JURNAL SYNTAX TRANSFORMATION

Volume 5, No. 9 September, 2024
p-ISSN 2721-3854 | e-ISSN 2721-2769

Ornamental Fish Marketing at Laladon Ornamental Fish Exchange, Bogor, West Java

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ABSTRACT
The ornamental fish business in Indonesia, especially at Laladon Ornamental Fish Exchange, Bogor, has experienced a significant decline after the Covid-19 pandemic. This study aims to analyze the factors that influence the sale of ornamental fish at the location. The research was conducted from May to August 2023 using purposive sampling method on 9 active ornamental fish traders. Data collected included location profile, technical and economic aspects of marketing. Data analysis was carried out with qualitative and quantitative descriptive analysis, as well as statistical tests using Kruskal-Wallis and Spearman rank correlation. The results showed that the variables that significantly influenced sales were fish stock (0.833), number of fish species (0.711), fish storage capacity (0.833), repeat purchases by businesses (0.900), and fish sales (0.983). The decline in sales in the post-pandemic period was caused by various internal and external factors. These findings indicate the need for improvements in product management and marketing strategies to improve sales performance of ornamental fish at Laladon Ornamental Fish Exchange. This research provides important insights for businesses and stakeholders in optimizing the potential of the ornamental fish market.

Keywords: business, Bogor regency, marketing performance, ornamental fish, sales

INTRODUCTION

Ornamental fish production in 2017-2022 in Indonesia shows a positive trend with a production value of 1.14 - 1.67 billion fish with a production target of 2.3 billion fish in 2024 for the local and export markets (DJPB 2017-2022). In the last 3 years (2020-2023) Indonesia has succeeded in increasing the export value of ornamental fish from Rp. 447.78 to Rp. 542.91 billion (PDSPKP 2023). Even in 2020 when the world economy experienced disruption due to the Covid-19 global pandemic, on the contrary, the sales and demand for ornamental fish increased, therefore the ornamental fish business in Indonesia is considered to have good and promising prospects. According to Setiawan et al. (2021) and Fatimah et al. (2022) During the pandemic, ornamental fish business actors had an increase in turnover of up to 70%. This happens because people have a new hobby to raise ornamental fish that can relieve stress and reduce boredom while at home (Ummung et al., 2022; Fu'adi et al., 2022).

West Java Province contributes as much as 43.5% of national ornamental fish production and is one of the largest producers of ornamental fish in Indonesia (Thabrani et al., 2019). The production of ornamental fish in this region is dominated by Bogor Regency which contributes up to 45% of ornamental fish production per year (Table 1). Based on this, this area is considered to have potential in the development of the ornamental fish business, even the government encourages an increase in the marketing of ornamental fish in this region by building a marketing unit, one of which is the Laladon Ornamental Fish Exchange in Bogor Regency (BIHL 2019).

Table 1 Ornamental fish production in Bogor Regency, West Java Province in 2019-2022

Year	West Java (tail)	Bogor Regency (tail)	Percentage
2019	619.030.061	290.440.103	46,92%
2020	683.067.608	307.845.605	45,07%
2021	624.498.976	296.417.100	47,46%
2022	630.660.145	302.218.010	47,92%

Source: MPA Statistics (2019-2022) (processed)

Ornamental fish business actors feel helped by the existence of an ornamental fish marketing unit as their source of income, even during the pandemic in 2020-2022 business actors can reap a turnover of up to Rp. 200,000-300,000/day through this business. However, in the post-pandemic period, the turnover obtained continues to decline to Rp. 50,000-100,000/day, and it is not uncommon for business actors not to get income. This has caused many business actors to be forced to go out of business due to declining sales.

Table 2 Conditions of ornamental fish sales activities at the Laladon Ornamental Fish Exchange

Information	Time				
	2017	2018	2019	Pandemic (2020-2022)	Post-pandemic (2023)
Number of active stores	30/30	30/30	30/30	30/30	26/30
Export activities	not	yes	not	not	not
Turnover (Rp million/month)	0,966	1,660	2,075	6-9	1,50-2,00
Turnover (Rp thousand/day)	32,2	55,3	69,1	200-300	50-100

Source: BIHL (2019) and primary data (processed)

The decline in the marketing performance of ornamental fish by business actors at the Laladon Ornamental Fish Exchange is allegedly influenced by various internal and external aspects of the business that are a problem. According to researchers Internal aspects are a problem for SMEs in Indonesia to be able to develop (Srimulyani et al., 2023). The internal aspect is a representation of the strengths and weaknesses that the company has, as well as the resources it has and the ability to understand how the business runs, while the external aspect is a trend, event or thing that happens outside the control of the company that can be a key aspect in identifying opportunities and threats (Brunswicker & Vanhaverbeke, 2015). In the ornamental fish business, the availability of facilities, water quality management, fish care, and special expertise in the management of ornamental fish products are needed to minimize the risk of death because ornamental fish are sensitive to water quality (Sinha & Pandey, 2023). According to researchers the main factor in the sale of ornamental fish is the quality of the colour, the quality of the colour of the fish can be achieved with good product management so that product management needs to be prioritized in this business (Maanikuu, 2018). The type and size of fish is also a consumer preference in buying fish, with the fulfilment of consumer desires can encourage product repurchase (Pargunan and Alagappan 2020; Suryana et al. 2023).

