



Analysis of Added Value of Coconut Processing into Virgin Coconut Oil (VCO) in The Al-Huda Household Business in Lasalepa Village, Lasalepa District, Muna Regency

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Abstract

This study aims to determine the process of processing coconuts into Virgin Coconut Oil (VCO) and the amount of added value obtained from processing coconuts into Virgin Coconut Oil (VCO) in the Al-Huda household business in Lasalepa Village, Lasalepa District, Muna Regency. This research was conducted in December 2022-April 2023 and used primary and secondary data types and sources. Analysis of the data used to determine the process of processing coconut into VCO is a qualitative descriptive analysis and to determine the value added from processing coconut into VCO using Hayami's added value analysis method. The results showed that the process of processing coconut into VCO went through several stages, namely: peeling and cleaning the coconut flesh, grating and squeezing the coconut milk, separating water and coconut juice, fermentation, filtering and packaging. Meanwhile, the additional value obtained from processing coconut into VCO is IDR 36,008/kg coconut, where this value consists of business or processing profits of IDR 32,883 and labor benefits of IDR 3,125. Remuneration for the owners of production factors is the largest in operating profit of 87.7% while labor income is 8.3% and the contribution of other inputs is 4%.

Keyword: Processing of Virgin Coconut Oil (VCO), Value-Added, Profit





INTRODUCTION

Indonesia as an agricultural country makes the agricultural sector one of the sectors that plays an important role in the country's economic growth. Land area, geographical conditions and developments in agricultural technology also support the development of agriculture in Indonesia so that it can produce superior commodities. The development of the agricultural sector cannot be separated from the role of agro-industry as a bridge that connects upstream activities in the agricultural sector with downstream activities in the industrial sector. Therefore, the development of the agricultural sector must be followed by the development of agro-industry because it can increase the number of workers, farmers' income, export volume and foreign exchange, domestic and international market share.

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Coconut is one of the plantation crops that grows throughout Indonesia. According to the Central Statistics Agency (2021), national coconut production reached 2.85 million tons, which increased by 1.47% from the previous year which amounted to 2.81 million tons. Southeast Sulawesi, which is one of the provinces in Indonesia, also contributes to the national coconut production. Southeast Sulawesi Province coconut production in 2019-2021 shows an unstable trend with total production in 2021 reaching 43,795 tons.

Coconut is an agricultural commodity and is also a food ingredient that is widely consumed by the public. Muna Regency, which is one of the highest coconut producing districts in Southeast Sulawesi province, uses coconuts as a source of livelihood. In general, the use of coconuts in Muna Regency starts from the leaves which are processed into ketupat shells and lapa-lapa, the bones of the leaves are processed into broomsticks, the coconut stems are processed into boards, the coconut water is processed into candy and the coconuts are processed into copra, fried coconut, cooking oil. and VCO.

Muna Regency consists of 22 sub-districts within it. Lasalepa District is one of the sub-districts in Muna Regency. This sub-district has a village also called Lasalepa which cultivates





coconuts in gardens and in house yards. In general, the people of Lasalepa Village cultivate coconuts for personal consumption and to sell directly. Coconuts are consumed directly or after being processed into coconut milk, copra, fried coconut, cooking oil and VCO. VCO (Virgin Coconut Oil) is high quality coconut oil with low water content and free fatty acid content, clear color, fragrant smell, no cholesterol content and shelf life for 12 months (Rindengan, 2005). The contents and benefits of VCO make this oil much sought after by the public as a health supplement.

Lasalepa Village is a village in which there is a small industry known as the Al-Huda household business. This household business processes coconuts into VCO which is owned by Mrs. Wa Indara and has been running for 7 years. The main raw material for making VCO, namely coconut, is obtained from private gardens or from traders collecting coconuts and then processing it independently using simple household equipment so that it can produce high added value. Added value is a change in value due to the treatment of inputs during the production process (Marimin, 2010). Calculating the added value of processing coconut into VCO aims to determine the added value of this processing. The added value from processing coconut into VCO will create a higher selling price for new products.

