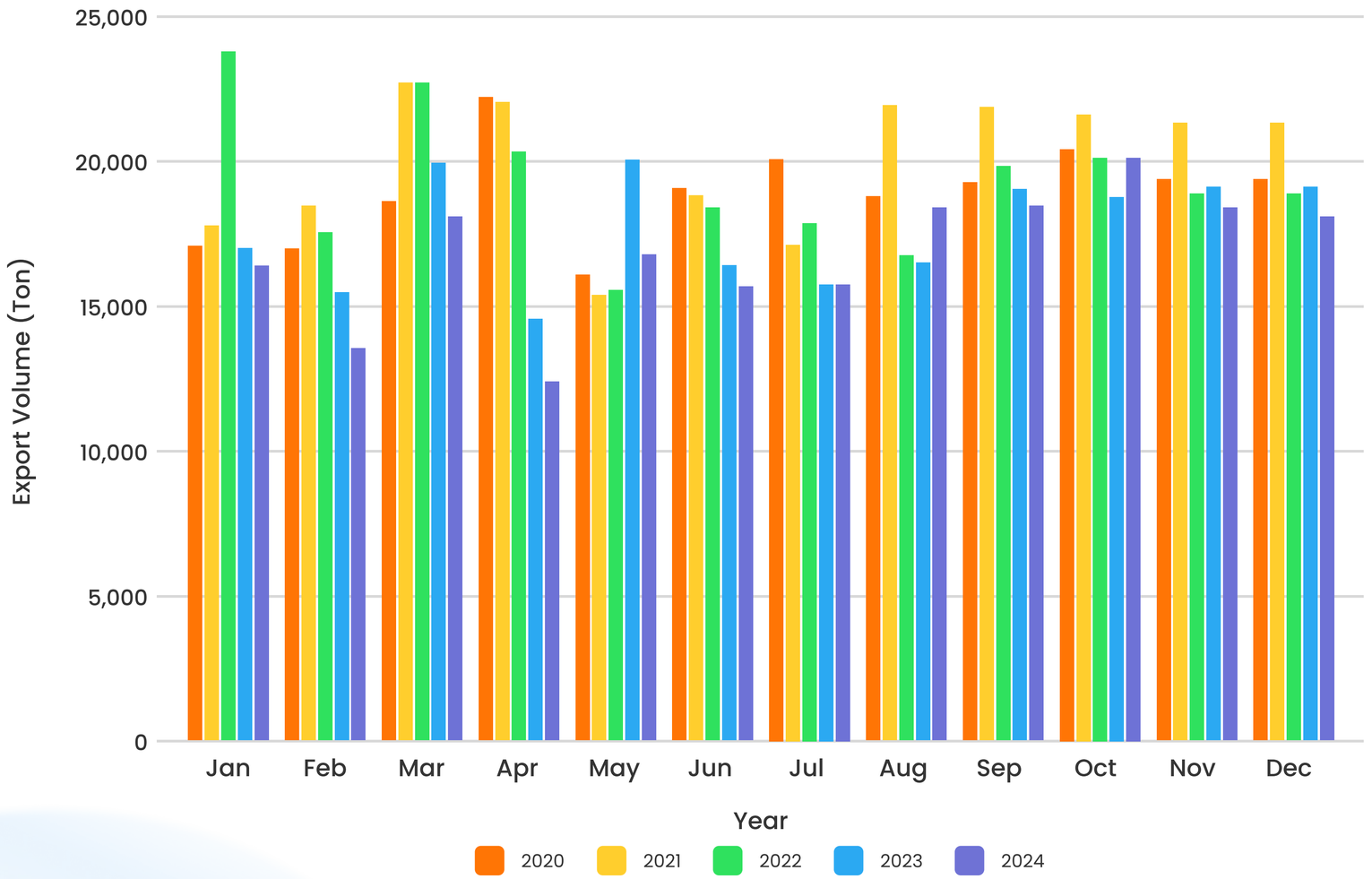


Figure 1.3. Monthly Performance of Indonesian Shrimp Exports from Year to Year (Source: Shrimp Insights, 2024)

Indonesia's shrimp export volume fluctuations over the past five years

Over the past five years, Indonesia's shrimp export volume peaked in January 2022, reaching nearly 25,000 tons. In contrast, the lowest recorded volume was in April 2024, with exports dropping below 15,000 tons.

In 2020-2022, Indonesia consistently exported over 15,000 tons per month. While fluctuations occurred, shrimp exports remained stable from August to December 2021, with the volume consistently surpassed 20,000 tons until January 2022. However, following this period, export volumes declined drastically.

Furthermore, shrimp export volume in 2024 reached its peak in early Q3, specifically in October. This increase in Q3 exports was likely driven by a 5% rise in exports to the U.S. While U.S. tariffs remain a challenge, they were not as high as initially anticipated.

In terms of trends and patterns, Indonesia's shrimp export volume tends to be more stable in the second half of each year. Over the past five years, the country has consistently maintained export volumes above 15,000 tons.

Performance of Shrimp-Importing Countries

Each country saw a consistent growth in shrimp import volumes

China, Vietnam, Japan, the European Union, and the U.S. are among the largest importers of shrimp. These countries have shown a steady increase in import volumes, with the exception of 2020 when all but the U.S. experienced a decline. By the following year, shrimp imports from all five countries began to rise again. The U.S. recorded the highest growth at 20%, followed by other importing countries (18%), the European Union (13%), China and Vietnam (12%), and Japan (4%).

In 2023, only China and Vietnam experienced an increase in their shrimp import volumes. Despite having high local shrimp production, China still relies on imports to meet local consumption demands. Meanwhile, Vietnam's growth in import was driven by a decline in local shrimp production throughout the year.

The import volume of other importing countries tend to decrease. In the U.S., this was attributed to inflation that led to a drop in consumption. Meanwhile, the European Union's decline may be linked to growing concerns around animal welfare, which have posed new challenges for exporting countries.

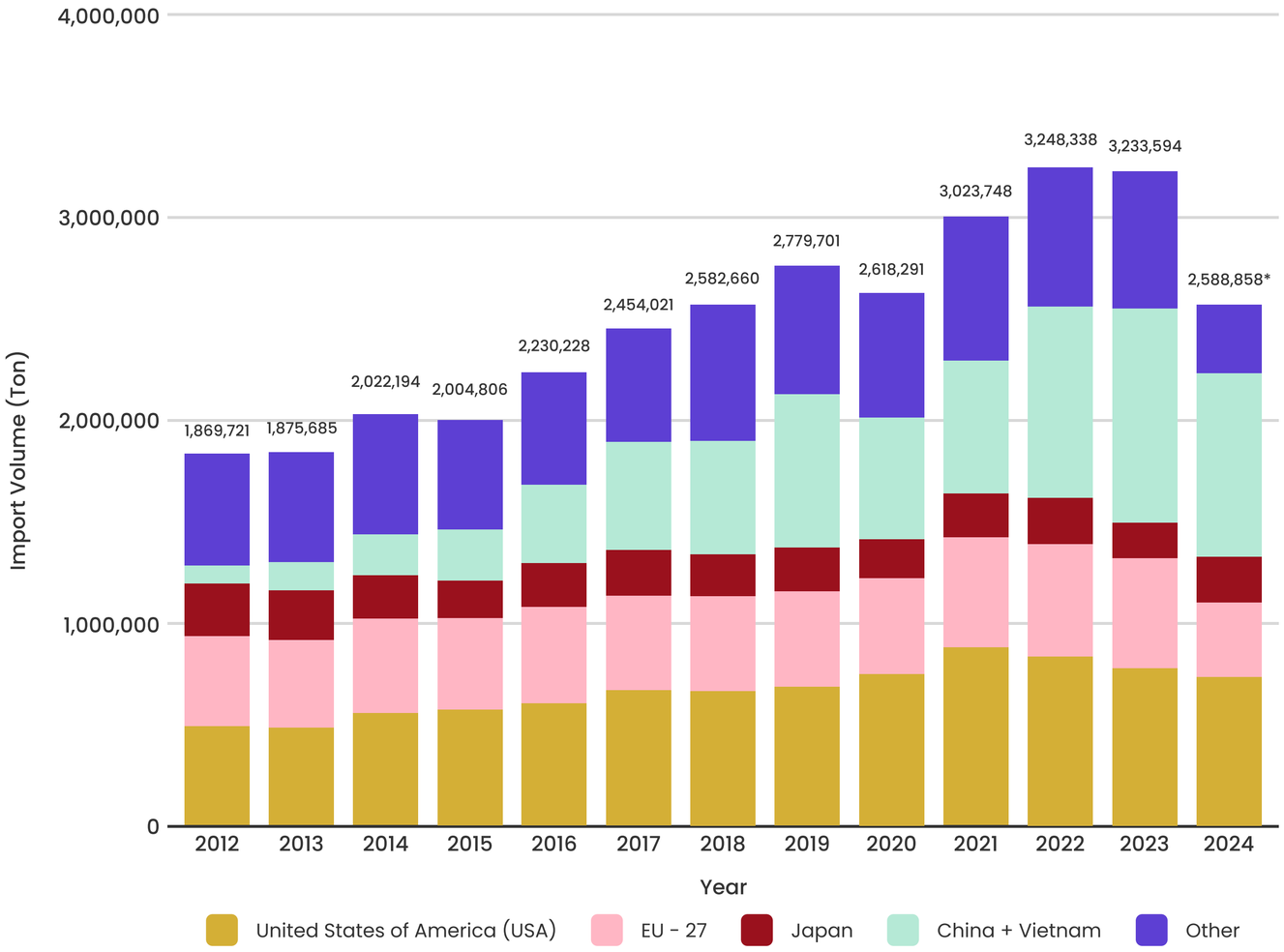


Figure 1.4. Shrimp Export Performance of Various Producing Countries (Source: Shrimp Insights, 2024)

*Data is subject to change

Key Highlights from the Top Four Shrimp-Importing Countries

China and the U.S. were the world's two largest shrimp importers in 2023. China's import value reached USD 9,568,463,000, while the U.S. was at USD 7,151,785,000. China imported 1,243,538 tons shrimp and the U.S. imported 733,162 tons during the year. Japan and Spain ranked third and fourth, respectively, with import volumes and values far lower than those of China and the U.S.

Retail shrimp product prices across these four countries showed notable variation. The U.S. had the lowest retail prices, ranging from USD 7–15/kg, while Japan recorded the highest retail prices, ranging from USD 16–24/kg.

Shrimp consumption value also varied across the four countries. Japan led with the highest per capita consumption (45.38 kg/person), followed by China (41.52 kg/person) and Spain (40.05 kg/person). The U.S. ranked fourth, with per capita consumption of 22.28 kg/person.

Table 1.1. Import Data in Top Four Shrimp-Importing Countries (Source: International Trade Center)

	China	USA	Japan	Spain
Import value in 2023 (in thousand USD)	9,568,463	7,151,785	1,816,832	1,431,587
Import volume in 2023 (tons)	1,243,538	733,162	171,859	193,074
Global import share (%)	29%	22%	5%	4%
Retail price (USD/kg)	$7.33–20	$7–15	$16–24	$7.62–15.24
Import price (USD/kg)	$6.10–8.00	$9.38	$10.70	$6.00–7.50
Per capita consumption in 2022 (kg/person)	41.52	22.28	45.38	40.05

USA

762,804 tons
Shrimp Import Volume (2024)

3%
Import Volume in 2024 (YoY)

The U.S. imports shrimp primarily from major producers, such as Indonesia, Vietnam, and India. However, import volumes from these countries declined from 2022 to 2023. In contrast, Ecuador stood out as the only shrimp-producing country that continued to experience shrimp export growth to the U.S. market.

The total volume of Indonesian shrimp entering the US market dropped by approximately 16% in H1 2024, totaling 62,232 tons[6]. U.S. shrimp imports saw a temporary rise at 4% in Q3 and 9% in Q4 of 2023. However, by the end of 2024, their shrimp import volume had declined again by around 3%.

(6) van der Pijl, W. (2024). *H1 2024 Shrimp Trade Statistics Update.* Shrimp Insights.

China

916,597 tons
Shrimp Import Volume (2024)

7%
Import Volume in 2024 (YoY)

China was the only country to record growth in shrimp imports between 2022 and 2023. However, after experiencing consistent growth for over five years, China's import volume began to decline as it entered 2024. This decline is largely attributed to high stock levels from large imports in 2023 and high domestic shrimp production[7].

At the same time, China's largest market share, Ecuador, saw a decline from 69% to 67.7%. Meanwhile, the volume of Indonesian shrimp imported by China remained low, still trailing behind volumes from Vietnam and Thailand.

(7) Food and Agriculture Organization (FAO) of the United Nations. (2024). *Quarterly Shrimp Analysis.*

EU

376,868 tons
Shrimp Import Volume (2024)

4%
Import Volume in 2024 (YoY)

The European Union imported 528,000 tons of shrimp in 2023, a decline from 556,000 tons in 2022. In H1 2024, Indonesia's market share in the E.U. dropped by 2%. The majority of shrimp imported into the E.U. belongs to the *Penaeus* genus, with 320,650 tons imported in 2023. Of this total, 85% was vannamei shrimp, 10% was black tiger shrimp, and the remaining 5% was wild-caught shrimp[8].

Imports of *Penaeus* shrimp across EU countries saw a modest increase in H1 2024. EU shrimp imports are projected to grow at a stable pace, with an estimated growth of around 4% in 2024.

(8) van der Pijl, W. (2024). *H1 2024 Shrimp Trade Statistics Update.* Shrimp Insights.

Indonesia's Domestic Market

Promising to absorb production and reduce export dependency

Total production in 2024 (Estimated)
287,962 tons

+/- 70%
Exported to the U.S.

