

Comparative Analysis of Added Value of Sago-Based Food Products, Biscuit and Bagea Cake

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Abstract

Sago is one of the potential carbohydrate-producing plants in Indonesia that can be used for food diversification. This study aims to analyze the added value of various types of sago products processed by household sago processing industries in Bacan District, Halmahera Selatan Regency. The method used is the determination of informants determined by snowball sampling (the number depends on the field conditions), namely 5 stakeholder informants consisting of community leaders, entrepreneurs, the Regency Agriculture Office and the Industry and Trade Office, as well as 7 sago processing informants. The analysis used to determine the sago processing industry business used cost, revenue, income, profit, and value-added analysis. With the research results, namely the added value for bagea processing is IDR 11,400 and sago biscuits are IDR 72,400 for each kilogram. Meanwhile, the added value ratio for bagea processing is 81.43% and sago biscuits are 96.53%. This shows that the development of sago processing industries provides positive added value.

Keywords: Sago, Value added

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INTRODUCTION

Sago is one of the potential carbohydrate-producing plants in Indonesia that can be used for food diversification and is an alternative during a food crisis and can be utilized for environmental management, control, and preservation (Bintoro, 2008).

Sago is a staple food substitute for rice for people who have minimal rice plants. Generally only consumed in the form of bars or plates, but can also be processed into various variations of food and snacks, namely biscuits and bagea. The potential of sago in South Halmahera, North Maluku Province can be seen from the area and production of community sago plantations in the table below:

Table 1. Area and production of North Maluku people's sago plantations

No	Years	2013 - 2015	
		Area	Produvtion (Ton)
1	2013	3.332	1.235
2	2014	3.292	1.192
3	2015	3.293	1.714

RESEARCH METHODS

Tools and Materials

The tools and materials used in this study were questionnaire sheets, pens, notebooks, cameras and sound recorders



Research Stages

The research location is Amasing Kota Village, Bacan District, South Halmahera Regency. This research is designed with a case study. The case unit is the sago processing home industry with the main focus on the sago processing sector and its contribution to local community food consumption in Bacan District, South Halmahera Regency

Informants are determined by snowball sampling (the number depends on field conditions), namely 5 stakeholder informants consisting of community leaders, entrepreneurs, the Regency Agriculture Service and the Industry and Trade Service and 7 sago processing informants.

Analysis Method

The analysis used to determine the sago processing industry business uses cost analysis, revenue, income, profit and added value with the following equation (Hayami, 1987 in Awami, 2012):

$$TC = FC + VC$$

$$TR = Y.PY$$

$$Pd = TR - TC$$

Table 2. Hayami's Method in Finding Added Value

No	Variables	Value
Output, Input and Price		
1	Output (kg/production period)	A
2	Input (Kg/production period)	B
3	Labor (production period)	C
4	Conversion factor	$D = A/B$
5	Labor Coefficient (kg)	$E = C/B$
6	Output price (IDR/kg)	F
7	Labor Wages (IDR)	G
Income and Added Value (IDR/kg)		
8	Raw material price (IDR/Kg)	H
9	Other input price (IDR/kg)	I
10	Output value (IDR/kg)	$J = D \times F$
11	Added value (IDR/kg)	$K = J - H - I$
12	Value added ratio (%)	$L = K/J \times 100\%$
13	Labor income (IDR/kg)	$M = E \times G$
14	Labor share (%)	$N\% = M/K \times 100\%$
15	Profit (IDR/kg)	$O = K - M$
16	Profit rate (%)	$P\% = O/J \times 100\%$
Remuneration for production factors		
17	Margin (IDR/kg)	$Q = J - H$
a.	Labor (%)	$R\% = M/Q \times 100\%$
b.	Capital (contribution of other inputs) (%)	$S\% = I/Q \times 100\%$

c. Profit (%)

$$T\% = O/Q \times 100\%$$

Description:

A = Output/total production produced by household industry

B = Input/Raw materials used to produce sago

C = Labor used in producing sago calculated in HOK (workers' day)

F = Product price applicable in one analysis

G = The average amount of wages received by workers in each production period calculated based on HOK (workers' day)

H = The input price of the main raw material, namely sago, per kilogram during the analysis period

I = Contributions/Other input costs consisting of costs of auxiliary raw materials, depreciation costs and packaging costs

The Value Added Criteria are:

- a. If $NT > 0$, it means that the development of the sago industry provides added value (positive)
- b. If $NT < 0$, it means that the development of the sago industry does not provide added value (negative).

