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Analysis of Added Value of Patchouli Leaves into Patchouli Oil in Mowila District, South Konawe Regency

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ABSTRACT

Patchouli is a source of income for the people of Mowila District, Konawe Selatan Regency, but it still faces various obstacles. Processing its value into essential oil is one of the efforts to increase the added value of patchouli. This research was conducted in Mowila District, South Konawe Regency. The population in this study is the farming community that processes patchouli oil, totaling 20 people with a sample of 20 people because all populations are used as samples. The variables in this study were the identity of the respondents including the farmer's age, education level, farming experience, and number of family dependents. The results show the process of processing patchouli oil through dry leaf raw materials then distillation, filtering, separation, and after that cooling, and the final stage of packaging patchouli oil. And the amount of added value obtained is Rp. 18,245/Kg or 33.70%/production in the category (Medium Ratio) and a profit of Rp. 29.005 or a ratio of 15.90%.

***Keywords**: Added Value, Patchouli Oil, Patchouli Processing.*

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INTRODUCTION

The agricultural sector in the view of agribusiness has the advantage of increasing the added value of agro-industry. For example, processing a product into a product that has been processed and will last longer and is also ready for consumption. Given this, it is very necessary for an agro-industry to avoid the properties of products that are easily damaged (bulky).

This advantage can be seen from the high added value of agro-industry. With this contribution, the domestic economy in the agribusiness sector accelerates the development of available technology (Kamisi, 2011). The role of the agricultural sector is clearly seen in the receipt of domestic foreign exchange through the sale of outgoing goods (exports), fulfillment of domestic consumption and raw materials, and the acquisition of added value (Herdhiansyah, 2018). Patchouli plant is a plant in the form of oil. essential oil and known as Patchouli Oil. Plants with the type of patchouli (Pogostemon cablin Benth), namely plants in plantations that produce oil known as essential oils have a high value in the world. Plants are a high economic contributor to Indonesia, more than 50% of Indonesia's total essential oil exports (Hariyani, 2015).

Patchouli oil (patchouli oil) is an essential oil obtained from the process of distilling the leaves, stems and branches of the patchouli plant, this oil is a type of oil used in the manufacture of industrial centers such as soaps, types of cosmetics and perfumes. (Rahmadina, 2020). According to Maisarah (2017) in his research which aims to determine the percentage of profitability and the percentage of added value ratio obtained, this research also determines the amount of added value and the ratio obtained so that this research is in line with this research, but does not identify the process of processing patchouli oil in more

detail, so that in the research that was conducted in Mowila District, South Konawe Regency, this study identified the process of processing dried patchouli leaves into patchouli oil in order to provide a clearer explanation of the amount of added value obtained from this processing.

Patchouli commodity is one of the plantation products produced on Indonesian dry land in South Konawe Regency. Data obtained from the Konawe Regency Central Bureau of Statistics. South 2021 describes the total amount of oil production. Patchouli has experienced an increase and decrease in recent years, for example production in 2018 reached 8,883 Kg, increased in 2019 to 9,140 Kg but experienced a very drastic decrease in 2020, namely 1,440 Kg. This is because patchouli plants during the Covid-19 pandemic resulted in decreased patchouli production. Efforts are needed to increase farmers' income by processing to increase the added value of farmers, patchouli oil products to improve the community's economy (BPS. South Konawe Regency, 2021)

The main problem in patchouli cultivation activities in Mowila District, South Konawe Regency, to the process of refining patchouli oil, is that the price of patchouli oil often fluctuates and the government's lack of attention to farmers, starting from the planting season, infrastructure to product price stability, etc. In addition, there is a lack of counseling on patchouli cultivation to farmers which can improve the quality and quantity of yields so that it can affect the amount of production from patchouli oil processing.

The real added value is the added value of a product because an element of product processing is better. With the existence of industrial centers that have high economic value, after processing they will provide added value because there are costs incurred to form new ones and higher prices and profits if not through processes such as processing will be reduced. smaller than before. The purpose of this study was to determine the process and added value of patchouli oil processing in Mowila District, South Konawe Regency. This means that the community can develop a larger production business and the added value obtained is higher from patchouli oil processing in Mowila District, Konawe Selatan Regency.