Total export in 2024
202,464 tons

Per capita seafood consumption (2022)
41.25 kg/person

Data obtained from various sources

Indonesia's domestic shrimp market continues to be **the most immediate solution for absorbing the country's shrimp production**. Besides reducing dependence on export markets, particularly on the U.S., the domestic market holds great potential. This refers to data on per capita seafood consumption in Indonesia, which is not low. When compared to shrimp-importing countries like the U.S., the value is higher. Supporting data on **per capita weekly seafood consumption and average household expense on seafood also outperforms consumption and expense on beef, eggs, or dairy.**

Table 1.2. Data on per Capita Consumption of Indonesian People (Source: Statistics Indonesia)

Type of Food Ingredient	2020	2021	2022	2023	2024
Fresh Fish and Shrimp (kg)	0.333	0.353	0.367	0.352	0.359
Preserved Fish and Shrimp (ounce)	0.414	0.418	0.42	0.42	0.41
Beef	0.009	0.009	0.01	0.01	0.009
Broiler/Free-Range Chicken (kg)	0.13	0.142	0.153	0.158	0.154
Broiler/Free-Range Egg (kg)	2.187	2.28	2.336	2.212	2.193

Table 1.3. Comparison of Protein Consumption Expense of Indonesian People (Source: Statistics Indonesia)

Commodity Group	Average Monthly Per Capita Expense - Urban Areas (IDR)	Average Monthly Per Capita Expense - Rural Areas (IDR)	Average Monthly Per Capita Expense - Urban + Rural Areas (IDR)
Fish/Shrimp/Squid/Clam	60,965	53,679	57,915
Meat	41,682	27,294	35,659
Egg and Milk	44,218	28,086	37,465

While the data above reflects general seafood consumption, it highlights the significant potential of the domestic market as a primary end for shrimp produced by Indonesian shrimp farms. Shrimp can serve as an **alternative protein source** within the broader seafood category. With the support of targeted programs or campaigns promoting shrimp consumption, domestic demand could grow even stronger. The above table also serve as a strong foundation showing that both consumption habits and purchasing power for protein sources from seafood are aligned to support the Indonesia Makan Udang campaign*.

*The Indonesia Makan Udang campaign is an initiative from JALA to promote local shrimp consumption by emphasizing the benefits of shrimp.

Indonesia’s Shrimp Farming Performance and Behavior

Farming Behavior

The discussion on Indonesia's shrimp farming conditions begins with farming behavior, including cycle duration, partial harvesting, stocking density, cost efficiency, and the impacts of weather. These factors not only influence farming performance but also represent responses to the performance achieved.

Longer farming cycles seen in medium stocking densities

Stocking densities of <80 PL/m² and >150 PL/m² showed a decline in the median farming duration in 2024, while stocking densities of 80–150 PL/m² recorded an increase in the median DoC. Longer farming duration may suggest **better performance**, either due to the ability to maintain farming longer or simply because **more time is needed to reach the target**. Shorter duration may result from **disease outbreaks** or **shrimp that grow faster than expected.**

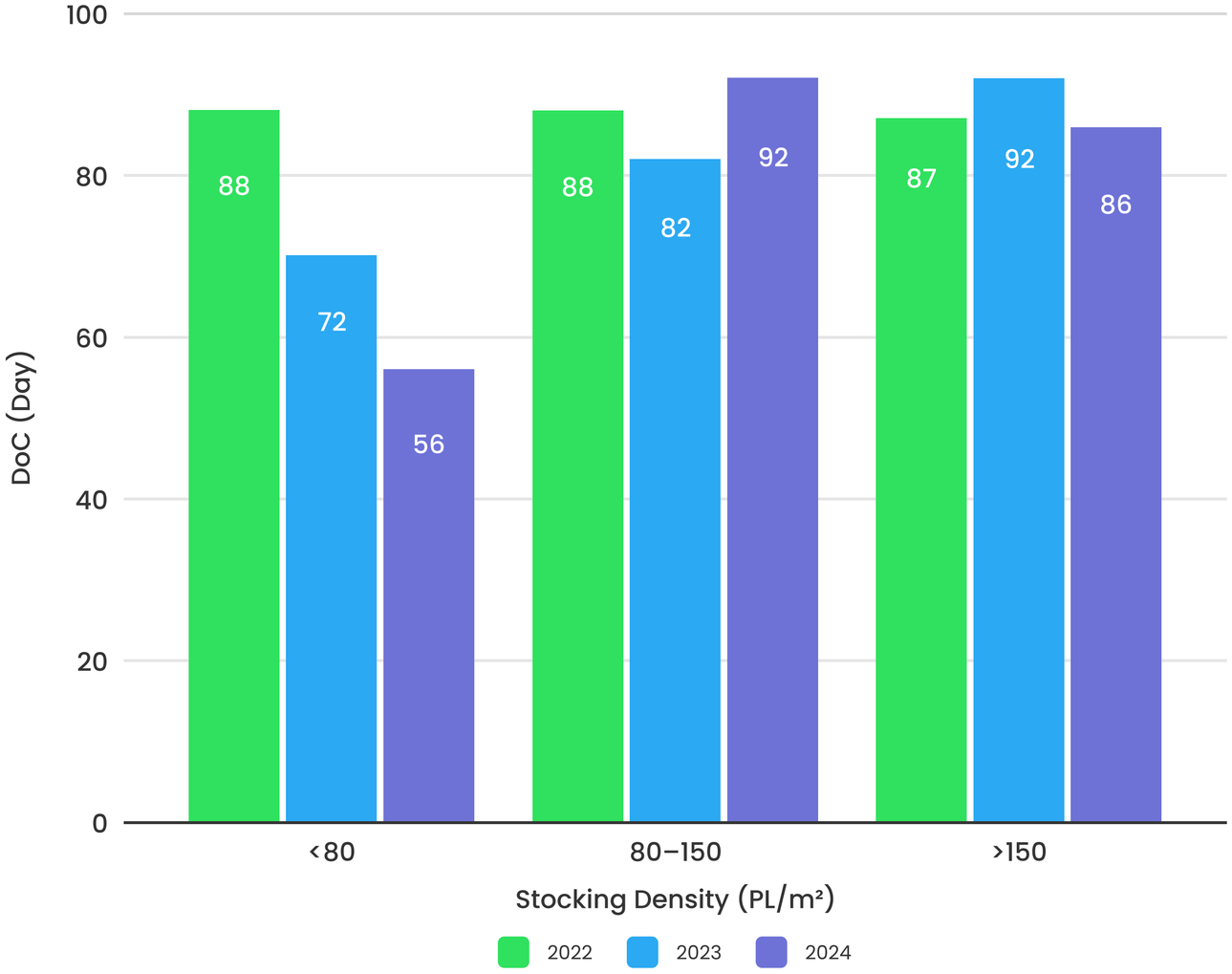


Figure 2.1. Median DoC by Year and Stocking Density

First partial harvests yielding better shrimp size

Throughout 2024, the majority of cycles carried out their first partial harvest at DoC 60–90 days, achieving a median shrimp size of 74. This reflects **an improvement compared to 2023**, when the median size for the same DoC range was only 84. The larger size in the first partial harvest is likely due to **the trend of implementing lower stocking densities**, which promotes faster growth.

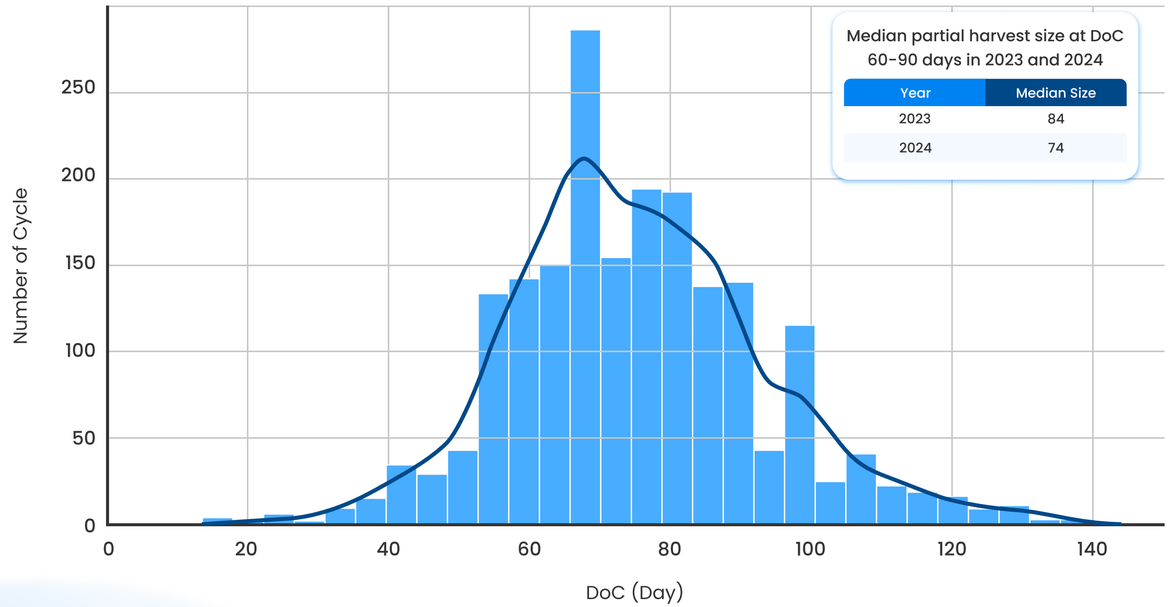


Figure 2.2. Histogram of Partial Harvest DoC in 2024

Several factors influence the scheduling of the first partial harvest and the resulting shrimp size:

- Lower stocking densities that allow faster shrimp growth
- Improved strategies for implementing partial harvests
- The use of shrimp fry genetics that support faster growth rates

Farmers must also consider the impact of harvest volume to the condition of shrimp remaining in the pond before proceeding with partial harvests.

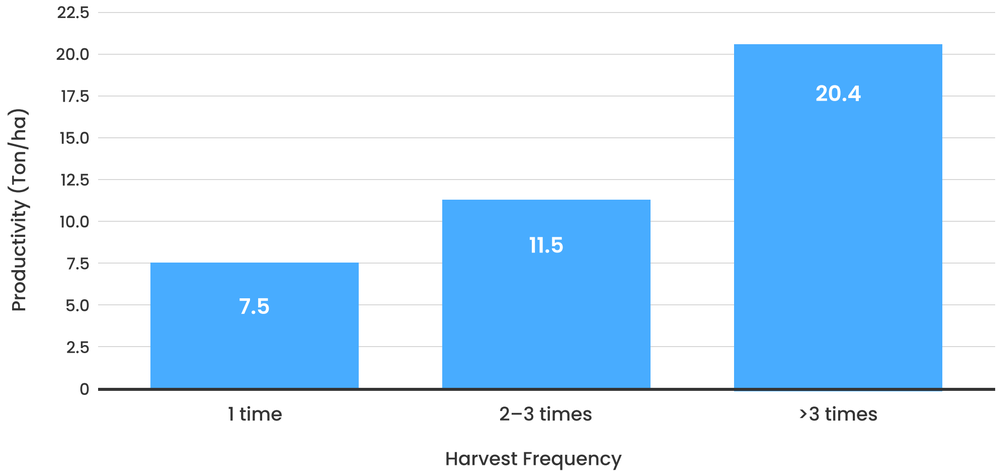


Figure 2.3. Median Productivity by Harvest Frequency

Partial harvest strategy is quite crucial in shrimp farming. It must be aligned with the stocking density and farming SOPs implemented. When a portion of shrimp is harvested, **it creates more space and resources for the remaining shrimp to grow, potentially enhancing overall productivity.** However, it is important to note that **productivity gains cannot be attributed solely to the frequency of partial harvests**, but are also influenced by other factors, such as stocking density, SR, and more.

Stocking density decisions: Dominated by farmers who decided to maintain their stocking density

Further exploration of the farming behavior of Indonesian farmers from late 2023 to the third quarter of 2024 reveals that **73.3% of farmers choose to maintain the same stocking density** as in their previous cycles. Interviews with several farmers confirmed this, stating that they were consistent in their stocking density implementation. If an increase was made, it tended to be less significant.

Only **10% of farmers decided to increase their stocking density.** On the other hand, **a larger portion, around 16.7%, opted to reduce it.** Stocking density is a crucial decision in shrimp farming as it directly influences farm management practices, from feeding, water fulfillment, partial harvest strategies, to disease risk management.

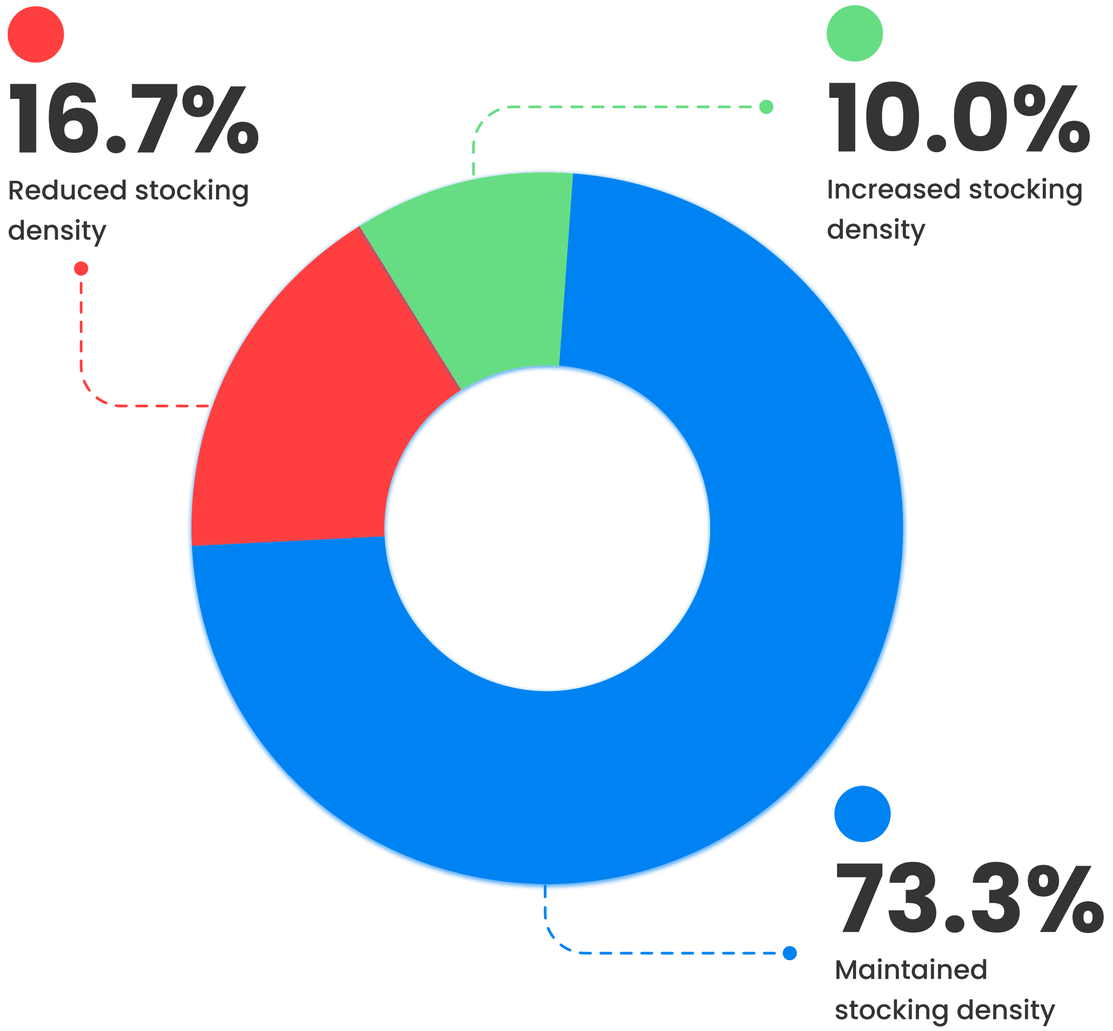


Figure 2.4. Farming Behavior Based on Stocking Density Decisions

Cost efficiency in shrimp farming: Farmers cut back most on medication

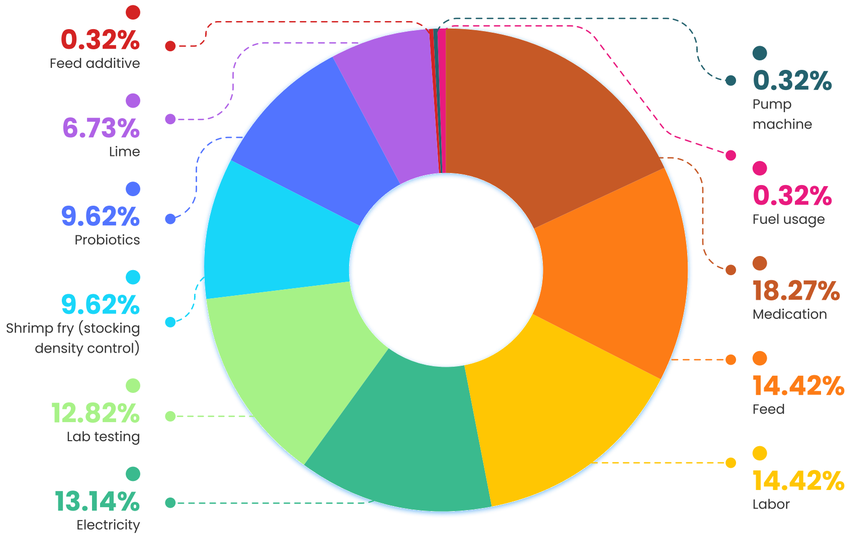


Figure 2.5. Survey Result on the Most Commonly Reduced Components in Farming Operations

