# Analysis of Business and Added Value of Cassava Agroindustry in Harjowinangun Village Belitang Medang Raya District East Oku Regency

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Abstract: Agroindustry using material cassava main. Kelanting is widely produced by the home industry (Home Industry). In this home industry, the use of its workforce involves workers from inside and outside the family to carry out production activities. The author wishes to conduct a business analysis and value-added of cassava twigs with the formulation of the problem regarding: (1) how the system of processing of cassava twigs, (2) how much the business value (costs, acceptance, and income) on the cassava branches, (3) how much is the value-added (costs, receipts, and income) to cassava twigs. The purpose of this study is to find answers to the formulation of the problem. Based on the results of the study it can be concluded as follows: (1) In one production, the total cost of cassava wandering home industry is Rp 4,715.,000, - the total home industry revenue of cassava wandering is Rp 9,450,000, -, the total profit of home industry cassava wandering Rp. 4,735,000. (3) Cassava twisting production can provide the added value of Rp.5,500 / kg with a value-added ratio of 0.61% of the production value.



## 1 INTRODUCTION

### 1.1 Background

The agricultural sector, in its agribusiness perspective, with its role in the national economy, provides several things that show the advantages that should be considered in national development. These advantages include seeing the high added value of agro-industry. With this contribution to the national economy, the agribusiness sector is increasingly driven by the development of existing technology. The development of this technology is because there is still something wrong faced by the agro-industry, including:

a. Provision of regular raw materials in the form of adequate quantity and quality, as well as competitive prices which are still a complicated issue for agro-industry. Moreover, these raw materials must be purchased on the free market from small farmers whose locations are scattered.
b. Marketing because the products produced are of poor quality, it is often very difficult to market products with attractive packaging and labels.
c. The transportation of agro-industrial products tends to be expensive because of the matter of long distances. Thus the development of agro-industry located in the production center area or in the area of raw material production itself needs to be a concern.

Because the development of agro-industry is related to the objectives of rural area development and the involvement of rural human resources so that it can introduce additional activities or treatments to commodities after they are harvested, which can later obtain added value from the commodity produced. The potential of cassava to be a commodity should not be underestimated. The development of the cassava cultivation business is very open because various types of industries use cassava as raw material. Approximately 14 types of derivatives are made from processed products made from cassava, both gablek, chips, pellets, and tapioca flour. The domestic market needs, for example, in the food and beverage industry (chips, syrup), textile industry, building materials industry (casts, ceramics), paper industry, and animal feed industry. Whereas export opportunities for export destinations of the European Economic Community, Japan, Korea, China, United States of America, are used as pharmaceutical raw



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materials, raw materials for the glue industry, raw materials for the paper industry, raw materials for the animal feed industry, or even as raw materials for fuel alternative biofuels.

## 1.2 Problem Formulation

Some of the problems that want to be investigated in this study include:

a. How is the processing of twigs from cassava?
b. 2. How big is the business value (cost, revenue, income, and R / C ratio) on the twigs of cassava?
c. How much is the added value to the twigs from cassava?

## 1.3 Research Objectives

The objectives to be carried out are as follows:

a. Knowing the processing of cassava twigs that have been applied.
b. Know the value of the business (cost, revenue, income, and R / C ratio) on cassava branches.
c. Knowing the added value of cassava twigs.

## 1.4 Usefulness of Research

The results of this study are expected to be useful:

a. The cassava twigs industry, in particular, is expected to open up insights and provide an overview of their business in decision making.
b. As a source of information for interested civil and private institutions.
c. As a comparison and reference material for future researchers or similar researchers.

# 2 RESEARCH METHOD

## 2.1 Types and Data Sources

The type of data collected includes primary data and secondary data. Primary data obtained using the method of direct interviews with respondents with a list of questions that have been prepared. The primary data taken in this study are data on costs, revenues, and processing revenue from cassava and business profile or background.

Secondary data is data or information derived from village documentation, libraries, relevant literature, and agencies such as Balai or Dinas Offices, as well as the results of previous research relating to the topic to be examined.

## 2.2 The Research Methods

The Research was carried out in KarangBinangun Village, Belitang Madang Raya District, East OKU Regency with a quantitative method, namely describing the results using Cost Analysis and Value Added Analysis. With both analyzes to determine the decision of the processing industry of cassava twigs.