An increase in raw material prices will make it difficult for producers to carry out production because producers will experience a lack of funds and obstacles in obtaining production raw materials. In general, an increase in the price of raw materials for production is followed by an increase in the selling price of the product, however, in the Al-Huda household business, the business owner has maintained the selling price of VCO from 2015 until now even though there have been changes in raw material prices. Apart from that, from calculating the added value of manually processing coconut into VCO from the price of coconut raw materials of IDR 100,000, an added value of IDR 600,000 will be obtained. This is what prompted researchers to conduct research entitled "Analysis of the Added Value of Processing Coconut into VCO (Virgin Coconut Oil)" to find out more about the added value of coconut into VCO in the Al-Huda household business in Lasalepa Village, Lasalepa District, Muna Regency.



METHOD

This research was carried out from December 2022 to April 2023 in Lasalepa Village, Lasalepa District, Muna Regency. This research is a type of case study research, namely research carried out in depth and detail on a particular business. The subjects in this research were parties involved in Al-Huda household business activities in Lasalepa Village, Lasalepa District, Muna Regency. The number of subjects in this research is one person, namely the business owner and worker at the Al-Huda household business in Lasalepa Village, Lasalepa District, Muna Regency. The method used in this research is qualitative descriptive analysis and the Hayami method of added value analysis.

RESULTS AND DISCUSSION

Respondent Identity

Table 1. Respondent Identity

No	Component	Result
1	Name	Wa Indara
2	Age	56 Years
3	Last education	High School
4	Length of Business	7 Years

In general, age level influences a person's physical ability and thinking ability in carrying out a business activity. The age groupings in this study were determined based on the classification of the Central Statistics Agency, those included in the productive age population are those aged 15-65 years, while those classified in the non-productive age group are those aged under 15 years and over 65 years. The research results show that the age of the Al-Huda household business owner is 56 years, this means that the business owner is included in the productive age group in carrying out business activities.

Generally, the level of education has an influence on the productivity of a worker. The higher the level of education pursued, the ability and quality of work will also increase. The research results show that the last level of formal education taken by Al-Huda household business owners was SMA (High School). The success of a business is not only determined by the high level of education an entrepreneur has taken because in fact there are many entrepreneurs who do not have a higher education and are successful in running their business.



Ability and will, strong determination and hard work, as well as opportunity and opportunities are factors that can encourage business success and sustainability (Suryana, 2014).

Business experience is knowledge gained while carrying out business activities. According to Soeharjo and Patong (1984), business experience is divided into three criteria according to the length of time the business has been running, business age of 5 years is included in the inexperienced criteria, 5-10 years is included in the fairly experienced criteria, and over 10 years is included in the experienced criteria. Based on the research results, the Al-Huda household business has been running for 7 years, which means that the business owner is included in the criteria for entrepreneurs who are experienced enough in running a coconut processing business into Virgin Coconut Oil (VCO).

Business Characteristics

The business characteristics in this research are: the process of processing coconut into Virgin Coconut Oil (VCO), labor, raw materials, contribution of other inputs, production costs (labor wages, raw material prices, transportation costs), production results, product prices, value add and profit.

The process of processing coconut into VCO starts from the stage of peeling and washing the coconut, then the cleaned coconut is grated using a grater machine and squeezed by adding enough water, the coconut milk is left in a transparent container until two layers are formed, namely coconut milk and water which are separated using a small hose. Coconut milk that has been separated from water is fermented for 12 hours in a closed and warm place. After 12 hours three layers will form and the top layer is oil which is filtered using a filter lined with tissue. The filtering is done twice before being packaged in a clean container. The results of the research show that overall the stages of processing coconut into Virgin Coconut Oil (VCO) in the Al-Huda household business are in accordance with the provisions of the Indonesian National Standard (2008) and are the same as the process of processing coconut into VCO in general as described by Setiaji and Surip (2006) in Romualdus (2019), the only difference is the length of time used to separate the water and coconut juice and the final stage, namely how to remove the oil formed from the fermentation process and the filtering method. The stage of removing and filtering the oil in the process of processing coconut into Virgin Coconut Oil (VCO) as explained by Setiaji and Surip is carried out using a small hose and then filtered, different from Al-Huda's household business where the process of removing the oil uses a spoon and filtered using a coated filter. several sheets of tissue so that the filter results are really clean and do not contain water.