Cost efficiency is believed to be **one of farmers' responses to ongoing challenges**, especially shrimp price fluctuations and the rising cost of production components. According to JALA's survey, the most commonly reduced components to cut production expenses were **medication, feed,** and **labor**.

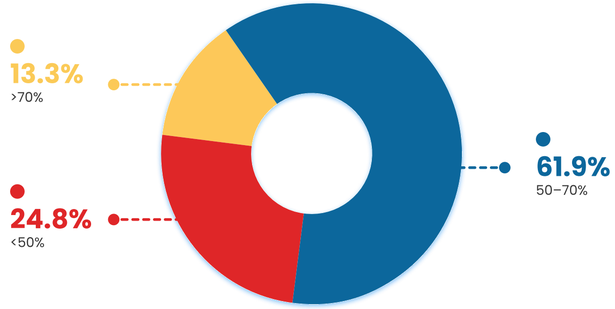


Figure 2.6. Survey Result on Feed Needs in Operational Cost Components

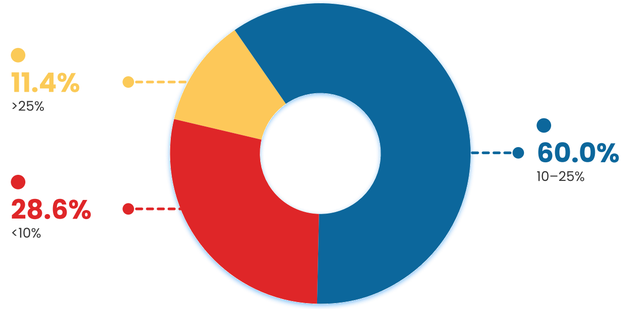


Figure 2.7. Survey Result on Energy Requirements in Operational Cost Components

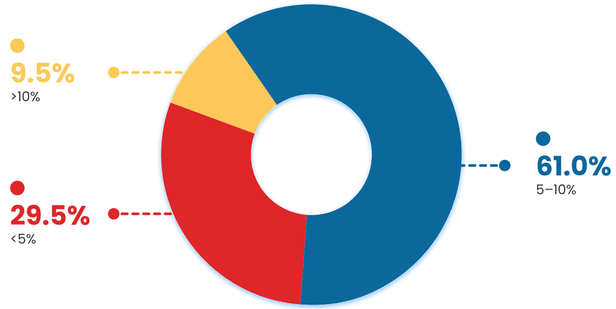


Figure 2.8. Survey Result on Farming Needs (probiotics, lime, mineral, etc) in Operational Cost Components

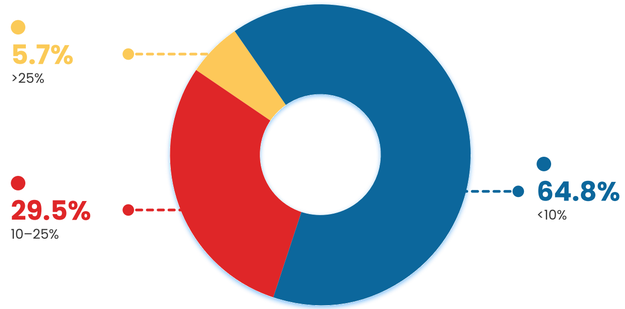


Figure 2.9. Survey Result on Employee Salary Percentage in Operational Cost Components

Most farmers agreed that **feed remains the main component** in farming operational costs, making up 50–70% of total costs, followed by energy (electricity and fuel).

Based on farmer testimonies, shrimp farming profitability in 2024 tended to decline. This decline was mainly due to unstable shrimp prices, while the cost of feed, farm supplies, and other operational needs continued to rise and squeezed profit margins.

La Nina's impact was stronger on smaller harvest size

According to Indonesian Agency for Meteorological, Climatological and Geophysics (BMKG), much of the country experienced **wetter conditions** in January–February, April–June, and August–December 2024 compared to the same periods in 2023, as a result of **La Nina**. This led to lower water temperatures, which potentially hindered shrimp growth by reducing their appetite.

Based on the results of interviews with farmers, this condition impacted the dynamics of salinity, pH, and hardness. In response, they handled it by **focusing more on water management.**

La Nina also has the potential to impact national production[9]. This is based on observed shrimp production differences during El Nino and La Nina conditions. Increased rainfall causes farmers to require **more time** to reach a certain shrimp size.

Besides extending the farming cycle, heavy rainfall has also been linked to the acceleration of EHP infections, one of the serious disease concerns among many shrimp farmers in Indonesia.

(9) Temaat, E. (2024, December 4). *The impact of climate variability on Ecuador's shrimp farms.* The Fish Site. https://thefishsite.com/articles/the-impact-of-climate-variability-on-ecuadors-shrimp-farms

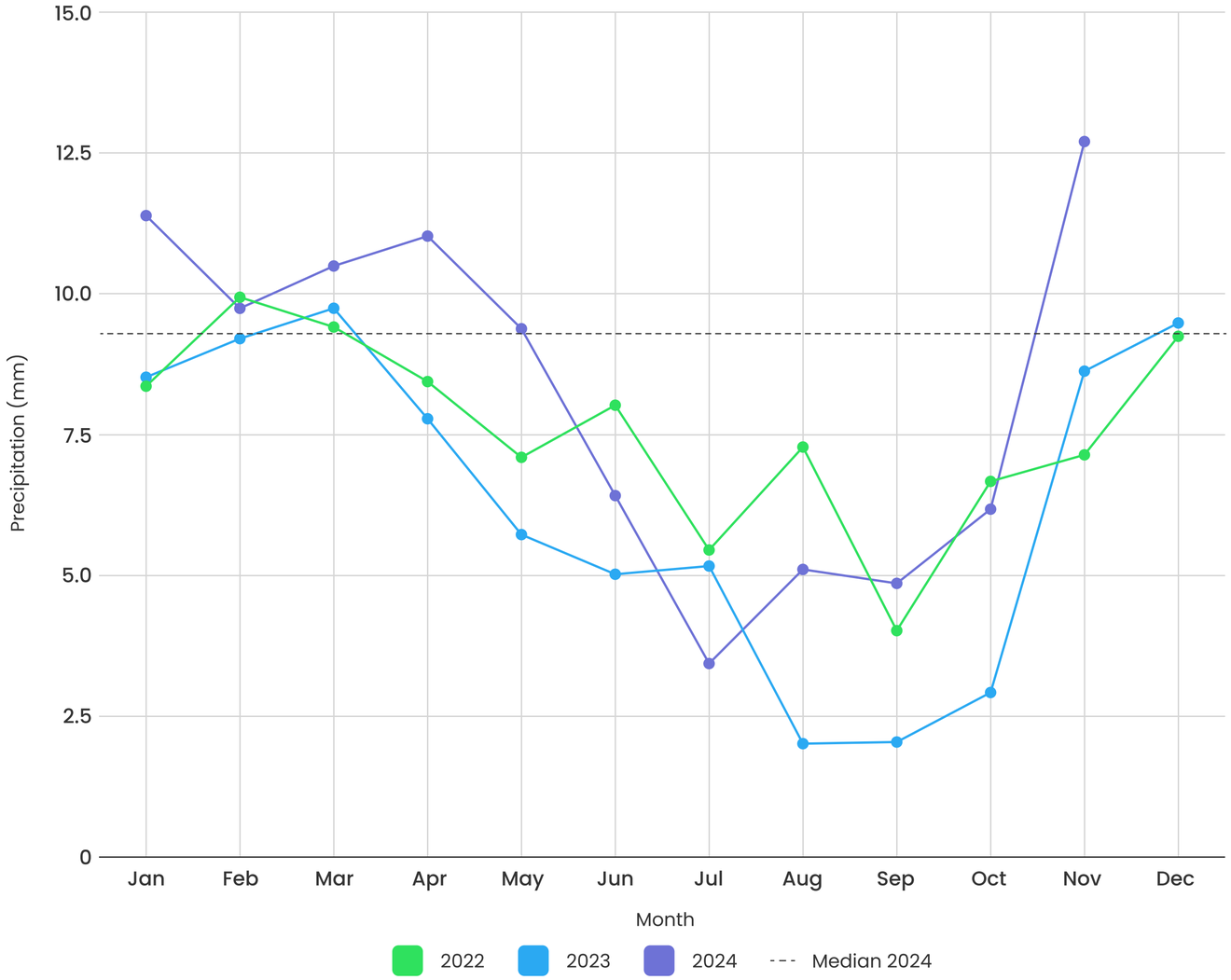


Figure 2.10. Precipitation Level from Month to Month (Source: ECMWF Climate Data)

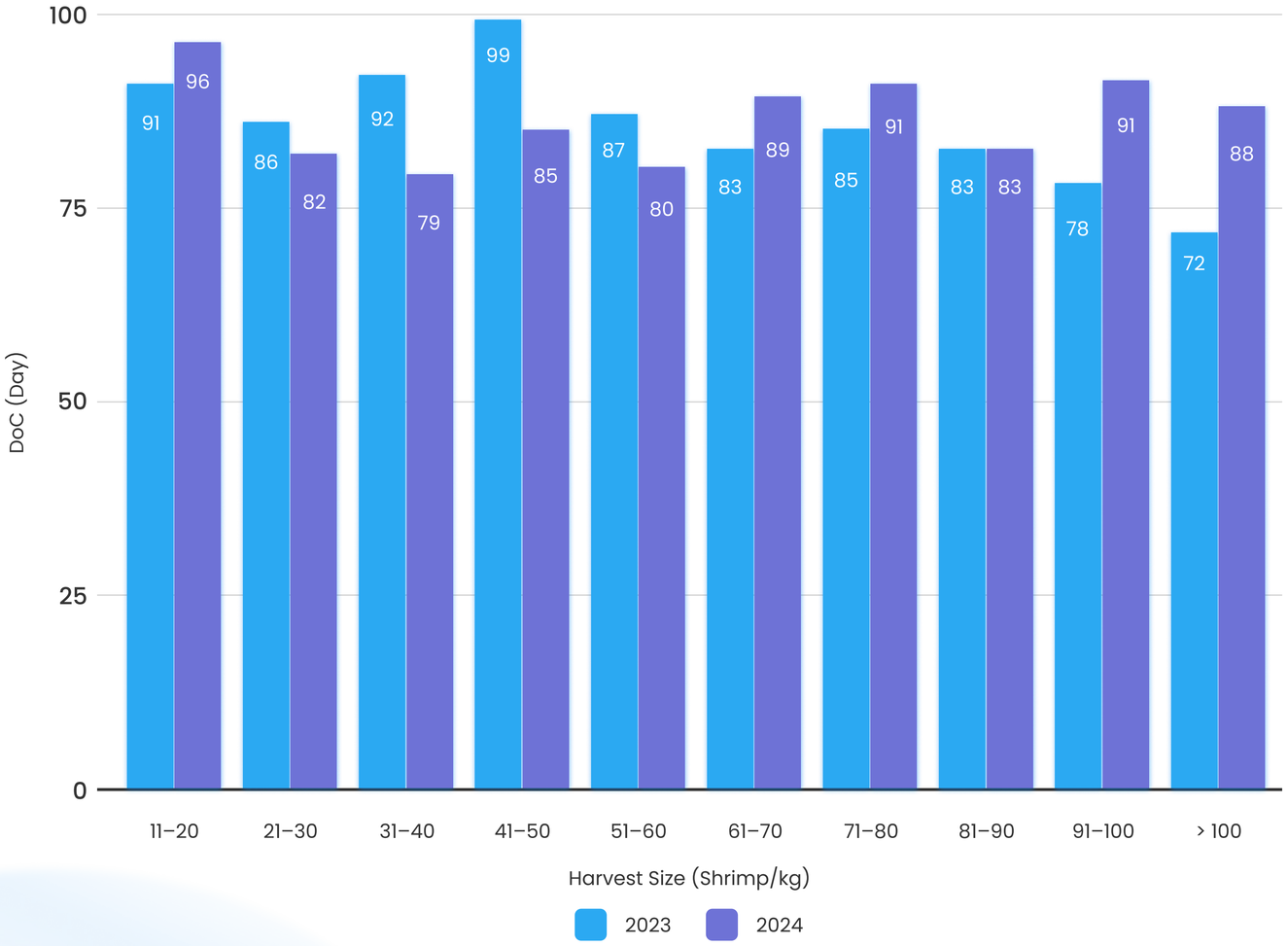


Figure 2.11. Harvest Size Based on Cycle Duration

Data in Figure 2.11 illustrates the median cycle duration required to achieve a specific shrimp size during El Nino months in 2023 and La Nina months in 2024. For larger shrimp sizes (<60), La Nina conditions **had less significant impact** on slower growth rates. However, for smaller sizes (>70), the effects were more apparent, with **longer farming duration needed**.

