Contributions of Central Research Institute for Agriculture
Vol. 16, No. 4, October 2022, pp. 122~128
ISSN: 2962-9217, DOI: 10.35335/ccria
Published by: Central Research Institute for Agriculture (CeRIA)

Farming Analysis and Marketing Behavior of Shallots in Wanasaba District, East Lombok Regency

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Article Info

Article history:

Received : Aug 12, 2022
Revised : Sept 14, 2022
Accepted : Oct 28, 2022

Keywords:

Farming Business;
Marketing Behavior;
Shallot.

ABSTRACT

The aims of this research are: (1). To find out the income of shallot farming in Wanasaba District, East Lombok Regency. (2). To determine the feasibility of shallot farming in Wanasaba District, East Lombok Regency. (3). To determine the behavior and structure of the shallot market in Wanasaba District, East Lombok Regency. The method used in this research is descriptive method. The research was conducted in Wanasaba District, East Lombok Regency in two villages, namely Wanasaba Village and Wanasaba Daya Village, based on the highest production volume purposive sampling, the unit of analysis used was producing farmers and marketing institutions involved in marketing shallots. A sample of 40 farmer respondents and 26 marketing agency respondents determined the number of respondents by quota sampling. Intake of respondents by accidental sampling for farmers and snowball sampling for marketing agencies. The type of data used is quantitative and qualitative data. Sources of data used are primary data and secondary data. The analytical method used for shallot farming and marketing in Wanasaba District is descriptive. The research results show that (1). The income of shallot farming in Wanasaba District, East Lombok Regency is IDR 21,978,644 per cultivated land area or IDR 115,677,073 per hectare per planting season. (2). Shallot farming in Wanasaba District, East Lombok Regency is economically feasible to cultivate because it has an R/C ratio >1. (3). The marketing behavior of shallots in Wanasaba District, East Lombok Regency, shows that price changes at the consumer level are perfectly transmitted to the farmer (producer) level with relatively efficient marketing margins in the second shallot marketing channel and a market structure that leads to high concentration oligopsony.

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1. INTRODUCTION

Horticulture is an agricultural sub-sector that is able to increase the country's foreign exchange and has an important role in driving the growth of the agricultural sector in the future. Horticulture has a vital position in meeting the needs for nutrition, protein, employment opportunities and regional development.

Shallot is a horticultural commodity that can be developed to increase national income. Shallots are a horticultural agricultural commodity that has quite high economic value because 70% of the types of dishes use shallots besides that, shallots are used as a nutritious food ingredient, medicine and others (Sumandi and Cahyono, 1996).

Red onion is a horticultural commodity that is widely cultivated by Indonesian people. The increasing market demand for shallots as well as the high economic value of this vegetable has made farmers in various regions interested in producing it for profit.

Shallot farming is one of the activities in agriculture which aims to meet the community's need for shallots. For farmers a farm aims to obtain the maximum possible profit to meet the needs of his family.

West Nusa Tenggara is a red onion producing area with promising potential if it is developed better. Shallot production in West Nusa Tenggara has fluctuated from year to year (BPS NTB, 2015).

Even though the harvested area and shallot production yields fluctuate every year, shallots are a type of vegetable that many farmers cultivate. Shallot production is decreasing in line with the increasing number of population besides the increasing variety of food types and menus. Shallots are needed by almost all levels of society because of their benefits as a flavoring agent and cooking seasoning.

East Lombok is the largest onion producing district on Lombok Island, West Nusa Tenggara Province. East Lombok is capable of producing 91,378 quintals per year with a planting area of 1,154 Ha. Wanasaba is a sub-district in East Lombok Regency which also produces shallots. Wanasaba District is capable of producing 24,366 quintals per year with a land area of 308 Ha. (Appendix 1)

Even though it is able to produce shallot agricultural products, it has not been able to increase the economic value of producers who are shallot farmers because to achieve maximum profits, farming activities are influenced by marketing activities which should run smoothly.

