

The Analysis of Marketing Efficiency of Shrimp (Case Study at Padang Kerta Village, Karangasem Regency and Pering Village, Gianyar Regency)

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Abstract

This study aims to determine the pattern of Galah shrimp marketing channels, the number of margins, farmer share and R/c Ratio of marketing institutions in each region. Source of data used are primary data and secondary data collected by interview and documentation methods and then analyzed descriptively with a quantitative approach. The results showed that the price of giant prawns at the producer level was determined by the uniformity and size of the harvest. The more uniform and the bigger the size of giant prawns which are harvested at the higher price. The marketing of giant prawns in the Karangasem and Gianyar regions uses the same marketing channel pattern, from producers to collectors and then to consumers (hotels, restaurants, restaurants), but the marketing margins are different. Galah shrimp marketing margins for the Gianyar region with a margin of 23.90% while in the Karangasem region the percentage of marketing margins is 22.80% while the percentage of farmer shares both in Gianyar and in Karangasem is greater than the percentage of marketing margins in both regions. In Gianyar, the farmer share is 76.04% and in the Karangasem region is 80.07%. The efforts to enlarge Galah prawns carried out in both regions have benefited farmers, where the R / c ratio for producer levels in Gianyar and Karangasem are 1.3 and 2.1 respectively. And based on the calculation of the marketing efficiency of giant prawns in the Gianyar and Karangasem regions, the marketing efficiency of 10.60% and 11.50% respectively. Therefore, the marketing of giant prawns based on the results of this study is classified as efficient.

Keywords: marketing margins, farmer share, R/c ratio, and marketing efficiency.

1. Introduction

Galah Shrimp is one of the freshwater fisheries commodities that has good prospects for development in Bali. These commodities have advantages including 1). The highest selling value among other freshwater communities. 2). Galah shrimp market demand is quite high, to meet the needs of cafes, restaurants, seafood and star hotels. In the Bali region, demand for giant prawns increased in June, July and August related to tourist visits to Bali. While the supply of farmers has not been able to meet market demand, 3). The enlargement technology is not too difficult where the principle of efforts to enlarge giant prawns is almost the same as the enlargement of other freshwater fish, 4). Giant prawns have fairly good adaptability to the environment so they can be maintained in ponds and paddy fields.

In Bali, the Galah shrimp cultivation centers are in Karangasem and Gianyar [1]. In Karangasem this business developed in the Padang Kerta area of Jungutan Village and Budakeling Village while in Gianyar in Pering Village, Wanayu Village, Manuaba Village, and Tegal Linggah. Farmers in doing this business use paddy fields as a maintenance pond. One of the farmer groups in Karangasem is the Mina Darmayasa Group in Padangkerta Village, the range of ownership is 10 are to 150 are / person and the Mina Sari Pertiwi Jaya farmer group is in Pering Village, Gianyar

region. The production of giant prawns produced from the Karangasem and Gianyar areas can be seen in Table 1.

Table 1. Galah Shrimp Production in Karangasem and Gianyar areas from 2016 to 2018

District	Year (ton)			Amount	Average
	2016	2017	2018		
Karangasem	34.00	12.65	70.00	116.65	38.88
Gianyar	92.00	33.89	17.25	143.14	47.71
Total	126.00	46.54	87.25	259.79	86.59

From Table 1, Galah shrimp production from 2016 to 2018 was 259.75 tons with an average production of 86.59 tons/year. Whereas the needs of collectors traders to market Galah shrimp in Badung and Denpasar areas reach 500 kg/day so that the results of Galah shrimp production are not yet able to meet market demand.

The development of Galah shrimp farming in Bali due to the availability of supply of shrimp seeds/fries from the Galah Shrimp Seed Hall owned by the UPTD Office of Marine and Fisheries of the Province of Bali and the market opportunity for these commodities in the Bali region is quite high. Besides, this business has benefited business actors involved ranging from farmers, intermediary traders, and consumers. The purpose of this study was to determine the marketing margins and marketing efficiency of giant prawns produced and to find out the farmer share and the level of profit of each marketing institution.