Regardless of weather conditions, farming risks are always present, but so are the chances of success

Weather conditions, whether marked by heavy rainfall or drought, have an influence on farming dynamics, especially in terms of water quality. However, the extent of the impact vary by region.

If the farming cycle begins with proper preparation, farming success rates can remain high. This makes it crucial for farmers to understand their pond conditions and analyze the key factors that may be limiting optimal condition.

Farming Performance

Shrimp farming performance in Indonesia from Q4 2023 to Q3 2024 was analyzed based on productivity, which was also influenced by survival rate (SR), harvest size, feed conversion ratio (FCR), and average daily gain (ADG) performances.

Productivity showed improvement compared to the previous year

Median productivity in 2024 **increased** compared to the previous year for stocking densities of **80–150** and **>150 PL/m²**, while **a decline was observed at stocking density of <80 PL/m²**. This productivity performance was influenced by several factors, including farming behaviors such as the adoption of partial harvest trends, and improvements in SR, harvest size, and ADG. FCR was the only parameter that showed a decline in performance. A more detailed discussion is provided on the following page.

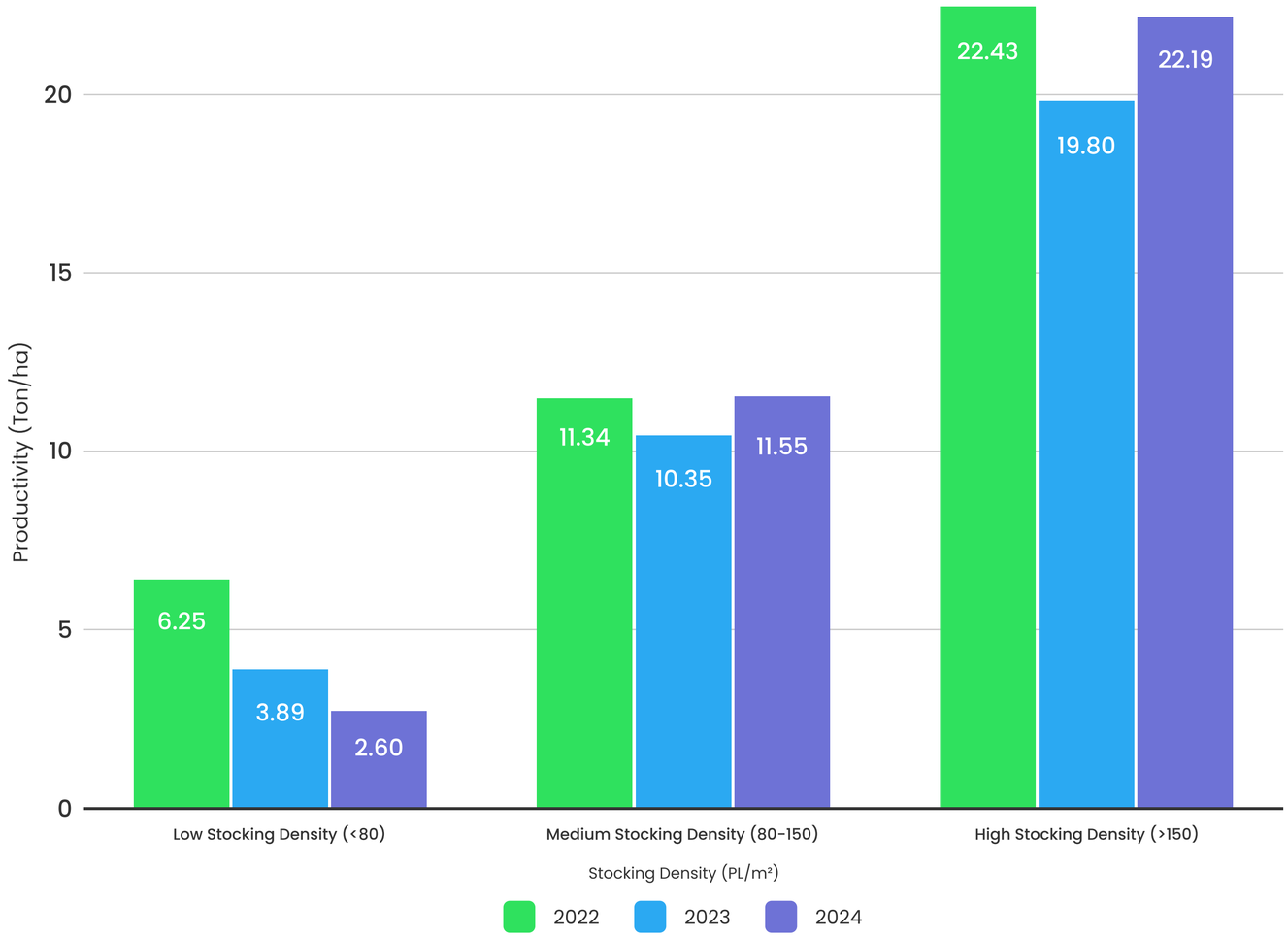


Figure 2.12. Median Productivity Based on Year and Stocking Density

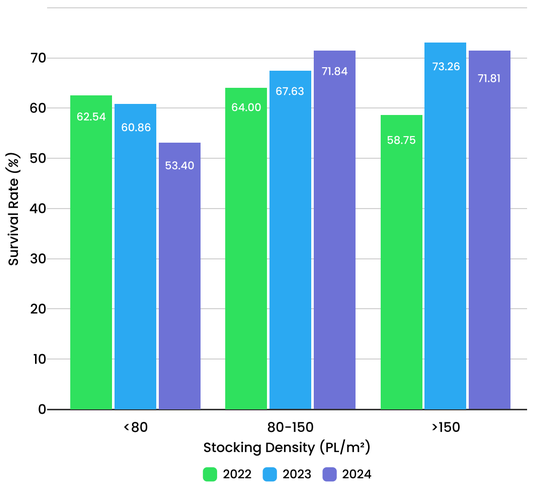


Figure 2.13. The Comparison of Median Survival Rate

SR increased, highest at medium stocking densities

In general, **SR improved** in 2024. **The highest increase** was observed in cycles with **medium stocking densities** of 80–150 PL/m², which rose by 3.9% from the previous year. A strong SR performance has a significant impact in boosting productivity, especially when combined with optimal harvest size achievements.

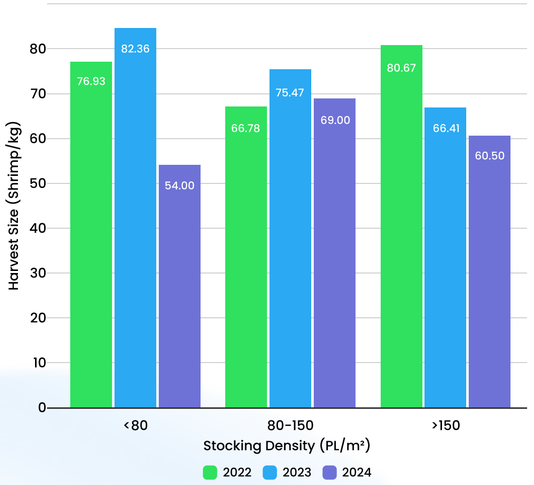


Figure 2.14. Median Size Based on Year and Stocking Density

Achieving a more ideal median harvest size

Farming cycle performances reached a **larger median size** compared to the previous year. The most significant improvement in harvest size was recorded at low stocking densities (<80 PL/m²). This achievement becomes more relevant when linked with shrimp growth rate or ADG performances.

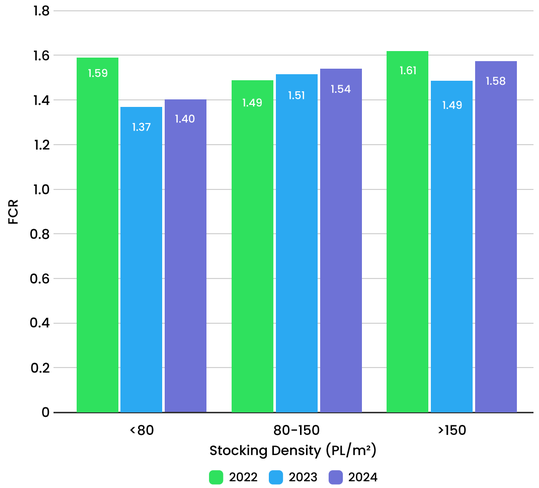


Figure 2.15. Median FCR Based on Year and Stocking Density

Feed efficiency needs closer attention

Based on the pattern, there are no direct correlation between stocking density and FCR. However, **in 2024, an increase in FCR was recorded in ponds with stocking densities of 80–150 PL/m² and >150 PL/m².** Overall, this suggests that feed efficiency in these two categories requires more attention. FCR performance in farming is closely related to shrimp condition and feed management.

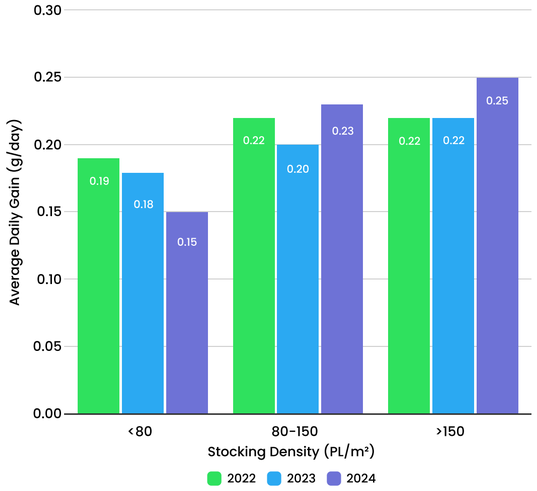


Figure 2.16. Median ADG Based on Year and Stocking Density

Growth rate improved at medium and high stocking densities

Year-on-year analysis of ADG shows a **growth rate improvement** at stocking densities of 80–150 and >150 PL/m², contributing to the achievement of more ideal harvest sizes. However, ADG declined in ponds with **stocking densities of <80 PL/m²** compared to the previous year. Well-implemented partial harvest strategies may support shrimp growth.

Performance Comparison

This section presents a farming performance comparison based on the division of farm performance categories which are differentiated by statistical distribution of performance data. The categories and their definitions are as follows:

Top Farm

The top 10% category shrimp farms have **the highest performance values**, identified by selecting the top 10% of data.

Median Farm

Farms whose **performance values fall within the middle range (50%)**, identified by selecting data around the median.

Bottom Farm

The bottom 10% category farms have **the lowest performance values**, identified by selecting from the sorted data.

Evaluating stocking density performances based on performance category and key metrics such as productivity, SR, FCR, and ADG provides insight into which aspects are already optimal and which areas still require improvement.

Overview of farming performance data

Table 2.1. Overview of Farming Performance Comparison

Variable	Std. Dev.	Mean	Top 10%	Median	Bottom 10%
Productivity (Ton/ha)	250.79	20.97	32.49	12.98	4.27
SR (%)	21.6	72.19	100.00	73.84	40.77
FCR	0.51	1.59	1.12	1.48	2.19
Size (Shrimp/kg)	38.22	80.48	41.00	70.00	136.00
ADG (g/day)	0.09	0.22	0.33	0.21	0.11

Table 2.1. presents a general overview of shrimp farm performance across Indonesia. This dataset reflects the overall farming performance that includes five key variables, namely productivity, SR, FCR, harvest size, and ADG.

There is significant variation in productivity across farms. Farms in the top 10% category reached productivity levels of up to 32.49 tons/ha, while farms in the bottom 10% only achieved 4.27 tons/ha. Meanwhile, the average SR across all farms were at 72.19%, with the highest recorded SR reaching 100%, indicating that ideal potential is still attainable.

An ideal FCR generally falls within the range of 1.1–1.2. Meanwhile, farms in the bottom 10% category showed a considerably higher FCR (2.1), signaling inefficiencies in feed management. The average shrimp size across all farms was 80.48 shrimp/kg, and this was influenced by factors such as stocking density and farming duration. The average ADG across all farms was recorded at 0.22 grams/day, with a relatively low or stable standard deviation of 0.09.

General comparison across three farming performance categories

In 2024, productivity, SR, and ADG all showed improved performance compared to 2023. However, FCR increased or deteriorated in its performance across all categories, indicating a decline in feed efficiency.

Table 2.2. Overview of Farming Performance

	Top		Median		Bottom	
	2023	2024	2023	2024	2023	2024
Productivity (Ton/ha)	29.67	**42.27**	11.69	**15.94**	3.96	**4.00**
SR (%)	**100.00**	**100.00**	73.6	**75.08**	40.51	**41.33**
FCR	**1.11**	1.15	**1.47**	1.52	**2.12**	2.15
ADG (g/day)	0.32	**0.37**	0.20	**0.24**	**0.11**	**0.11**

Top farm

In the top farm category, both productivity and ADG improved in 2024, with SR remaining optimal at 100%. It was only FCR that increased in 2024.

Median farm

Producitivity, SR, and ADG in 2024 recorded better performance compared to 2023. However, similar to the top farm category, FCR increased in 2024.

Bottom farm

Productivity and SR in the bottom farm category was higher compared to 2023, with ADG remained stable. FCR, on the other hand, showed an increase.

Performance comparison of farms with low stocking density (<80 PL/m²)

Overall, productivity and ADG for farms with low stocking density (<80 PL/m²) **declined** in 2024 compared to the previous year. In contrast, **SR and FCR tended to improve.** A more detailed comparison across categories for farms with low stocking density (<80 PL/m²) is as follows:

Table 2.3. Farming Performance in Low Stocking Density Farms (<80 PL/m²)

	Top		Median		Bottom	
	2023	2024	2023	2024	2023	2024
Productivity (Ton/ha)	**10.42**	8.32	**3.89**	2.60	**1.23**	0.39
SR (%)	**100.00**	**100.00**	65.76	**66.10**	37.34	**40.38**
FCR	0.99	**0.83**	1.36	1.26	**1.96**	2.08
ADG (g/day)	0.30	0.27	**0.18**	0.15	**0.11**	0.07

Top farm

In the top farm category, both productivity and FCR improved. SR remained optimal at 100%, while ADG dropped by 0.03 g/day in 2024.

Median farm

SR and FCR in the median farm category saw improvements. However, productivity and ADG declined, with a significant drop in productivity.

Bottom farm

In 2024, productivity and ADG in the bottom farm category declined compared to the previous year. In contrast, SR and FCR showed improvement.

