

Value Chain Analysis of Large Red Chili (*Capsicum Annuum L.*) in Jember Regency

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Abstract

*Large red chili (*Capsicum annuum L.*) is one of the leading vegetable commodities which has a strategic role in the structure of national economic development. According to the Central Statistics Agency, in 2021 there will be an increase in red chili production in East Java Province. Jember recorded a harvest of 6,083 tons with a harvest area of 549 Ha. The increasing market demand is not accompanied by sufficient production, resulting in fluctuating red chili prices. Chili farmers in Andongsari often experience problems marketing fresh products, low selling prices during the main harvest of the harvest due to damage during storage. For this reason, the Larasati Women's Farmers Group (KWT) in Andongsari took the initiative to process large red chilies to increase added value and also extend shelf life by drying them. The business of processing chilies into dried chilies is still considered less promising, so KWT Larasati is making efforts to diversify its processed chili products into various processed chili products. This research was conducted to analyze the chili business value chain to increase sales according to sales targets. Based on data used for one month of production, the tuna variant of simbok chili sauce has the highest added value compared to shredded chilies, this is due to the higher frequency of sales of simbok chili sauce so it has a high resale value.*

Keywords

Red chili; product diversification; value chain



I. Introduction

One of the most important vegetable commodities with a vital place in the framework of the country's economic development is the large red chili (*Capsicum annuum L.*). One commodity that is commonly used in Indonesia is large red chilies.

Because people prefer to eat large red chilies fresh, it is anticipated that there will always be a demand for these spicy peppers. The Central Statistics Agency predicts that the production of red chilies will rise in 2021. The Province of East Java produces the most. On the other hand, Jember Regency reported a harvest of 6,083 tons on 549 Ha.

Rising market demand is not met by enough supply, which drives up and down the price of red chilies. In Andongsari village, chilli producers frequently face challenges in selling their fresh produce, poor pricing at harvest time, or deterioration in harvest quality from storage-related damage. In Andongsari Village, farmers typically sell their produce to collectors of chilies. It is not a given for farmers to earn a fair selling price. In actuality, collectors set the majority of chilies' selling prices. In order to boost added value and lengthen the shelf life by drying, the Larasati Women Farmers Group (KWT) in Andongsari Village decided to prepare the giant red chilies. Since the industry for processing chilies into powdered and dried forms is still viewed as less promising, KWT Larasati is working to diversify its processed chili product line. In order to help processed

chili businesses meet their sales goals, this study aims to optimize marketing strategies and undertake a value chain analysis.

One of the most important vegetable commodities, the large red chili (*Capsicum annum L.*) plays a crucial part in the framework of the country's economic development. In Indonesia, large red chilies are one of the commodities that are used extensively.

People's propensity of eating large red chilies fresh is expected to sustain the demand for large red chilies. The production of red chilies is expected to rise in 2021, according to the Central Statistics Agency. East Java Province is the site of the greatest production. With a harvest area of 549 Ha, Jember Regency reported a yield of 6,083 tons.

Rising market demand is not met by enough supply, which drives up and down the price of red chilies. In Andongsari village, chilli farmers frequently face challenges in selling their fresh produce, low prices at harvest time, or deterioration in harvest quality from storage-related damage. In Andongsari Village, farmers typically sell their produce to collectors of chilies. It is not a given for farmers to get a good selling price. In actuality, collectors set the majority of chilies' selling prices. In order to boost added value and lengthen the shelf life through drying, the Larasati Women Farmers Group (KWT) in Andongsari Village decided to process the large red chilies. Since the industry for processing chilies into powdered and dried forms is still viewed as less promising, KWT Larasati is working to diversify its processed chili product line. In order to help processed chili businesses meet their sales goals, this study aims to optimize marketing strategies and conduct a value chain analysis.

II. Review of Literature

2.1 The Large Red Chili Plant

The woody shrubby large red chili plant (*Capsicum annum L.*) produces spicy fruit due to the presence of capsaicin (Sudirman, 2022). This plant is grown as an annual crop in dry land and rice fields in Indonesia. Achieving good plant growth and high production requires meeting the requirements for growing large red chili plants.

In addition to being used extensively in health therapy to treat conditions like rheumatism, allergies, sore throats, and muscle spasms, chillies are also used as a cooking spice to stimulate appetite (Sembiring, 2009). Fresh chillies can be eaten as a blend of spices for cooking, and they can also be preserved and used to make pickle paste, flour, dried fruit, and chili sauce. Chilies have a great deal of potential and market potential in Indonesia, which makes them a valuable commodity for horticulture. Cultivation efforts and post-harvest handling utilizing the proper technology are therefore required to make this happen in order to obtain quality that satisfies quality standards. The Solanaceae family of eggplants includes chili plants. The chili plant is an annual or transient plant.

