

# Cost Structure and Profit Obtained in Instant Red Ginger Drink Business

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**Abstract.** Red ginger is one of the biopharmaceutical plants that became a favorite when the Covid19 pandemic broke out. Red ginger can be used as a base for drinks that can increase the body's immunity. Processing red ginger into instant ginger drink can provide more economic value to the red ginger commodity itself. With a higher economic value, it will be possible to increase the profits obtained, so that in the end it will increase farmers' interest in producing the red ginger commodity. In order to further increase profits from the instant red ginger drink business, it is necessary to look at the analysis of the cost structure and profits obtained as well as the efficiency of the business. The aims of this research are to analyze the cost structure and profit as well as the efficiency of the instant red ginger drink processing business. The research method used is the case study method. This research was carried out at the Zala Red Ginger UMKM in South Lampung Regency. The location was chosen deliberately with the consideration that the Zala Red Ginger UMKM is one of the red ginger agro-industry in South Lampung Regency. This research was carried out from April to September 2024. The results of this research are that the largest proportion in making instant red ginger drinks for UMKM Red Ginger is the raw material cost of red ginger, which is 66,99% and the second largest proportion is packaging costs, which is 13,40% of the total costs incurred. The profit obtained by the Zala Red Ginger UMKM instant ginger drink processing business was IDR 5,035,750.00. The R/C or efficiency of the Zala Red Ginger UMKM instant ginger drink processing business is 1.67.

**Keywords:** cost structure, profit, R/C, instant red ginger drink

## INTRODUCTION

Agro-industry, which is an agricultural product processing industry, is the activity of utilizing agricultural products which are processed into processed products with economic value, as well as being a stage for sustainable agricultural development. There is an agricultural issue currently being developed, namely "Back to Nature". The development of this issue has an impact on the existence of medicinal plants or what are usually called biopharmaceutical plants. Biopharmaceutical plants in Indonesia consist of 15 types, namely ginger, laos or galangal, kencur, turmeric, lempuyang, curcuma, temureng, temukunci, dringo, cardamom, noni, Mahkota dewa, kejibeling, bitter and aloe vera. Based on BPS data for 2021, the biopharmaceutical plant that had the highest production from 2018 to 2020 was ginger. The total production of ginger plants in Indonesia in 2020 was 174,380,121 kg [1].

In general, ginger is known as three types, namely emprit ginger, elephant ginger and red ginger. Some of the benefits of ginger are overcoming nausea and vomiting, healthy digestive system, healthy brain, curing migraines and others [2]. There are several types of ginger that are known, namely white ginger, red ginger and yellow ginger [3].

Red Ginger (Zing) In general, ginger is known as three types, namely emprit ginger, elephant ginger and red ginger. Some of the benefits of ginger are overcoming nausea and vomiting, healthy digestive system, healthy brain, curing migraines and others [2]. Red ginger (*Zingiber officinale* Roscoe var. *rubrum*) is one of the herbal plants that is widely used as a traditional medicine and spice [4]. Red ginger is one of the biopharmaceutical plants that became a favorite when the Covid19 pandemic broke out. Red ginger can be used as a base for drinks that can increase the body's immunity [4].

Apart from being efficacious in increasing the body's endurance, consuming red ginger is also known to have the following properties: Overcoming headaches, maintaining heart health, overcoming motion sickness, overcoming digestive problems, relieving nausea and vomiting, preventing colon cancer, treating headaches and allergies, and overcoming diseases related to throat disorders [5].

Now the benefits of ginger are growing, not only served traditionally, but also modified with a touch of technology to increase shelf life and consumer appeal. Therefore, now there are various types of processed ginger foods, for example instant drinks, ginger candy, pickled ginger, ginger in syrup, dried ginger sweets, ginger coffee, etc. [6]. One of the producers that makes instant ginger in Lampung is the Red Ginger UMKM, Natar District, South Lampung Regency.

