

INCOME ANALYSIS AND DEVELOPMENT STRATEGY OF BROWN SUGAR FROM PALM SAP (*Elaeis guineensis Jacq*)

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Abstract

Serdang Bedagai, is one of the production centers for processing palm sap into brown sugar, this business requires a well-planned concept that produces alternative strategies. This research aims to analyze the income and development strategy of palm oil palm nira brown sugar business in Serdang Bedagai. This research uses quantitative analysis methods to determine the level of income and business feasibility analysis of brown sugar from palm sap and descriptive analysis to explain SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats) to see the internal environment, namely strengths and weaknesses and the external environment, namely opportunities and threats of brown sugar from palm sap business. The results showed an income level of IDR. 18,039,877 and an R/C feasibility analysis of IDR. 1.14 that the brown sugar from palm sap business is feasible. The business development strategy of palm sap brown sugar is in quadrant I (1,22 and 1,92). Namely by increasing the production capacity of brown sugar from palm sap, expanding new customer segments, improving the quality of palm nira brown sugar processing. This is very possible to see from the availability of abundant raw materials and high market demand.

Keywords : *Brown Sugar, Palm Sap, Income, Feasibility Analysis, Strategy.*

1. INTRODUCTION

Background

Oil palm (*Elaeis guineensis Jacq*) is a plantation commodity that plays an important role in the Indonesian economy as one of the contributors to foreign exchange from the non-oil and gas sector. Oil palm has a productive period in general of approximately 25 years, after which oil palm plants must be rejuvenated. Before being rejuvenated, oil palm plants can be utilized for sap in making sugar. One of the latest innovations regarding the utilization of oil palm is palm sap which is used as palm sap brown sugar. When viewed in terms of the income of brown sugar processors, producing brown sugar actually has the potential to increase their income but this has not been done optimally due to various internal problems both in the production process, processing, marketing and institutions. Therefore, a policy is needed from the local government to develop brown sugar products as an effort to improve the welfare of brown sugar farmers who are part of the small household industry to be able to develop brown sugar products as one of the leading products.

Serdang Bedagai, is one of the production centers for processing palm sap into brown sugar. The processing of brown sugar from palm sap is still done on a household scale where the use of labor is mostly family labor. Although it is carried out on a household scale and is still traditional, the brown sugar processing activities in this village are still being carried out today. That is why this research was conducted with the aim of analyzing total costs, revenue, and income, analyzing business feasibility, and determining strategic strategies for the development of palm sap brown sugar efforts.

2. IMPLEMENTATION METHOD

Sampling Methods

Sample withdrawal is done by saturation or commonly called a census. The research was conducted in Serdang Bedagai Regency with a total sample of 45 people as palm sap brown sugar craftsmen.

Data Collection Methods

The data used in compiling this research are primary data and secondary data. Primary data is obtained from interviews and secondary data is obtained from literature, books, and data from related agencies in this study.

Data Analysis Methods

Farming Income Analysis

Revenue or profit is the difference between revenue and all costs (Soekartawi, 2006). Farm analysis analysis can be used to see how much the success of farming activities and to benchmarks for the design of future conditions. to come. Farm income is multiplication between the volume of production obtained with the selling price (Soekartawi, 2006). To calculate farm income farm income required two main information namely the state of expenditure during the farm is run in the specified time and the overall revenue. and overall revenue. Farm income is the value of money received from the sale of farm products farm products which can take three forms, namely proceeds from the sale of the product to be sold, sales of by-products, and products consumed by the household during farming activities.