Performance comparison of farms with medium stocking density (80–150 PL/m²)

In general, farms with medium stocking density (80–150 PL/m²) showed better performance in 2024, as productivity, SR, and ADG all improved. The only exception was a slight decline in FCR performance. A detailed comparison across categories for farms with medium stocking density (80–150 PL/m²) is as follows:

Table 2.4. Farming Performance in Medium Stocking Density Farms (80-150 PL/m²)

	Top		Median		Bottom	
	2023	2024	2023	2024	2023	2024
Productivity (Ton/ha)	22.54	**24.6**	10.35	**11.55**	**4.41**	3.84
SR (%)	**100.00**	**100.00**	72.20	**75.13**	41.13	**41.67**
FCR	**1.11**	1.11	**1.47**	1.51	**2.12**	2.14
ADG (g/day)	0.31	**0.33**	0.20	**0.23**	**0.11**	**0.10**

Top farm

Productivity and ADG in the top farm category improved in 2024. Meanwhile, SR remained optimal at 100% and FCR showed no change.

Median farm

In 2024, productivity, SR, and ADG in the median farm category all improved compared to 2023. However, FCR increased.

Bottom farm

SR in the bottom farm category recorded a slight improvement in 2024. However, productivity, FCR, and ADG all declined compared to 2023.

Performance comparison of farms with high stocking density (>150 PL/m²)

In 2024, SR and FCR performance in farms with high stocking density (>150 PL/m²) declined compared to the previous year, but its productivity and ADG showed improvement. A detailed comparison across categories for farms with high stocking density (>150 PL/m²) is as follows:

Table 2.5. Farming Performance in High Stocking Density Farms (>150 PL/m²)

	Top		Median		Bottom	
	2023	2024	2023	2024	2023	2024
Productivity (Ton/ha)	42.92	**55.12**	19.8	**22.19**	**7.77**	7.14
SR (%)	**100.00**	**100.00**	**80.17**	76.7	**44.13**	**42.50**
FCR	**0.83**	1.18	1.26	1.56	**2.08**	2.19
ADG (g/day)	0.34	**0.39**	0.22	0.25	**0.12**	0.12

Top farm

Productivity and ADG in the top farm category experienced an improvement in 2024, while SR remained optimal at 100%. It was only FCR that increased.

Median farm

Median farm category saw improvements in productivity and ADG, but SR decreased and FCR increased in 2024.

Bottom farm

In 2024, productivity, SR, and FCR performances in the bottom farm category all declined. ADG, however, remained consistent at 0.12 g/day.

Shrimp Farming by Region

Shrimp Farming Conditions in Sumatra:

Pressured farming performances and lingering challenges

The median productivity of shrimp farming in Sumatra declined, from

20.55 tons/ha in 2023

to

16.72 tons/ha in 2024

Table 3.1. Shrimp Farming Performance in Sumatra

	Top		Median		Bottom	
	2023	2024	2023	2024	2023	2024
Productivity (Ton/ha)	**38.56**	34.45	**20.55**	16.72	3.00	**6.06**
SR (%)	98.05	**100.00**	66.38	**70.69**	38.69	**41.82**
FCR	**1.04**	1.40	**1.55**	1.71	**1.97**	2.23
ADG (g/day)	0.35	**0.37**	0.24	**0.26**	0.15	0.15

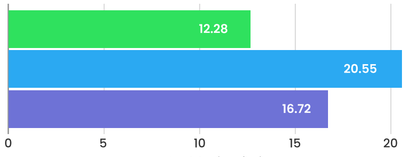


Figure 3.1. Median Shrimp Farm Productivity di Sumatra

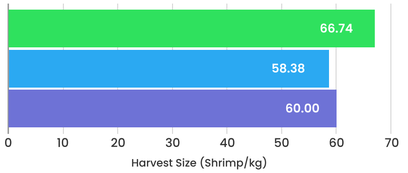


Figure 3.2. Median Shrimp Farm Harvest Size in Sumatra

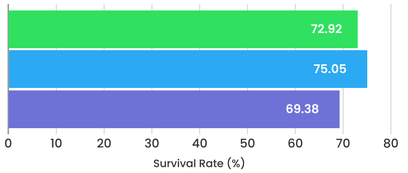


Figure 3.3. Median Shrimp Farm SR in Sulawesi

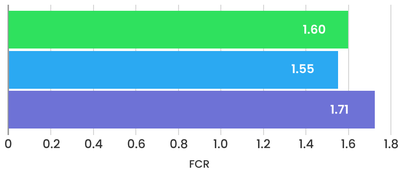


Figure 3.4. Median Shrimp Farm FCR in Sumatra

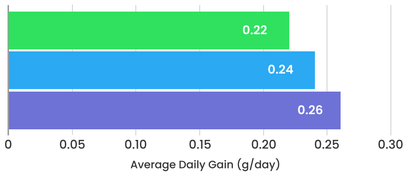


Figure 3.5. Median Shrimp Farm ADG in Sumatra

Farming Performance

Throughout 2024, both productivity and SR in Sumatra **declined** compared to the previous year due to the widespread **EHP infections** in North Sumatra, South Sumatra, and West Sumatra, which led many farmers to **lower their farm stocking densities.** FCR also became less efficient compared to the last year, with EHP outbreaks being one of the indicated causes. Despite these challenges, Sumatra saw a consistent **increase in ADG** over the past two years.

Among the three farm categories, only the bottom category farms recorded an increase in productivity in 2024, **reaching twofold.** SR and FCR **improved** across all farms. Meanwhile, ADG **increased** by 0.02 grams/day in both the top and median categories, while ADG in the bottom category remained unchanged.

Farming Behavior

In 2024, farming cycles in Sumatra had a **shorter** DoC, namely 97 days compared to 102 days in 2023. With this duration, Sumatra achieved a median harvest size of **60**, slightly declined from the previous year's figure of **58.38**. Harvest size performance tends to fluctuate year over year, influenced by various factors and specific farm management practices.

Shrimp Farming Conditions in Java:

Promising productivity with shorter farming duration

Productivity
10.61
(Tons/ha)

Survival Rate
76%

FCR
1.45

Table 3.2. Shrimp Farming Performance in Java

	Top		Median		Bottom	
	2023	2024	2023	2024	2023	2024
Productivity (ton/ha)	22.90	**24.96**	10.09	**10.61**	**4.00**	3.42
SR (%)	100.00	100.00	73.11	**76.37**	40.40	**41.05**
FCR	1.11	**1.06**	**1.44**	1.45	**2.12**	2.15
ADG (g/day)	0.31	**0.32**	0.19	0.19	**0.11**	0.09

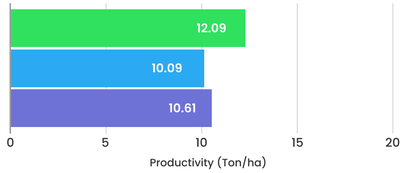


Figure 3.6. Median Shrimp Farm Productivity in Java

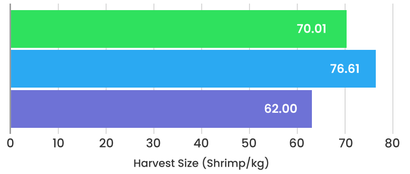


Figure 3.7. Median Shrimp Farm Harvest Size in Java

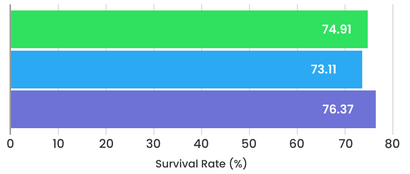


Figure 3.8. Median Shrimp Farm SR in Java

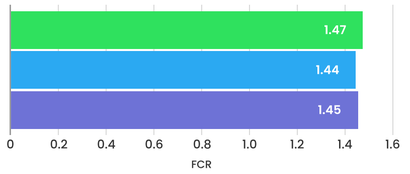


Figure 3.9. Median Shrimp Farm FCR in Java

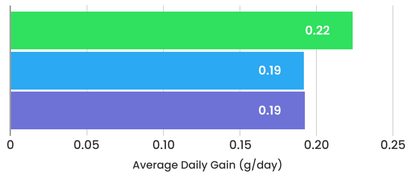


Figure 3.10. Median Shrimp Farm ADG in Java

2022 2023 2024

Farming Performance

Shrimp farming productivity in Java **increased** from 10.09 tons/ha in 2023 to **10.61 tons/ha** in 2024, although it still fell short of 2022 figure (12.09 tons/ha). Most farmer respondents in Java reported **high SR** (above 75%), indicating successful efforts in maintaining farming performance. FCR in the region remained **stable and efficient compared to the previous year.** However, Java recorded **the lowest ADG among all regions**, highlighting a need to improve shrimp growth to reach expected shrimp target.

The productivity increase in Java was supported by the **improvement in harvest size**. Meanwhile, SR across all three performance categories showed **stability and improvement.** Only farms in the top category had better FCR performance, while ADG varied across three categories.

Farming Behavior

In 2024, the farming duration in Java remained **the same** as in 2023, with the median of 79 days, **the shortest among all regions.** Interestingly, it still achieved a **relatively large median shrimp harvest size** of 62 shrimp/kg, not far off from Sumatra, which had a median size of 60 shrimp/kg with a median DoC of 97 days.

Shrimp Farming Conditions in Sulawesi:

Promising performance achieved through longer farming duration

Shrimp farming in Sulawesi showed **solid performance improvements across all parameters.** Sulawesi also recorded the most significant increase in ADG compared to other regions.

Table 3.3. Shrimp Farming Performance in Sulawesi

	Top		Median		Bottom	
	2023	2024	2023	2024	2023	2024
Productivity (Ton/ha)	47.75	**51.14**	35.17	**36.36**	6.74	**16.61**
SR (%)	99.87	**100.00**	76.85	**84.63**	53.14	**65.38**
FCR	1.23	**1.16**	1.43	**1.27**	2.35	**1.64**
ADG (g/day)	0.36	**0.45**	0.26	**0.31**	0.16	**0.19**

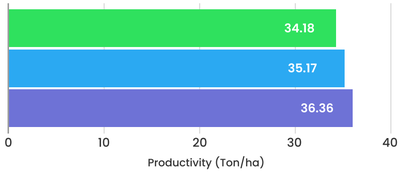


Figure 3.11. Median Shrimp Farm Productivity in Sulawesi

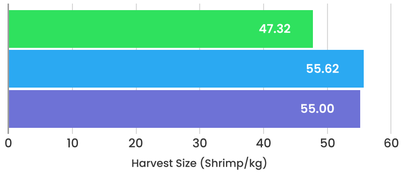


Figure 3.12. Median Shrimp Farm Harvest Size in Sulawesi

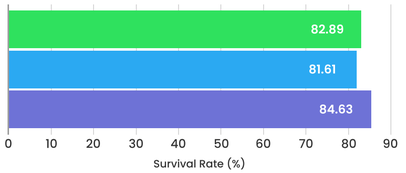


Figure 3.13. Median Shrimp Farm SR in Sulawesi

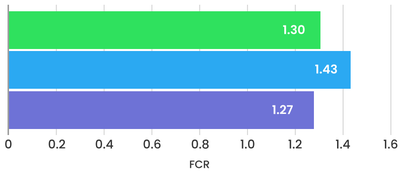


Figure 3.14. Median Shrimp Farm FCR in Sulawesi

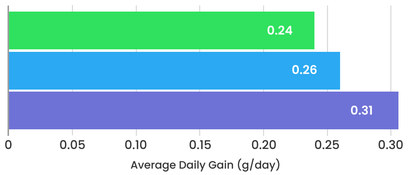


Figure 3.15. Median Shrimp Farm ADG in Sulawesi

2022 2023 2024

Farming Performance

Overall, Sulawesi demonstrated great farming performance. **Productivity increased** from 35.17 tons/ha in 2023 to **36.36 tons/ha**, making it the second highest after Bali-Nusa Tenggara. Sulawesi also achieved excellent SR at **84.63%. FCR reached optimal level** as it declined from 1.43 **to 1.27** in 2024. Compared to other regions, Sulawesi recorded **the most significant increase in ADG**, from 0.26 grams/day to **0.31 grams/day.**

Productivity, SR, FCR, and ADG in the top, median, and bottom farms all showed **improvements** this year. A significant improvement was seen in the FCR of the bottom category farms, from 2.35 in 2023 to 1.64 this year. SR among top category farms also reached an optimal level, achieving 100%.

Farming Behavior

Since 2022, Sulawesi has consistently maintained long farming cycle duration (>100 days), and it was not found in other regions. **Median farming duration declined**, from 111 days (2023) to 101 days (2024), yet it remained the longest among all regions. In addition, Sulawesi achieved **the best median harvest size** in 2024, at 55 shrimp/kg.

Shrimp Farming Conditions in Bali-Nusa Tenggara:

Most optimal productivity and SR compared to other regions

In 2024, Bali and Nusa Tenggara managed to **nearly doubled their shrimp farming productivity** compared to the previous year, with the best SR achievement among all regions.

Table 3.4. Shrimp Farming Performance in Bali-Nusa Tenggara

	Top		Median		Bottom	
	2023	2024	2023	2024	2023	2024
Productivity (Ton/ha)	31.71	**72.95**	25.12	**43.41**	11.82	**12.00**
SR (%)	100.00	100.00	**91.67**	86.25	**70.28**	43.31
FCR	1.32	**1.07**	1.58	**1.40**	2.29	**2.18**
ADG (g/day)	0.32	**0.41**	0.23	**0.28**	**0.14**	0.13

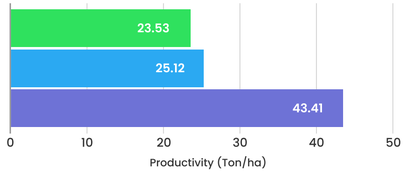


Figure 3.16. Median Shrimp Farm Productivity in Bali-Nusa Tenggara

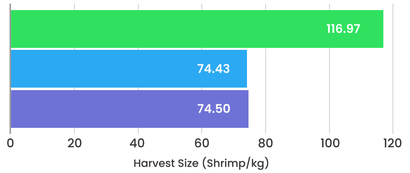


Figure 3.17. Median Shrimp Farm Harvest Size in Bali-Nusa Tenggara

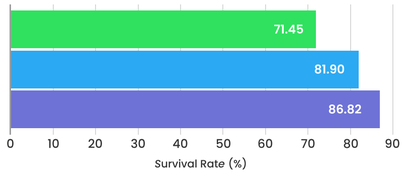


Figure 3.18. Median Shrimp Farm SR in Bali-Nusa Tenggara

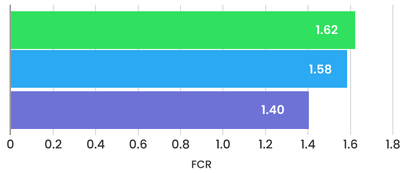


Figure 3.19. Median Shrimp Farm FCR in Bali-Nusa Tenggara

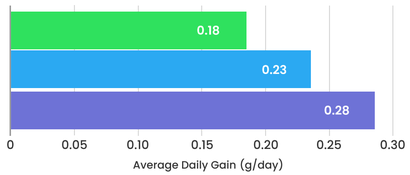


Figure 3.20. Median Shrimp Farm ADG in Bali-Nusa Tenggara

Farming Performance

Productivity in Bali and Nusa Tenggara **nearly doubled** from 2023 (25.12 tons/ha) to 2024 (43.41 tons/ha) due to the implementation of higher stocking density in both regions. Both **SR and ADG also improved**, and **feed conversion became more efficient.** SR in Bali-Nusa Tenggara even showed **the highest SR value compared to other regions.**

Productivity and FCR in all three farm categories **improved**, with the most significant improvement observed in top category farms, where productivity more than doubled. Meanwhile, only top category farms **managed to maintain SR** at 100% in 2024. ADG also improved in the top and median categories, while a slight decline was recorded in the bottom category.