Processing red ginger into instant ginger drink can provide more economic value to the red ginger commodity itself. With a higher economic value, it will be possible to increase the profits obtained, so that in the end it will increase farmers' interest in producing the red ginger commodity. Therefore, this research wants to look at the cost structure in the instant red ginger drink processing business at Zala Red Ginger UMKM in order to see what cost components contribute the most to the processing business, so that later we can anticipate or look for alternatives to reduce costs. which are issued. Another aim of this research is to look at the income and efficiency of the instant red ginger drink processing business at the Zala Red Ginger UMKM in order to provide information to business actors regarding the profits and efficiency of the business, so that it can be a consideration if they want to start a similar business.

## METHODS

This research was carried out at the Ginger Red Zala UMKM in South Lampung Regency. This research is planned to be carried out from April to September 2024. The research method used is the case study method. The data used in this research are primary data and secondary data. The analysis method to answer the objectives of the cost structure uses cost calculation and qualitative analysis methods using pie charts, then the data analysis method used to answer the objectives related to income analysis of the business of processing red ginger into instant drinks at the Zala Red Ginger UMKM is using the income formula. Where income is obtained from total receipts minus total costs [7]. Income can be calculated using the following formula:

$$Pd = Y \cdot Py - X \cdot Px.$$

(1)

Information:

Pd = Farming income (Rp)

Y = Total production (Rp)

Py = Price (Rp)

X = Input production

Px = Input Price

Analysis The second objective related to the efficiency of processing red ginger into instant drinks in UMKM will be analyzed using R/C analysis. R/C analysis is a comparison between revenue and total costs [8]. The R/C formula is as follows:

$$R/C = \text{Total Revenue (TR)} / \text{Total Cost (TC)}$$

(2)

Which is :

Revenue = The amount of revenue obtained

Cost = The amount of costs incurred

There are three criteria in the calculation, namely:

- If  $R/C > 1$  means the farming is profitable.
- If  $R/C = 1$ , it means the farm is breaking even.
- If  $R/C < 1$ , it means the farming is making a loss.

## RESULTS AND DISCUSSION

### Cost Structure Analysis of Zala Red Ginger UMKM Instant Ginger Drink Processing Business

Instant red ginger drink is made from fresh red ginger which is grated and cooked with various kinds of additional spices including cardamom, cloves, cinnamon, palm sugar or cane sugar and other spices until it becomes an instant drink powder ready to be brewed. Making this red ginger drink is still done simply using a grater tool to grate fresh ginger into smaller shapes, a basin to stir all the ingredients together before cooking, an oven used to cook the ginger until it dries and becomes instant red ginger powder, and a continuous machine. sealer to glue and lock the packaging to maintain hygiene, quantity and quality of instant red ginger drink products.