2.2 Value Chain

Anane-Taabeah, Quagraine, and Amisah define the value chain as an activity that involves related business actors at each link in the chain to market their products. It begins with the procurement of raw materials and ends with after-sales handling. By creating values and giving roles to each actor in each link of the chain, the value chain offers a means of figuring out how to differentiate oneself from the competition. Adolf, Bush, and Vellema state that value chain analysis is used to evaluate all business operations, stakeholders, and the connections between them in the supply chain. By reducing vulnerability, increasing adaptability to change, and overcoming inefficiencies like

variability, this value chain analysis seeks to improve overall performance. According to Ahmed, the robustness of the value chain established at the cultivator level as the main actor is obtained from improving quality and diversifying business products.

According to Solihin's analysis, the value chain illustrates the interconnected processes involved in an industry's value creation process, starting from the procurement of raw materials from suppliers and ending with the distribution of the company's products to the final consumers. A company has a good value chain, in Porter's opinion, if its total revenue is less than the sum of all the expenses incurred in creating and promoting a good or service and creating value. A business is most profitable when its total revenue surpasses the total expenses incurred in producing and providing the good or service. Value chain analysis is used in businesses to make sure they are competitively positioned in the right value chain relative to the company's competitors (Porter, 1985). The value chain is shown by the activities carried out to produce something starting from the procurement of raw materials to the final stage of the product, which means the product produced reaches the hands of consumers.

2.3 Value-added

A change in value brought about by the way an input is treated during a production process is referred to as added value, according to Marimin and Maghfiroh, 2009. Every supply chain, from farmers to final consumers, experiences a flow of agricultural commodities with increasing added value from upstream to downstream. The upstream segment of agricultural commodities derives its added value from the provision of high-quality raw materials, whereas the downstream segment can enhance its added value through production activities.

Hayami states in Marimin and Maghfiroh that added value can be computed in two different ways: added value for marketing and added value for production. Technical and market factors are the two categories of factors that affect added value for production. Production capacity, labor costs, and the quantity of raw materials used are technical factors that affect production; labor costs, raw material prices, and the value of other inputs are market factors that affect output prices. In Marimin and Maghfiroh, Sudiyono states that the amount of added value resulting from the production process is obtained by lowering the costs of labor and other inputs, such as raw materials, to the value of the products produced. Put differently, added value refers to the benefits that labor, capital and management which can be expressed mathematically as follows:

$$\text{Value - added} = f \{K, B, T, U, H, h, L\} \quad (1)$$

K = Production capacity

B = Raw materials used

T = Labor

U = Labor wages

H = output price

h = raw Price

L = Value of other inputs (value and all sacrifices that occur during the treatment process to add value)

Advantages of value-added analysis:

1. The amount of added value can be known.
2. The amount of remuneration to owners of production factors can be known.
3. Can be applied outside the production subsystem, for example marketing activities.

2.4 Hayami Method

The added value for processing and the added value for marketing are the two methods for calculating added value (Ayesha Ivonne, Derry Torani, & Amnilis, 2020). Technical and market factors are the two categories of factors that affect added value for processing. Labor, raw material consumption, and production capacity are the technical factors that affect. In the meantime, labor wages, raw material prices, output prices, and the value of other inputs are market factors that impact.

A product's added value that results from its processing can be calculated using the Hayami Method. Utilizing the Hayami Method for added value analysis has the following benefits: productivity, output value, and added value amount can all be determined. Owners of production factors can know how much they will be paid, and finally the principle of added value according to Hayami can be applied to other subsystems outside processing, for example for marketing activities.

2.5 Strategy Management

Here are a few expert viewpoints on what strategic management actually means. David (2016) defines strategic management as the skill and expertise of developing, carrying out, and assessing cross-functional decisions that help a company accomplish its objectives. The set of managerial choices and actions known as strategic management determines an organization's long-term performance. Another definition of strategic management is a collection of choices and actions that lead to the creation and execution of plans intended to meet organizational objectives.

Thus, it can be said that the process and methods used to accomplish its objectives constitute the definition of strategic management. This definition makes it clear that the goal of strategic management is to achieve organizational success by integrating management, marketing, finance/accounting, production/operations, research and development, and computer information systems. When all staff members are aware of the company's objectives, direction, and progress toward meeting milestones, as well as its clients, rivals, and future product plans, strategic management is considered to be successful. The secret to effective strategic management is communication. By applying a more methodical, logical, and rational approach to strategic choices, strategic management can also assist organizations in developing better strategies. An additional advantage is the chance the procedure offers to create a space that can empower individuals.

The three steps of the strategic management process are strategy formulation, strategy implementation, and strategy evaluation. Formulating a strategy, assessing the company's external opportunities and threats, identifying internal strengths and weaknesses, establishing long-term objectives, creating strategic alternatives, and deciding which strategies to implement are all part of developing a vision and mission. What is meant by strategy implementation is that in order for the developed strategy to be put into action, the organization must set yearly objectives in the form of developing policies, inspiring workers, and assigning resources. Since internal and external factors are always changing, strategy evaluation is the last step of strategic management and the primary tool for gathering this information. Based on this information, all strategies can be modified going forward.

