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Analysis Value-Added of Red Ginger in Sarabba Syrup Product at Balla Ratea Home Industry Gowa Regency

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ABSTRACT

This study aims to know the production process and analyze value-added red gingger on sarabba syrup products in Balla Ratea Home Industry, Taeng Village, Palangga District, Gowa Regency. The method of determining informants in this study was purposive sampling with the provision that the owner of the SMEs (Small and Medium Enterprises) Balla Ratea Home Industry in Gowa Regency along with its treasurer and members were the main informants in this study. This study used the Hayami method data analysis technique to determine the added value of red ginger in sarabba syrup products. Research results showed that the process of producing ginger into sarabba syrup product in Balla Ratea Home Industry starting from the washing and peeling process, boiling and extraction, filtering, mixing and cooking, sterilization, cooling, packaging and storage. The amount of value-added in the sarabba syrup product in Balla Ratea Home Industry is Rp. 378,400/kg and the value-added ratio is 77.99%. The value-added of processed ginger products is in the high category.

Keywords: *Value-added, Red Ginger, Sarabba Syrup, Hayami Method, Agroindustry*

INTRODUCTION

The agricultural and industrial sectors are interrelated, with agriculture providing raw materials and industry, better known as agro-industry, processing products to increase the added value of agricultural products (Silitonga, 2019). Small industries play a very important role in a country's economy. The role of small businesses includes increasing non-oil and gas exports, absorbing labor, improving the quality of human resources, and contributing to Gross Domestic Product (GDP). However, the contribution of small industries to GDP has only reached 14%, which poses a challenge for small entrepreneurs to improve their businesses so that they generate greater value added. Value added is defined as the increase in the value of a commodity due to the functional inputs applied to the commodity in question (Farisi et al., 2022).

Red ginger farming is a spice crop that is used as a beverage or ingredient in various foods. When made into a beverage, its spicy ginger flavor can provide a soothing and refreshing sensation in the throat, as well as a warming sensation in the body(Margianti et al., 2018). Ginger rhizomes have various uses, including as a cooking spice, a source of essential oils and oleoresins, as a raw material for herbal medicine, and can be processed into various foods. In addition, red ginger is also believed to increase stamina and help overcome cold symptoms (Hadiq et al., 2024).

Based on research on red ginger conducted by Rika (2023), red ginger-based products can increase the income of farmers and small and medium-sized enterprises (SMEs) through the optimization of the value chain. The study highlights the importance of analyzing the added value of red ginger to determine the extent of the economic increase in red ginger in instant sarabba products produced by these businesses. Therefore, analyzing the added value of red ginger in sarabba syrup products produced by Balla Ratea Home Industry is also very relevant to determine the extent of the economic increase in red ginger to support the sustainability and

development of their business.

The Balla Ratea Home Industry, located in Taeng Village, Pallangga District, Gowa Regency, can be categorized as a small business. This business focuses on the production and marketing of local specialty products made by local housewives, one of which is sarabba syrup. Although small in scale, with the existing market potential and sustainability in its management, this business has succeeded in creating jobs and increasing the income of the surrounding community (Asni & Salfiana, 2024). The success of this business is also inseparable from the support for women's empowerment in the village, as well as product innovations that are in line with local and regional market demands (Kasim et al., 2021). Therefore, the author wishes to analyze the value-added of red ginger in the sarabba syrup produced by Balla Ratea Home Industry. Based on the above background, this study aims to analyze the value added of red ginger in sarabba syrup products, using a case study of the Balla Ratea home industry in Taeng Village, Palangga District, Gowa Regency.

RESEARCH METHODS

Research Location

This research was conducted at Balla Ratea Home Industry in Taeng Village, Pallangga District, Gowa Regency, where the business processes red ginger into sarabba syrup product. The research was conducted from April to June 2025.