**TABLE 1.** Cost of making instant red ginger drink

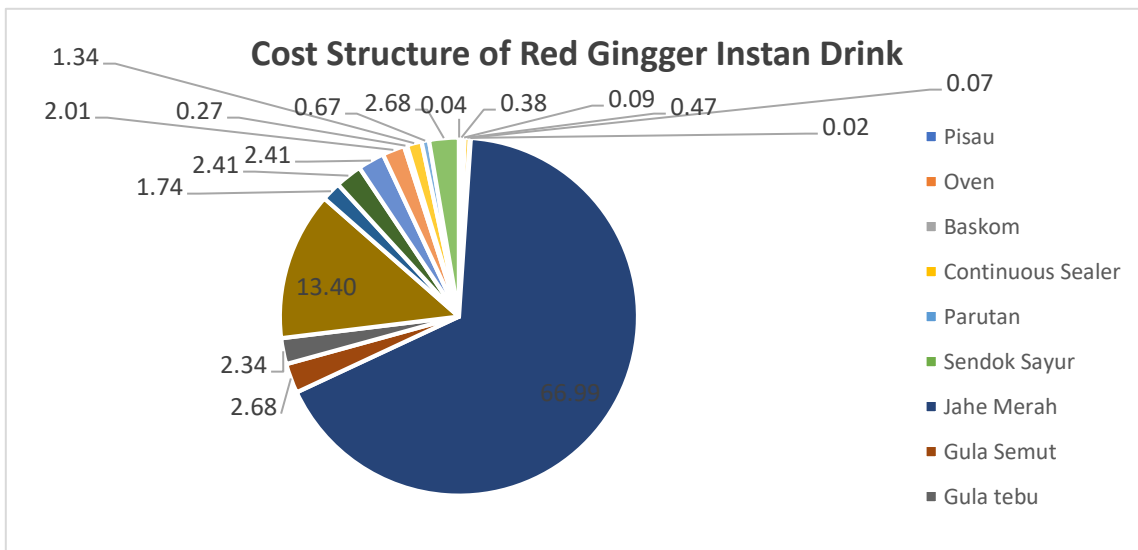
Information	Amount	unit	Purchase price/unit (Rp)	Value (Rp)	Percentage %
<b>Costs</b>					
<b>Fixed Costs (Depreciation Value per month)</b>					
Knife	2.00	unit	17,500.00	2916.67	0.04
Oven	1.00	unit	1,700,000.00	28333.33	0.38
Basin	4.00	unit	20,000.00	6666.67	0.09
Continuous Sealer	1.00	unit	2,100,000.00	35000.00	0.47
Grater	2.00	unit	30,000.00	5000.00	0.07
Ladle	2.00	unit	8,000.00	1333.33	0.02
Sut Total Fixed Costs		Rp		79,250.00	1.06
<b>Variable Costs</b>					
Red Ginger	250.00	kg	20,000.00	5,000,000.00	66.99
Ant Palm Sugar	10.00	kg	20,000.00	200,000.00	2.68
Cane sugar	10.00	pack	17,500.00	175,000.00	2.34
Packaging	500.00	unit	2,000.00	1,000,000.00	13.40
Cinnamon	2.00	kg	65,000.00	130,000.00	1.74
Clove	2.00	kg	90,000.00	180,000.00	2.41
Cardamom	2.00	kg	90,000.00	180,000.00	2.41
Javanese Chili	2.00	kg	75,000.00	150,000.00	2.01
Gass 5,5 kg	1.00	unit	20,000.00	20,000.00	0.27
Sub Total Variable Costs		Rp		7,035,000.00	94.25
<b>Another Costs (per month)</b>					
Electricity	1.00	unit	100,000.00	100,000.00	1.34
Internet Quota	1.00	unit	50,000.00	50,000.00	0.67
Labor costs	2.00	HOK	100,000.00	200,000.00	2.68
Sub Total Another Costs		Rp		350,000.00	4.69
<b>Total Costs</b>		Rp		<b>7,464,250.00</b>	<b>100.00</b>

The costs incurred to make this instant red ginger drink include labor costs, equipment costs, raw material costs, packaging costs and several other costs. The labor used to make this instant red ginger drink is cleaning the ginger, grating the red ginger, compounding the drink recipe, cooking the raw materials into instant red ginger drink, and packaging the instant red ginger drink. The raw material costs used are red ginger, palm sugar, cane sugar, cinnamon,

cloves, cardamom, Javanese chilies, standing pouch packaging, gas and clean water. The equipment used in making mocaf flour is a knife, grater, basin, oven and continuous sealer machine. The costs incurred in making this instant red ahe drink based on the overall resources used can be seen in **TABLE 1**.

The largest proportion in making instant red ginger drink is the raw material cost of red ginger, which is 66.99% of the total costs incurred. This is because the price of raw materials for fresh red ginger on the market is relatively high. If you want to reduce the cost of raw materials for red ginger, Zala Red Ginger UMKM can look for alternative places to buy red ginger that are cheaper. Apart from that, other costs which have the second largest proportion are packaging costs, which are 13.40%. This is because the packaging used was purchased outside the city and was still in quite low quantities, so it still received a relatively high price. If you want to reduce packaging costs, you can order packaging in larger quantities to get a cheaper price.