III. Research Methods

Descriptive research was used to conduct this study, meaning that the conditions that arise in the value chain of chili sauce and hidden Chili products in Home Industry KWT Larasati, Ambulu District, Jember Regency, could be described, analyzed, and interpreted. In order to complete value chain analysis, business cost analysis, total revenue, total income, and to ascertain the added value of chili sauce and hidden Chili products in KWT Larasati's Home Industry, Ambulu District, Jember Regency, data from companies was also collected quantitatively.

The actors engaged in Chili production in Ambulu District, Jember Regency, from the preparation stage to the marketing of Chili sauce Simbok and Shredded Chili KWT Larasati products, comprised the population used in this study. The samples taken in this research were Chili farmers as Chili suppliers, Home Industry business owner KWT Larasati as an informant on Chili production, and distributors as buyers of chili sauce and hidden Chili products. The sampling technique used in this research uses a non-probability sampling technique with a purposive sampling type.

The variable measurements used in this research are as follows:

1. The activities involved in producing Chili's at KWT Larasati's Home Industry comprise the value chain.
2. The process of turning raw Chili's into chili sauce and Shredded Chili is called production. In production, the kilogram (kg) is the unit of measurement.
3. Costs include all expenses related to Home Industry KWT Larasati's Chili production operations, including those for labor, raw materials, production, and other expenses. The Rupiah (Rp) is the currency used for costs.
4. In KWT Larasati's Home Industry, added value is the value that results from processing Chili's. Rupiah (Rp) is the unit used to represent added value.
5. The selling price of the chili sauce and other concealed Chili products made by KWT Larasati's Home Industry constitutes revenue. Receipts are calculated in Rupiah (Rp).
6. Income is the value or profit that Home Industry KWT Larasati receives from the sale of processed Chili's. The Rupiah (Rp) is the currency used for income.
7. The product's selling price is set at a level that makes Chili production profitable. The Rupiah (Rp) is the unit of measurement for product prices.
8. The total amount of chili sauce and hidden Chili products sold by Home Industry KWT Larasati is known as the output (sales volume). Packaging is the unit of output that is used.
9. The basic raw material is the main input used in Chili production at KWT Larasati's Home Industry, namely Chili's. The unit used for basic raw materials is the Kilogram (Kg).

The workforce engaged in production is referred to as labor. Working Person Days are the unit of measurement for labor (HOK).

An open-ended questionnaire was the research tool utilized. A comprehensive set of inquiries and declarations are included in the questionnaire to elicit from respondents the data required to investigate the variables. Farmers were used as suppliers, business owners were used as players in the processing industry, and distributors were used as customers to complete the questionnaire. The instrument was completed through interviews and documentation in addition to the use of an open-ended questionnaire. To find out whether respondents were available to provide information by completing questionnaires, interviews were done. Documentation was also completed to show that research had been done.

Both primary and secondary data were used in the data collection process. Primary blood collection is done on-site at the research site through direct observations, questionnaire submissions, and interviews. The process of collecting secondary data

involves using company data, such as production costs (which include the price of raw materials and supporting materials), sales costs, and production data. The data was collected during the previous half-year, specifically from June to September 2023, while accounting for variations in the products' respective markets.

The state of KWT Larasati's Home Industry's value chain is ascertained through value chain analysis. The research method uses observation and interviews with value chain actors in Chili production.

Cost analysis in this activity includes fixed costs and variable costs. Fixed costs are costs incurred that are relatively fixed in amount regardless of the size of production. Variable costs are costs whose size is influenced by production.

IV. Result and Discussion

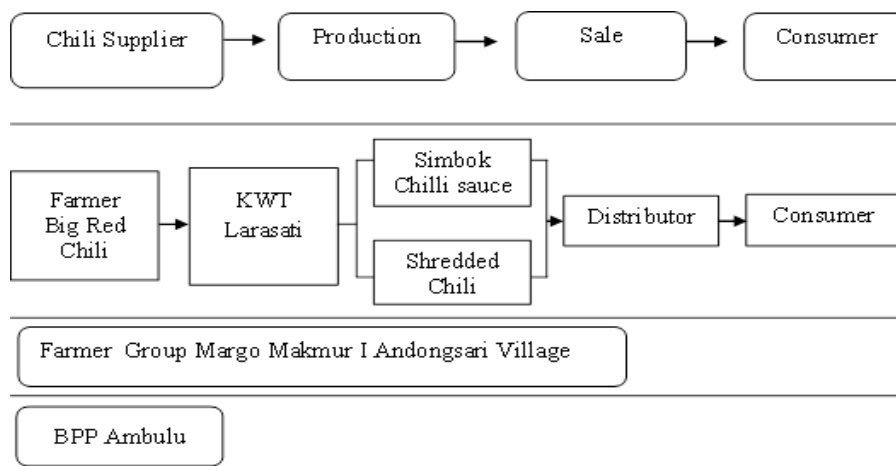
4.1 Result

Chili sauce Simbok and Shredded Chili KWT Larasati are processed local chili products. The value chain for these products includes Inbound Logistics, which is the buying of raw materials (chiles) from farmers operations, specifically the processing of chilies to produce shredded and simbok chili products. Sending products like simbok and shredded chili sauce straight to distributors is known as outbound logistics. Sales and marketing, specifically setting the price for each product that includes shredded chili sauce and simbok and selling them either directly or indirectly via social media. Service is what KWT Larasati aims to offer distributors and end users while preserving the quality of its products, which include simbok and shredded chili sauce.