Informants

This study used purposive sampling to determine informants. Sugiyono (2023) states that purposive sampling is a technique for determining samples based on specific considerations. In this study, informants were deliberately selected based on their knowledge, role, and involvement in the sustainability of Balla Ratea Home Industry. Informants were selected based on these criteria, namely the owners of Ball Ratea Home Industry in Gowa Regency along with their treasurers and members. The selected informants have agreed to be interviewed in depth in order to obtain information for this study.

Data Collection Techniques

Data collection was conducted using data triangulation techniques, namely:

1. Observation: Directly observing the production of sarabba syrup at Balla Ratea Home Industry.
2. In-depth interviews: Conducted with informants using interview guidelines to explore information about the sarabba syrup production process, as well as information about costs incurred and profit earned, in order to analyze the value-added of red ginger in sarabba syrup products using the Hayami method.
3. Documentation: Collect supporting documents such as company archives, photos of activities, and data related to the sarabba syrup production process, as well as the costs incurred and profit earned from sarabba syrup products at Balla Ratea Home Industry.

Data Analysis Techniques

This study uses Hayami (1987) method to analyze the added value of red ginger into sarabba syrup product. Through this method, the analysis results in the form of output value, added value, labor remuneration, and processing profits, from will be obtained. Hayami method is presented in Table 1.

Tabel 1. Value-Added Calculation Using the Hayami Method

No.	Variable	Value
I	Output, Input, price	
1.	Output (Liter)	1
2.	Input (Kg)	2
3.	Labor (MD)	3
4.	Coversion Factor	4 = 1 : 2
5.	Labor Coefficient (MD)	5 = 3 : 2
6.	Output Price (Rp/Liter)	6
7.	Direct Labor Wage (Rp/MD)	7
II	Revenue and Profit	
8.	Raw Material Price (Rp/Kg)	8
9.	Outer Input Contributions (Rp/Kg)	9
10.	Outpu Valuet (Rp/Kg)	10
11.a.	Value Added (Rp/Kg)	11.a = 10 – 9 – 8
11.b.	Vallue Added Ratio (%)	11.b = 11.a : 10 x 100
12.a.	Direct Labor Income (Rp/Kg)	12.a = 5 x 7
12.b.	Labor Share (%)	12.b = 12.a : 11.a x 100
13.a.	Profit (Rp/Kg)	13.a = 11.a – 12.a
13.b.	Profit Rate (%)	13.b = 13.a : 10 x 100
III	Returns to Factor Owners	
14.	Margin (Rp/Kg)	14 = 10 – 8
a.	Direct Labor Income (%)	14.a = 12.a : 14 x 100
b.	Outer Input Contribution (%)	14.b = 9 : 14 x 100
c.	Company Profit (%)	14.c = 13.a : 14 x 100

Source : Hayami (1987)

1	Output or total production generated by the business.
2	Input or raw materials used to produce the product
3	Labor used in producing the product is calculated in terms of Man-Day (MD).
4	Output or total product production compared to input or raw materials used.
5	MD divided by input or raw materials used.
6	Product price applicable during a period of analysis.
7	The average wage received by workers in a production period calculated based on MD (Man-Day).
8	The price of raw material inputs per kilogram during the analysis period.
9	Contributions or other input costs consisting of auxiliary raw material costs and depreciation costs during the analysis period.
10	Output multiplied by the applicable product price during a single analysis period.
11a	Output value minus other input contributions and raw material prices.
11b	Percentage of added value divided by output value.
12a	Labor coefficient multiplied by average labor wages.
12b	Percentage of labor compensation divided by added value.
13a	Added value minus labor compensation.
13b	Percentage of profit divided by added value. 14 = Output value minus raw material prices.
14	Margin of output value minus raw material prices.
14a	Percentage of profit minus raw material costs and other input contributions.
14b	Percentage of labor compensation divided by profit margin.
14c	Percentage of other input contributions divided by profit margin.

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RESULTS AND DISCUSSION

Sarabba Syrup Production Process

The following are the stages of the sarabba syrup production process as presented in Table 2.