Based on this, through this study, various aspects of ornamental fish marketing activities at the study location will be examined that affect sales to improve marketing performance. The aspects of the activities studied start from product management techniques from the beginning of the arrival of fish to the sale of fish to consumers to the economic aspects of the business including profitability, consumers, to trends and preferences for fish purchases. Good product management is considered to be able to increase business profitability because the sale of ornamental fish prioritizes the quality and quantity of fish as well as the understanding of business actors to the trends and preferences of buying ornamental fish by consumers can be an added value in an effort to improve the marketing performance of ornamental fish at the Laladon Ornamental Fish Exchange.

The objective of the research on ornamental fish marketing at Laladon Ornamental Fish Exchange is to analyze the factors affecting sales, so as to determine the significant variables that have an impact on post-pandemic ornamental fish sales performance. In addition, this study aims to identify ornamental fish market conditions, including sales trends and consumer preferences, and provide strategic recommendations for improved product management and marketing strategies to improve sales performance. The benefits of this research include providing useful insights for ornamental fish businesses in understanding the factors that can improve their sales and competitiveness. For the government and stakeholders, this research provides data and information that can be used to formulate policies and development programs for the fisheries sector, particularly the ornamental fish business. In addition, for academics and researchers, this study can serve as a reference for further research related to ornamental fish marketing and fisheries economics in Indonesia. Thus, this research is expected to make a positive contribution to the development of ornamental fish business in Indonesia.

RESEARCH METHODS

This research was carried out at the Laladon Ornamental Fish Exchange, Bogor Regency from May to August 2023 by focusing on ornamental fish sales activities. The population in this study is all business actors who have shops/kiosks at the study location as many as 26 stores. Sampling of 9 stores, namely numbers 7, 13, 14, 21, 22, 24, 26, 27 and 30. The sample was taken using the purposive sampling method with the criteria that the resource person had a shop or stall at the study location that was active in selling ornamental fish, had been in business for >1 year and was willing to provide information related to the research. Primary data consists of the profile of the Laladon Ornamental Fish Exchange as the location of the study, technical aspects including ornamental fish display and product management, fish types and sizes, water quality and stock taking including storage capacity, stock availability based on type and size. Finally, there are economic aspects of marketing performance including sales, number of customers, restocking of ornamental fish products and profitability. Data analysis uses qualitative and quantitative descriptive analysis. The statistical data test used the Kruskal-Wallis H test to test the significance of the data that was not normally distributed as well as the correlation of spearman rank to see the direction and strength of the relationship between the variables. Data processing uses Microsoft Excel 2017 and IBM SPSS 25 applications to be presented in the form of tables or graphs.

RESULTS AND DISCUSSION

Profile of Laladon Ornamental Fish Exchange

The Laladon Ornamental Fish Exchange is a facility built by the government whose use is stated in the Regent Regulation Number 71 of 2018, namely there is a collection of rental fees and there is a rental fee collector at the location by involving the head of the fishery business facilities UPT as a coordinator and a fishery development assistance officer (Wijaya & Huda, 2021). The Laladon Ornamental Fish Exchange is managed by the Bogor Regency Fisheries and Livestock Service through the Technical Implementation Unit (UPT) of fishery business facilities (Latumeten et al., 2022). The UPT has the task of leading, organizing and controlling the implementation of technical policies for the management of fisheries business facilities and infrastructure (Bradley et al., 2019). The activities of the Laladon Ornamental Fish Exchange fishery business facilities UPT in accordance with Regent Regulation Number 31 of 2018 are asset structuring and marketing management which includes socialization/coaching of marketing activities, data collection and marketing data management, promotion of marketing activities, monitoring of price developments and other activities such as bazaars, exhibitions, seminars and competitions (Abedi & Zhu, 2017). The Laladon Ornamental Fish Exchange has a land area of ±1136 m2 with a building area of ±578.8 m2 and 30 available shops, but at the time of the study there were only 24 shops that were actively carrying out marketing activities every day. The store closed as many as six units due to a lack of capital and a decrease in sellers' income due to a decline in fish purchases after the pandemic (Campbell et al., 2021). Other facilities available at the Laladon Ornamental Fish Exchange include PAM water, motorcycle and car parking, warehouses, generators, offices, prayer rooms, stalls and bathrooms. The facilities owned by the Laladon Ornamental Fish Exchange are good in supporting ornamental fish marketing activities.