## 2.3 Data Analysis Method

With the data that has been collected in accordance with the formulation and objectives of the study, then checking the nature of the data by tabulating the data. Data obtained from the results of the research are processed and analyzed using the following methods:

### 2.3.1 Cost Analysis Cost

The analysis is used to determine the number of production costs incurred by producers of twigs from cassava and to determine the total costs incurred. Systematically it can be calculated using the formula:
TC = FC + VC ……..…… (1)
Where:
TC = Total Cost (stated in Total Cost)
FC = Fixed Cost, e.g., Depreciation of Equipment, Land and Building Leases, expressed in Rp.
VC = Variable Cost (Variable Costs / Non-Fixed Costs, e.g., Raw Materials, Labor, Electricity, and Fuel, expressed in Rp)

### 2.3.2 RevenueRevenue

The analysis used to determine the amount of revenue received by cassava producers in KarangBinangun Village. To find out the total revenue, mathematically it can be calculated using the formula:
TR = P x Q ……..……... (2)
Where:
TR = Total Revenue (Total Revenue, expressed in Rp)
P = Price (stated in Rp)
Q = Quantity (Production amount)

### 2.3.3 RevenueRevenue

The analysis used to determine the amount of income received by producers of cassava twigs. To find out the total income mathematically can be calculated using the formula:
π = TR - TC ……...…… (3)
Where:
π = Profit / Revenue
TR = Total Revenue (Total Revenue, stated in Rp)
TC = Total Cost (Total Cost, expressed in Rp)

### 2.3.4 Business Efficiency Analysis

To measure the level of business efficiency in the production process of cassava, twigs used R / C ratio analysis with the formula:
R / C ratio = TR / TC …….... (4)
Where:
TR = Total Revenue
TC = Total Cost
If the analysis results:
R / C ratio> 1, then the business is efficient and profitable to be attempted.
R / C ratio = 1, then the business has no loss and no profit (break-even).
R / C ratio <1, then the business is inefficient or unprofitable to be attempted.

### 2.3.5 Value Added

The amount of added value due to the processing process is obtained from the reduction in the cost of raw materials plus other inputs to the value of the product produced. Added value is a reward for labor and processing profits. To test the hypothesis that processing raw materials provides added value revealed by Hayami et al. (2007).

Table 1. Value Added Analysis Format

| No | Variable | Notation |
|---|---|---|
| 1. | Production Results (Kg / Day) | a |
| 2. | Raw Materials (Kg / Day) | b |
| 3. | Labor (hours / Day) | c |
| 4. | Conversion Factors (1/2) | a / b = m |
| 5. | Labor Coefficient (3/2) | c / b = n |
| 6. | Average Product Prices (Rp / Hour) | d |
| 7. | Average Wages (Rp / Hour) | e |
| 8. | Raw Stock Prices ( Rp / hour) | f |
| 9. | Other input contributions (Rp / kg) | g |
| 10. | Production Value (4x6) (Rp / kg) | mxd = k |
| 11. | Added value (9-8) (Rp / kg)<br>Value Added Ratio (11a / 10) (%) | kfg = l<br>l / k = h |
| 12. | Employee Benefits (5x7) (Rp / Kg)<br>Labor (12a / 11a) (%) | nxe = p<br>p / l = q |
| 13. | Gains ( 11a-12a) **<br>Profit Rate (13a-11a) (%) | lp = r<br>r / l = o |

*Source: Sudiyono (2001) The*

The basis for calculating this value-added analysis is per kilogram of production. The standard price of raw materials and production results used are standard prices at the processor (producer) level. The amount of added value due to the processing is obtained from the reduction of raw materials and other inputs from the value of the product produced, not including labor, in other words, the added value describes the rewards for labor, capital, and management which can be stated as follows:

Value Added = f (K, B, T, U, H, h, L)

Note:
K: Production Capacity
B: Amount of raw materials used
T: Labor involved.
U: Labor wages
H: Output Price
h: Price of Raw Materials
L: Value of other inputs (the value of all sacrifices that occur during the treatment process to add value)

From the calculation results will be produced as follows:

a. Estimated value added (in Rupiah)
b. The ratio of value-added to the value of the product produced (in Percent)
c. Employee benefits (in Rupiah)
d. Benefits for capital and management (in rupiah).

## 2.4 Scope

This research is focused on added value and business feasibility. The object being studied is cassava producers.

# 3 RESULTS

## 3.1 Receipts

Receipts represent the number of products produced in the production process multiplied by the selling price of the product. Each producer of cassava twigs has a different reception. This difference is due to varying production capacities. With a different selling price of each respondent between Rp. 16,000 up to Rp. 20,000, the average selling price obtained from each respondent is Rp. 18,000 per kg. The acceptance of cassava twigs is Rp 9,450,000, with a production capacity of 525 kg in one production.

## 3.2 Revenue / Profit

Revenue or profit will be obtained after knowing the cost and revenue value. All cassava twig business owners have positive (profitable) income. The total income of the cassava twig business is Rp 4,715,000 in one production for 5 cassava twig business owners. The lowest to the largest income in a single production is Kosim (Rp. 666,000) with a percentage of 1.6%, Topic (Rp. 774,000), Slamet (Rp. 900,000),

Kasiman (Rp. 1,150,000,), and finally Bolot (Rp. 1,225,000) with the highest percentage of 52.8%.

### 3.3 R / C Ratio

BC ratio analysis is used to determine the level of efficiency in the processing of cassava twigs financially. The efficiency of the home industry can be determined by calculating the per cost ratio, which is the division between the revenue of a business and the total cost of production.

Table 1. Total Revenue and Total Cost Kelanting Once Cassava in Process

| No. | Description | Value (US $) |
|---|---|---|
| 1. | Total Revenue | 9.45 million, - |
| 2. | Total Cost | 4.735 million, - |

Source: Primary Data Processed, 2019.