Farming Behavior

From 2023 to 2024, Bali-Nusa Tenggara experienced **the largest decline in farming duration** compared to other regions, from **98 to 82 days.** This was also reflected in **the median harvest size, which remained the lowest** (74.5) among all regions, nearly identical to the 2023 figure (74.43).

Indonesia’s Shrimp Industry Issues and Challenges

Challenges Faced by Shrimp Farmers

Shrimp disease remains the primary concern among farmers

According to the survey results, **the majority of respondents (40.31%) identified that the primary issue in shrimp farming is shrimp disease**. In the previous edition of Shrimp Outlook, shrimp disease and mortality were also the top concerns among farmers. This clarified the fact that shrimp disease remains a serious challenge for shrimp farmers year after year.

Meanwhile, shrimp price ranked second, with the percentage of 39.53%. Shrimp price fluctuations throughout 2024 also became one of the most concerning matters among farmers.

The next most concerning issues were feed price (11.63%) and operational cost (6.20%), both of which are closely related to shrimp production spending. In the previous edition, JALA's survey found that feed was the most frequently reduced cost component in efforts to save on expenses. Finally, the issue with the lowest percentage reported was difficulty in selling harvests (2.33%).

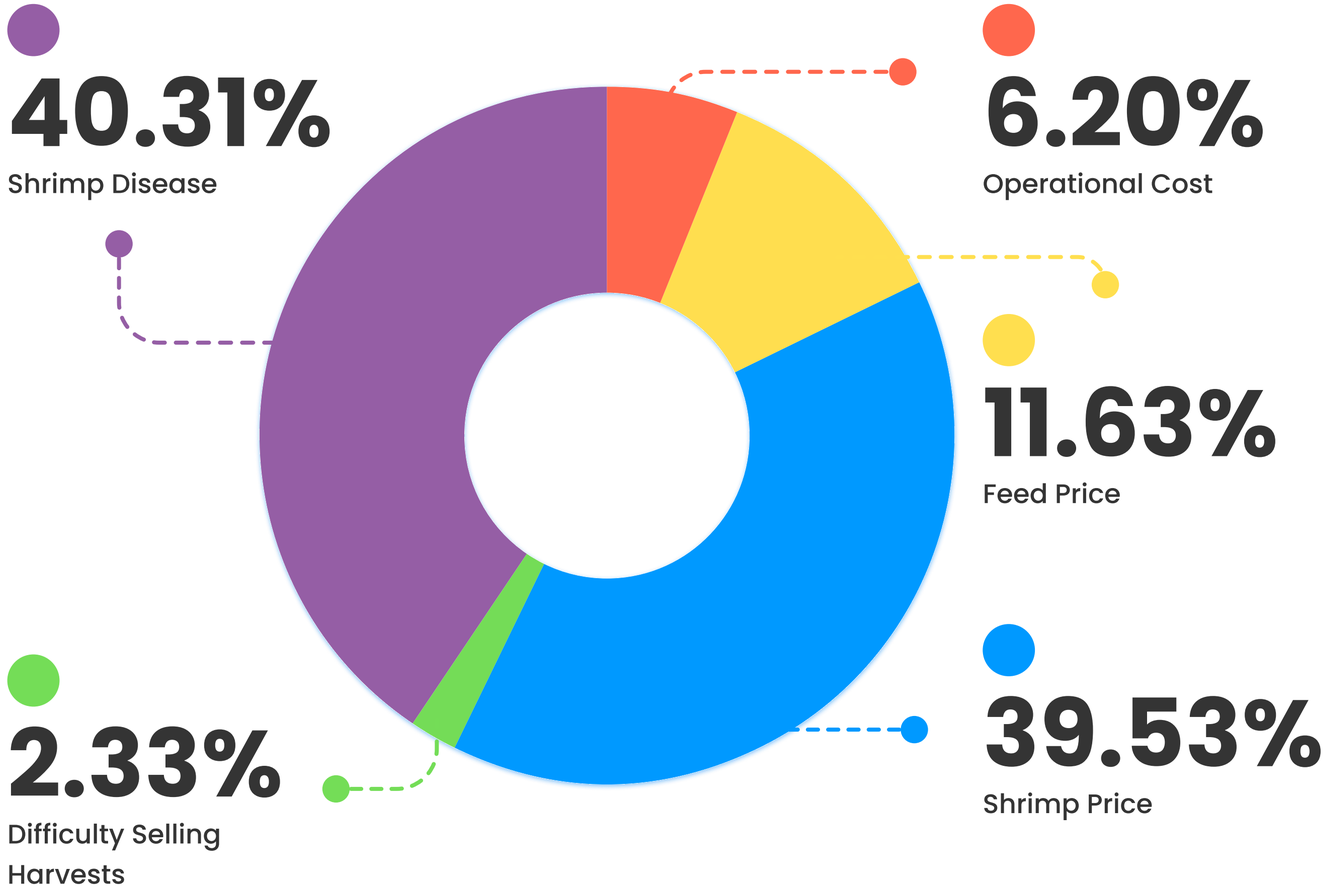


Figure 4.1. Survey Result on Key Challenges Faced by Shrimp Farmers

Shrimp Disease Issue

EHP/HPM emerged as the most widespread disease in shrimp farms

Based on survey data, there are three most frequently reported shrimp diseases on farms, namely **EHP/HPM**, **WFD**, and **AHPND**. In 2024, farmers stated that EHP was the most prevalent issue they had to deal with. This marked a shift from 2023, when AHPND was the dominant concern. Meanwhile, JALA's survey data showed WFD prevalence was higher than EHP.

The domination of EHP infection was further confirmed by **CeKolam** data, which highlighted EHP/HPM as the biggest threat to shrimp farming in 2024. EHP/HPM became a primary concern across different segments, from hatchery industry players to farmers. Its distribution spanned widely, from western to parts of eastern Indonesia.

EHP/HPM has an impact on **slowing the growth rate of shrimp**. This often creates a false alarm, where shrimp appear to have a strong appetite but show no significant growth. Effective treatments for EHP/HPM remain limited since products that can effectively target the microfungi in shrimp has yet been found.

Although it does not typically cause high mortality, interviews with farmers revealed EHP/HPM is considered more damaging economically to farms than AHPND. EHP/HPM is difficult to mitigate early and is usually only identified when shrimp size becomes uneven, while AHPND can be immediately mitigated due to sudden mortality and the emergence of physical symptoms on shrimp.

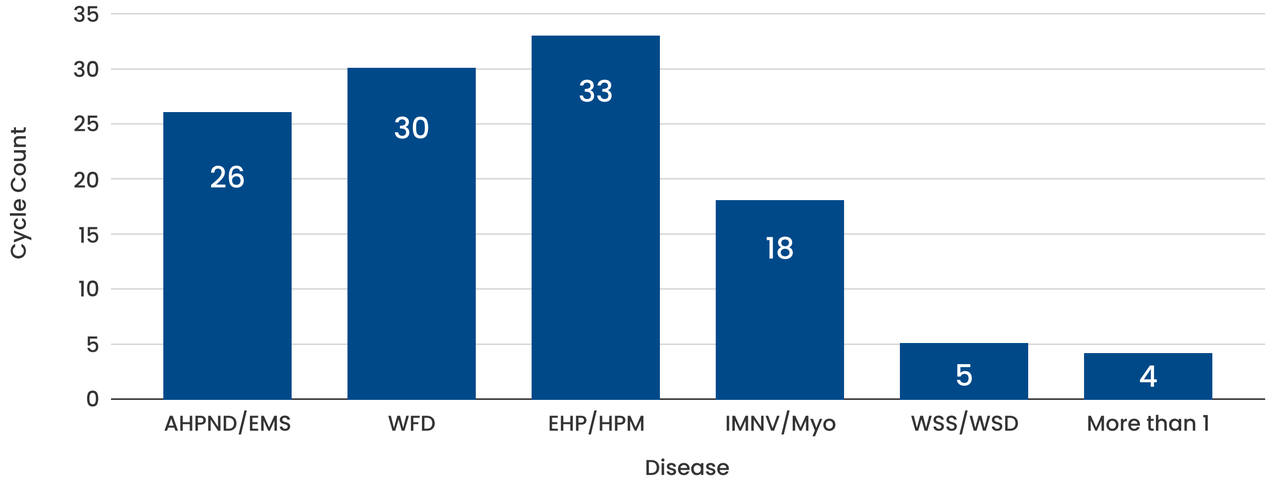


Figure 4.2. Cycle Count Based on Disease Diagnosis

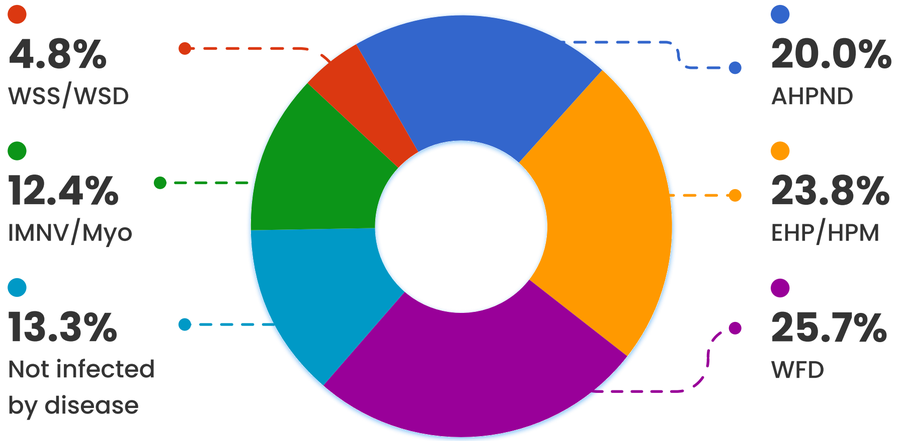


Figure 4.3. Survey Result on the Widespread Disease in Shrimp Farms

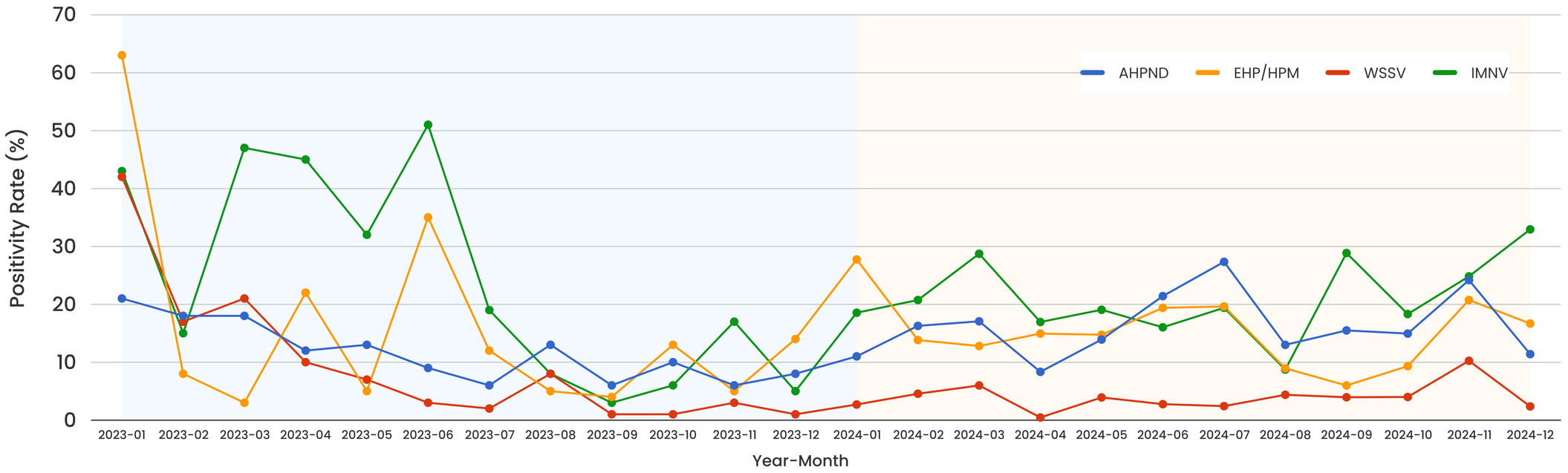


Figure 4.4. Positivity Rate Trends in East Java and Banten (Source: CeKolam by Nusantic, 2025)

Positivity rate of shrimp disease

The chart above presents the positivity rate data of confirmed cases for AHPND, EHP/HPM, WSSV, and IMNV. The data was obtained from disease sample testing conducted in East Java and Banten. The data indicates **a rising trend in positivity rates for AHPND, WSSV, and IMNV** from December 2023 through 2024. Meanwhile, **EHP/HPM showed a downward trend** despite recording the highest positivity rate throughout 2024, even reaching 27.74% in January 2024. In 2024, EHP/HPM continued to raise concerns because its impacts are difficult to identify with naked eye and are only noticed once shrimp growth begins to slow.

AHPND remains manageable and controllable. However, handling AHPND with excessive use of chemical treatments may cause the pathogen to mutate, triggering new outbreaks.

Unlike AHPND, **EHP/HPM is far more challenging to overcome**, as the physical signs of infected shrimp are difficult to detect. Besides, EHP parasite spores can survive for extended periods. As of now, no treatment has proven to be significantly effective in curing EHP/HPM.

Farmers need to be more cautious about potential disease carriers present in the farm surrounding. This is crucial for reducing the risk of infection to the farm. **Strengthening communication among farmers** is also essential for disease mitigation, for instance, if one farm is infected, surrounding farms need to be informed.