Technical Aspects of Marketing: Ornamental fish display

Display activities are carried out with interior displays, namely displaying products in the place of business/store, so that all product samples can be displayed to consumers, attracting interest through visuals and completeness of the store, facilitating service and making it easier for consumers to choose products.

1. Management of Ornamental Fish Products

The technical management of ornamental fish products at the Laladon Ornamental Fish Exchange is adjusted to optimal conditions based on the type of fish (Marlianingrum & Suprapta, 2022). The character and nature of fish determine the way ornamental fish traders conduct displays so that in their maintenance ornamental fish business actors use various sizes of aquariums (Table 3).

Table 3 Types, length, width and height of the aquarium at Laladon Ornamental Fish Exchange

Kind	Length (cm)	Width (cm)	Height (cm)
Solitary aquarium (small)	10 - 15	10 - 15	10 - 15
Aquarium (medium)	40 - 60	30 - 40	30 - 40
Aquarium (Large)	60 - 200	40 - 70	40 - 70

Fish maintenance is carried out at the same time as the distribution of ornamental fish products (Latumeten et al., 2022). Optimal stocking density of ornamental fish in the maintenance of ornamental fish can reduce the risk of fish mortality due to reduced space competition and adjustment to the character and nature of the fish, more details in table 4.

Table 4 Dense stocking of ornamental fish based on size, character and nature of ornamental fish at Laladon Ornamental Fish Exchange.

Fish size	Stocking density (tail)	Water volume (liters)	Social traits		Character	
			solitary	Schooling	Predators	non-predator
0.5 - 1 inch	1 - 2	1	✓	✓		✓
2 - 4 inches	1	5	✓	✓	✓	✓
1 - 4 fingers	1	5	✓	✓	✓	✓
> 4 inches	1	> 15	✓		✓	
> 4 fingers	1	> 15	✓	✓	✓	

Water quality management is the main factor in supporting fish life. Water quality management is carried out using various supporting tools to achieve optimal results (Vigueras-Velázquez et al., 2020). The following are the results of the water quality analysis based on the supporting equipment used.

Table 5 Results of water quality testing of various parameters based on the use of supporting equipment at Laladon Ornamental Fish Exchange.

Parameters	Water source	Foam Aeration Filter (physical)	Top Filter (physical)	Filter chamber (physical, chemical and biological)	No Filter/Aeration
Ph	6,8 - 7,5	7,2 - 7,6	6,8 - 7,6	6,4 - 7,4	6,9 - 7,7
Temperature (°C)	28,7 - 28,9	28,5 - 29,3	29,7 - 30,0	28,2 - 30,0	28,8 - 29,2
Dissolved Oxygen (mg/L)	2,6 - 3,2	4,3 - 4,6	4,8 - 5,3	5,4 - 5,8	2,4 - 3,0
Alkalinity (mg/L)	88 - 102	24 - 40	32 - 72	24 - 72	24 - 84
Tan (mg/L)	0,016 - 0,026	0,122 - 0,816	0,159 - 0,798	0,0563 - 0,169	0,046 - 0,882
Nitrite (mg/L)	0,012 - 0,017	0,105 - 0,131	0,096 - 0,144	0,0923 - 0,131	0,107 - 0,121
Nitrate (mg/L)	0,449 - 0,562	0,826 - 1,229	0,689 - 1,352	0,8294 - 1,366	0,624 - 1,051

Good management of ornamental fish products can minimize the risk of losses due to fish death. Fish deaths generally occur due to transportation and disease attacks due to the absence of a fish quarantine place before entering the display. The following is Figure 1 Graph of fish deaths at the three locations.

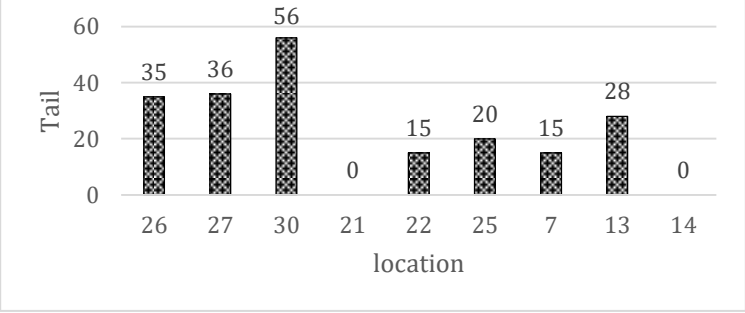

Figure 1 Graph of fish mortality by location at Laladon Ornamental Fish Exchange

The pH value of all supporting equipment used is included in the optimal range, which is 6 - 9 (PP No. 82 2001). The temperature for each use of supporting equipment is still optimal, which is 25 - 30 °C (BSN 1999). The lowest dissolved oxygen content in containers without the use of filters/aeration was 2.4 mg/L and the dissolved oxygen level was considered to be decreasing as seen from the change in the