METHOD

This research was conducted in Mowila District, Konawe Selatan Regency in March 2022. The research location was determined purposively (Fatria et.al, 2017) with the consideration that Mowila District is used as an area with a lot of processing. patchouli oil (BPS. South Konawe Regency, 2021). The research population is patchouli farmers who process patchouli oil as many as 20 people. The research sample was determined by the census method (Rianse and Abdi, 2008). Types and sources of data in research using primary data and research data collection processes using interviews, observation, and documentation. Research variables include production costs (raw materials, patchouli oil prices, and other input contributions), product value, added value, and labor (wages). The data analysis used in answering the research objective was to determine the processing and added value of patchouli oil in Mowila Regency, namely by using descriptive analysis method, qualitative analysis, and Hayami analysis.

RESULTS AND DISCUSSION

Characteristic of Respondents

In general, the identity of the respondents in the patchouli oil dried patchouli leaf processing business in Mowila District South Konawe Regency includes: age, education level, number of family dependents and farming experience. In detail about the identity of respondents in the patchouli oil processing business can be seen in Table.1.

Table 1. Identity of Respondents in Patchouli Oil Processing Businesses in Mowila District, South Conawe, Year 2022.

No	Description	Average	Category	Percentage (%)
1.	Age	35 years old	Productive	100
2.	Level of education	Senior High School	Middle education	80
3.	Number of family dependents	3 people	Small household	75
4.	Farming experience	3 years	Inexperienced	75

Source: Primary Data, 2022.

The age group of respondents in the patchouli oil processing business in the Mowila District is included in the productive category with an average of 35 years. This means that patchouli oil processing business activities in Mowila District are supported by farmers who have high physical abilities. According to Lasut (2017) Age is the number of an individual starting from birth to birthday, with sufficient age, indicators of maturity and strength will become more mature when thinking and working. The age level determines that a farmer greatly influences the farmer's ability both physically, how to manage farming or how to think (Maramba, 2018).

Education level in patchouli oil processing business in Mowila District. South Konawe Regency is dominated by farmers who are at the secondary education level by 80% of the total respondents, the rest are farmers who are at the basic education level which is equal to 5% and higher education level is 15% of the total respondents. Based on these conditions, it shows that in general there are still many farmers in the District of Mowila in the patchouli oil processing business who have not pursued formal education up to the higher education level. So to change the mindset and add insight to farmers, counseling and training are needed in improving the patchouli oil processing business. (Maramba, 2018) Education level is the number of years that have attended formal education that has been taken at school. Education will greatly affect the behavior and rate of adoption of an innovation.

The number of family dependents in the patchouli oil processing business in Mowila District, South Konawe Regency, is dominated by farmers who have a number of family dependents that fall into the small household category (an average of 3 people), namely 75% of the total respondents. The number of family dependents affects income in a farm, the number of family members is a human resource that can play a role in increasing family businesses (Ruauw, 2011) meaning that with the same family dependents it greatly influences income from patchouli oil processing businesses in Mowila District in increasing value-added. Meanwhile, the remaining 25% are farmers with 5-8 family dependents or belong to the medium household category. The more family members in a household, the more labor availability (Hernanto, 1999) means that with sufficient manpower, patchouli oil processing business activities do not require outside labour.

The business experience of respondents in the business of processing dry patchouli leaves into patchouli oil in Mowila District, Konawe Selatan Regency, in general, belongs to the less experienced category with a percentage of 75% with an average business experience of 3 years. The remaining 25% are in the fairly experienced category. This shows that there is a need for learning support and also training in patchouli oil processing to increase sources of knowledge about patchouli oil processing in Mowila District, Konawe Selatan Regency.

Patchouli Oil Processing Process

Patchouli oil processing techniques include: drying, chopping. Patchouli distillation (Sahwalita, 2016). Processing is a series of processes on a material that has not been processed to change its shape and composition (Udayana, 2011). The process of processing

dry patchouli leaves into patchouli oil in the Mowila sub-district, Konawe Selatan Regency is carried out by steam distillation which consists of several processes, including election material raw materials, drying, chopping, distillation (boiling), separation, screening and packaging Can be seen in Figure 1 below.