After learning the value of receipts and cost value, then the R / C ratio value can be calculated.

R / C Ratio = IDR 9,450,000 / IDR 4,735,000
= 1.9957 or equivalent
= 2

R / C ratio on cassava branches at 1.9957 or 2, which means R / C ratio> 1, the business is efficient, and this business is profitable. An R / C ratio of 1.9957 or 2 means that spending 1 unit will generate revenue of 1.9957 or 2 units. For example, if you pay a fee of Rp 100,000, - it will generate revenue of Rp 199,570, or Rp 200,000, -.

### 3.4 Value-added Analysis

In the processing industry of agricultural products can create added value and labor benefits. The purpose of this analysis is to measure how much-added value is found in 1 (one) kg of cassava branches. The results of the figure show how much of 1 (one) kg of cassava twigs provide work benefits for workers. If the added value is high, then agro-industry will have more role in providing workers' income. As a basis for calculating added value is per kilogram of raw materials. For clarity, an analysis of the value-added of cassava twigs can be seen in the table.

In the home industry of cassava twigs, it can be seen that using cassava as much as 1,313 kg can produce 625 kg of cassava twigs. Cassava twig business uses 25 HK labor/ day. Thus, the labor coefficient needed to process 1,313 kg of cassava is 0.01. The average product price is IDR 18,000 / kg, with a conversion factor of 0.5. This can be interpreted that 1 kg of cassava can produce cassava twigs by 0.5 kg. Thus, the production value in this cassava twig business is Rp. 9,000. This production value can be allocated for cassava raw materials in the amount of Rp 1,500 and other input contributions (cassava spice material) in the amount of Rp 2,000.

The value-added from the production of cassava twigs is Rp.5,500 / kg. This value is obtained from the value of the product, reduced the price of raw materials, and the contribution of other inputs. So when making cassava twigs 100 kg of cassava raw materials, it will get an added value of Rp 550,000, - with a value-added ratio of 61% of the production value.

From the results of data processing in this study, it was found that labor costs Rp. 715 / kg. So it means that every use of 1 kg of cassava raw materials, the workers get a reward of Rp. 71500 or 13% of the added value. While the profit gained from the cassava twisting business is Rp 4,785 / kg of raw materials with a profit rate of 87% of the added value in the cassava twisting business.

## 4 CONCLUSIONS

Based on the results of research conducted, business analysis and value-added analysis of cassava twigs can be concluded that:

a. The total receipts of each household production in one production are as follows: Kasim (Rp. 666,000, -), Topics (Rp. 774,000, -), Slamet (Rp. 900,000), Kasiman (Rp. 1,150,000), and Bolot (Rp. 1,225,000).
b. The total profits from each household production in one production are as follows: Kasim (Rp. 203,500, -), Topics (Rp. 367,366, -), Slamet (Rp. 412,150, -), Kasiman (Rp. 546,752, -), and Bolot (Rp. IDR 580,924.
c. The R/ C value of the cassava crackers ratio is 1.9967 or 2. This indicates the return on investment is almost or close to 100%.
d. The value-added from the production of cassava crackers is Rp5,500 / kg, with a value-added ratio of 61% of the production value. So when making cassava crackers 100 kg of cassava raw materials, it will get an added value of Rp 550,000.
e. Employee benefits for cassava crackers are IDR 715 / kg or 13% of the added value, while the benefit to business owners is IDR 4,785 / kg or a percentage level of 87% of the added value in the cassava twisting business.

Table 2. Value Added Analysis Format

| No | Variable | Notation | Value / Amount |
|---|---|---|---|
| 1. | Production Results (Kg / Day) | a | 625 |
| 2. | Raw Materials (Kg / Day) | b | 1,313 |
| 3. | Labor (hours / days) | c | 25 |
| 4. | Conversion Factors (1/2) | a / b = m | 0.5 |
| 5. | Labor Coefficient (3/2) | c / b = n | 0.01 |
| 6. | Average Product Prices (Rp / Hour) | d | 18,000 |
| 7. | Average Wages (Rp / Hours) | e | 70,000 |
| 8. | Price of Raw Baha (Rp / Hour) | f | 1,500 |
| 9. | Other Input Donations (Rp / Kg) | g | 2,000 |
| 10. | Production Value (4x6) (Rp / Kg) | mxd = k | 9,000 |
| 11. | a. Value added (9 -8) (Rp / Kg)<br>b. Value Added Ratio (11a / 10) (%) | kfg = l<br>l / k = h | 5,500<br>61% |
| 12. | a. Labor Benefits (5x7) (Rp / Kg)<br>b. Labor Section (12a / 11a ) (%) | nxe = p<br>p / l = q | 700<br>0.13 |
| 13. | a. Profit (11a-12a) **<br>b. Profit Rate (13a-11a) (%) | lp = r<br>r / l = o | 4,800<br>0.87 |

*Source: Sudiyono( 2001)*

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