value of dissolved oxygen content in the water source. The optimal dissolved oxygen level is 3 mg/L so that water sources and containers without the use of supporting equipment are not optimal (PP No. 82 2001). The optimal alkalinity value according to Bayu and Sugito (2020) ranges from 100 - 150 mg/L and the alkalinity value at the water source is obtained in the range of 88 - 102 mg/L but when it has entered the fish rearing container, the alkalinity value decreases and tends to be less optimal, this indicates the absorption of alkalinity by the fish so that the value decreases from the water source. The total value of ammonium nitrogen (tan) in all supporting devices included an optimal <0.2 mg/L (Boyd 2008). The nitrite value obtained in each use of supporting equipment was optimal, which was <1 mg/L and the same result was obtained in the nitrate parameter, which was <20 mg/L (PP No. 82 2001). The results of the water quality analysis show that the use of supporting equipment can improve water quality parameters to be better and optimal and that water quality management by ornamental fish traders is good in supporting fish life.

2. Types and sizes of fish

Ornamental fish traders at the Laladon Ornamental Fish Exchange as a whole have 91 types of fish grouped into 27 groups (Table 4). The ornamental fish sold have a variety of sizes measured in inches (2.54 cm) or fingers.

Table 6 Groups and number of fish species available at Laladon Ornamental Fish Exchange by location

Number	Group	Size		Total type
		Inch	Finger	
1	Cichlid	0,5 - 0,7	3 - 4	15
2	Kaviat	-	1 - 3	2
3	Koi	2 - 4	-	3
4	Palmas	2 - 4	-	3
5	Catfish	2 - 4	-	2
6	Channa	2 - 8	-	5
7	Belida	2 - 3	-	1
8	Goldfish	1 - 4	-	5
9	Tetra	0,5 - 0,7	-	11
10	Guppy	0,5 - 0,7	-	6
11	Man fish	1	-	3
12	Molly	0,5 - 1	-	6
13	Betta	1 - 2,5	-	5
14	Arowana	4 - 6	-	2
15	Algae eater	0,7 - 1	-	4
16	Crustaceans	0,5 - 1,5	-	5
17	Barb	0,5	-	1
18	Red devil	-	3	1
19	Black ghost	1	-	1
20	Dwarf	1	-	2
21	Synodontis	1	-	1
22	Corydoras	0,5	-	1
23	Zebra	0,5	-	1
24	Red fin	0,5 - 1	-	2
25	Alligator	4	-	1
26	Red belly	1	-	1

Number	Group	Size		Total type
27	Turtle	1	-	1
			Total	91

Ornamental fish product stock

1. Capacity and usage percentage

The capacity of ornamental fish owned by traders ranges from 195 to 1,523 heads/store with a percentage of capacity utilization reaching 43.37 - 86.47%. The higher the use of capacity, the better it is because the facilities are used to the maximum (Tseng & Wu, 2021). Ornamental fish traders who have not utilized capacity to the maximum can be increased so that more stocks and types of fish can be sold.

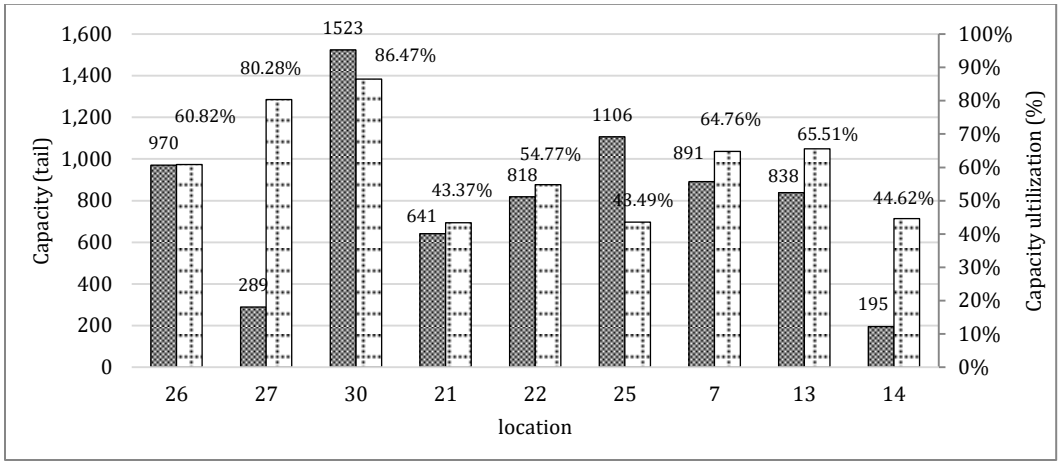

Figure 2 Capacity graph and capacity utilization percentage for ornamental fish display at Laladon Ornamental Fish Exchange.