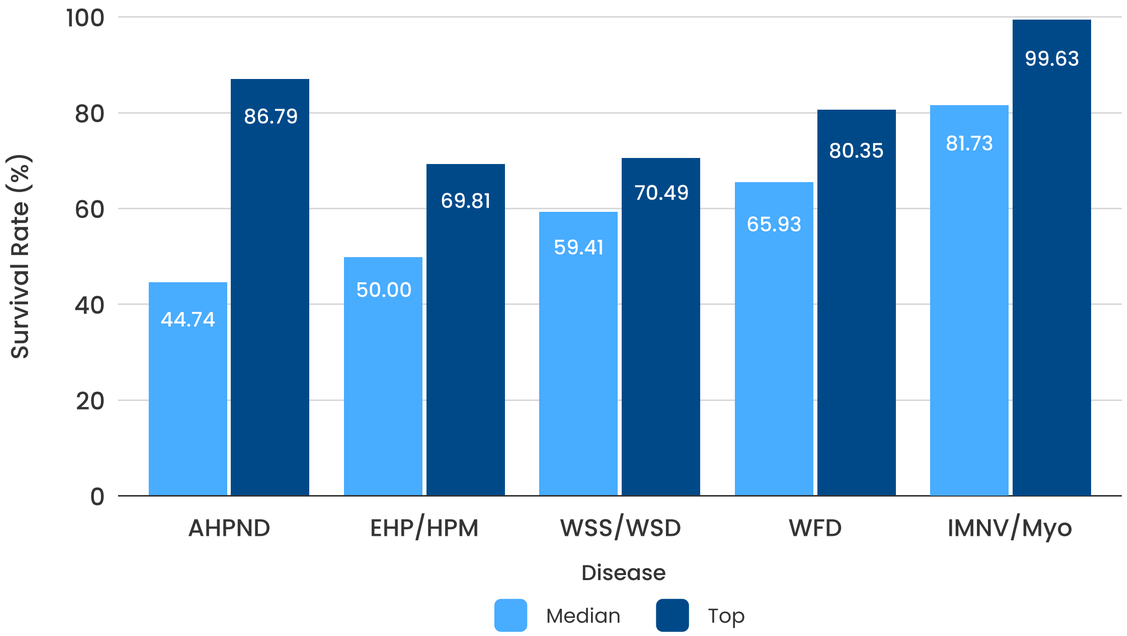


Figure 4.5. Survival Rate Based on Disease Diagnosis

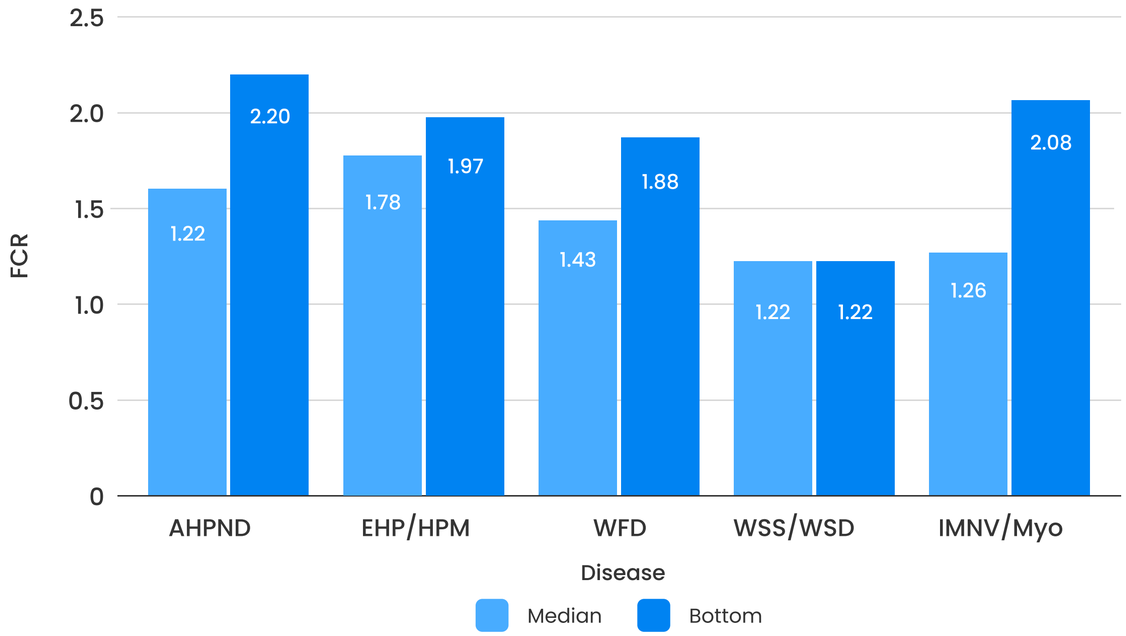


Figure 4.6. FCR Based on Disease

AHPND has the most impact on farm performance

In terms of the performance of farms infected with disease, **AHPND** had the most significant impact on SR. Farms in the median category achieved SR of only 44.74%. In contrast, farms infected with IMNV/Myo still showed the potential to maintain high SR, reaching 81.73% in the median category. When ranked by FCR, farms infected with AHPND in the median category ranked first and were close to ideal (1.22), followed by those infected with EHP/HPM (1.78).

AHPND infects shrimp in the early stages of farming cycle, indicated by **damage to the hepatopancreas.** Shrimp infected with AHPND have empty digestive tracts due to lack of feed, and their hepatopancreas appears pale and shrunken.

Shrimp Price Fluctuations

Shrimp prices in Indonesia experienced several sharp drops, namely in July 2023, December 2023, and November 2024. In 2023, the decline in shrimp prices across all sizes began since June.

December 2023 marked the lowest price point in the past two years, simultaneously affecting all shrimp sizes. However, prices rebounded in May 2024. Then, shrimp prices for size 30, 50, and 70 saw another decline starting in September 2024.

Size 100 shrimp also experienced price drops at the same time with other sizes, particularly in May and December 2023. However, when shrimp prices for size 30, 50, and 70 declined again starting in October 2024, the price for size 100 shrimp remained stable.

According to shrimp prices data from 2022 to 2024, shrimp size 100 recorded the highest price fluctuation. In contrast, size 70 showed the least fluctuation, indicating better price stability compared to other sizes.

These shrimp prices data reflect price fluctuation patterns at the farmer level. In terms of trend, shrimp prices are influenced by a extensive factors. One of the most influencing factors is export market conditions, for example the demand from the U.S. and China, including oversupply situations that can drive prices down, seasonal celebrations (Thanksgiving and Chinese New Year) that tend to rise prices, and various other supply-demand mechanisms in the market.

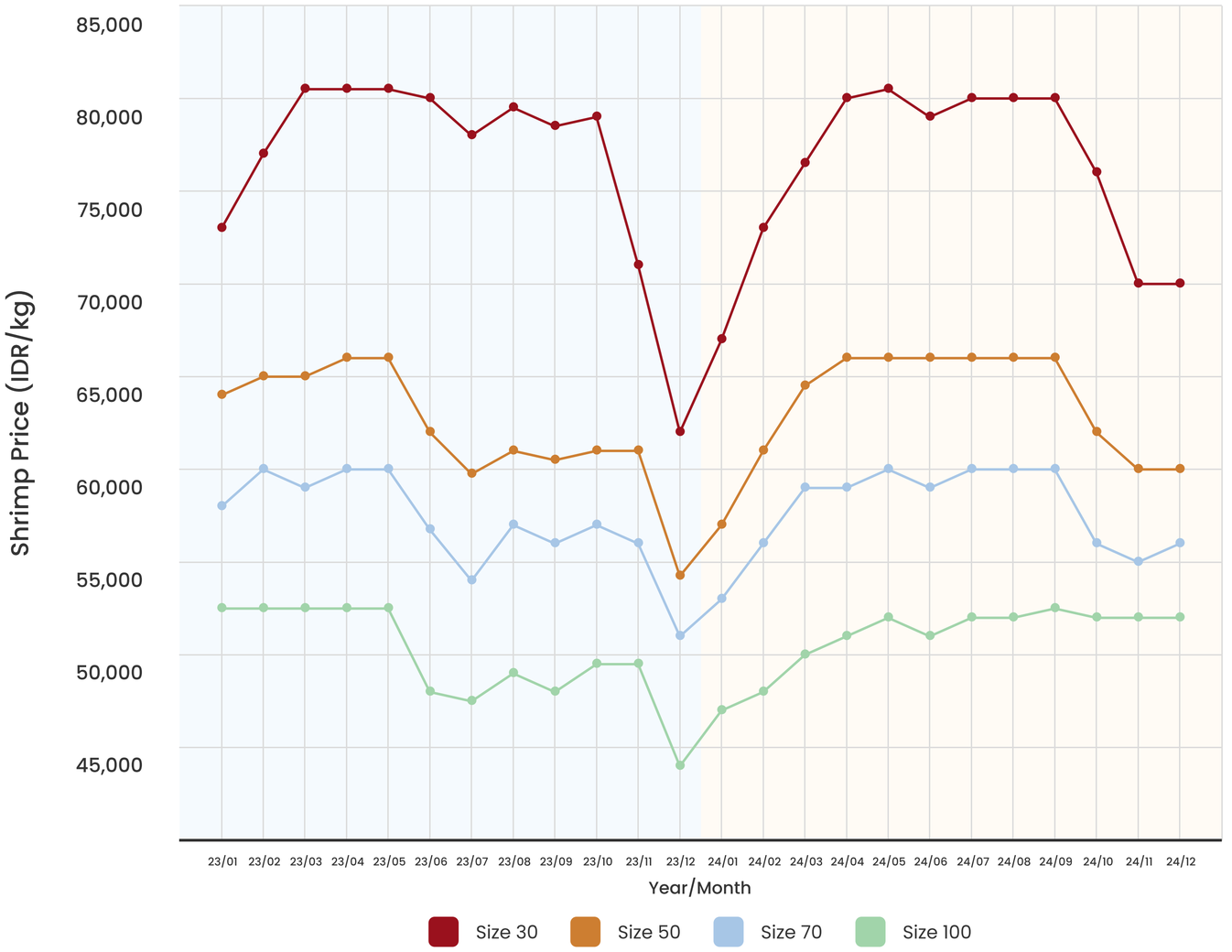
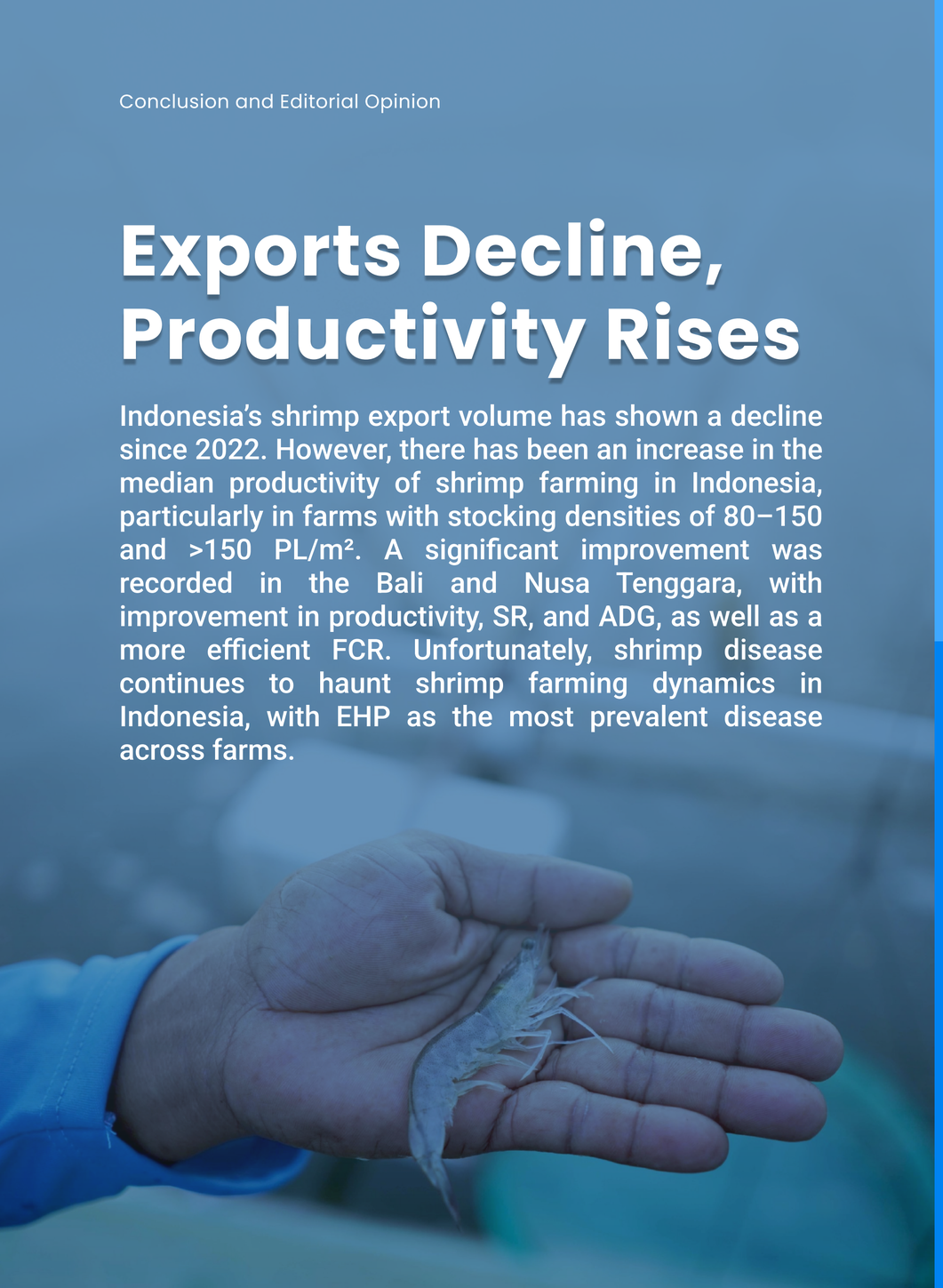


Figure 4.7. Shrimp Price Trends in 2023–2024 (Source: JALA App Shrimp Price Portal)

Conclusion and Editorial Opinion

Exports Decline, Productivity Rises

Indonesia’s shrimp export volume has shown a decline since 2022. However, there has been an increase in the median productivity of shrimp farming in Indonesia, particularly in farms with stocking densities of 80–150 and >150 PL/m². A significant improvement was recorded in the Bali and Nusa Tenggara, with improvement in productivity, SR, and ADG, as well as a more efficient FCR. Unfortunately, shrimp disease continues to haunt shrimp farming dynamics in Indonesia, with EHP as the most prevalent disease across farms.