This product has several variants, including the Anchovy Lamtoro Variant, Baby Squid Variant, Shrimp Variant, Tuna Variant, Petai Variant, and Shredded Chili.

a. Value Chain Analysis

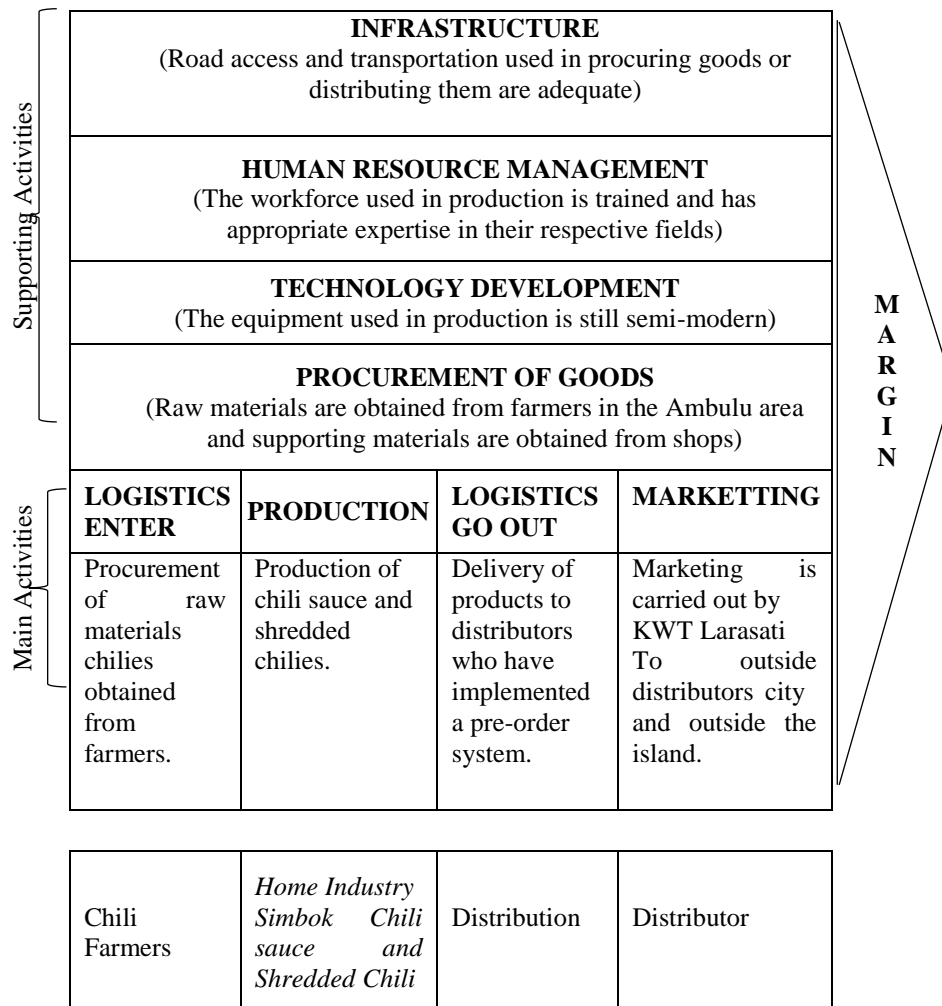
Activities in the value chain are separated into two categories: supporting activities and main activities. Inbound logistics, operations, outbound logistics, marketing, and service are all analyzed as primary activities. Infrastructure of the business, management of human resources, technology development, and procurement of goods are all analyzed in relation to supporting activities. At KWT Larasati, the processed chili value chain goes through the following stages:



Source: Primary data

Figure 1. General Value Chain Production of Simbok Chili sauce and Shredded Chili

The steps of the value chain for processed chilies at KWT Larasati are shown in Figure 1, along with the operators (actors involved at each stage), direct supporters (Supporters), and indirect supporters (Enablers). Farmers are the primary source of raw materials for KWT Larasati's chili production, the company is a processing facility that makes chili sauce and shredded chilies, and distributors from outside the city or island sell consumers chili simbok and shredded chili products. Information about the participation of direct supporting institutions (Supporters) and indirect supporting institutions (Enablers) was communicated by Mrs. Noverta, the head of KWT Larasati. As suppliers, farmers acquire knowledge on their own and work with staff members who have cultivated plants before. KWT Larasati as a processing industry receives support from related institutions in the form of training and assistance with post-harvest processing equipment. So far, human resources have carried out the production process based on direct guidance from training activities from the community empowerment program, while in terms of capital they use capital from KWT Larasati's cash. Product marketing is carried out in collaboration between members in charge of marketing both conventionally and online.