To get the maximum profit, shallot production will be distributed to the market. In this case, market position is very important, so efficient marketing is required. That is, farmers and marketing agencies get the appropriate benefits.

Market behavior is a factor that influences the shallot marketing process in Wanasaba District, for example intermediary traders who have an important role in it.

According to Irma Seftiani (2012) the sale of shallots from farmers to consumers is also inseparable from marketing channels. The high cost of transportation and long marketing channels cause the selling price of shallots at the buyer's level to be relatively expensive. Theoretically, price agreements occur through a bidding process so that in this case there is a price gap between the seller and the buyer. The price difference is quite large between the price at the level of the seller and the buyer causes a small part of the price received by the seller and the high price that must be paid by the buyer.

2. METHOD

2.1 Types of research

This research is a descriptive research, namely a method that aims at solving current problems by collecting data, compiling, explaining, analyzing, interpreting and then drawing a conclusion (Surakhmad, 1989).

2.2 Research variable

The variables studied by means of measurement are as follows: Farming income, production costs (cost of production facilities, labor costs, tax costs and irrigation fees, equipment depreciation costs, land rental costs, credit interest costs), total production, production value (revenue), Total workforce, Total working days, Total working hours, Constraints and obstacles faced by farmers, Market behavior, Selling price, Purchase price, Purchase volume, Marketing costs, Marketing profits, Marketing channels and Marketing margins.

2.3 Sample Collection Techniques

Determining the location of the sample was carried out by "purposive sampling", namely Wanasaba District, East Lombok Regency. This is based on the consideration that Wanasaba District is a red onion production center in East Lombok Regency. The villages selected as sample villages to be used as research sites are Wanasaba Village and Wanasaba Daya Village based on the consideration that these villages produce shallots.

2.4 Data collection technique

The data collection technique was carried out using a questionnaire technique, namely data collection which was carried out by giving a set of written questions to the respondent to answer.

2.5 Data Types and Sources

The types of data in this study are quantitative data and qualitative data. Quantitative data is data that can be measured with numbers such as the amount of shallot production, the price of shallots, farmers' income and others. The data used in this study came from two sources, namely: Primary data, namely data collected directly from respondents using interview techniques that were guided by a list of questions that had been prepared, both quantitative and qualitative data. Secondary data, namely data obtained from related offices or agencies such as the Central Statistics Agency for West Nusa Tenggara Province, the Central Statistics Agency for East Lombok Regency and other literature.

2.6 Data analysis

To find out the income of shallot farming, it was analyzed using cost analysis and farming income. To find out the marketing behavior of shallots in Wanasaba District, price transmission elasticity analysis and marketing margin analysis were used. To see the market structure in shallot marketing, it was analyzed using a quantitative model through concentration ratio.

2.7 Units of Analysis

In this study, the units analyzed were shallot farming and marketing run by farmers and traders in Wanasaba District, East Lombok Regency.

3. RESULTS AND DISCUSSION

3.1 Research result

3.1.1 Shallot Farming Analysis

a. Production cost

According to Soekartawi (1995) that production costs are costs incurred in one production process in shallot farming, namely variable costs and fixed costs. For more details, can be seen in Table 1.

Table 1. Average Cost of Production in Shallot Farming in Wanasaba District, East Lombok Regency in 2016.

No	Fee Type	Per LLG (0.19 Ha) (IDR)	Per Hectare (IDR)
1	Variable Cost	9,022,340	47,486,000
2	Fixed cost	650,266	3,422,453
	Amount	9,672,606	50,908,453

Source: Primary data processed, 2016

Table 1 shows that the average production cost of shallot farming in Wanasaba District, East Lombok Regency, is IDR 9,672,606 per arable land area or IDR 50,908,453 per hectare.

b. Cost of Production Facilities

The cost of production facilities in this study is the cost spent on shallot farming in Wanasaba District, East Lombok Regency, including the cost of purchasing seeds, fertilizers and pesticides.