Indonesia’s Shrimp Export Volume
(total in 2024)

202,464 tons

Export competition has become **increasingly tight,** and Indonesia's shrimp exports have continued to decline. The decline began from 2022 to 2023 with a 9% decrease. In Q1 2024, the decline reached 8%, followed by a 12% decrease in Q2 2024. Indonesia needs to **explore alternative export markets or maximize the potential of its domestic market.**

Shrimp farming productivity on the rise

11.55 and **22.19** tons/ha

Median **shrimp farming productivity in Indonesia increased** compared to 2023. This increase was observed in farms with stocking densities of 80–150 and >150 PL/m². Productivity in the 80–150 PL/m² category rose from 10.35 to 11.55 tons/ha, while the >150 PL/m² category improved from 19.8 to 22.19 tons/ha. It reflects a positive signal that upstream players in the shrimp industry are committed to make a broader impact and improvement.

Top-performing farming region

Bali-Nusa Tenggara

Bali and Nusa Tenggara achieved a **near twofold** increase in productivity from 2023 to 2024. Additionally, the region also saw **improved** SR and ADG as well as a **more efficient** FCR. Its SR performance was **the highest** compared to other regions (Sumatra, Java, and Sulawesi). Bali and Nusa Tenggara’s farm performances reflect a **strong sense of optimism for shrimp farming in Indonesia.**

HPM

The most alarming shrimp disease

EHP/HPM emerged as the most prevalent disease in farms throughout 2024. Shrimp farms in the middle category infected by EHP recorded an SR of only 62.72%, while those in the top 10% reached 74.18%. However, these figures remain higher than the SR of farms affected by AHPND. Many farmers raised concern that **this disease needs to be taken seriously** to prevent prolonged impacts.

Conclusion and Editorial Opinion

Welcoming Optimism, Positive Signals are Evident!

As part of the shrimp industry, JALA firmly believes and have witnessed that Indonesian farmers are not ones to give up easily.

Performance

Indonesia's shrimp farming performance has shown improvement, but with several notes. These achievements are shaped by various factors, meaning there is no single certain cause and no one-size-fits-all solution.

Unity

Communication and information-sharing are crucial to shape the industry, especially in facing disease challenges. Disease should not be treated as a disgrace, but rather as an alarm that calls for communication and collaboration to overcome it.

Well-prepared Strategy

Shrimp farming and export to the corners of the world are nothing new to Indonesia, meaning it is far from difficult for industry players to make improvements and recover. Proper preparation in farming and promoting yields is believed to bring greater profits and industry sustainability.

Domestic Market

Indonesia's nature, culture, and spirit of solidarity can be additional values besides proven data. Consumption and average spending per capita on seafood demonstrate the importance of supplying Indonesian domestic market with high-quality protein source from premium shrimp.

Hope for the Shrimp Industry

"Hopefully, it becomes sustainable, while also boosting productivity, market value, and the quality of our shrimp."

Roziqin
Farmer
Purworejo, Central Java

"Hopefully, it continues to grow, with fewer virus outbreaks. Most of all, smoother farming process."

Adam Safarudin
Farm Owner
Pangandaran, West Java

"Join efforts to promote the shrimp consumption, for example by educating consumers about the product quality."

Yahira Piedrahita
Executive Director, National Aquaculture Chamber, Ecuador

"I hope the Indonesian shrimp industry continues to grow in a sustainable way and continues to produce incredible shrimp."

Nicholas Leonard
Co-Founder of Haven Foods
United States of America

"I hope the Indonesian shrimp industry becomes better, more efficient, and more competitive."

Wisnu
Farm Owner
Bengkalis, Riau

"I hope the government will support us (shrimp farmers and industry players), allowing shrimp prices to stabilize."

Arif Widianto
Farm Supervisor
Banten

What to Expect in 2025

01 Implementing and strengthening **sustainable** aspects in shrimp farming while **complying** with existing farm and environmental **regulations**.

02 Allocating **funds toward efficient, high-impact programs**, as the effects of global market competition and DHE regulations on farm gate prices remain uncertain.

03 Allocating profits toward certifications or collective certifications to strengthen **the credibility of Indonesian shrimp** in the eyes of global consumers.

04 Focusing on **branding and promoting** to position Indonesian shrimp as a high-quality shrimp in both domestic and global market.

The Need for Sustainability in Shrimp Farming

Maintaining a balance between productivity and environmental preservation

Shrimp farming has rapidly developed across many countries, including Indonesia. While it is beneficial in supplying nutritious seafood and generating economic benefits for farmer communities, **farming practice also poses significant environmental risks**. Shrimp farming is estimated to contribute as much as 30% of mangrove deforestation in Southeast Asia. The carbon footprint generated from intensive farming practices without sustainable measures threatens the resilience of coastal ecosystems and surrounding communities.

Recognizing these challenges, implementing sustainable farming practices is essential to safeguard environmental health, preserve biodiversity, and reduce the negative impacts toward climate change.

Ecological sustainability

Ecological sustainability means ensuring that farming does not damage the natural environment or the ecosystems and organisms around the farm site. These ecosystems must instead be protected and restored to maintain biodiversity richness.

Economic sustainability

Economic sustainability implies that shrimp farming should generate material profits in the long term. Shrimp farming operation can remain viable and profitable for anyone involved in it over time.

Social sustainability

Social sustainability refers to ensuring that farming locations and activities are safe, do not disrupt social dynamics, are integrated into local communities, and deliver long-term benefits to surrounding communities.

Sustainable farming can be implemented by **avoiding overfeeding**, **neutralizing wastewater**, and **utilizing technology** such as water quality measurement device and data-driven farm management system to ensure favorable shrimp survival and growth rates while enhancing energy efficiency.

JALA's Sustainable Shrimp Farming Initiative

Aligning the harmony of nature with shrimp farming productivity

One of JALA's tangible initiatives toward sustainable shrimp farming is establishing shrimp farms that coexist with mangrove forests. Through the **Climate Smart Shrimp Farming** project, we are committed to achieving long-term sustainability by focusing on three key pillars: environmental, economic, and social. The initial shrimp fry stocking took place in February 2025.

Technology Integration

Enhancing farming accuracy through IoT-based monitoring tools and data-driven management systems.

Biodiversity Enhancement

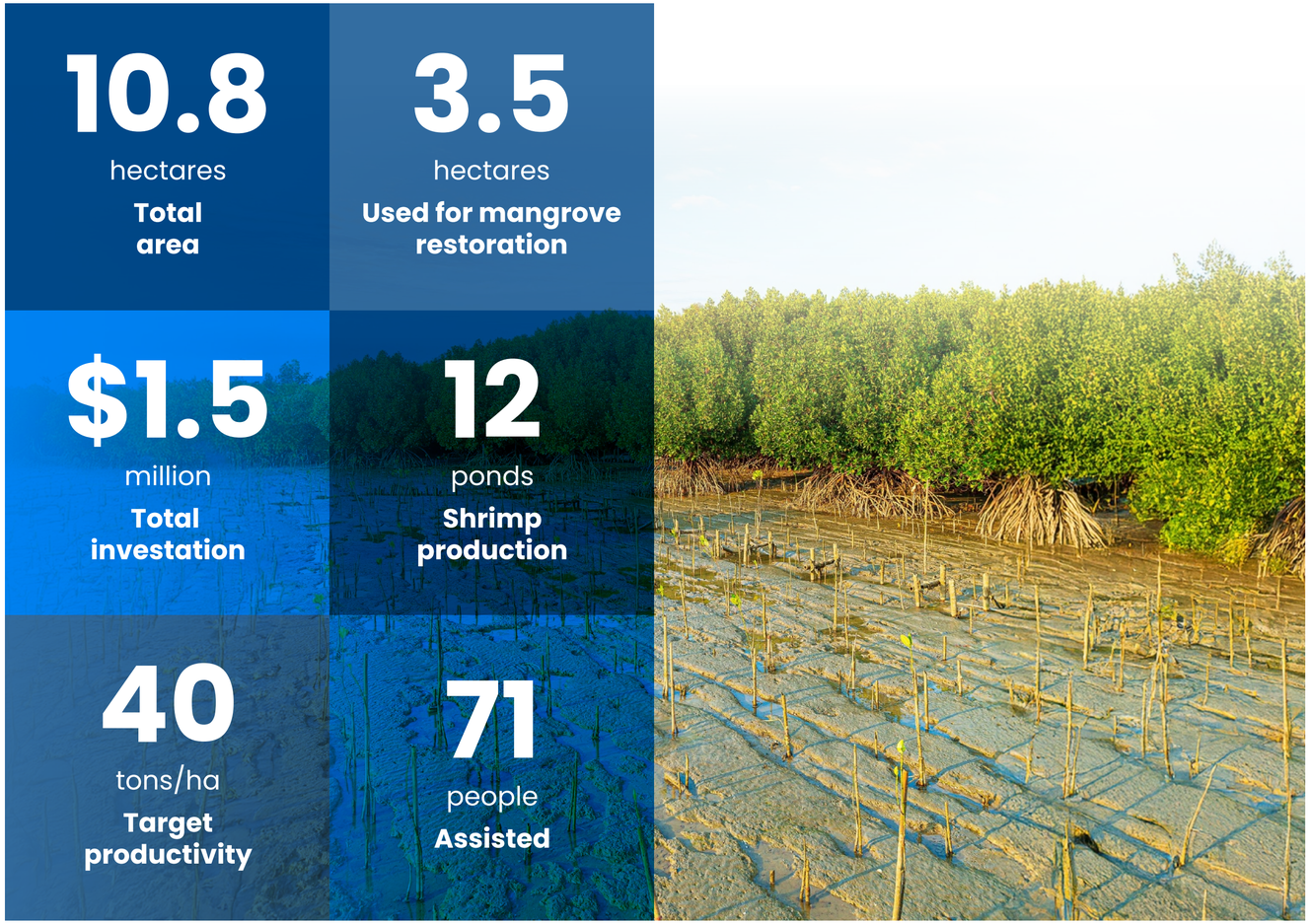
Restoring mangrove forest areas around the farms to enrich local biodiversity.

Carbon Footprint Reduction

Minimizing carbon emissions, with a reduction equivalent to as much as 504 tons of CO_2.

Our Commitment toward Sustainability

In our mission to produce shrimp sustainably, we are eager to comply with these four Sustainable Development Goals (SDGs).



About JALA

Advancing the Industry and Assisting Shrimp Farmers

JALA has a vision to lead the global shrimp industry through innovation, sustainability, and a trusted supply chain solutions. We are committed to make the global shrimp supply chain consolidated and drive the whole supply chain to ensure product quality, transparency, and sustainability.

JALA SUPPLY

JALA's service that supports shrimp farming operations by providing access to farm inputs and infrastructure, including high-quality feed and shrimp fry.

JALA TECH

A set of shrimp farming technologies including IoT-based multi-parameter water quality measurement device and a shrimp farm management application accessible anytime, anywhere.

JALA FARM

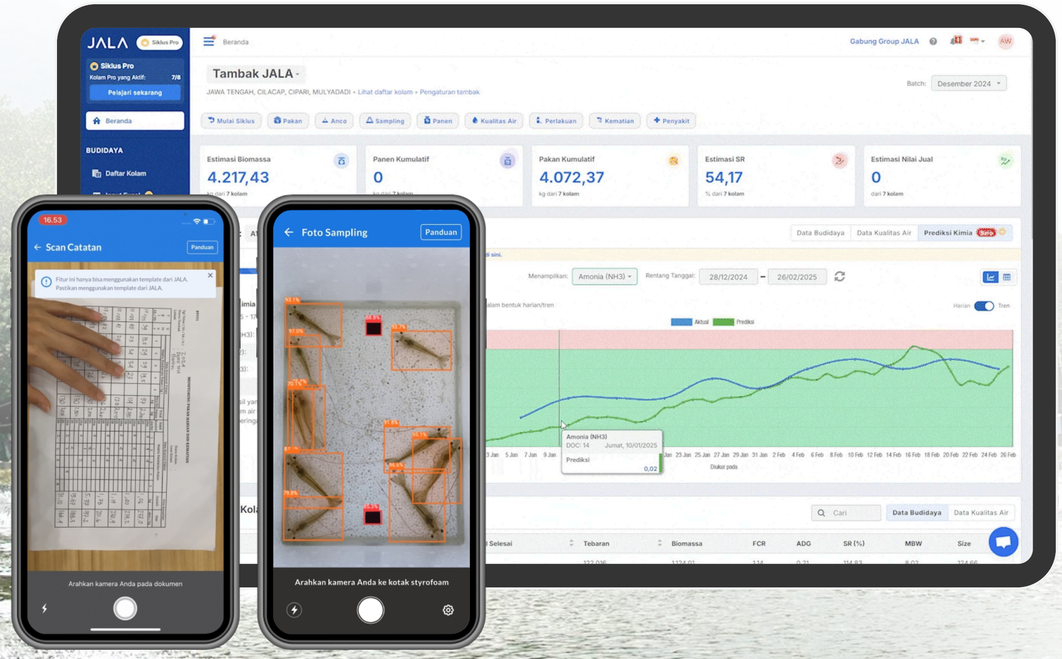
A trusted partnership to support shrimp farm operations through direct on-site assistance for shrimp farmers and digital monitoring of shrimp farming conditions.

JALA HARVEST

A reliable harvest service from JALA that enables shrimp farmers to sell their yields to an extensive buyer network with a fast, transparent payment process.

JALA MARKET

Providing a wide selection of fresh, high-quality frozen seafood products for all needs, sourced from professional farms and catches, with traceability as the prioritized principle.



Shrimp Farming Management Made Easier with JALAAPP

A shrimp farm management application that helps you record, monitor, and analyze every progress of your farming in depth and in real time to make the best decisions in farming.

Explore Our Latest Technology

Farm Book Digitizer

Take photos of feed, sampling, water quality, harvest, and shrimp mortality data from your farm notebook to automatically input them into the application.

Camera-based Sampling

Take photos of your sampled shrimp, upload it to the application, and get weight estimates within seconds.

AI-assisted Data Entry

Record your shrimp farming data faster and easier in the application using our powerful AI assistant.

Chemical Parameters Prediction

Use physical water parameters to predict chemical parameters such as ammonia, nitrate, nitrite, and total organic materials.

Available on the App Store

GET IT ON Google Play

Scan to download

or access through your browser app.jala.tech

JALA

baruni

Farm with Confidence: More Robust, Accurate, and Handy

Water quality monitoring is not just a routine. More than that, it's a crucial step to ensure shrimp grow in a healthy and ideal environment.

Simplifying Water Quality Measurements

Too Many Tools

Using separate tools for each water parameter complicates efficient shrimp farm management.

Lack of Integration

Data is recorded separately due to lack of integration with the measurement device.

Daily Monitoring

Water quality monitoring is crucial to prevent issues that can affect shrimp farm production.

18,000+
Registered users

22,500+
Tons shrimp monitored with by JALA App

31,000+
Registered ponds

Trusted by

Thousands of shrimp farmers

13,900+
Tons shrimp harvested

700+
Communities assisted

900+
Ponds with sustainable management

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