2. Research Method

The marketing analysis research activities of giant prawns in Bali were carried out in Padangkerta Village, Karangasem Regency and Pering Village, Gianyar Regency, Bali Province from March to May 2019.

Consideration of location selection is done deliberately because this area is a center for the development of giant prawns in Bali. While the object of this research is aimed at the Galah Mina Darma Yasa shrimp farmer group in Padangkerta Village as many as 10 people and the Mina Sari Pertiwi Jaya farmer group in Pering Village as many as 5 people and 2 traders from Denpasar. The data source in this study is primary data obtained directly from the research location including Galah shrimp marketing channels, production costs, marketing costs, the magnitude of the profits of traders and farmers and secondary data in the form of data obtained from the Group Chair in each location to obtain the number of farmers and annual production of giant prawns complements the data obtained. The determination of traders in this study was deliberately chosen because it has carried out buying and selling activities with giant prawn farmers since 1996.

Data collection methods used were observation and interviews. Observation is a data collection technique by making a direct introduction to the object of research to make direct observations of data sources or information providers [2], while interviews are a question and answer process verbally to obtain information that is not obtained through direct observation [3].

Data analysis methods include qualitative and quantitative analysis. The qualitative analysis describes descriptively the marketing channels of shrimp in the study location. And quantitative analysis to determine marketing margins, farmer's share, profit ratio, and marketing efficiency according to [2].

1. The amount of marketing margins is calculated using the formula :

$$\text{MP} = \text{Pr} - \text{Pf}$$

For one level the trader marketing margin is calculated by the formula:

$$\text{MP} = \text{KP} + \text{BP}$$

$$\text{KP} = \text{MP} - \text{Bp}$$

$$\text{BP} = \text{MP} - \text{KP}$$

Information :

- MP = Marketing Margin
 Pr = Prices at the retailer's level
 Pf = Prices at the farm level
 KP = Marketing Benefits
 BP = Marketing Costs

Decision-making criteria:

- a. Marketing margins are said to be efficient when the number approaches 0
 - b. The smaller the value of marketing margins, the more efficient a marketing. Also, marketing can be said to be efficient if the price value received by farmers is greater and at the overall marketing margin.
2. To calculate the farmer's share (part) the price received by farmers is calculated by the formula: $f_s =$
- Information :
- F_s = Share (part) price received by farmers
 P_f = Prices at farm level
 P_r = Price at the retail level

Efficient marketing indicators can be measured by the following criteria:

- c. If the share received by farmers is greater and the share received by farmers is close to 100%, then the marketing channel is categorized efficiently.
 - d. If the share price received by farmers is smaller and the share of marketing margins is large, then the marketing channel can be categorized inefficiently.
3. To calculate the profit and marketing cost ratio using the formula:
 Profit or cost ratio $R/c = \text{effort}$ is said to be feasible if the value of $R/c > 1$
4. To find out about marketing efficiency, the following formula can be used [3]:

$$E_p = \frac{\text{Marketing costs}}{\text{The value of the product being marketed}} \times 100\%$$

1. 0 - 33% = efficient
2. 34 - 67% = less efficient
3. 68 - 100% = inefficient

3. Results and Discussion

Harvest and Marketing

Enlargement in the village of Padang Kerta Karangasem Regency and Pering Village Gianyar Regency has been going on since 1996, the cultivation facilities used by farmers in the form of ponds as a container for enlargement by utilizing paddy fields. The ownership status of the land is self-owned and the pond used by farmers was created 10-15 years ago. The development of this business because it has provided benefits and benefits for farmers. From the results of interviews with Galah shrimp farmers at the survey location, sales of the harvest exceed the operational costs incurred. Operational costs include purchasing seeds and feed. The number of costs incurred and the profits of farmers in each region are shown in Table 2. From Table 2 the cost of producing giant prawns in each region is not the same. Production costs in Gianyar are greater than production costs in Karangasem. Because farmers in Karangasem are more efficient in feeding so feed costs are cheaper and affect the overall production costs.