2. Stock taking and repurchase of ornamental fish (Restocking) 3.

Fish stocks owned by ornamental fish traders range from 87 to 1317 fish. The variety of fish sizes owned is 5 - 7 with 15 - 28 types of ornamental fish available. Shop number 30 has the highest capacity, capacity utilization, fish stock, variety in size and type of fish in the Laladon Ornamental Fish Exchange.

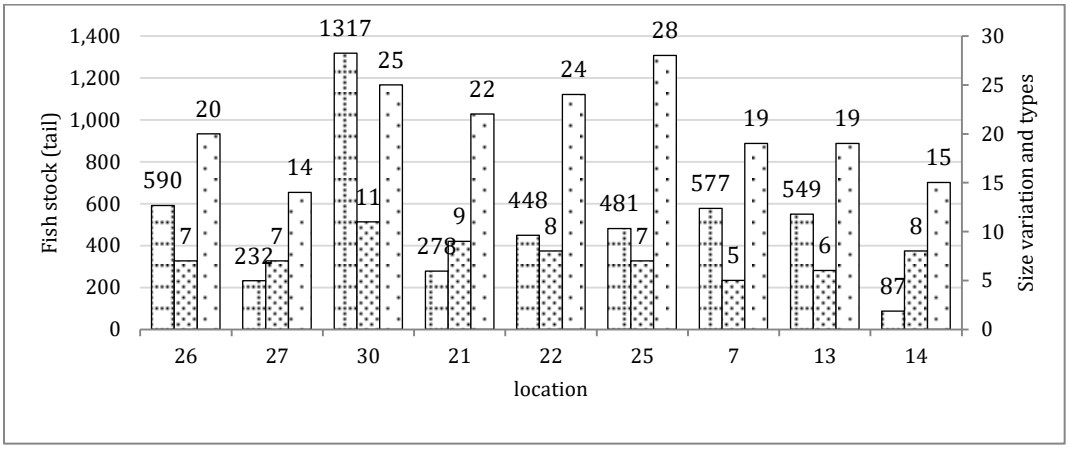

Figure 3 Chart of fish stock, size variations and types in ornamental fish size at Laladon Ornamental Fish Exchange.

Economic Aspect: Marketing Performance

1. Number of customers

Based on Figure 4, the number of visitors at the Laladon Ornamental Fish Exchange on weekdays (Monday-Friday) is the highest on average, namely in the afternoon (63.2±10.3) and at night (60.2±8.4), the same trend is seen on weekends (Saturday-Sunday), namely the highest average number of visitors in the afternoon (53.1±8.6) and at night (51.9±10.7) and on national holidays (red dates), namely in the afternoon (54.2±10.2) and at night (49.8±7.1).