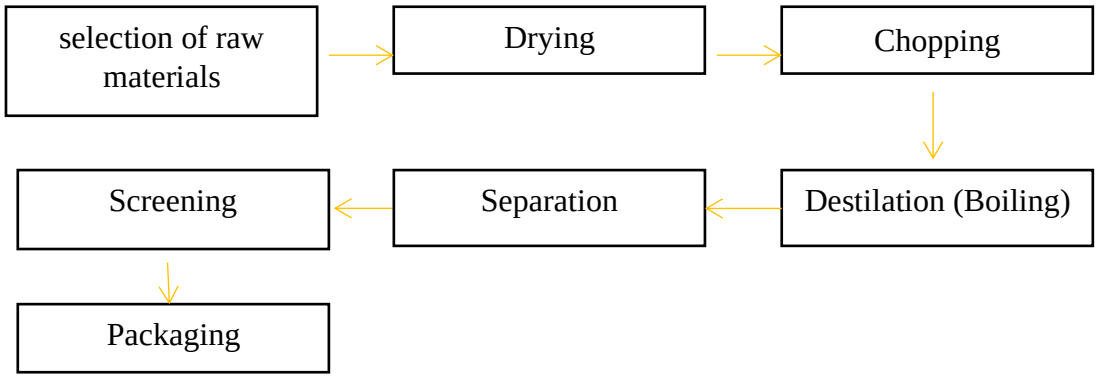

Figure 1. Patchouli Oil Processing Process

The process of processing patchouli oil is carried out (1). Put water into the pan up to the limit of the pan filter section. (2). Enter the dry patchouli leaves. (3). After the fuel is ignited, the distillation process will last for 12 hours with water changes in the pot done twice. (4). distillation has been going on for several hours, the water and oil will flow into the cooling bath through the spiral pipe in the cooling bath. (5). After the cooling process, the oil and water will flow into the pipe connected to the holding bucket. In the bucket there is foam which will immediately separate the water and oil where the water will sink and the oil will float. (6). After that the filtering process will be carried out using a special oil filter which is directly inserted into the available packaging. According to Ma`mun (2014) that the distillation method is steamed, parts of this distillation are the furnace, the distillation kettle, then the cooler and the oil reservoir/separator. In this way the dried patchouli leaves are placed on racks or perforated filters at a certain distance. The distilled kettle is filled with water until the water level is not far from the filter. The distinctive feature of this method is that the steam in the kettle is always wet, saturated and not too hot, also the material used is distilled only in contact with steam and not with hot water.

Raw material

Raw materials are things that are needed in the processing or in the activities of a farming business, due to the absence of raw materials standard means that there will be no product that can be produced in a business sector. especially in the patchouli oil processing business. In this processing requires an average of 545 kilograms with an average price of Rp. 4,925 dry patchouli leaves. With the use of water at the time of distillation as much as 150 liters per production. Sarwati *et.al* (2017), raw material costs are costs incurred by a company to obtain materials that will be used by the company to create and add use value obtained from nature and from suppliers. Raw materials can be in the form of natural resources or in an industrial context that requires raw materials and direct components used (Junaedi, 2016). Budiman (2015) with raw materials in all aspects such as the chemical industry and others. In choosing raw materials, you have to look at it in terms of its better shape as well as for maximum processing with the results obtained.

Energy Wages Work

Use labor is a factor that is needed in the sustainability and success of a business in patchouli oil processing, because there is a workforce as workers who directly process

patchouli oil in Mowila District, South Konawe Regency. The average use and wages of labor can be seen in Table 2.

Table 2: Average Labor Wage in Mowila District

No	Description	Unit	Mark
1.	Cooking patchouli	OK	2
2.	Wages	IDR/HOK	131,250

Source: Primary data processed, 2022

Table 2. Shows the average the number of patchouli oil processing workers is 2 HOK with a wage of Rp. 131,250/HOK. In the business of processing dry patchouli leaves into patchouli oil in Mowila District, South Konawe Regency.

Donations Input Other

Contribution to other inputs, namely a cost that has been incurred outside of the cost of raw materials and also labor costs. Donations other inputs have been obtained from the addition of costs other than raw materials with the output used got seen in Table 3.

Table 3: Average Contribution of other inputs in Mowila District

No	Description	Total price (IDR)
1.	Firewood	200,000
2.	Jergen (packaging)	26,000
3.	Water	0
	Amount	226,000
	Production average	7,3
	Average Contribution of other inputs	30,958

Source: Primary data processed, 2022

Table 3. Explains that the average yield of the use of donations. other inputs in the processing of dry patchouli leaves into patchouli oil is Rp. 30,958/production.

Total Admissions

Total revenue is a result of production of an initial activity from the use of input raw materials in the processing of patchouli oil in one production got seen in Table 4.

Table 4: Average Total Revenue in District Mowila

Production (Kg)	Selling Price (Rp/Kg)	Total (IDR)
7,3	398,000	2,939,500

Source: Data Primary processed, 2022

Table 4. Shows that the average total revenue generated from the processing of dry patchouli leaves into patchouli oil in Mowila District, South Konawe Regency is 7.3 kg/production with a selling price of Rp. 398,000/Kg.