Table 2. The production process of sarabba syrup

No	Process Stage	Activities Carried Out
1	Preparing the Ingredients	Prepare red ginger, brown sugar, granulated sugar, coconut milk, spices (optional), and water.
2	Washing and Peeling	Wash the red ginger with clean water, peel the skin, and cut into small pieces.
3	Boiling and Extraction	Boil the ginger with water and spices for 30–45 minutes to extract the ginger juice
4	Filtering	Filter the boiled water to separate the ginger and spice pulp using a fine filter cloth.
5	Mixing and Cooking	Mix the ginger filtrate with brown sugar, granulated sugar, and coconut milk, then cook until thickened.
6	Sterilization	Continue heating until boiling to kill microorganisms and extend shelf life.
7	Packaging	Fill the syrup into sterile glass or plastic bottles and seal tightly.
8	Storage	Store the finished product in a cool place or in a refrigerator (4–7 °C).

Source: Primary data after processing (2025)

Value-Added Analysis

Value-added is obtained from the processing of red ginger into processed products. The output produced in this process is sarabba syrup. Value added analysis uses the Hayami Method. The calculation of the value-added of red ginger into sarabba syrup products using the Hayami Method can be seen in Table 3.

Table 3. The added value of red ginger becomes sarabba syrup

No.	Variable	Formula	Value
I	***Output, Input*, price**		
1.	*Output* (Liter)	1	164
2.	Input (Kg)	2	43
3.	Labor (MD)	3	24
4.	Coversion Factor	4 = 1 : 2	3,81
5.	Labor Coefficient (MD)	5 = 3 : 2	0,56
6.	Output Price (Rp/Liter)	6	140.000
7.	Direct Labor Wage (Rp/MD)	7	50.000
II	**Revenue and Profit**		
8.	Raw Material Price (Rp/Kg)	8	70.000
9.	Outer Input Contributions (Rp/Kg)	9	85.000
10.	*Outpu Valuet* (Rp/Kg)	10	533.400
11.a.	Value Added (Rp/Kg)	11.a = 10 – 9 – 8	378.400
11.b.	Vallue Added Ratio (%)	11.b = 11.a : 10 x 100	77,99
12.a.	Direct Labor Income (Rp/Kg)	12.a = 5 x 7	28.000
12.b.	Labor Share (%)	12.b = 12.a : 11.a x 100	7,40
13.a.	Profit (Rp/Kg)	13.a = 11.a – 12.a	350.400
13.b.	Profit Rate (%)	13.b = 13.a : 10 x 100	65,69
III	**Returns to Factor Owners**		
14.	Margin (Rp/Kg)	14 = 10 – 8	463.400
a.	Direct Labor Income (%)	14.a = 12.a : 14 x 100	6,04
b.	Outer Input Contribution (%)	14.b = 9 : 14 x 100	18,34
c.	Company Profit (%)	14.c = 13.a : 14 x 100	75,61

Source: Primary data after processing (2025)

From the results of calculating added value using the Hayami method in Table 3, it is known that Balla Ratea Home Industry produced 164 liters of sarabba syrup or generated output during September 2024 using 43 kg of red ginger as raw material or input. The labor force calculated in this study was the allocation of working time (MD/Month), which was 24 days. Each worker performs activities such as washing, peeling, boiling, filtering, cooking, and packaging. The conversion factor is the result of dividing the output (sales value) by the amount of input (raw materials) used, meaning that the conversion factor shows the amount of output produced from one unit of input. The conversion factor shows the amount of finished product obtained from 1 kg of raw material, with an average conversion factor of 3.81. The conversion factor can be less than 1 or more than one.