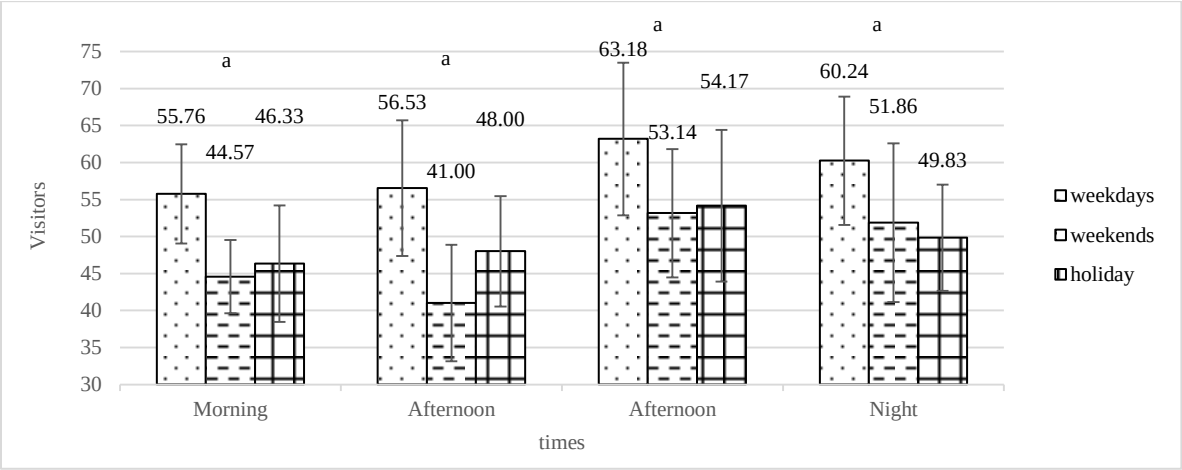

Figure 4 Comparison of the number of visitors based on morning (08.00-11.00), afternoon (11.00-15.00), evening (15.00-18.00) and night (18.00-21.00) on different days (weekdays, weekends and holidays) at Laladon Ornamental Fish Exchange.

2. Fish sales trends by species group

The sales trend of tetra ornamental fish is the highest with a value of 32.86%. Next is cichlid with a value of 15.82% and molly with a value of 10.73%. Based on Figure 5, it can be concluded that there is a preference for buying fish by consumers based on the type of fish, namely tetra, cichlid, molly and man fish which are the favorite types of purchases at the Laladon Ornamental Fish Exchange.

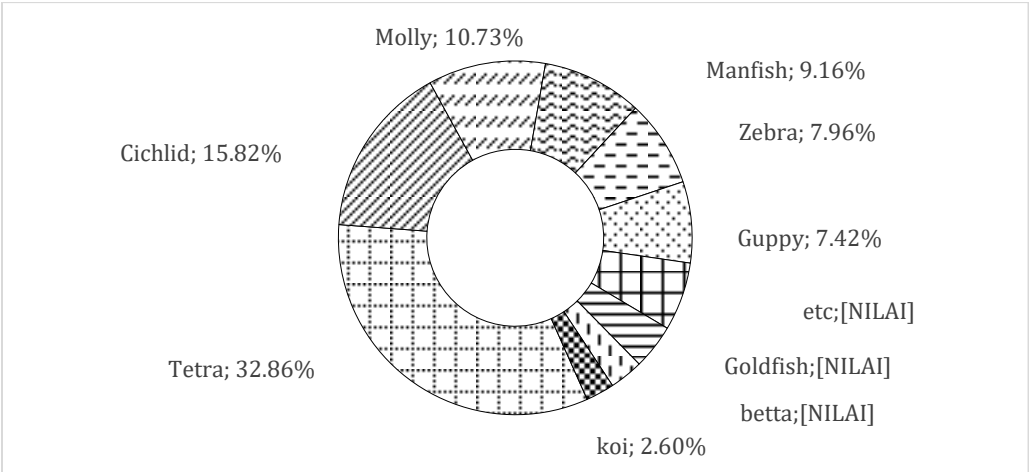

Figure 5 Chart of fish sales by type and location at Laladon Ornamental Fish Exchange by locations.

3. Profitability

Fish sales carried out by ornamental fish traders at the Laladon Ornamental Fish Exchange generate a revenue value of Rp 2.29 - 3.69 million/month (Latumeten et al., 2022). These results were obtained from the sale of 88 - 672 fish/month. The highest sales of fish in tails were at store number 26 with the sale of 672 fish. Meanwhile, the highest receipts were found in store number 7 with the sale of 366 fish. This happens because the type and quality of fish owned by store number 7 is somewhat better so that the price offered is higher and generates more acceptance.