The costs that have the smallest proportion in making this instant red ginger drink are several tools used, namely ladles and knives, amounting to 0.02% and 0.04% of the total costs incurred for each variable cost. This is because the cost of the equipment used in this calculation is the monthly depreciation cost of the equipment, not the purchase price of the equipment. From the proportion of the cost structure incurred in the production of this instant red ginger drink, it can be seen that the proportion of variable costs is the collection of costs with the highest proportion in the production of this instant red ginger drink. If you want to streamline the costs incurred in order to reduce production costs, then what can be reduced or made efficient is the component of variable costs. The results of this research are in line with the results of research by [9] regarding the largest proportional costs incurred to produce Zahra ginger juice drinks, namely raw material costs with a proportion of costs incurred of 47.55%. The proportion of costs incurred in processing instant red ginger drink can be seen in **FIGURE 1**.



**FIGURE 1.** Proportion of Costs Incurred in Processing Instant Red Ginger Drink

### Analysis of Instant Ginger Drink Processing Business Revenue for Zala Red Ginger UMKM

The income of a business can be calculated using the difference between the total revenue obtained by the business and the costs incurred to carry out the business. The costs incurred to carry out an instant red ginger drink processing business at the Zala Red Ginger UMKM are variable costs and fixed costs. Included in fixed costs include oven, electricity, continuous sealer, and others. Variable costs incurred by the Red Ginger Zala UMKM instant red ginger drink processing business include standing pouch packaging, red ginger, powdered ant sugar, cane sugar, and others. Details of the costs of the Zala Red Ginger UMKM instant ginger drink processing business can be seen in **TABLE 2**.

**TABLE 2.** Rincian Biaya Usaha Pengolahan Minuman Jahe Instan UMKM Jahe Merah Zala

Information	Amount	Unit	Purchase price/unit (Rp)	Worth (Rp)
<b>Costs</b>				
<b>Fixed Costs (Depreciation per month)</b>				
Knife	2.00	unit	17,500.00	2916.67
Oven	1.00	unit	1,700,000.00	28333.33
Basin	4.00	unit	20,000.00	6666.67
Continuous Sealer	1.00	unit	2,100,000.00	35000.00
Grater	2.00	unit	30,000.00	5000.00
Ladle	2.00	unit	8,000.00	1333.33
Sut Total Fixed Costs		Rp		79,250.00
<b>Variable Costs</b>				
Red Ginger	250.00	kg	20,000.00	5,000,000.00
Ant Palm Sugar	10.00	kg	20,000.00	200,000.00
Cane sugar	10.00	pack	17,500.00	175,000.00
Packaging	500.00	unit	2,000.00	1,000,000.00
Cinnamon	2.00	kg	65,000.00	130,000.00
Clove	2.00	kg	90,000.00	180,000.00
Cardamom	2.00	kg	90,000.00	180,000.00
Javanese Chili	2.00	kg	75,000.00	150,000.00
Gass 5,5 kg	1.00	unit	20,000.00	20,000.00
Sub Total Variable Costs		Rp		7,035,000.00
<b>Another Costs (per month)</b>				
Electricity	1.00	unit	100,000.00	100,000.00
Internet Quota	1.00	unit	50,000.00	50,000.00
Labor Costs	2.00	HOK	100,000.00	200,000.00
Sub Total Another Costs		Rp		350,000.00
Total Costs		Rp		7,464,250.00

The Zala Red Ginger UMKM instant ginger drink processing business produces 2 types of instant red ginger drinks, namely Jahe merah Gula Semut and Jahe Merah Gula Tebu. Revenue from the Red Ginger Zala UMKM instant ginger drink processing business comes from sales of the two ginger drink variants. Details of revenues from the Zala Red Ginger UMKM instant red ginger drink processing business can be seen in **TABLE 3**.