Cost Acceptance Analysis (R/C ratio)

According to (Herlianto, Didit dan Triani Pujiastuti, 2009) the level of business income can be measured using the analysis of revenue and cost analysis (R/C Ratio) which is suggested on the calculation of financial financial calculation. This analysis shows the amount of business revenue that will be obtained entrepreneurs for every rupiah of costs incurred for business activities. spent on business activities. If the R/C Ratio is greater than 1 ($R/C > 1$) means that every additional cost incurred will generate additional revenue that is greater than additional costs or in simple terms business activities are profitable. If the value of R/C Ratio is smaller than 1 ($R/C < 1$) means that the additional costs incurred will generate additional revenue which is smaller than the additional cost or in simple terms, the business activity experiences loss.

SWOT Analysis

The SWOT analysis aims to analyze the potential/strengths, weaknesses, opportunities, and threats of the palm sugar palm sugar business in Serdang Bedagai. Potentials and weaknesses are internal factors, while opportunities and threats are factors external. SWOT analysis is used to systematically identify various factors to formulate activity strategy. Analysis is carried out to maximize strengths, opportunities, and minimize weaknesses and threats. The decision-making process is always related to development mission, objectives, strategies, and policies. Thus, strategic planning must analyze the factors of the activity strategy (strengths, weaknesses, opportunities, and threats) according to current conditions (Rangkuti, 2018).

The environment is defined as a place that is inseparable from a condition, situation and event that influences the development of every business. Every business management tries to simplify it as much as possible through investigation/observation of various environmental factors. Therefore, it is necessary to establish criteria for studying the internal and external environment. The environment has a real influence on the probability of success and failure of agribusiness so that business opportunities and threats arise. Through opportunity analysis, a business strategy can be prepared by taking into account internal factor analysis, which consists of elements of business strengths and weaknesses farmer. Thus, the identification of strengths and weaknesses is directed at

exploiting opportunities and overcoming them threat. As an economic activity, palm sap brown sugar bussines is inseparable from environmental influences, namely internal and external factors. Internal factors consist of human resource education, productivity, capital, labor, and farming experience, while external factors include institutions, marketing, infrastructure, and government policy. According to (Hendayana, 2011), there are three stages of activities carried out in a SWOT analysis, namely:

- 1) Data collection
- 2) Data analysis
- 3) Strategy formulation.

Based on the results of the SWOT analysis, several can be stated the palm sugar palm sugar business development strategy is as follows:

1. S–O strategy: maximizing potential/ power to seize opportunities. This strategy is aggressive
2. S–T strategy: maximizing potential/strength to overcome threat. This strategy leads to diversification efforts.
3. W–O strategy: minimizing weaknesses/obstacles to seize opportunities. This strategy means investment or divestment.
4. W–T strategy: minimize weaknesses and obstacles to overcome the influence of threats. This strategy is defensive or defensive.

3. RESULTS AND DISCUSSION

The brown sugar from palm sap industry is a business of processing palm sap into brown sugar located in Serdang Bedagai Regency. The brown sugar palm sap industry in Serdang Bedagai Regency, in its processing process, uses workers from within the family and outside the family. In the process of processing palm sap into brown sugar, it starts with the process of logging oil palm trees. Oil palm trees that have been felled are oil palm trees that no longer produce fruit (infected with ganoderma disease) or usually also referred to as old trees that have reached the age of over \pm 20 years. Then the palm fronds are peeled, the fronds are peeled to get the core of the oil palm stem. The core of the oil palm stem is white and has a rough texture. After stripping, the oil palm trees that have been peeled cannot be tapped immediately, the oil palm trees that have been peeled are allowed to stand for 2-3 days, after that only then can the oil palm trees be tapped. Then it is filtered to avoid dirt around the tapped oil palm trees.

Next, the process of boiling the palm sap is carried out for 1-2 hours. To cook the sap for ripening, the cooking method is to put 8 kg of white sugar (as a coloring agent) then the boiled sap is put into a 10 liter cauldron after that, put back 17 kg of white sugar, in one cooking the ratio is 25 kg of white sugar and 10 liters of sap so 40 will produce 30 kg of palm sugar palm sap. As for the way to see how the palm sap is ripe, namely the palm sap solution is placed in a container filled with clean water, if the palm sap solution has hardened when held, it means that the palm sap has cooked into brown sugar. After it is ready to be cooked, the palm sugar is molded using a mold made of bamboo so that the palm sugar has a circular shape. Then the palm sugar palm sugar is packaged using cardboard, usually each box contains 25 kg of brown sugar.