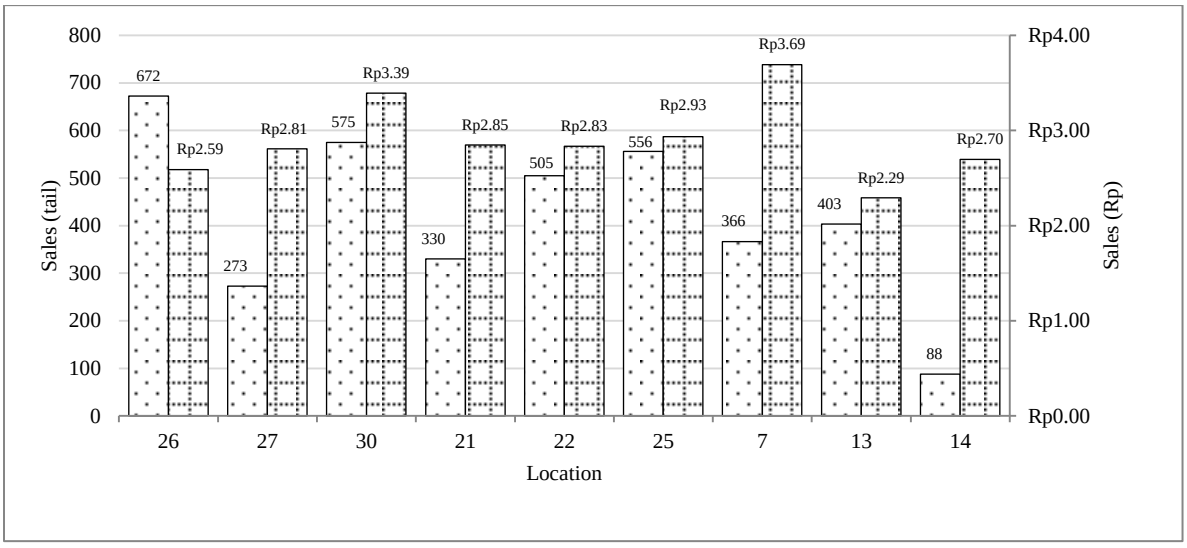

Figure 6 Chart of fish sales in tail and rupiah based on locations at Laladon Ornamental Fish Exchange.

The value of the profit from the total revenue obtained by ornamental fish traders ranges from Rp 1.5 - 2.3 million/month. The highest profit value is obtained by store number 7. Meanwhile, the lowest profit value is obtained by store number 13.

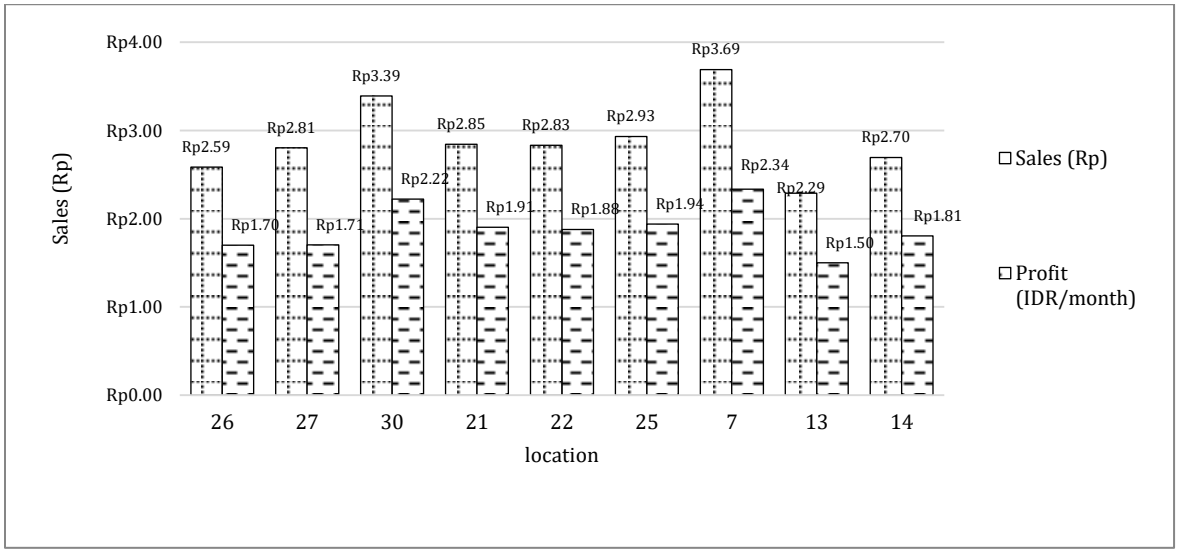

Figure 7 Chart of fish sales in rupiah with profit value based on locations at Laladon Ornamental Fish Exchange.

4. Results of analysis of various variables that affect the marketing performance of ornamental fish

Table 5 Analysis of the rank of spearmen variables that affect the sale of ornamental fish

Variable	Fish (tail) sales	Fish sales (Rp)	Profit (IDR/month)
Capacity	0,883**	0,417	0,400
Capacity usage (%)	0,151	-0,025	-0,109
Many types of fish	0.711*	0,469	0,485
Fish stock (tail)	0,833**	0,267	0,250
Death (tail)	0,538	-0,059	-0,168
Fish size variations	0,043	0,170	0,213
Fish (tail) sales	1,000	0,100	0,083
Fish sales (Rp)	0,100	1,000	0.983**

Description: * = significant 0.05; ** = significant 0.01

Based on the results of the spearman rank correlation analysis, it was found that the variables of capacity, the number of types of fish available, fish sales and fish stocks can positively and significantly increase the sales of ornamental fish. The higher the capacity to accommodate ornamental fish, the number of types of ornamental fish owned and the stock of fish available in the store, the higher the sales of ornamental fish. Meanwhile, the variable of fish sales (tails) is able to positively and significantly increase the total profit obtained by ornamental fish traders. Therefore, ornamental fish traders can increase fish sales by increasing the capacity and capacity use, the number of types of fish and the stock of ornamental fish in the store.

