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The Study of Added Value Analysis of Coffee Processing in Indonesia

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Abstract

Coffee is one of the largest foreign exchange earning commodities for Indonesia. In 2021 the area of coffee plantations in Indonesia is 1,258,800 ha. This area is wider than in 2019 and 2020. Meanwhile, the total coffee production in 2021 is 774.60 tons. The five provinces in Indonesia that have the most coffee production are the provinces of South Sumatra, Lampung, North Sumatra, Aceh and Bengkulu. The highest production can encourage processing activities. Coffee processing is the process of changing form from primary form to secondary form. Coffee processing is also expected to provide added value for businesses that carry out processing activities. Value added is the added value of a commodity due to processing, transportation or storage in a production process. The various types of coffee can affect the added value for businesses in several regions in Indonesia. Therefore, it is important to do a comparative analysis of the added value of coffee processing in Indonesia to inform how much the level of added value exists in several regions in Indonesia. The data used in this study is secondary data derived from previous studies by collecting several journals used as a reference in carrying out the study. The literature study method using data collection tools to reveal various theories that are relevant to the problem being faced or researched as material for discussing the results of the study taken from various books that are considered relevant to the content of the study. Of the five value-added studies that have been reviewed, the highest value-added ratio is in the Luwak Coffee Agroindustry, Balik Bukit District, West Lampung Regency and Pulau Panggung District, Tanggamus Regency, Lampung Province, from the primary form of coffee cherries to the secondary form of civet coffee beans, namely 72.97%. This means that only Luwak Coffee Agroindustry, Balik Bukit District, West Lampung Regency and Pulau Panggung District, Tanggamus Regency, Lampung Province, has high added value because it has an added value ratio of >40%.

Keywords: Comparing added value, Coffee processing

A. Introduction

The agricultural sector is the main basis of the nation's economy in Indonesia. As an agrarian country, the agricultural sector is a very important aspect of defense and food sovereignty. The plantation sub-sector which is part of the agricultural sector plays an important role for national development (Ramawati, et al, 2019). The plantation sub-sector

increases farmers' income, opens wide employment opportunities, increases exports and creates regional economic growth (Rompas et al, 2015). The plantation sub-sector has plant characteristics that are grouped into two, namely annual crops and annual crops. Perennial plants are plants that take a long time to produce. Usually the production period for annual crops reaches tens of years and can be harvested more than once. An example of an annual plant is one of the coffee plants (Permatasari, 2016).

Coffee is one of the largest foreign exchange earning commodities for Indonesia. In 2021 the area of coffee plantations in Indonesia is 1,258,800 ha wider than in 2019 and 2020 (BPS, 2022). South Sumatra Province is ranked first as the province with the largest area of smallholder coffee plantations throughout Indonesia. This can be seen in Table 1.

Table 1. The Area of Coffee Plantations in Indonesia

No	Province	The Area of Coffee Plantations (Thousand Ha)		
		2019	2020	2021
1	South Sumatera	250,20	250,20	251,50
2	Lampung	157,00	156,90	156,40
3	Aceh	125,30	126,00	126,50
4	North Sumatera	95,40	95,50	95,70
5	East Java	91,80	90,00	91,00
6	Bengkulu	88,00	85,50	85,30
7	South Sulawesi	79,50	78,50	76,70
8	East Nusa Tenggara	71,10	71,10	80,70
9	Central Java	46,60	47,20	49,40
10	West Java	45,50	48,40	50,60
11	Provinsi etc	194,80	193,50	195,00
Total Indonesia		1.245,20	1.242,80	1.258,80

Source Url: BPS, 2022

Based on table 1, it can be seen that the five provinces that have the largest coffee plantation area are South Sumatra, Lampung, Aceh, North Sumatra and East Java. However, this is not in line with the amount of coffee production produced because the ratio of the area of coffee plants is not too significant. Total Coffee Production in 2021 in North Sumatra Province is ranked third while Bengkulu Province is ranked fifth. This can be seen in Table 2.