The marketing of giant prawns in Padangkerta Village, Karangasem Regency and Pering Village, Gianyar Regency, are marketed in restaurants, hotels and seafood restaurants, mostly in the Denpasar and Badung regions, through intermediary traders or collecting traders who go directly to producers. The presence or role of the merchant collectors is very important because it relates to the certainty and continuity of purchasing farmers' products which then distribute them to hotels, restaurants, and restaurants. Between farmers and traders, the collectors have been cooperating for a long time. This collaboration is due to the mutual need to form a marketing channel. According to [4] marketing channels are a series of interdependent organizations involved in the process of making a product or service ready for consumption. Where farmers are primary producers or sellers, selling to collectors are called primary buyers or secondary sellers then sold to restaurants, restaurants, and hotels as secondary buyers or tertiary sellers and at the same time as consumers as final buyers [5]. Galah shrimp harvest is done after reaching the size of consumption ie the size range of 30-60 heads/kg. The harvest schedule is determined after an agreement between the producer and the traders are based on orders from consumers.

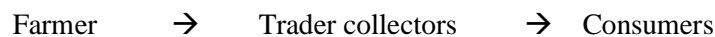
Garbage shrimp harvests that have been harvested are housed in nets placed in a pond in a shady place. Furthermore, giant prawns are put in an AG 75 styrofoam tub with a volume of 35 liters of water and shrimp capacity ranging from 4-6 kg per box, aerated. During the box and transportation, the water temperature is strived to remain cool by lowering the temperature whose purpose is to reduce the metabolic rate and activity level, reduce oxygen consumption and reduce the discharge of passes or impurities during transportation [6]. Water temperature during the transportation is maintained in the temperature range between 23-25 °C by adding ice tubes between 1.5 to 4 kg. According to the trader's experience, if the water temperature during heat transport exceeds 25 °C, many shrimps experience molting and fatigue so that they are purchased at a cheaper price.

Transport capacity per trip is 10 boxes. The Karangasem area, especially in the Padangkerta village, the price of Galah shrimp, the producer level is Rp. 115,000/kg with a harvest size of 30-35 individuals/kg. Then the traders sell to restaurants, hotels, and restaurants an average of Rp. 145,000/kg in living conditions. If there is a death during transportation, the price of giant prawns sold is Rp.120,000/kg. While the price of giant prawns in the Pering Village, Gianyar Regency, the average producer level is Rp. 100,000/kg with a harvest size of 30-60 heads/kg. The price sold by traders to restaurants, hotels, and restaurants Rp. 135,000/kg in living conditions and Rp. 100,000 in dead condition. The difference in price received by farmers is related to the size of shrimp that is harvested. The bigger and more uniform the shrimp harvested the higher shrimp prices. From

interviews with collectors, the mortality rate of shrimp during the transportation is + 5 kg or 10%. To process the marketing of giant prawns mutually beneficial to both producers and collectors, the shrimp must be harvested in a living condition because it is by consumer demand. Efforts to reduce risk to minimize deaths are carried out starting from harvesting and transporting harvests. One of the efforts made in the activities of harvesting giant prawns is to use people who have experience in harvesting giant prawns from the local area with a harvest fee of Rp. 5,000/kg.

Marketing channel

Marketing channels have an important role in delivering production results to consumers. According to [7], marketing channels are channels that are used by producers to channel goods into the hands of consumers. From the research conducted marketing giant prawns produced in Gianyar and Karangasem involve intermediary traders or merchant collectors to market the giant prawns to form a marketing channel. Where is found a marketing pattern of giant prawns produced by farmers in Gianyar and Karangasem, namely farmers to collectors traders and then to consumers shown in the following chart?