Farming Income Analysis

Average Fixed Costs and Variable Costs in Brown sugar from palm sap Business/month

Description	Amount (IDR)
Production cost	
A. Fixed cost (TFC)	
Equipment cost	4.201.556
B. Variabel cost	
- Raw material	5.260.556

- Labor	7.410.000
- Additional inputs	103.493.200
Total Variabel Cost (TVC)	116.163.756
Total Production Cost (TC)	120.365.312

Source : Primary Data (processed, 2023)

The amount of fixed costs and variable costs incurred in the palm sugar palm sap business where the total production cost of palm sap brown sugar reaches an average of IDR 120,365,312 per month. The total fixed costs incurred are IDR 4,201,556 per month and the total variable costs incurred for raw materials, labor, and additional input costs are IDR 116,163,756 per month. Of the Variable cost components, the highest allocation of production costs is used to purchase additional input materials in the form of sugar, firewood, lime, cardboard and plastic which spends an average of IDR 103,493,200 per month.

Average Receipts from Brown sugar from palm sap Business

No	Description	Amount (IDR)
1.	Production (Kg)	9.227
2.	Price (IDR/Kg)	15.000
3.	Receipts(IDR)	138.405.000

Source : Primary Data (processed, 2023)

The average amount of brown sugar production is 9,227/kg per month with an average selling price of brown sugar of IDR 15,000 per craftsman. The average revenue obtained from the brown sugar business is IDR 138,405,000 per month.

Average Income from Brown Sugar Business Per Month

No	Description	Amount (IDR)
1.	Total receipts	138.405.000
2.	Total cost	120.365.312
	Income	18.039.877

Source :
Primary
Data

Primary Data (processed, 2023)

The total revenue of the brown sugar business is Rp. 138,405,000 per craftsman/month with an average total production cost of Rp. 120,365,312 per craftsman/month, so it can be seen that the amount of profit for brown sugar craftsmen. The net income earned by brown sugar craftsmen is IDR 18,039,877 per craftsman/month.

Feasibility Analysis of Brown Sugar from Palm Sap Business

$$R/C = \frac{138.405.000}{120.365.312}$$

The value of the R/C Ratio obtained by the brown sugar business is 1.14 which is obtained by dividing the total amount of revenue of IDR 138,405,000 per farmer/planting season with a total production cost of IDR 120,365,312 per craftsman/month. This shows that the palm sugar palm sugar business in Serdang Bedagai District is feasible to run, because the R/C Ratio obtained from the brown sugar business is greater than 1.

IFE Matrix Analysis

Based on the IFE matrix, the difference between the total score of strengths and weaknesses is 1.22 ($x > 0$), the score for strength is 1.98 and the score for weakness is 0.76 which means that the strength is greater than the weakness. So the aspect of strength is greater than the aspect of weakness in the development of palm sugar palm sugar business. Furthermore, the most dominant strength factor is a profitable business with a value of 0.34 while the most dominant weakness is packaging that is less attractive with a value of 0.18.

EFE Matrix Analysis

Based on the EFE matrix, shows that the difference in the total score of opportunity and threat is 1.92 ($X > 0$), with an opportunity score of 2.37 and a threat score of 0.46 which means that the opportunity is greater than the threat. In other words, there are opportunity factors that are able to support the development of the brown sugar from palm sap business in Serdang Bedagai to deal with threats. The most dominant opportunity is the growth of the target market with a value of 0.54. While the most dominant threat is the many competitors between craftsmen with a value of 0.20.