Table 2. Average Cost of Production Facilities per LLG and per Ha in Shallot Farming in Wanasaba District, East Lombok Regency in 2016.

No	Types of Production Facilities	Per LLG (0.19 Ha)		Per Ha	
		Amount	Value (IDR)	Amount	Value (IDR)
1	Seeds				
	a. Lace (Kg)	82.75	2,678,000	435.53	14,094,737
	b. Vietnamese (Kg)	118.55	2,650,500	623.95	13,950,000
	c. Philippines (Kg)	7.90	173,800	41.58	914,737
	Amount		5,502,300		28,959,474
2	Fertilizer				
	a. Za (Kg)	15.53	23,958	81.74	126,095
	b. Organic (Kg)	92.28	48,188	485.68	253,621
	c. NPK (Kg)	24.88	66,795	130.95	351,553
	d. TSP (Kg)	8,64	25,525	45,47	134,342
	e. Urea (Kg)	3.46	7,475	18,21	39,342
	f. SP36 (Kg)	9,62	19,362	50,63	101,905
	Amount		191,303		1,006,858
3	Pesticide				
	a. Aben (Bottle)	2.80	413,375	14.74	2,175,658
	b. Adoca (Bottle)	2,13	253,500	11,21	1,334,211
	c. Tracol (Bottle)	0.25	14,387	1.32	75,721

d. Anathema (Bottle)	0.63	16,500	3,32	86,842
e. Arjuna (Bottle)	0.43	54,000	2,26	284,211
f. Indur (Bottle)	0.25	41,250	1.32	217.105
g. Opral (Bottle)	0.08	3,750	0.42	19,737
h. Ditan (Bottle)	0.03	2,000	0.16	10,526
i. Perpaton (Bottle)	0.02	1,750	0.11	9,211
Amount		800,512		4,213,221
Total cost of production facilities		6,494,115		34,179,553

Source: Primary data processed, 2016.

Based on 2 shows that the average total cost of production facilities incurred on shallot farming in Wanasaba District is Rp. 6,494,115 per arable land area or Rp. 34,179,553 per hectare. The largest cost of production facilities in shallot farming in Wanasaba District is the use of seeds of IDR 5,502,300 per cultivated land area or IDR 28,959,474 per hectare. This is because on average the shallot farmers in Wanasaba District buy the seeds they use themselves and do not make them. While the cost of production facilities was the lowest in shallot farming in Wanasaba District, namely the purchase of fertilizer of Rp. 191,303 per arable land area or Rp. 1,006,858 per hectare, this was because farmers considered the land planted to be fertile so that the use of fertilizer was reduced.

3.1.2 Labor costs

The cost of labor in this study is the cost of using labor per activity in shallot farming in Wanasaba District. For more details, can be seen in Table 3.

Table 3. Average Cost and Use of Labor per LLG and per Ha in Shallot Farming in Wanasaba District, East Lombok Regency in 2016.

No	Type of activity	Per LLG (0.19 Ha)		Per Ha	
		Amount (HKO)	Mark (IDR)	Amount (HKO)	Mark (IDR)
1	Processing Land	2.76	207,750	14.53	1,093,421
2	Making beds	4.67	255,875	24.58	1,364,711
3	Tugal	1.66	131,500	8,74	692,105
4	Planting	2.36	131,250	12,42	690,789
5	Sprinkling	1.45	271,875	7,63	1,430,921
6	Fertilization	1.09	216,500	5,74	1,139,474
7	Spraying	5.04	912,250	26,53	4,801,316
8	Weeding	5.83	378,125	30,68	1,990,132
Amount		24.86	2,505,125	130.84	13,184,868

Source: Primary data processed, 2016

Table 3 shows that the average total labor cost incurred by shallot farmers in Wanasaba District is IDR 2,505,125 per area of cultivated land with an average number of workers of 24.88 HKO per area of cultivated land or IDR 13,184. 868 per hectare with an average workforce of 130.84 HKO per hectare.