The main raw material used in the Al-Huda household business in Lasalepa Village, Lasalepa District, Muna Regency is ripe coconut trees. The ripe old coconut tree in question is a coconut that is not picked directly but is a coconut that is left to ripen and falls by itself from the tree. To meet the raw material needs of the Al-Huda household business, the business owner takes it directly from his private garden and buys it from coconut collectors in Lasalepa Village and Sidodadi sub-district which is adjacent to the village where the business is located. The research results show that the raw material costs incurred by Al-Huda household business owners are IDR 6,250/kg of raw materials. Production activities are carried out 3 times a month with the aim that the products marketed are always in new condition so that the quality of the product can be maintained in the hands of consumers. The amount of raw materials used by the Al-Huda household business in one month is 48 kg of coconut with the use of 16 kg of raw materials per production.

Table 2. Labor Wages

No	Number of Workers	Work Frequency (Production/Month)	Working Time Per Production (Hours)	Total Working Time	HOK (Day People Work)
1	1	3	8	24	3

Based on Table 2, the coconut processing business into VCO in Lasalepa Village, Lasalepa District, Muna Regency uses 1 worker. Workers process VCO 3 times in the production process with a time spent of 8 hours/production. The results of this research show that the range of working hours in one month is 24 hours with a worker's wage of IDR 50,000/HOK.

Table 3. Cost Of Auxiliary Materials

No	Auxiliary Materials	Unit	Amount	Price (Rp)	Total Cost (Rp)
1	Tisu	Lembar	25	1.000	1.000
2	Air	Liter	40	0	0
Total					1.000

Table 3 shows that the Al-Huda household business uses supporting materials in the form of tissue which is used to line filters during the filtering stage of oil from fermented coconut

juice. Based on the research results, the total amount of auxiliary materials in the form of tissue used in one month is 75 sheets with a total cost of IDR 3,000. The use of other auxiliary materials is 40 liters of water in one production and 120 liters in one month but it does not require costs because it is available without purchase.

Table 4. Equipment Depreciation Costs

No	Name of Aqipment	Quantity (Unit)	Price (Rp)	Total Cost (Rp)	Economic Life (Years)	Depreciation (Rp/Month)
	(1)	(2)	(3)	(4)=(2)x(3)	(5)	(6)=(4)/(5)/12
1	Machete	1	50.000	50.000	8	521
2	Grating Machine	1	450.000	450.000	10	3.750
3	Wringing Cloth	5	5.000	25.000	1	2.083
4	Pans	3	20.000	60.000	7	714
5	Round Containers	2	15.000	30.000	8	313
6	Filters	2	15.000	30.000	7	357
7	Light Balloons	2	10.000	30.000	1	2.500
8	Spoon	1	3.000	3.000	10	25
9	Hose	1	5.000	5.000	6	69
10	Funnel	1	5.000	5.000	8	52
11	Water Flask	1	150.000	150.000	10	1.250
Total				838.000		11.634

Table 4 shows that the total cost of equipment incurred for processing coconut into Virgin Coconut Oil (VCO) in the Al-Huda Dalam household business is IDR 838,000, with total equipment depreciation costs in a month amounting to IDR 11,634. The largest equipment depreciation cost during the VCO production process is a grater machine with a value of IDR 3,750/month and the lowest equipment depreciation value is a spoon with a cost of IDR 25/month. The amount of depreciation depends on the purchase price of the equipment used

and the economic life of the equipment.