Sources : Primary data, 2023; processed

Figure 2. Value Chain for Simbok Chili sauce and Shredded Chili Products

Figure 2 illustrates the current state of the value chain at KWT Larasati. The value chain at KWT Larasati for processed chilies involves a number of different activities. Among the things that go on are the following: obtaining raw materials; producing chili; moving; developing technology; managing human resources; and marketing.

b. Analysis of Business Costs

KWT Larasati had to invest IDR 2,270,001 in order to produce simbok chili sauce and shredded chilies. The large red chili production process has monthly fixed costs of IDR 723,334 in total. The monthly production cost of the squid version of simbok chili sauce is IDR 845,000. The cost of producing the simbok chili sauce for tuna is IDR 765,000 per month. It costs IDR 875,000 per month to produce the simbok chili sauce variation with anchovy lamtoro. The cost of producing the simbok chili sauce with shrimp is IDR 865,000 per month. The cost of producing the chili floss is IDR 1136,400 per month, while the petai version of simbok chili sauce costs IDR 745,000 per month.

The total monthly revenue, or sales proceeds, from the production of chilies at KWT Larasati is IDR 16,640,000. The total costs incurred by KWT Larasati for chili production are IDR 6,961,402/month. Total income (Td) of KWT Larasati is IDR 9,418,598/month.

c. Value Added Analysis

The term "added value" refers to the value that is added to inputs following a production process. The Hayami method is used in the added value calculation to determine the value of adding chilies to shredded chilies and simbok chili products. The Hayami method is used to calculate added value in the production of chilies used to make KWT Larasati chili shreds and simbok chili sauce. The resulting table is Table 1.

Table 1. Calculation of Value Added Hayami Method

No	Chili Processed Products	Value Variable					Shredded Chili
		Simbok Baby squid Chili sauce	Simbok Tuna Chili sauce	Simbok Anchovy Lamtoro Chili sauce	Simbok Shrimp Chili sauce	Simbok Petai Chili sauce	
Output, Input, and Price							
1	Output (Packaging/Month)	12	12	12	12	12	9
2	Raw Input (Kg/Month)	8	8	8	8	8	20
3	Worker (HOK)	2	2	2	2	2	2
4	Conversion Factor	1,5	1,5	1,5	1,5	1,5	0,46
5	Worker Koefisien (HOK/Kg)	0,25	0,25	0,25	0,25	0,25	0,10
6	Output Price (Rp/Package)	250.000	220.000	250.000	250.000	200.000	260.000
7	Average Fee (Rp/HOK)	60.000	60.000	60.000	60.000	60.000	60.000
Revenue and Profits							
8	Raw Price (Rp/Kg)	18.000	18.000	18.000	18.000	18.000	18.000
9	Other Input Price (Rp/Kg)	240.500	160.500	242.500	260.000	140.500	94.000
10	Output value (Rp/Kg)	375.000	330.000	375.000	375.000	300.000	120.250
11	a. value-added (Rp/Kg)	116.500	151.500	114.500	97.000	141.500	8.250
	b. Value Added Ratio (%)	31,0667	45,9091	30,5333	25,8667	47,1667	6,8607
12	a. worker income (Rp/Kg)	15.000	15.000	15.000	15.000	15.000	6.000
	b. worker share (%)	12,876	9,901	13,100	15,464	10,601	72,727
13	a. profit (Rp/Kg)	101.500	136.500	99.500	82.000	126.500	2.250
	b. Profit Rate (%)	27,0667	41,3636	26,5333	21,8667	42,1667	1,8777
Remuneration for Production Factor Owners							
14	Margin (Rp/Kg)	357.000	312.000	357.000	357.000	282.000	102.250
	a. Direct Labor Income (%)	4,202	4,808	4,202	4,202	5,319	5,868
	b. Other Input Contributions (%)	67,367	51,442	67,927	72,829	49,823	91,932
	c. Company Profits (%)	28,431	43,750	27,871	22,969	44,858	2,200

The Margo Makmur I farmer group is a supporter in developing chili plants in Andongsari Village, Ambulu District, Jember Regency, this is because the farmer group is a reference for members to access the needed resources (information, capital, technology). Figure 3 is a chart of the value chain for large red chili commodities in Andongsari Village, Ambulu District.