The biggest labor cost in shallot farming in Wanasaba District is spraying activities of IDR 912,250 expanding arable land or IDR 4,801,316 per hectare, this is because if farmers use more labor, the activity will be completed quickly. The amount of labor used is proportional to the amount of wages issued. Meanwhile, the lowest labor costs were in shallot farming in Wanasaba District, namely in planting activities of Rp. 131,250 per arable land area or Rp. 690,789 per hectare, this was because on average farmers did not use much labor in carrying out planting activities.

3.1.3 Other Fees.

Other costs referred to in this study are costs incurred on shallot farming in Wanasaba District in addition to the cost of production facilities and labor costs. These other costs are needed to support shallot farming activities in plowing the land, namely the cost of renting a tractor and renting a cow.

Table 4. Average Other Costs per LLG and per Ha in Shallot Farming in Wanasaba District, East Lombok Regency in 2016.

No	Cost type	Per LLG (0.19 Ha) (Rp)	Per Ha (Rp)
1	Tractor Rental	22,500	118,421
2	Rent a Cow	600	3.158
The amount of costs other-others (IDR)		23,100	121,579

Source: Primary data processed, 2016

Based on Table 4. it can be seen that the average amount of other costs in shallot farming in Wanasaba District is IDR 23,100 per arable land area or IDR 121,579 per hectare. The biggest other costs for shallot farming in Wanasaba District are the tractor rental of IDR 22,500 per arable land area or IDR 118,421 per hectare. Farmers who use cattle or tractors to plow their land consider this method a practical method of plowing the land and does not take a long time.

3.1.4 Fixed cost

Soekartawi (1995) explains that fixed costs are costs that are not used up in one production period. Fixed costs in this study are the cost of land taxes, irrigation fees, equipment depreciation and land rent.

Table 5. Average Fixed Cost per Planting Season in Shallot Farming in Mataram City in 2016.

No	Fee Type	Fixed Cost Value	
		Per LLG (0.19 Ha)	Per Ha
1	Land Tax (Rp)	11,283	59,384
2	Irrigation Fee (Rp)	45,000	236,842
3	Equipment Depreciation (Rp)	82,983	436,753
4	Land Rent (Rp)	511,000	2,689,474
	Amount	650,266	3,422,453

Source: Primary data processed, 2016

Based on Table 6, it shows that the total fixed cost of shallot farming in Wanasaba District is IDR 650,266 per cultivated land area or IDR 3,422,453 per hectare. The description of land tax costs, irrigation fees, equipment depreciation costs and land rent is as follows: Land tax at the research location is subject to different fees depending on the size of the land. The wider the arable land, the greater the costs incurred for land taxes at the research location. Apart from being based on land area, land taxes are also determined based on land location because the research locations are different.

Based on Table 5, it can be seen that the average irrigation fee per planting season for shallot farming in Wanasaba District is IDR 45,000 per cultivated land area or IDR 236,842 per hectare. The average farmer in Wanasaba District pays irrigation fees by giving money to lovers, but there are some farmers who do not pay irrigation fees because their planting locations are close to rivers.

The cost of depreciation of tools in this study is the cost of the tools used in carrying out activities on shallot farming in Wanasaba District. The tools owned by farmers are hoes, sickles, sprayers and buckets.

3.1.5 Farming Feasibility

The feasibility of farming analyzed using the R/C ratio is a benchmark for the feasibility level of shallot farming in Wanasaba District, East Lombok Regency by looking at several parameters or criteria which then shallot farming is said to be feasible if the profits obtained can cover all costs incurred.

Table 6. R/C Ratio in Shallot Farming in Wanasaba District, East Lombok Regency 2016.