**TABLE 3.** Details of Revenue from Zala Red Ginger UMKM Instant Ginger Drink Processing Business

Information	Amount	Unit	Purchase price/unit (Rp)	Worth (Rp)
<b>Revenue</b>				
Ant Palm Sugar Red Ginger	250.00	pack	25,000.00	6,250,000.00
Cane Sugar Red Ginger	250.00	pack	25,000.00	6,250,000.00
<b>Total Revenue</b>		<b>Rp</b>		<b>12,500,000.00</b>

The profits obtained by the Zala Red Ginger UMKM instant red ginger drink processing business come from the total revenue obtained minus the total costs incurred by the Zala Red Ginger UMKM instant red ginger drink processing business. The advantages of the Zala Red Ginger UMKM instant red ginger drink processing business can be seen in **TABLE 4**.

**TABLE 4.** Benefits of Zala Red Ginger UMKM Instant Ginger Drink Processing Business

Information	Amount	Unit	Purchase price/unit (Rp)	Worth (Rp)
Total Revenue		Rp		12,500,000.00
Total Cost		Rp		7,464,250.00
<b>Profit</b>		<b>Rp</b>		<b>5,035,750.00</b>

It can be seen from Table 4 that the profit obtained by the Zala Red Ginger UMKM instant red ginger drink processing business is Rp5.035.750,00. This means that from the Rp7.464.250,00 costs incurred, the Zala Red Ginger UMKM instant red ginger drink processing business gets a profit of Rp5.035.750,00. The results of research regarding the profits of the instant red ginger drink processing business at the Zala Red Ginger UMKM are in line with the results of research regarding the profits of the instant red ginger agro-industry at KWT Harapan Jaya by Sonia et, al (2023), namely Rp899,476.08 for 18 kg instant red ginger produced.

### Efficiency Analysis of Zala Red Ginger UMKM Instant Ginger Drink Processing Business

The efficiency of the Zala Red Ginger UMKM instant ginger drink processing business is calculated using the R/C ratio formula, where R is revenue and C is cost. Based on these calculations, the average revenue from sales of instant red ginger drinks by Zala Red Ginger UMKM per month is Rp12.500.000,00 and the average total costs incurred by Zala Red Ginger UMKM in producing instant red ginger drinks is Rp7.464.25,00, then the R/C ratio or efficiency of the Zala Red Ginger UMKM instant ginger drink processing business is 1,67. This means that by spending IDR 1.00, the Zala Red Ginger UMKM instant ginger drink processing business will generate revenues of IDR 1,67. Calculation of the efficiency of the Zala Red Ginger UMKM instant ginger drink processing business can be seen in **TABLE 5**.

**TABLE 5.** Efficiency of Zala Red Ginger UMKM Instant Ginger Drink Processing Business

Information	Amount	Unit	Purchase price/unit (Rp)	Worth (Rp)
Total Revenue		Rp		12.500.000,00
Total Cost		Rp		7.464.250,00
Profit		Rp		5.035.750,00
<b>R/C</b>		<b>Rp</b>		<b>1,67</b>

The results of this research are in line with the results of research from Makmur (2016) which states that the R/C ratio value obtained from the results of his research regarding the manufacture of instant ginger juice is 1.31, which means that for every Rp1,00 spent, it will generate revenue amounting to Rp1,31.

## CONCLUSIONS

The conclusions from the results of this research are (1) the largest and second largest cost structure incurred in the instant red ginger drink processing business at the Zala Red Ginger UMKM is the cost of red ginger raw materials, which is 66,99% and packaging costs, which is 13,40%. % (2) The profit obtained from the sales of instant red ginger drinks at the Zala Red Ginger UMKM is Rp5.035.750,00 (3) The business efficiency (R/C ratio) of processing instant red ginger drinks at the Zala Red Ginger UMKM is 1,67.

## ACKNOWLEDGMENTS

Thank you to the Pusat Penelitian dan Pengabdian Kepada Masyarakat (P3M) Politeknik Negeri Lampung for providing funds to the authors so that the implementation of this research can be carried out smoothly and successfully.

We also thank the writing team for their hard work and cooperation in conducting this research, so that this research can be carried out to completion.

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