In the chart, it is known that the Galah shrimp marketing channel is classified as only involving only one intermediary trader and it can be said that this marketing channel is classified as efficient. According to [8], the shortest marketing channel which involves one intermediary trader is the most efficient channel because the marketing margins are generated less. And according to [8] that the longer the trading system (the more marketing agencies involved), the greater the marketing margin which will cause the price received by producers to be smaller and show that the marketing channel is inefficient.

Marketing Margin

Marketing margin is the price difference that occurs at each marketing institution involved in the sale of giant prawns. According to [9] to know the marketing margins, it is needed data that includes the price of fish, the costs incurred and the profits derived by traders. Marketing margin is the difference in price between the price paid to producers and the price paid by consumers. Marketing margins are determined by the number of marketing costs and profits of each marketing agency. From observations during the research costs incurred in marketing Galah shrimp include the costs of transportation, ice, harvest costs and aeration (battery depreciation). Except for the transportation costs, the other costs in the two regions are the same. The difference in transportation costs due to differences in the distance where the purchase of shrimp in Karangasem transports further than the purchase of shrimp in Gianyar because intermediary traders distribute Galah shrimp to the Badung and Denpasar areas which cause higher transportation costs. These transportation costs cause differences in marketing costs both in Karangasem and in Gianyar. From the results of the survey, the components of costs including marketing costs and profits of each marketing institution can be seen in Table 2.

Table 2. Marketing margins, marketing costs, marketing efficiency, farmer share, R/c ratio at Galah shrimp marketing institutions in Gianyar and Karangasem areas

Categories	Location	
	Gianyar	Karangasem
Farmers		
Production costs (Rp)	41,840	36,320
- Selling price (Rp)	100,000	115,000
- Benefits (Rp)	58,160	78,680
Trader		
- Purchase price (Rp)	100,000	115,000
- Marketing costs (Rp)	14,020	16,420
- Selling price (Rp)	131,500	142,500
- Benefits (Rp)	17,480	11,080
Marketing Fee (Rp)	14,020	16,420
Marketing Margin (Rp)	31,500	32,500
Percentage of margins	23.90%	22.80%
Marketing efficiency	10.60%	11.50%
Farmer Share	76.04 %	80.07 %
Producer R/c Ratio	1.3	2.1
Trader R/c Ratio	1.2	0.67

Note: Marketing costs and profits in units (kg)

With the same marketing channel pattern, but because there are differences in costs in each region, different margins occur. In the Gianyar region, the marketing margin is lower than the marketing margin in Karangasem, but based on the percentage of the marketing margin, the marketing margin in the Gianyar region is higher, which is 23.90% compared to the margin percentage in the Karangasem region, which is 22.80%. And when compared to the portion received by farmers, with Galah shrimp marketing margins in the Gianyar and Karangasem regions, Galah shrimp marketing is classified as efficient. According to the smaller the value of marketing the more efficient a marketing. And marketing can be said to be efficient if the value received by farmers is greater than the overall marketing margin.

Farmer Share

It is a comparison of prices received by farmers with prices paid by consumers and expressed as a percentage (%). Farmer share analysis is used to determine the results of the distribution of prices received by Galah shrimp farmers with prices at the consumer level.

Farmer share is related to marketing margins and has a negative relationship. Where if the marketing margin is lower the farmer share received by the farmer is higher. The difference in farmer share in Karangasem and Gianyar areas can be seen in Table 2.

Table 2 says that using the same marketing pattern, farmer shares in each region are not the same.