RESULTS AND DISCUSSION

Table 3. Monthly Business Analysis Data of the Sago Processing Industry in Bacan District, South Halmahera Regency, 2022

Sago Processing Business			
No	Description	Bagea Cake	Bsicut
1	Receipt		
	- Production	2.800	4.500
	- Selling price (IDR)	1.000	1.000
	- Production value (IDR)	2.800.000	4.500.000
2	Sago Processing Business Costs		
	a. Fixed Cost		
	- Depreciation of equipment (IDR)	40.833	45.000
	Total Fixed Cost (a)	40.833	45.000
	b. Variable Costs		
	- Raw materials	520.000	156.000
	- Other input costs	569.000	1.695.000
	- Labor	500.000	500.000
	Total variable costs (b)	1.589.000	2.351.000
	Total costs (a+b)	1.629.833	2.396.000
	Profit (IDR)	1.170.167	2.104.000

Source: Processed data (2022)

Table 4. Analysis of Added Value of Sago Processing Household Industry per Month in Bacan District, South Halmahera Regency, 2022

No	Variables	Value	Pancake Sago	Bagea Cake	Sago Biscuits
Output, Input and Price					
1	Output/production	A	3.600	2.800	4.500

	results (Plate/month)				
2	Input/raw materials (kg/month)	B	900	200	60
3	Labor HOK (workers' day)	C	48	48	102,86
4	Conversion Factor	$D= A/B$	4	14	75
5	Labor Coefficient	$E= C/B$	0,05	0,24	1,71
6	Output Price (IDR/Plate)	F	1.667	1.000	1.000
7	Labor Wages (IDR/workers' day)	G	41.667	41.667	41.667
Income and Added Value (IDR/Kg)					
8	Raw Material Price (IDR/kg)	H	2.600	2.600	2.600
9	Other Input Price (IDR/kg)	I	497	3.029	29.000
10	Output Value (IDR/kg)	$J= D \times F$	6.668	14.000	75.000
11	Added Value (IDR/kg)	$K= J-H-I$	3.571	11.400	72.400
12	Value Added Ratio (%)	$L\% = K/J \times 100\%$	53,55	81,43	96,53
13	Labor Income (IDR/kg)	$M= E \times G$	2.222	10.000	71.429
14	Labor Share (%)	$N\% = M/K \times 100\%$	62,23	87,72	98,66
15	Profit (IDR/kg)	$O=K-M$	971	1.400	971
	Profit Rate (%)	$P\% = O/J \times 100\%$	14,58	10,00	1,30
Production Factors Remuneration					
	Margin (IDR/kg)	$Q=J-H$	4.068	11.400	72.400
	a. Labor (%)	$R\% = M/Q \times 100\%$	54,63	87,72	98,66
	b. Capital (Other input contribution) (%)	$S=I/Q \times 100\%$	12,22	26,57	40,06
	c. Profit (%)	$T\% = O/Q \times 100\%$	23,87	12,28	1,34

Source: Processed data (2022)

According to Hayami in Awami. (2012), Value added is the increase in the value of a commodity due to processing, transportation or storage in a production process. In the processing process, value added can be defined as the difference between the value of the product and the value of the cost of raw materials and other inputs, excluding labor. While the margin is the difference between the value of the product and the price of the raw materials only. This margin includes the components of the production factors used, namely labor, other inputs and compensation for processing entrepreneurs.

1. Raw materials

The raw material of sago used in processing bagea is 200 kilograms with a purchase price of IDR 2,600 per kilogram, which can produce 2,800 pieces of bagea with a selling price of IDR 1,000 per piece, while for sago biscuits, with 60 kilograms of sago raw material with a purchase price of IDR 2,600 per kilogram, it

can produce 4,500 pieces of sago biscuits with a selling price of IDR 1,000 per piece.

2. Labor

The labor used in the sago processing process during the analysis period is 48 HOK for sago plates and 48 HOK for bagea with a working time of 4 hours and 102.86 HOK for sago biscuits with 5 working hours assuming 1 HOK is equal to 7 working hours. The labor coefficient for sago plates is 0.05 HOK with 4 working hours, bagea is 0.24 HOK with 4 working hours and biscuits is 1.71 HOK with 5 working hours.

3. Wage Value

The average wage value received per person-day is the total value of labor wages in the processing process carried out during 1 production process divided by the number of person-days (HOK) used during one production process. This average value is then converted with the labor coefficient to obtain the amount of compensation received by workers. Based on Table 17, the labor wage value (HOK) is IDR 41,667 for sago slab labor, IDR 41,667 for bagea labor, while for sago biscuits it is IDR 41,667 per production..

4. Value-added

Added value is obtained by subtracting the product value from the price of raw materials and other input contributions per kilogram. The added value for bagea processing is IDR 11,400 and sago biscuits is IDR 72,400 for each kilogram. While the ratio of added value in bagea processing is 81.43% and sago biscuits is 96.53%

CONCLUSION

The value added ratio in bagea processing is 81.43% and sago biscuits is 96.53%. This shows that the development of the sago processing industry provides added value (positive).

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