No	Description	Per LLG (0.19 Ha)	Per Ha
1	Production Value (Rp)	31,651,250	166,585,526
2	Total Cost (Rp)	9,672,606	50,908,453
3	R/C Ratio	3,27	3,27

Source: Primary data processed, 2016

Based on Table 6. the results of the analysis of the R/C ratio of shallot farming in Wanasaba District, East Lombok Regency, obtained an R/C ratio of 3.27 so that it can be concluded that shallot farming in Wanasaba District is economically feasible to cultivate because the value of the R/C ratio > 1.

3.1.6 Market Behavior

To find out the behavior of the shallot marketing market in Wanasaba District, namely, using price transmission elasticity analysis and marketing margins. Through market behavior, it will be known whether the shallot marketing in Wanasaba District is integrated or not.

3.2 Discussion

In Wanasaba District, East Lombok Regency, there are 40 farmers who play a role in distributing their shallot production to collecting traders, these 40 farmers have a sales volume of 10.82 tonnes. All farmers sell their shallots directly to the collecting traders because all harvesting

costs will be borne by the collecting traders starting from transportation costs, to hauling labor costs, trust is the basis of this activity. Trust is established from the cooperation carried out by farmers and collecting traders in terms of payment of the harvest, namely, collecting traders can pay for the shallots after they are sold or paid directly after being weighed.

Collector traders in Wanasaba District play the role of collecting shallots produced by farmers by visiting the shallot farmers' fields or rice fields directly. The average volume of purchases per week is 15 Ku from a total of four collectors with a purchase frequency of twice a week. From a total of four collecting traders there is a difference, namely two collectors who play a role in the first shallot marketing channel sell their shallots to wholesalers while the remaining two collectors who play a role in the second shallot marketing channel sell their shallots directly to the final consumer.

These two collectors are also retailers and are assisted by their 12 workers. Of the two collecting traders, one trader has eight workers, and the other collecting trader has four workers or laborers who are also retailers. The retailer or worker sells the shallots directly to the final consumer with a sales frequency every day at the market in East Lombok Regency.

The two collecting traders who sell their shallots to the wholesalers have collaborated with the wholesalers in that location, the shallot payment system to the wholesalers is usually paid in cash or paid three days after selling the shallots.

Wholesalers collect shallots obtained from collectors in wet form, the average volume of purchases per week is 80 Ku for these two wholesalers with daily sales frequency. Then these wholesalers dry the shallots according to market demand and to increase the selling price of the shallots. Wet shallots will shrink to 65% of their original weight when they are dried. Shallots that have been collected and dried by wholesalers are then sold to retailers. Retailers buy shallots by visiting wholesalers or delivered by wholesalers. Shallots that have been purchased by retailers are usually paid for directly or after being sold three days after the shallots are taken.

Retailers in this channel have the role of retailing shallots directly to end consumers in the market. The average purchase volume per week is 1.23 Ku with daily sales frequency. The marketing locations of the retailers in this channel are the Masbagik, Paok Motong, Selong and Sakra markets. Payments made by final consumers when buying shallots from retailers are in cash.

4. CONCLUSION

Based on the research objectives and the results of the discussion, several conclusions can be drawn as follows: The income of shallot farming in Wanasaba District, East Lombok Regency is IDR 21,978,644 per arable land area or IDR 115,677,073 per hectare per planting season. Shallot farming in Wanasaba District, East Lombok Regency, is economically viable because it has an R/C ratio > 1. The marketing behavior of shallots in Wanasaba District, East Lombok Regency shows that price changes at the consumer level are perfectly transmitted to the farmer (producer) level. with relatively efficient marketing margins in shallot marketing channel II and a market structure that leads to oligopsony with high concentration.

ACKNOWLEDGEMENTS

The suggestions given in this study are: Farmers should be active in seeking price information before selling their shallot farming products so that it is easier to make transactions, especially regarding the selling price. The important role of the government in maintaining the stability of shallot commodity prices, so that the bargaining position of farmers will not be in a weak condition.

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