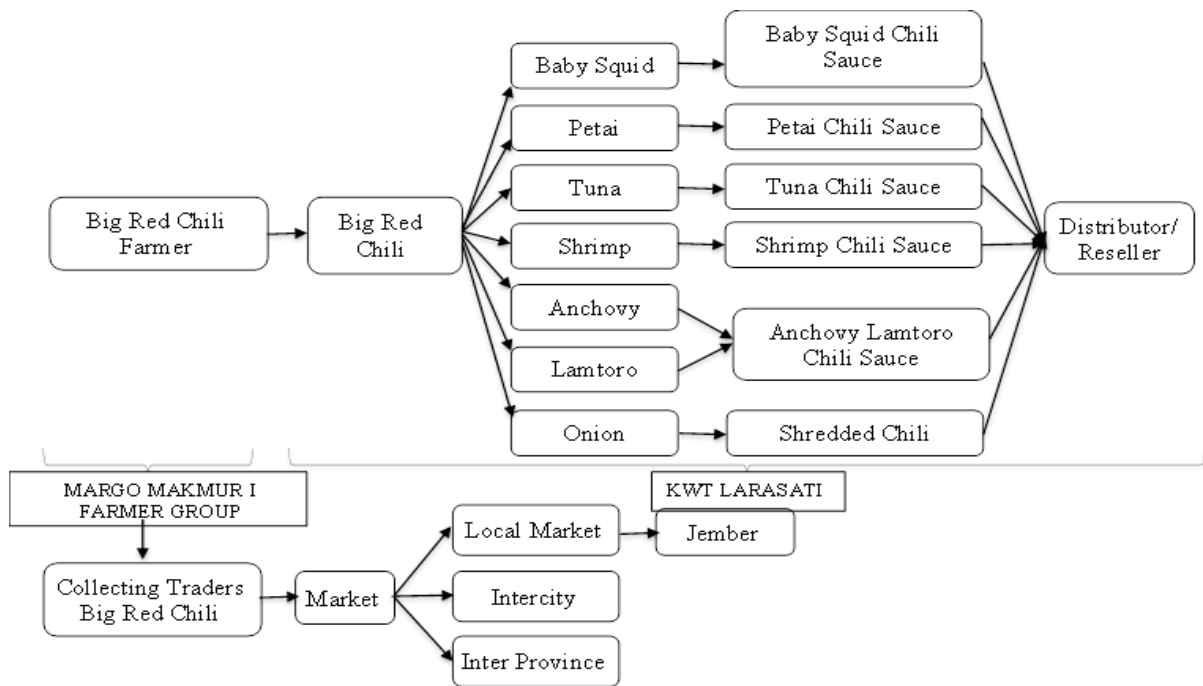


Figure 3. Value Chain Chart for Large Red Chili Commodities in Andongsari Village, Ambulu District

Table 1 is the processed result of using 8 kg of processed chilies to make 12 packages of baby squid simbok chili sauce. two female employees. This yields a conversion factor of 1.5 when the output is divided by the raw materials. Based on the labor and raw material division, the labor coefficient is 0.25 HOK/kg. The cost of the baby squid variety of simbok chili sauce is IDR 180,000 per package. Pay for labor is IDR 60,000. Farmers are paid IDR 18,000 per kilogram for raw materials. For the baby squid simbok chili sauce, the cost of additional ingredients is IDR 240,500 per kilogram of chili. The baby squid simbok chili sauce has an output value of IDR 375,000/kg. The added value for the baby squid variant of simbok chili sauce is IDR 116,500/kg with an added value ratio of 31.067%. Labor income per kilogram is IDR 15,000 with a labor share of 12.876%. The profit per one kilogram is IDR 101,500 with a profit rate of 27.067%. The margin obtained is IDR 357,000/kg. The percentage of labor income is 4.202%, the contribution of other inputs is 67.367% and the company's profit to the company's margin is 28.431%.

The end product of the tuna version of Simbok chili sauce production is 12 packages containing 8 kg of chili, which is processed by 2 female employees. This yields a conversion factor of 1.5 when the output is divided by the raw materials. Based on the labor and raw material division, the labor coefficient is 0.25 HOK/kg. The cost of a packaging of simbok chili sauce for tuna is IDR 220,000. Pay for labor is IDR 60,000. Farmers are paid IDR 18,000 per kilogram for raw materials. For the tuna version of simbok chili sauce, the cost of additional ingredients is IDR 160,500 per kilogram. The simbok chili sauce variant for tuna has an output value of IDR 330,000/kg. The added

value for the tuna variant of simbok chili sauce is IDR 151,500/kg with a value-added ratio for the tuna variant of simbok chili sauce of 45.901%. Labor income per kilogram is IDR 15,000 with a labor share of 9.901%. The profit per one kilogram is IDR 136,500 with a profit percentage of 41.367%. The margin obtained is IDR 312,000/kg. The percentage of labor income is 4.808%, the contribution of other inputs is 51.442% and the company's profit to the company's margin is 43.75%.

12 packets of anchovy lamtoro simbok chili sauce are produced using 8 kg of processed chilies. two female employees. This yields a conversion factor of 1.5 when the output is divided by the raw materials. Based on the labor and raw material division, the labor coefficient is 0.25 HOK/kg. The anchovy lamtoro simbok chili sauce has a set price of IDR 200,000 per pack. Pay for labor is IDR 60,000. Farmers are paid IDR 18,000 per kilogram for raw materials. For the anchovy lamtoro variety of simbok chili sauce, the cost of additional ingredients per kilogram of chilies is IDR 160,500/kg. The simbok chili sauce variant with anchovy lamtoro has an output value of IDR 330,000/kg. The added value for the anchovy lamtoro variant of simbok chili sauce is IDR 151,500/kg, with a value added ratio for the anchovy lamtoro simbok chili sauce of 45.909%. Labor income per kilogram is IDR 15,000 with a labor share of 9.901%. The profit per one kilogram is IDR 136,500 with a profit rate of 26.533%. The margin obtained is IDR 357,000/kg. The percentage of labor income, contribution of other inputs and company profits to the company margin is 4.202%, 67.927% and 27.871%.