Value Added Analysis

Added value analysis is needed in knowing the amount of an increase value from material raw materials that undergo a processing process. There is an increase in value added from primary agricultural products can increase competitiveness that supports the achievement of increasing domestic industrial development (Waryat, 2016). Marimin (2010) added value is something that changes the value produced due to the treatment of a usage in the production process that is carried out. The increase in the rate of added value to agricultural commodities always occurs in every supply chain from upstream to downstream.

The added value obtained from the processing of dried patchouli leaves into patchouli oil in Mowila District, South Konawe Regency using method analysis (Hayami, 1987) can be seen in Table 5.

Table 5. I that of 7.3 kg of dry patchouli leaves is processed for every kilogram of patchouli oil produced. 545 kilograms of dry patchouli leaves are the main raw material used in the production of patchouli oil. The result of the comparison input value is the conversion factor which has a value of 0.136, meaning every kilogram dry leaves produces 0.136 kilogram oil. Coefficient labor obtained from comparison between power work with input value materials raw as big 0.36. average price from processing patchouli oil amounted IDR 398,000 per kilogram oil. Average wage labor obtained from wages average worker cooks patchouli is 2 HOK.

Table 5. Analysis Value Add Method Hayami

No	Output, input and price	Mark
1.	Output (kg/process)	7,3
2.	Input (kg/process)	545
3.	Labor (HOK/process)	2
4.	Conversion factor =(1)/(2)	0.136
5.	Labor Coefficient = (3)/(2)	0.36
6.	Product price (Rp/kg)	398,000
7.	Labor Wages (Rp/HOK)	131,250
	Revenue and Profits	
8.	Price of raw materials (Rp/Kg)	4,925
9.	Contribution of other inputs (Rp/Kg)	30,958
10.	Product value = (4) x (6) (Rp/Kg)	54,128
11.	a. Value added = (10)-(9)-(8) (Rp)	18,245
	b. Value added ratio =(11a)/(10)(%)	33.70
12.	a. Labor benefits = (5) x (7) (Rp/Kg)	47,250
	b. Employment ratio=(12a/11a)(%)	25.9
13.	a. Profit (12a) – (11a) (Rp/Kg)	29,005
	b. Profit Rate (13a)/(11a) (%)	15.90

Source: Primary data processed, 2022

The price of raw materials or dry patchouli leaves in this study is an average of Rp. 4,925 per kilogram. Prices for other inputs are obtained from the total cost of production divided by the amount of production with a value of Rp.30,958 per kilogram of dry patchouli leaves. The added value obtained from the processing of dried patchouli leaves into patchouli oil is IDR 18,245 per kilogram of patchouli oil, this is obtained from the reduction of an output cost value, the cost of contributing other inputs and the cost of raw materials.

The resulting value added ratio of Rp. 33.70%. obtained from the division of added value and the output value of dried patchouli leaves then multiplied by one hundred. Labor compensation is a value of the labor coefficient multiplied by the average wage value of the workforce of IDR 47,250. per kilogram of patchouli oil with a labor ratio percentage of 25.9% which is obtained from labor rewards divided by the added value multiplied by 100. From the results of the added value calculation, the profit in processing patchouli oil in Mowila District is 29,005. with a profit rate of 15.90%.

Based on testing the added value of patchouli oil processing in Mowila District, Konawe Selatan Regency, it has an added value of Rp. 18,245 with a ratio of 33.70 percent which is categorized as medium, it is known that 15-40 percent or has a percentage above 15% and below 40%. Calculation of added value in the processing of patchouli oil provides a moderate profit. Based on the results obtained in the field, Mowila Subdistrict has a moderate level of value added ratio because it has a percentage of 15-40%. The profit obtained from this

processing is Rp. 29,005/kg. This figure is obtained from the added value minus labor benefits and a profit rate of 15.90%. So it is known that processors get added value from a process of processing dried patchouli leaves into patchouli oil.

CONCLUSION

Based on the results of this conclude a process processing oil District of Mowila South Konawe Regency includes: process of distillation (boiling), cooling, filtering of water mixed with patchouli oil and packaging of patchouli oil. The amount of value added in this study is IDR 18,245/Kg or 33.70% / production (medium ratio). This business belongs to the category of added value with a profit of IDR. 29,005 or a ratio of 15.90%.