IE Matrix Analysis

IE matrix analysis was carried out to determine the position of the brown sugar from palm sap business. The total internal factor score of the brown sugar palm sap business is 2.75, while the total external factor score of the palm sugar palm sap business is 2.83. Based on the IE matrix above, it is known that the position of the palm sugar palm sugar business is in cell V. Cell V indicates the palm sugar palm sugar business is in a hold and maintain position. There are two strategies that can be done in this position. According to (Winardi, 2014) alternative strategies used in this position are market penetration and product development.

SWOT Matrix Analysis

The results of the analysis on the IFE matrix obtained a total strength score (subtotal strength) of 1.98 and a total value of weakness (subtotal weakness) of 0.76 and the difference between the two total scores between strengths and weaknesses is 1.22, while in the matrix EFE obtained a total opportunity score (subtotal opportunity) of 2.37 and a total threat score (subtotal threat) of 0.46 so that the difference between the two total scores between opportunities and threats is 1.92.

Then the strategy that can be applied to this quadrant is the SO/Aggressive (positive, positive) strategy, namely using all strengths to take advantage of existing opportunities. The aggressive strategy implemented is to increase the production capacity of brown sugar from palm sap, expansion of new customer segments, improve the quality of palm sap palm sugar processing. This strategy is very likely to be implemented in the palm sugar business considering the raw materials that are widely available and high market demand.

		Strength	Weakness
		IFE	<ol style="list-style-type: none"> 1. Produk tahan lama 2. Ketersediaan bahan baku 3. Proses produksi sederhana 4. Agen dan Pelanggan tetap 5. Harga mampu bersaing 6. Lokasi usaha strategis 7. Usaha menguntungkan
EFE			
Opportunity		Strategi S-O	Strategi W-O

1. Inovasi Produk	1. Meningkatkan kapasitas produksi gula merah nira kelapa sawit (S2, S3 – O2, O3)	1. Menghubungkan pola kemitraan (W4, W5, O3, O4)
2. Produk substitusi	2. Perluasan segmen pelanggan yang baru (S5, O4)	2. Mengembangkan jaringan informasi pasar (W2, W4, O2, O4, O5)
3. pertumbuhan target pasar	3. Meningkatkan kualitas pengolahan gula merah nira kelapa sawit (S1 – O1, O3)	
4. potensi daerah mendukung		
5. Produk ciri khas daerah		
Threat	Strategi S-T	Strategi W-T
1. Produk belum terlalu dikenal	1. Kebijakan pemerintah yang mendukung agribisnis gula merah nira kelapa sawit (S2, S6, S7 T1, T2, T3)	1. Membangun fasilitas pendukung agribisnis gula merah nira kelapa sawit(W1, T1)
2. Pengrajin usaha beralih	2. Meningkatkan citra produk agar dapat	2. Meningkatkan koordinasi dan kerja sama antar semua pihak terkait (W4, W5, T4,T2,)
3. Kurangnya dukungan pemerintah (bumdes)	3. bersaing dengan produk lain (S1, S4, S5, S7 – T1, T3)	3. Meningkatkan promosi untuk memperluas pemasaran (W2, W3, T3)

4. CONCLUSION

The average production cost is Rp. 120,365,312/month, with an average revenue of Rp. 138,405,000/month, and income from the palm sugar palm sugar business of Rp. 18,039,877. Based on the results of data processing for the palm sugar business, it shows that the value of the R/C ratio obtained by craftsmen is 1.14 where the R/C ratio is greater than 1 (1.14 > 1). Then the business is declared economically feasible to run, and the results of the SWOT analysis, the palm sugar business in Serdang Bedagai Regency is in quadrant I, namely the Aggressive (positive, positive) strategy which is implemented, namely the SO strategy which increases the production capacity of palm sugar palm sap, Expansion of new customer segments , improve the quality of processing palm sugar palm sap. This is very possible to see from the abundant availability of raw materials and high market demand.

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