Table 5. Equipment Costs

No	Component Expenditure	Cost/Month (Rp)
1	Transportation	30.000
2	Electricity	5.000
3	Packs	21.000
Total Cost		56.000

Based on Table 5, the transportation costs incurred in a month are IDR 30,000, where these costs are used to purchase and deliver raw materials to the business location. The electricity costs used to start the grating machine during the grating process are IDR 5,000 and the packaging costs are the costs incurred to purchase VCO packaging, namely a 500ml glass bottle at a price of IDR 21,000. The total cost of equipment incurred by the Al-Huda household business is IDR 56,000.

Table 6. Product Prices And Business Revenues

No	Production Frequency	Quantity of Raw Materials (Kg)	Quantity of Products (L)	Price Rp/L	Revenue (Rp/Month)
1	1	16	3,5	200.000	700.000
2	2	16	3,5	200.000	700.000
3	3	16	3,5	200.000	700.000
Total		48	10,5		2.100.000

Price is the amount of value received by the business owner when consumers purchase a product. You must pay attention to determining the selling price of the product because price plays an important role in determining the size of the profit that Mrs. Wa Indara will get as the owner of the Al-Huda household business. The research results show that the price of Virgin Coconut Oil (VCO) in the Al-Huda household business is IDR 200,000/L with a total VCO product in one month of 10.5 L so that the total revenue is IDR 2,100,000/month.

Table 7. Calculation Of Added Value Of VCO

No	Output, Input and Price	Result
1	VCO production yield (L/month)	3,5
2	Coconut raw materials used (Kg/month)	16
3	Labor (HOK)	1

4	Conversion factor = $(1/2)$	0,21875
5	Labor coefficient	0,0625
6	Average product price (Rp/L)	200.000
7	Average labor wage (Rp/HOK)	50.000
	Revenue and Profits	
8	Price of coconut raw materials (Rp/Kg)	6.250
9	Other input contributions (Rp/Kg)	1.492
10	Product value = (4×6) (Rp)	43.750
11	Value added = $(10 - 9 - 8)$ (Rp/Kg) Value added ratio = $(11a/10) \times 100\%$	36.008 82,3
12	Labor benefits = (5×7) (Rp) Labor share = $(12a/11a) \times 100\%$	3.125 8,7
13	Profit = $(11a - 12a)$ (Rp) 13 Profit rate = $(13a/11a) \times 100\%$	32.883 91,3
	Remuneration for Owners of Production Factors	
14	Margin $(10 - 8)$ (Rp/Kg) Direct labor income = $(12a/14) \times 100\%$ Business profit = $(13a/14) \times 100\%$ Other input contributions = $(9/14) \times 100\%$	37.500 8,3 87,7 4

Based on the added value calculation in Table 7, the Al-Huda household business in processing coconut into Virgin Coconut Oil (VCO) uses 16 kg of coconut raw material/production, thus producing 3.5 liters of VCO in 1 production process. The workforce counted in this research is the workforce involved in the business activities of processing coconut into VCO. The Al-Huda household business in Lasalepa Village, Lasalepa District, Muna Regency, uses 1 worker with a working day of 1 HOK in one month with an average of 1 production.

The conversion factor in the business of processing coconut into VCO is 0.21875, meaning that every 1 kg of coconut raw material processed will produce 0.21875l L of VCO. The labor coefficient for processing coconut into VCO is 0.0625, meaning that to process 1 kg of coconut raw materials, a workforce of 0.06225 HOK is required.



The average price of VCO products is IDR 200,000/L with the average labor wage paid by Al-Huda household business owners being IDR 50,000 per production process. The coconut raw materials processed by the Al-Huda household business are obtained from coconut collecting traders in Lasalepa Village and its surroundings at an average price of IDR 6,250/Kg.

The cost components included in the contribution of other inputs to the Al-Huda household business are the costs of auxiliary materials, equipment depreciation costs and equipment costs. The total cost of contributing other inputs is IDR 23,878 in one production process while the main raw material used is 16 kg. Based on the comparison of these values, the value obtained for the contribution of other inputs is IDR 1,492/kg. Product value is the product of the conversion factor (0.21875) and the average product price (Rp. 200,000). The result of multiplying these two values produces a product value of IDR 43,750/kg of raw material.