REFERENCES

Badan Pusat Statistik. 2021. *Kabupaten Konawe Selatan Dalam Angka*. Konawe Selatan: Badan Pusat Statistik Konawe Selatan

Budiman. 2015. Analisis Pengaruh Tenaga Kerja, Bahan Baku Dan Teknologi Terhadap Nilai Produksi Pada Industri Percetakan Di Provinsi Riau. *jom FEKON*. 2:1-10. Url: https://www.neliti.com/id/publications/118014/analisis-pengaruh-tenaga-kerja-bahan-baku-dan-teknologi-terhadap-nilai-produksi

Fatria, M.A., Jahrizal & Pailis, E.A. (2017). Strategi Pengembangan Industri Rumah Tangga Di Kota Pekanbaru (Studi Kasus Usaha Jamur Crispy Industri Pengolahan Jamur Tiram). JOM Fekon, 4(1), 283-297. URL: https://jom.unri.ac.id/index.php/JOMFEKON/article/download/12291/11936

Hariyani EW, Ninui Herlina. 2015. Pengaruh Umur Panen Terhadap Rendemen Dan Kualitas Minyak Atsiri Tanaman Nilam (Pogoestemon Cablin Benth). *Jurnal Produksi Tanaman.* 3:205-211. Doi: 10.21176/protan.v3i3.186

Hayami Yujiro KT, Morooka Yoshinori,Siregar Masjidin. 1987. Agricultural Marketing And Processing In Upland Java A Perspective From Sunda Village. *CGPRT Centre*.(8):80: Bogor: The CGPRT Centre.

Herdhiansyah D. Asriani. 2018. Strategi Pengembangan Agroindustri Komoditas Kakao di Kabupaten Kolaka – Sulawesi Tenggara. *Jurnal Agroindustri.* 4(1):30-41. Doi: 10.30997/jah.v4i1.1124

Junaedi AD. 2016. *Pengantar Agroindustri*. CV. Mujahid Press.

Kamisi HL. 2011. Analisis Usaha Dan Nilai Tambah Agroindustri Kerupuk Singkong. *Jurnal Ilmiah Agribisnis Dan Perikanan.* 4. Doi: https://doi.org/20.29239/j.agrikan.4.2.82-87

Lasut, LL Imerlda W. J. Ogi. 2017. Analisis Perbedaan Kinerja Pegawai Berdasarkan Gender, Usia Dan Masa Kerja (Studi Kasus Pada Dinas Pendidikan Sitaro). *Jurnal EMBA.* 5. Doi: https://doi.org/10.35794/emba.v5i3.17155

Ma`mun (2014). "Petunjuk Teknis Penanganan Bahan Dan Penyulingan Minyak Atsiri." www.litbang.deptan.go.id.

Maramba U. 2018. Pengaruh Karatersitik Terhadap Pendapatan Petani Jagung Dikabupaten Sumba Timur (Studi Kasus: Desa Kiritana, Kecamatan Kambera, Kabupaten Sumba Timur . *Jurnal Ekonomi Pertanian Dan Agribisnis.* 2.doi:https://doi.org/10.21776/ub/jepa.2018.002.02.2.

Marimin NM. 2010. *Aplikasi Teknik Pengambilan Keputusan Dalam Manajemen Rantai Pasok*: PT Penerbit IPB Press

Rahmadina ESN, Bambang Nurhadi, Mimin Muhaemin, Asri Widyasanti. 2020. Penggandaan Skala Proses Pengadukan Terhadap Rendemen Patchouli Alcohol Pada Kristalisasi Minyak Nilam.107-111. Url: https://ejournal.unkhair.ac.id/index.php/semnasagribisnis/article/download/2443/1667

Rianse U, Abdi. 2008. *Metode Penelitian Sosial dan Ekonomi*: Alfabeta.

Ruauw E, Baroleh J, Powa D. 2011. Kajian Penelolaan Usahatani Kelapa Di Desa Tolombukan Kecamatan Pasan Kabupaten Minahasa Tenggara. *Agri-Sisioekonomi*. 7(2):39-50. Doi: https://doi.org/10.35791/agrsosek.7.2.2011.90

Sahwalita NH. 2016. *Budidaya Nilam (Pogostemon Cablin Benth) dan Produksi Minyak Atsiri*. Sumatera Selatan : GIZ Bioclime Project.

Udayana, IGB. 2011. Peran Agroindustri Dalam Pembangunan Pertanian. *Jurnal Teknologi Industri Pertanian.* 44(1):3-8. Url : http://ejournal.warmadewa.ac.id/index.php/SHD

Waryat MY, Kartika Mayasari. 2016. Analisis Nilai Tambah Dan Usaha Pengolahan Tepung Sukun Sebagai Pendapatan Upaya Peningkatan Pendapatan Petani. *Balai Pengkajian Teknologi Pertanian.* doi : :10.18196/agr.2233