

ANALYSIS OF TEMPE LEAF PROCESSING BUSINESS INCOME IN KUALA PESISIR DISTRICT, NAGAN RAYA REGENCY

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ABSTRACT

Arongan Village, Kuala Pesisir District, is one of the areas that has an industrial processing of soybeans into tempeh, namely Tempe Super Dipta and Tempe Murni Mb Seunagan. The purpose of this study is to see how much income is generated. This location was chosen deliberately because the Village Development Program is related to the stunting prevention program. The method of determining the sample uses the census method, namely that all populations are used as research samples so that the samples used are as many as 2 attempts. The results obtained by the average revenue obtained is Rp. 2,880,000.00 per production period (6 days) and the income generated is Rp.760,927.09 per production period while for a month it is Rp. 3,043,708.35 per month. The BEP unit produced is 1,060 packs of banana leaf tempeh and the rupiah BEP is Rp. 1472.58.

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1. INTRODUCTION

Processing of agricultural products can be interpreted as an activity that changes food ingredients so that they become various forms and types with the aim of increasing the added value of agricultural products and extending the shelf life of these agricultural products including tempeh (Anzhita, 2019).

Tempe is a traditional food in Indonesia which is made through a fermentation process by the fungus *Rhizopus* sp on soybean and non-soy raw materials and later this fungus will form hyphae (Rusmiyati, 2021). Hyphae are fine white threads that will accumulate on the surface of soybean and red bean seeds which will later coalesce to form a white mycelium. The presence of this fungus in tempeh can produce several enzymes, such as the protease enzyme which is able to decompose proteins into shorter peptides and free amino acids, besides that it also produces lipase enzymes which will break down fats into fatty acids, and also produce amylase enzymes which can decompose complex carbohydrates into simple carbohydrates.

So from this, tempeh is one of the products with high demand because it has a lot of nutritional content including protein, fat, minerals, phytic acid, carbohydrates, logosaccharides, vitamin B12, and as antioxidants such as isoflavones (Suknia, 2020). Therefore, tempeh has benefits in terms of human health, because it can reduce the risk of prostate cancer which is enlarged causing problems in the urinary tract, breast cancer, rectal cancer and can inhibit cholesterol biosynthesis in the liver.

Processing soybeans into tempeh is able to create taste value so that it is liked by many people. Tempe has been consumed by Indonesian people for a long time. Besides that, the tempe industry is able to absorb a number of workers, both those directly involved in the production process and those related to the input and output trading of the processing industry so that the tempe industry is able to influence the community's economy.

Arongan Village, Kuala Pesisir District, is one of the areas that has an industrial processing of soybeans into tempeh. This area only has 2 soybean processing home industries, namely Tempe Super Dipta, and Pure Tempe Mb Seunagan. In the process of running their business, tempe producers do not make clear and detailed calculations regarding production costs and monthly income. They only know that their business is considered successful and profitable if they sell their products and receive more than they spend. Even though craftsmen have to consider many other aspects so that their business can be profitable and make a large contribution to the income earned. In addition, fluctuations in soybean prices will have a significant impact on Tempe's income (Tempo, 2022).

2. METHODS

This research was conducted in November 2022 in Arongan Village, Kuala Pesisir District, Nagan Raya Regency. The method of determining the sample uses the census method, namely all populations are used as research samples. Therefore, 2 soybean entrepreneurs in Kuala Pesisir District and so on will be sampled in this study (Sugiyono, 2017). The data used in this study consisted of primary by means of interviews with respondents and secondary obtained from previous research. The object of this study is the income derived from the tempe processing industry in Kuala Pesisir District.

To calculate the amount of income from the tempe processing industry, several stages are carried out, namely:

a. Revenue (Total Revenue/TR)

The first stage in determining the amount of income, is to first calculate the acquisition of the business revenue.

b. Income

Revenue is the net gain of a business actor by deducting revenue from total costs (Soekartawi, 2002). The income earned by the business will then be measured and compared with the Aceh UMP to see how high or low the income generated is. The Nagan Raya Regional Minimum Wage (UMR) for 2022 is Rp. 3,165,030 per month (BPS Nagan Raya, 2022). The criteria in question are:

1. If income > UMR, then the business income is high
2. If income < UMR, then the business income is low.

a. Break Even Point analysis

Break Even Point analysis is carried out based on BEP in BEP Units in rupiah. The BEP in units according to division (2021) can be calculated by:

$$BEP_{Unit} = \frac{FC}{P}$$

Description :BEP Units :Break Even Point in Units

FC : Total Cost (Rp)

P : Selling Price (Rp)

The calculation that must be achieved so that the company does not suffer losses or gain profits is usually called the Rupiah BEP. Systematically BEP in rupiah according to Bagio (2021) can be calculated by:

$$BEP_{Rupiah} = \frac{FC}{Q}$$

Description :BEP Units :Break Even Point in Rupiah

FC : Total Cost (Rp)

Q : Total Production

3. RESULTS AND DISCUSSION

Tempeh Processing Characteristics

The characteristics found in the tempe processing industry in Kuala coast consist of the entrepreneur's age, education, and business experience. Age is a long number of a person's life, this is closely related to behavior and performance in a business activity.

Table 1. Age of Tempe Processed Entrepreneurs in Research Locations

No	Age (Years)	Number of people)	Percentage (%)
1	< 15	0	
2	15 - 55	2	100
3	> 55	0	
Amount		2	100

Table 2 shows information on the age of tempe processed entrepreneurs who are fully in the age range of 15-55 years as many as 2 entrepreneurs with a percentage of 100%. This means that entrepreneurs are at a productive age (Abdullah, 2006). Often the younger the age, the workforce tends to have a dynamic and strong physique, so that age becomes one of the determinants of an entrepreneur's productivity. On the other hand the level of education also contributes to the productivity of an entrepreneur. The level of entrepreneur education can be seen in table 2

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Table 2. Educational Level of Tempe Processed Entrepreneurs in Research Locations

No	Level of education	Number of people	Percentage (%)
1	Not completed in primary school	0	
2	SD	0	
3	JUNIOR HIGH SCHOOL	0	
4	SENIOR HIGH SCHOOL	2	100
5	College	0	
Amount		2	100

Table 2. Shows information on the level of education achieved by entrepreneurs who are fully in high school equivalent, totaling 2 people with a percentage of 100%. Entrepreneurs think that education is important. In this case entrepreneurs are skilled in reading, writing and calculating so that they are capable of making decisions. Besides that, experience is also a determinant in the productivity of an entrepreneur.

Table 3. Experiences of Tempe Processed Entrepreneurs in Research Locations

No	Age (Years)	Number of people	Percentage (%)
1	< 5	1	50
2	5 - 10	1	50
3	> 11	0	
Amount		2	100

Table 3. Information was obtained that there were 1 entrepreneur with experience <5 years with a percentage of 50% and in the range of 5-10 years there was also 1 person with a percentage of 50%. Both of them already have experience so that it is easy to determine a policy and are more skilled in their work and have a fairly good understanding (Abdullah, 2006).

Process of Making Tempeh

The process of making soybean tempeh consists of soaking, grinding, washing, boiling, cooling, adding yeast and packaging and finally fermenting. There are very important stages in the process of making tempeh including soaking, boiling and fermentation. In the fermentation process of making tempeh occurs twice, the first is when the soybeans are soaked in water. In this soaking occurs the formation of organic acids such as lactic acid, and also acetic acid caused by the growth of bacteria. According to Putra (2020) this also causes soybeans to be in an acidic state which allows fermentation by the fungus *Rhizopus* sp.

Costs in the Tempeh Processing Business

Cost is an economic sacrifice, generally measured in units of money that has occurred or is likely to occur for a particular purpose. The costs contained in this study consist of fixed, variable and labor. Fixed costs are costs that are not used up in one production run. The amount generally depends on the output to be achieved and is still issued even though there is no production process such as equipment depreciation costs. In one production period there are 6 days and there are 2 production processes. The depreciation costs in this study during the production period consist of buckets, boilers, filters, racks, furnaces, moulds, fans and others.