Eight kilograms of processed chilies are used to make 12 packages of the shrimp version of Simbok Chili sauce . two female employees. This yields a conversion factor of 1.5 when the output is divided by the raw materials. Based on the labor and raw material division, the labor coefficient is 0.25 HOK/kg. The cost of a package of simbok chili sauce with shrimp is IDR 180,000. Pay for labor is IDR 60,000. Farmers are paid IDR 18,000 per kilogram for raw materials. For the shrimp version of simbok chili sauce, the cost of additional ingredients is IDR 260,000 per kilogram of chilies. The shrimp version of the simbok chili sauce has an output value of IDR 375,000/kg. The added value for the shrimp variant of simbok chili sauce is IDR 97,000/kg, with a value added ratio of 25.867%. Labor income per kilogram is IDR 15,000 with a labor share of 15.464%. The profit per one kilogram is IDR 82,000 with a profit percentage of 21.867%. The margin obtained is IDR 357,000/kg. The percentage of labor income, contribution of other inputs and company profits to the company margin is 4.202%, 72.829% and 22.969%.

Eight kilograms of processed chilies are used in 12 packages to produce the petai variation of simbok chili sauce. two female employees. This yields a conversion factor of 1.5 when the output is divided by the raw materials. Based on the labor and raw material division, the labor coefficient is 0.25 HOK/kg. The cost of a pack of Simbok chili sauce for pets is IDR 200,000. Pay for labor is IDR 60,000. Farmers are paid IDR 18,000 per kilogram for raw materials. The cost of additional ingredients for one kilogram of the chili simbok petai variety is IDR 140,500. The output value of the petai variant of simbok chili sauce is IDR 300,000/kg, the added value for the petai variant of simbok chili sauce is IDR 141,500/kg, with a chili sauce value added ratio of 47.167%. Labor income per kilogram is IDR 15,000 with a labor share of 10.601%. The profit per one kilogram is IDR 126,500 with a profit rate of 42.167%. The margin obtained is IDR 282,000/kg. The percentage of labor income, contribution of other inputs and company profits to the company margin is 5.319%, 49.823% and 44.858%.

Nine packages of shredded chilies and twenty kilograms of chilies are the output of the production. two female employees. The conversion factor that results from dividing output by raw materials is 0.46. Based on the labor and raw material division, the labor

coefficient is 0.10. The cost of a pack of shredded chili is IDR 260,000. Pay for labor is IDR 60,000. Farmers are paid IDR 18,000 per kilogram for raw materials. The cost of additional ingredients is IDR 94,000 per kilogram of chilies. Value of output in IDR 120,250/kg. IDR 8,250/kg of added value, or 6.861% of total. IDR 6,000 is the labor income per kilogram, with a labor share of 72.727 percent. With a profit percentage of 1.871%, the profit per kilogram is IDR 2,250. The margin obtained is IDR 102,250/kg. The percentage of labor income is 5.868%, the contribution of other inputs is 91.932% and the company's profit to the company's margin is 2.20%.

4.2 Discussion

Three parties are involved in the value chain in the production of chili at KWT Larasati: farmers who supply the raw materials, KWT Larasati, which is the processing industry, and distributors who sell simbok chili and shredded chili products to customers. In order to meet production demands, raw materials are purchased from chili farmers in the Ambulu region for IDR 18,000/kg. At KWT Larasati, the machinery used to produce shredded chili and simbok chili sauce is still regarded as semi-modern. While some production processes currently use machinery, others still rely on labor from humans. Distributors sell shredded chili and simbok chili products to end users. Because there was sufficient road access and communication, the distribution process went smoothly.

There are two employees at KWT Larasati who are members of the organization. Two workers are involved in the simbok chili sauce production process, and two workers are involved in the shredded chili production process. In the process of producing processed chilies, labor plays a significant role in ensuring that the shredded and simbok chili products are of high quality and meet the demands of both consumers and distributors. Marketing of shredded chili products and simbok chili sauce extends throughout the Ambulu region and its environs, beyond the city limits, beyond the island, and even overseas. Aside from that, KWT Larasati's social media accounts are used for marketing.

a. Calculation of Business Costs, Total Revenue, and Total Income at KWT Larasati

Every month, the total income received by the industry, total expenses incurred, and total revenue are used to calculate business costs.

The total expenses, which come to IDR 5,231,400 per month, are derived from the expenses incurred in the production of chili sauce and shredded chili products. These findings were derived from the production costs of the simbok chili sauce baby squid variant, which came to Rp. 845,000/month; the tuna variant, which came to Rp. 765,000/month; the anchovy lamtoro variant, which came to Rp. 875,000/month; the shrimp variant, which came to Rp. 865,000/month; the simbok chili sauce petai variant, which came to Rp. 745,000/month; and the production of chili floss, which cost IDR 1,136,400/month.