If the conversion factor is greater than 1, then in the production process there is an increase in the volume of agro-industrial output greater than the volume of raw material input. Rika (2023) states that the more output obtained from input, the greater the conversion factor will be. In this study, the conversion factor obtained by sarabba syrup products increased the output volume by 3.81, so it can be concluded that the amount of sarabba syrup output produced by Balla Ratea Home Industry is greater than the amount of input. This can happen because the raw materials for sarabba syrup at Balla Ratea Home Industry do not only consist of red ginger, but there are also other inputs such as water, sugar, and several other ingredients used to produce sarabba syrup at Balla Ratea Home Industry. The labor coefficient is obtained from the ratio between the number of working days and the processed raw material input. The calculation results obtained a labor coefficient of 0.56, which means that this value represents the amount of labor required to process 1 kg of ginger into sarabba syrup. The price of sarabba syrup is IDR 140,000/liter, with a production volume of 328 bottle (500 ml) and a price of IDR 70,000/bottle (500 ml). However, if the production is converted to liters, the total production is 164 liters with a price of Rp. 140,000/liter, so the production value is Rp. 22,960,000/month. The labor wage is Rp. 50,000/MD per worker, meaning the amount of materials and labor required to complete a job with one unit, serving as an initial guideline for calculating the labor cost budget. The average wage paid directly to workers is IDR 50,000. In terms of revenue, the costs incurred in the sarabba syrup production process can be determined based on the input price of red ginger, which is IDR 70,000/kg, and the amount of red ginger used in a month, which is 43 kg. In addition, there are also other input contributions in the production process amounting to Rp. 85,000, which is calculated by adding up all costs other than raw materials and labor costs and dividing them by the amount of raw materials, which is presented as 18.34%.

Added value is the result obtained from subtracting the total costs incurred from the sales value. The added value ratio is the percentage of added value from the output value of sarabba syrup. In the study by the added value of a product is classified into three types: if it is less than 15%, the added value ratio is low; if it is between 15% and 40%, the added value ratio is moderate; and if it is greater than 40%, the value-added ratio is high. It can be seen that the value added of red ginger in sarabba syrup produced by Balla Ratea Home Industry is Rp. 378,400 with a ratio of 77.99%, which is classified as a high value-added ratio This is in line with research conducted by Sulthanyah (2017) on the processing of red ginger into instant ginger drinks on a household scale. The results of his research also show a high added value ratio of red ginger, namely 74.46%, based on the results of added value analysis using the Hayami method. This also shows that the added value of red ginger analyzed using the Hayami method can reach around 70-80%.

Labor income of Rp. 28,000 and a labor share of 7.40% is the percentage contribution of labor to value added. According to Trianti (2024) profit is the difference between value added and labor compensation, so it is considered as the net value added received by the industry. The profit earned by Balla Ratea Home Industry from the production of sarabba syrup for every kilogram of red ginger is IDR 350,400 with a profit margin of 65.59%. This shows that the labor share at Balla Ratea Home Industry is relatively low and more focused on the owner's profit.

Based on the return to owners of production factors, the margin shows the contribution of owners of production factors other than raw materials used in the production process. The table shows that the margin obtained for the sarabba syrup processing process is IDR 463,400. The margin is calculated by subtracting the amount of raw materials used from the sales value, with the percentage contribution of other input costs being 18.34% or IDR 85,000. The contribution of input costs is obtained from the sum of all costs divided by the margin value and then multiplied by 100%. According to Rika (2023) the profit obtained comes from the division

between added value and margin. The profit obtained by the sarabba syrup processing industry is 75.61%, which means that for every 1 production cycle, the balla ratea household industry will generate a profit of 75.61% or Rp. 350,400. The large amount of profit obtained shows that the business of processing red ginger into sarabba syrup is profitable for the owners of the sarabba syrup processing business.

CONCLUSION

Based on the results of the analysis and discussion conducted in this study, it can be concluded that the process of processing red ginger into sarabba syrup at Ball Ratea Home Industry begins with washing and peeling, boiling and extraction, filtering, mixing and cooking, sterilization, cooling, packaging, and storage. The added value of instant sarabba products is IDR 378,400/kg, with an added value ratio of 77.99%. The added value of processed ginger products is categorized as high. Although Balla Ratea Home Industry earns high profits from processing red ginger into sarabba syrup, this study shows that Balla Ratea Home Industry's business model is more focused on owner profits. Therefore, it is recommended that there be a mentoring policy so that workers can also enjoy the increase in added value.

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