Table 2. Total Coffee Production in Indonesia

No	Province	Production of Coffee (Thousand Ton)		
		2019	2020	2021
1	South Sumatera	191,00	191,20	201,40
2	Lampung	117,10	118,10	118,00
3	North Sumatera	74,90	75,00	76,80
4	Aceh	72,70	73,40	74,20
5	Bengkulu	62,60	62,70	62,40
6	East Java	49,20	48,50	46,60
7	South Sulawesi	34,70	33,70	35,30
8	Central Java	24,70	24,90	27,50
9	East Nusa Tenggara	24,10	24,20	25,90
10	West Java	21,00	22,40	23,10
11	Provinsi etc	80,50	79,80	83,40
Total Indonesia		752,50	753,90	774,60

Source Url: BPS, 2022

The five provinces in Indonesia that have the most coffee production are the provinces of South Sumatra, Lampung, North Sumatra, Aceh and Bengkulu. The highest production can encourage processing activities. Coffee processing is the process of changing form from primary form to secondary form. Coffee processing is also expected to provide added value for businesses that carry out processing activities. Value added is the added value of a commodity due to processing, transportation or storage in a production process. In the processing process added value can be defined as the difference between the value of the product and the cost of raw materials and other inputs, excluding labor. Meanwhile, margin is the difference between the value of the product and the price of the raw material alone. This margin includes the components of the factors of production used, namely labor, other inputs and remuneration from processing entrepreneurs (Hayami et al, 1987). From the results of the added value analysis, the value of the R/C ratio will be seen. Where the value of the R/C ratio obtained states that for every expenditure incurred, it will be able to generate or obtain income that is equal to the value of the R/C ratio (Purbaningsih, et al., 2022).

The various types of coffee can affect the added value for businesses in several regions in Indonesia. Therefore, it is important to do a comparative analysis of the added value of coffee processing in Indonesia to inform how much the level of added value exists in several regions in Indonesia. This study aims to (1) see how much added value is from coffee processing in the provinces of South Sumatra, Lampung, North Sumatra, Aceh and Bengkulu, (2) compare the added value of coffee processing in the provinces of South Sumatra, Lampung, North Sumatra, Aceh and Bengkulu. This study is important to carry out as a reference for business units to see a coffee processing business that has the highest added value and to consider it.

B. Methodology

1. Research Design and instruments

. The author collects secondary data from BPS, books, and journals that are used as references in making this study in September-October 2022. Then in November 2022 the writer makes this study journal.

2. Technique of Data Collection

The data used in this study is secondary data derived from previous studies by collecting several journals that are used as a reference in conducting the study. Secondary data is data obtained in a ready-made form, namely data that has been collected by other people or other organizations (Sulaiman & Kushendrayana, 2013).

3. Technique of Data Analysis

The method used is the literature study method using data collection tools to reveal various theories that are relevant to the problem being faced or researched as material for discussing the results of the study taken from various books that are considered relevant to the content of the study. According to Juliandi et al. (2014), reviewing the literature in a study is not just quoting someone's opinion or just collecting quotations from various sources. Reviewing the literature ideally is to understand in depth about a problem being studied. Literature can focus on the results of previous studies, study methods, theories, applications or all of these. The review method used in this study is by reviewing several journals used as a reference. The review method is carried out to find out the real conditions or cases that exist in the field which can be used as a comparison and reference in determining how much added value is generated in a business unit.

C. Findings and Discussion

1. *Seeing How Much Value Added From Coffee Processing In The Provinces of South Sumatra, Lampung, North Sumatra, Aceh And Bengkulu.*
   a. Ramadhan, 2012 said that the Analysis of Added Value and Benefits of Processing Coffee Fruit into Luwak Coffee Powder in South Sumatra Province, namely the added

value of processing Coffee Fruit into Luwak Coffee Powder is Rp. 103,372.22/kg and the profit is Rp. 83,932.22/pp. The output value in the processing of coffee cherries is Rp.78,000 and the costs incurred for processing the coffee cherries include input prices of Rp.3,500/kg and other input contributions in the form of chicken, labels, plastic bags and bananas of Rp.21,872.22/kg. In 1 production process of processing civet coffee powder, an added value of Rp. l03,932.22/kg and for labor benefits of Rp. 19,440/kg while the profit earned is Rp. 83,932.22/pp. So that the added value ratio in the processing of coffee fruit into Luwak coffee powder is 13.29%.

b. Noviantari et al, 2015 said that Analysis of the Added Value of Processing Coffee Fruit into Luwak Coffee Beans in Lampung Province. The added value obtained from processing one kilogram of coffee fruit into civet coffee beans averaged IDR 67,123.95. This added value is gross added value because it does not include labor benefits. The added value ratio for the processing of civet coffee beans is 72.97%. The amount of added value is due to the processing of civet coffee only up to the green bean stage, so the production costs incurred are very small. Processing of Luwak Coffee Beans into Powdered Luwak Coffee The added value obtained from processing one kilogram of civet coffee beans into powdered civet coffee is an average of IDR 78,887.87. The added value ratio for ground civet coffee processing is 19.08 percent, which means that for every Rp. 100.00 of product value, an added value of Rp. 19.08 will be obtained. The small added value is due to the processing of civet coffee starting with civet coffee beans as raw material