The added value of processing coconut into VCO obtained from the calculation results is IDR 36,008/kg of coconut raw material, so the added value obtained in one production is IDR 576,128. The added value of VCO in the Al-Huda household business is different from the added value of VCO in Enok District which is calculated per kg of raw materials so that the result is IDR 3,500 with a value added ratio of 20.83%. The value obtained from the calculation results is gross added value, meaning that this value is not the final value that the business owner will receive because it includes a part of labor wages. The added value ratio is the value obtained from comparing the added value obtained with the product value and then multiplied by 100% so that the result is 82.3%, meaning that from a product value of IDR 43,750/Kg there is 82.3% added value from the VCO product. Based on the Hubeis criteria test, the added value ratio of processing coconut into VCO in the Al-Huda household business is included in the criteria for high added value because it has a percentage value of > 40%.

Labor compensation is IDR 3,125/kg of coconut raw material, meaning that 1 kg of raw material requires IDR 3,125 labor compensation. Meanwhile, the labor share is a comparison between labor compensation and added value, namely 8.7%, meaning that of the added value obtained amounting to IDR 36,028 there is an 8.7% labor share. The profit obtained was IDR 32,883. Meanwhile, the profit rate was 91.3%. The results of this research are different from previous research conducted by Nina Sawitri where in the research conducted by Nina Sawitri the labor compensation obtained was IDR 3,000/kg with a percentage of 29.17%. Apart from that, there is also a difference in the profits obtained by the Al-Huda Household business compared to previous research conducted by Nina Sawitri, namely IDR 68,520 per production.

The remuneration for the owners of production factors consists of a margin which is the





difference between the product value and the price of raw materials, amounting to IDR 37,500. Direct labor income is a ratio of labor compensation and a margin of 8.3%. Business profit is 87.7% of the comparison between profit and margin. Meanwhile, the contribution of other inputs is 4% of the comparison of the contribution of other inputs and margin.

CONCLUSION

The process of processing coconut into Virgin Coconut Oil (VCO) at the Al-Huda household business is carried out using simple methods and equipment. The process stages start with peeling and washing the coconut, grating and squeezing the coconut milk, separating the water and coconut juice, fermentation, filtering the oil and packaging. The added value obtained from processing coconut into Virgin Coconut Oil (VCO) in the Al-Huda household business is IDR 36,008/Kg of raw material and is included in the criteria for high added value because it has a percentage value of > 40%, namely 82.3% .

REFERENCE

- Central Bureau of Statistics. 2021. Plantation Production by Province and Crop Type (Tons), 2020 and 2021.
- BPS SULTRA. 2021. Plantation Production by Regency/City and Plant Type (Tons), 2019 and 2020. Central Statistics Agency for Southeast Sulawesi.
- BPS SULTRA. May 2022. Plantation Production by Regency/City and Plant Type in Southeast Sulawesi Province (Thousand Tons). Southeast Sulawesi Central Statistics Agency.
- Fatahilah, Y. H., & Marimin, H. (2010). Performance analysis of supply chain for beef cattle: Case study at PT Kariyana Gita Utama, Jakarta. *Journal of Agricultural Industrial Technology*, 20(3).
- Hubeis, M. (1997). Towards Professional Small Industries in the Era of Globalization through Industrial Management Empowerment.
- Rindengan, B., Karouw, S., Lay, A., Goniwala, E., & Terok, M. (2005). Virgin Coconut Oil Production Protocol. Final Research Report. Research Institute for Coconuts and Other Palms, Manado.
- SNI-7381-2008. 2008. Virgin Coconut Oil (VCO). Jakarta: Indonesian National Standards Council.
- Soeharjo A, Patong D. 1984. Basic joints of farming. Hasanuddin University. Edge of View
- Suryana. 2014. Entrepreneurship: Tips and Processes for Success. Jakarta: Selamba Empat