The total revenue was obtained from the sales of chili sauce and shredded chili products, where KWT Larasati's total revenue was IDR 13,400,000/month. These results were obtained from the sale of 40 packages of simbok chili sauce at a price of IDR 200,000/package and 9 packages of shredded chilies at a price of IDR 260,000/package.

Total income is obtained from sales of simbok and shredded chili sauce products minus the costs used to produce the products. The total income of KWT Larasati is IDR 3,624,998/month, where the income from the baby squid variant of simbok sauce is IDR 676,333/month, the tuna variant of simbok sauce is IDR 756,333/month, the anchovy lamtoro variant of simbok sauce is IDR 646,333/month, the simbok variant of chili sauce is

IDR 646,333/month. shrimp amounting to IDR 656,333/month, petai variant simbok chili sauce amounting to IDR 776,333/month and chili floss production amounting to IDR 113,333/month.

b. Analysis of the Added Value of Chili sauce Simbok and Shredded Chili Products at KWT Larasati

Based on data used during one month of production in the production of chilies into simbok chili sauce and shredded chilies, the average use of chili raw materials used by KWT Larasati is 40 kg at a price of IDR 18,000/kg chilies. The added value received between six different products, simbok chili sauce amounted to IDR 139,100/kg with a value added ratio of 22.91%, while for shredded chili products the added value obtained was IDR 70,688/kg with a value added ratio of 36.06%. The tuna variant of simbok chili sauce has the highest added value than shredded chili, because the sales frequency of simbok chili sauce is higher so it has a high selling value.

V. Conclusion

Based on the results of research that has been carried out "Value Chain Analysis and Marketing Strategy for Processed Chilies, Local Products, Ambulu District, Jember Regency" it can be concluded as follows:

- 1 The results of the value chain analysis on chili production at KWT Larasati involve three actors, namely farmers as suppliers of raw materials, KWT Larasati as processing industries and distributors as distributors of simbok chili and shredded chili products to consumers.
- 2 The calculation of business costs is calculated every month starting from total revenue, total costs incurred, and income earned by the industry. The total costs are obtained from the expenditure used to produce chili sauce and shredded chili products, where the total expenditure is IDR 5,231,400/month. These results were obtained from the production expenditure for the baby squid variant of simbok chili sauce amounting to Rp. 845,000/month, the tuna variant of simbok chili sauce amounting to Rp. 765,000/month, the anchovy lamtoro variant of simbok chili sauce amounting to Rp. 875,000/month, the shrimp variant of simbok chili sauce amounting to Rp. 865,000/month, the simbok chili sauce petai variant amounting to IDR 745,000/month and chili floss production amounting to IDR 1,136,400/month. KWT Larasati's total revenue is IDR 13,400,000/month. These results were obtained from the sale of 40 packages of simbok chili sauce at a price of IDR 200,000/package and 9 packages of shredded chilies at a price of IDR 260,000/package. The total income of KWT Larasati is IDR 3,624,998/month, where the income from the baby squid variant of simbok sauce is IDR 676,333/month, the tuna variant of simbok sauce is IDR 756,333/month, the anchovy lamtoro variant of simbok sauce is IDR 646,333/month, the simbok variant of chili sauce is IDR 646,333/month. shrimp amounting to IDR 656,333/month, petai variant simbok chili sauce amounting to IDR 776,333/month and chili floss production amounting to IDR 113,333/month.

According to data collected over the course of a month-long production process for simbok chili sauce and shredded chilies, KWT Larasati typically uses 40 kg of raw chilies at a cost of IDR 18,000 per kilogram. Between the six distinct products, the added value obtained for the simbok chili sauce was IDR 139,100/kg with a value added ratio of 22.91%, and the added value obtained for the shredded chili products was IDR 70,688/kg with a value added ratio of 36.06%. When compared to shredded chili, the tuna version of

simbok chili sauce has the highest added value due to its higher sales frequency and consequently high selling value.

Suggestion

Based on the research results, suggestions that can be given so that the value chain and marketing strategy for KWT Larasati simbok and shredded chili sauce can be realized include:

- 1 The microbusinesses at KWT Larasati that sell flossed chili and Simbok chili should keep more thorough records of their monthly sales, financial, and production reports.
- 2 In order to achieve the marketing strategy for Simbok chili sauce and KWT Larasati chili floss, microbusinesses involved in these products should collaborate with stakeholders and the government. Government and stakeholder support from upstream to downstream through collaboration with marketing networks, training, and intensive microbusiness mentoring activities with raw material suppliers.
- 3 The microbusiness selling Simbok chili sauce and KWT Larasati flossed chili needs to be vigilant about updating information and minimizing threats to the marketing strategy of Simbok chili sauce and KWT Larasati shredded chili.
- 4 Future researchers are advised to conduct research on business development strategies for processing chili sauce and shredded chilies.

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