CONCLUSION

The variables that significantly affected the sale of ornamental fish on the Laladon Ornamental Fish Exchange were fish stocks with a correlation value of 0.833, the number of available fish species (0.711), fish capacity by business actors (0.833) and fish sales (0.983). The variable that affects the profits obtained by business actors is fish sales with a correlation value of 0.983. The ornamental fish with the highest sales at the Laladon Ornamental Fish Exchange are tetra (32.86%), cichlid fish (15.82%) and molly (10.73%).

BIBLIOGRAPHY

Abedi, A., & Zhu, W. (2017). An optimisation model for purchase, production and distribution in fish supply chain–a case study. *International Journal of Production Research*, *55*(12), 3451–3464.

Bradley, D., Merrifield, M., Miller, K. M., Lomonico, S., Wilson, J. R., & Gleason, M. G. (2019). Opportunities to improve fisheries management through innovative technology and advanced data systems. *Fish and Fisheries*, *20*(3), 564–583.

Brunswicker, S., & Vanhaverbeke, W. (2015). Open innovation in small and medium-sized enterprises (SMEs): External knowledge sourcing strategies and internal organizational facilitators. *Journal of Small Business Management*, *53*(4), 1241–1263.

Campbell, S. J., Jakub, R., Valdivia, A., Setiawan, H., Setiawan, A., Cox, C., Kiyo, A., Djafar, L. F., de la Rosa, E., & Suherfian, W. (2021). Immediate impact of COVID-19 across tropical small-scale fishing communities. *Ocean & Coastal Management*, *200*, 105485.

Fu'adi, A., Yuniarti, D. A. F., Prianggono, A. P., & Putra, B. J. M. (2022). Pembangunan Aplikasi Katalog Online Berbasis Mobile Sebagai Fasilitasi Pemasaran Bagi Pembudidaya Ikan Hias. *Journal of Electrical, Electronic, Mechanical, Informatic and Social Applied Science*, *1*(2), 25–31.

Latumeten, J., Jaman, U. B., & Pertiwi, E. (2022). Distribution of Credit Linkage Program to Cooperatives Facing a Competitive ASEAN Economic Community. *International Conference on Economics, Management and Accounting (ICEMAC 2021)*, 255–267.

Maanikuu, P. M. I. (2018). *Agribusiness management of shea industry in Northern Ghana*.

Marlianingrum, P. R., & Suprapta, I. (2022). Ornamental fish export during the Covid-19 pandemic. *Aquaculture, Aquarium, Conservation & Legislation*, *15*(6), 2999–3011.

Sinha, A., & Pandey, P. K. (2023). *Breeding and Culture of Freshwater Ornamental Fish*. CRC Press.

Srimulyani, V. A., Hermanto, Y. B., Rustiyaningsih, S., & Setiyo Waloyo, L. A. (2023). Internal factors of entrepreneurial and business performance of small and medium enterprises (SMEs) in East Java, Indonesia. *Heliyon*, *9*(11), e21637. https://doi.org/https://doi.org/10.1016/j.heliyon.2023.e21637

Thabrani, C. N., Suharno, S., & Jahroh, S. (2019). Analisis Kinerja dan Studi Kelembagaan Pasar Ikan Hias Parung, Kabupaten Bogor (Kasus: Ikan Cupang). *Jurnal Sosial Ekonomi Pertanian*, *15*(1), 81–95.

Tseng, M.-H., & Wu, H.-C. (2021). Accessibility assessment of community care resources using maximum-equity optimization of supply capacity allocation. *International Journal of Environmental Research and Public Health*, *18*(3), 1153.

Ummung, A., Roswiyanti, R., Asgar, M. A., & Massiseng, A. N. A. (2022). Analysis of ornamental fish marketing before and during the Covid-19 pandemic in Balang Baru Village, Makassar City. *Akuatikisle: Jurnal Akuakultur, Pesisir Dan Pulau-Pulau Kecil*, *6*(1), 47–50.

Vigueras-Velázquez, M. E., Carbajal-Hernández, J. J., Sánchez-Fernández, L. P., Vázquez-Burgos, J. L., & Tello-Ballinas, J. A. (2020). Weighted fuzzy inference system for water quality management of Chirostoma estor estor culture. *Aquaculture Reports*, *18*, 100487.

Wijaya, R. A., & Huda, H. M. (2021). Potential and problems of ornamental fish farming development in Depok City (case study: neon tetra, cardinal and red nose ornamental fish farmer in Bojongsari District). *IOP Conference Series: Earth and Environmental Science*, *718*(1), 12072.