Galah shrimp marketing in the Gianyar farmer share is 76.04% with a marketing margin percentage of 23.9% while in Karangasem the income or share received by Galah shrimp farmers is greater with farmer share 80.70% and margin percentage 22.8%. Comparing the percentage of farmer shares both in Gianyar and Karangasem with marketing margins, the marketing of giant prawns in both regions is classified as efficient, because percentage farmer share > percentage Marketing Margin [10] and according to [3] if the share received by farmers is greater than the share marketing margin or share received by farmers is close to 100%, then the marketing channel is categorized efficiently.

Marketing Efficiency

The marketing activities of fishery products are not only the process of moving products from producers to consumers, but there are also other processes. The process includes collection, distribution sorting and including the selection of marketing channels. Where the process raises costs which are then calculated in the price of the commodity. The impact can be to increase prices to consumers and reduce prices at producers so they need to do efficiency in marketing.

An efficient marketing system will encourage low marketing margins due to lower input costs from marketing activities. So that producer income increases. Prices are relatively cheaper for consumers and product competitiveness is higher. Thus an equitable distribution of profits is achieved for marketing agency practitioners. According to [11] marketing is said to be efficient if it meets two conditions, namely being able to deliver results to consumers at a low cost, and being able to make a fair share of the overall price paid by consumers to those involved in the production and trading activities of the goods.

The efficiency of the marketing of giant prawns in the areas of Padang Kerta Village Karangasem and Pering Gianyar Village are shown in Table 2. Table 2 shows that the lower the marketing costs the more efficient marketing. Marketing of giant prawns in the Gianyar region with a marketing cost of Rp. 14,020 / kg marketing efficiency 10.60%. While in the Karangasem region with a marketing cost of Rp. 16,420 / kg marketing efficiency of 11.50%. Thus it can be said that the marketing of giant prawns in Karangasem and Gianyar areas using the same marketing channel can be said to be efficient because marketing efficiency is in the range of 0-33%. [3]

Profit and Cost Ratio (R/c)

The profit ratio is the amount of profit gained compared to the costs incurred by each marketing agency. According to [3], the higher the profit ratio the greater the benefits obtained. Galah shrimp marketing business is considered feasible or profitable if $R/c > 1$. The ratio of profit to marketing costs in the Galah shrimp marketing channel in the Karangasem and Gianyar regions can be seen in Table 2.

Based on the Table it can be seen that the marketing of Galah shrimp at the producer level both in Gianyar and in Karangasem is at a favorable level where the R/c of producers in Gianyar is 1.3 and for Karangasem R/c 2.1. However, the R/c ratio at the producer level for the Karangasem region that sells Galah shrimp production with a larger size and the uniform ratio of profits is higher. On the other hand, at the level of intermediary traders or collectors who buy Galah shrimp products in Gianyar, the R/c ratio is higher than traders who buy Galah warehouse products in Karangasem. Traders who buy Galah shrimp in Gianyar R/c ratio 1.2 and in Karangasem are lower with R/c 0.67.

4. Conclusion

Galah shrimp enlargement business is a business that provides benefits for farmers and intermediary traders both for production in Karangasem and in Gianyar. Where R/c producers for Galah shrimp production in Karangasem and Gianyar areas are 2.1 and 1.3 respectively, while R/c traders are respectively 0.67 and 1.2. And shows the selling price and profit of Galah shrimp farmers depending on the size and uniformity of harvest size. The more uniform and the bigger the prawns that are harvested, the farmer's benefit and the better price they get.

The marketing chain for giant prawns in Gianyar and Karangasem is relatively short, namely producers of “traders” and consumers. However, the resulting margin is different, in the Karangasem region the percentage margin is 22.9% and in Gianyar 23.9% lower than the farmer

share in each region. Marketing efficiency in Gianyar is 11.50% and in Karangasem 10.6%, thus marketing Galah shrimp in both regions can be said to be efficient.

Galah shrimp farmers in Pering Village, Gianyar Regency in enlarging their crops to make a selection and gradual harvest to get a uniform harvest and size by market demand so that it is efficient in feeding and higher selling value and farmers' profits increase.

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