Table 4. Depreciation Cost

No	Fixed cost	Total Depreciation Cost (Rp)	Average Depreciation Cost (Sunday)
1	Nut Splitter	76,666.66	9,583.33
2	Bucket	5833.33	729,17
3	Print	25,000.00	3125.00
4	Cormorant	50,000.00	6250.00
5	Filter	1250.00	156.25
6	Drying Rack	46,666.66	5833.33
7	furnace	12,500.00	1562.50

8	Basin	11833.33	1479,17
9	Dipper	1000.00	125.00
10	Fan	15,833.33	1979,17
Amount		246,583.30	30,822.91

In table 4. The largest depreciation costs are found in the peanut splitting machine. This tool has a role in splitting the beans after soaking and boiling. This tool is quite important because it can save time and labor in a shorter time compared to the manual. This tool has an average depreciation cost of Rp.9,583.33 during the production period. This nominal is obtained from the total depreciation on the peanut splitting machine divided by 2, because there were only 2 respondents in this study.

Table 5. Variable Costs

No	Variable Cost	Total Variable Cost (Rp)	Average Variable Cost (Rp)
1	Soya bean	2,325,000.00	1,162,500.00
2	Yeast	45,000.00	22,500.00
3	Banana leaf	144,000.00	72,000.00
4	Firewood	222,500.00	111,250.00
Amount		2,736,500.00	1,368,250.00

Variable costs are costs used in one production period, namely for 6 days and are used up. The highest cost is found in soybeans because soybeans are the main raw material in this industry, amounting to IDR 1,162,500.00. Soybean is very important because you cannot get a product without the main raw material.

Table 6. Labor Costs

No	Variable Cost	Total Variable Cost (Rp)	Average Variable Cost (Rp)
1	Workforce (2 people)	1,440,000.00	720,000.00
Amount		1,440,000.00	720,000.00

There are two banana leaf tempe processing industries in Arongan Village, each of these industries has 2 employees with a wage of Rp. 60,000 per day. Whereas in one production run there are 6 days so that in one production run each business incurs labor costs of Rp. 720,000 with a total of Rp. 1,440,000 from these two industries so that the average labor cost to be paid is Rp. . 720,000.

Total Costs, Receipts and Revenues

Acceptance is the reward obtained from the amount of production multiplied by the selling price. Meanwhile, income is the difference between receipts and total costs. For more details, total receipts and income can be seen in table 7.

Table 7. Receipt and Revenue Per Production Period

No	Number of Products	Product Selling Price (Rp)	Revenue (IDR)	Total Cost (Rp)	Income (IDR)
1	1,350	2000.00	2,700,000.00	2,027,187.50	672,812.50
2	1530	2000.00	3,060,000.00	2,210,958.33	849,041.67
Amount	2,880	4000.00	5,760,000.00	4,238,145.83	1,521,854.18
Average	1,440	2000.00	2,880,000.00	2,119,072.91	760,927.09

Table 7. There is information on the average product produced in one production period of 1,440 packages of banana leaf tempeh and has a selling price per pack consisting of Rp. 2,000/pack. So that the average revenue obtained is Rp. 2,880,000.00. Besides that, there is an average total cost generated, namely Rp. 2,119,072.91 so that an average income of Rp. 760,927.09 per production period. If it is assumed that in one month, the revenue generated will reach Rp. 3,043,708.35. If seen based on the

Nagan Raya UMR in 2022, this income is still relatively low because the Nagan Raya UMR is Rp. 3,165,030. However, the income from the business of making tempe is not much different from the UMR Nagan Raya.

Tempe processing has a unit break-even point of 1,060 tempe packs. If it is less than this value then the business will incur a loss while if it is more then the business will get a profit (profit). Meanwhile, the breakeven point for the rupiah is Rp. 1,472.58 which means that if the revenue received is less than this figure, the business will experience a loss and vice versa if the income received is more than this figure, the business will make a profit.

R/C Ratio

A business will benefit if the revenue obtained is greater than the total business costs incurred. So it is necessary to analyze the R/C ratio to see whether the business is profitable or not and whether it is feasible to develop or not. The tempe business developed in Kuala Pesisir District obtained an R/C ratio of 1.36, which means that this business is profitable and feasible to develop because the value generated is > 1.

4. CONCLUSION

The income earned per month is low because it is smaller when compared to the UMR Nagan Raya in 2022, namely Rp. 3,165,030. The unit break-even point is 1,060 packets of leaf tempeh and the rupiah break-even point is Rp. 1472.58. The R/C ratio obtained is 1.36 which means that this business is profitable and feasible to develop.

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