c. Saragih, 2019 said that Analysis of Added Value Processing red spindles into grain coffee is the first stage of processing carried out by farmers in the household. With a conversion factor of 2.15 kg of red logs to 1 kg of grain coffee, the value of unhulled coffee produced from 1 kg of red logs is IDR 12,636 (line 10, namely the conversion factor multiplied by the output price). Gross value added is obtained by subtracting the value of raw materials and other inputs from the value of the product. This value is IDR 3,765 with a ratio of 30% which implies that 30% of the market value of grain coffee is the income of farmers from primary processing. Thus, the primary processing carried out by farmers provides a relatively large additional income, which is Rp. 6,345/kg of grain coffee output, namely the sum of the added value of processing Rp. 3,765/kg plus compensation for family labor as a result of primary processing of Rp. 2,580 /kg grain coffee output. The amount of grain coffee sold by each farmer is an average of 930 kg/year. Thus, the added value obtained by each farmer is an average of IDR 6,345/kg multiplied by 930 kg, which is IDR 5,900,850/year. In total, the total added value obtained by 30 farmer respondents who carry out primary processing is IDR 6.345/kg multiplied by 27.892 kg, which is IDR 176,974,740/year.

d. Epaga et al, 2019 said that the Added Value Analysis of Coffee Processing in Aceh Province, namely at KSU Sara Ate, namely the added value of grade 1 green bean, the price of raw material input depends on the quality of the random green bean obtained from the assisted farmers and also the original green bean purchase agreement between the two sides of the farmer and agro-industry. The calculation of the contribution of other inputs is based on the cost and work capacity. The output value describes the ability to manage the processing of coffee products. The better the raw material preparation is managed, the better the output quality will be. Value added indicates that there is an output value minus the input value of raw material prices minus the value of other input contributions. The value added ratio of agro-industry is 15-40%, which means moderate added value. This labor income is the income earned by processing workers, namely labor sorting rupiah per kg. labor contribution of 2.93 percent at KSU Sara Ate. The results showed that the KSU Sara Ate agro-industry

contributed a profit of IDR 19,900 per kg. Processing of green bean coffee with grade 2, namely the volume of raw material purchases in this agro-industry is also very dependent on current market conditions with several determining factors, including: (a) production availability at each collector, (b) contract quotas that have been signed handle, (c) stock safety, and (d) the expected price change factor. There is a difference in the output issued with the amount of raw materials used, this happens if the more quality coffee raw materials that have export criteria for green bean grade 2 (premium), the greater the output produced. The conversion factor at KSU Sara Ate is 0.86, which means that every processing is 1 kg of green. random bean will produce 0.86 kg of premium green bean (grade 2). At Oro Coffee Gayo, the labor coefficient for green bean grade 2 is 0.000414 HOK per kg of raw material. Likewise, the variation in the output price for the different types of green bean grade 1 and green bean grade 2, this difference also depends on the contract value agreement with the buyer ordering. In this study, it is assumed that wages correspond to the average received by freelance coffee sorters of Rp. 600 per kg, for each production period calculated on the basis of one working day, with the total amount of raw material input processed in one production period. The value added ratio in this processing from green bean to green bean specialty (grade 1) is 27.61%, from green bean to Green Bean Grade 2 (premium) is 11.02%.

e. Murbaningtyas, 2020 said that the Added Value Analysis of Coffee Processing in Bengkulu Province, to be precise in Rejang Lebong Regency, is that the use of raw materials for premium powder coffee, Sintaro and APA is the same as much as 25 kg per process. One production process using these raw materials produces 20 kg of ground coffee. The decrease in the amount of coffee production capacity was due to the shrinkage of 20% during the processing of coffee beans. The workforce used in the processing of ground coffee is 5 people consisting of 2 men and 3 women. Wages given with daily payments of Rp. 50,000/day. The amount of labor wages in similar industries in Bali Province is based on the results of Dewi's research (2015), which is Rp. 50,000/day. This wage is the same as the wage given to IKM Sintaro Gold Coffee. This affects the size of the number of workers used. The activities carried out by the workforce in the ground coffee processing process are sorting, roasting, grinding, packaging, and marketing. The working hours for one employee are 8 JOK and there are 3 types of powder coffee processing with the same production process so there is an equal number of HOK. Labor input for the three types of ground coffee is 0.13 HOK/process. The added value ratio of coffee processing from green beans to premium powder coffee is 39.35%, green beans to sintaro powder coffee is 34.95%, and green beans to APA powder coffee is 22.53%.

2. *Comparing the added value of coffee processing in the provinces of South Sumatra, Lampung, North Sumatra, Aceh and Bengkulu*

Based on the discussion on the first purpose of writing, namely Seeing How Much Value Added From Coffee Processing in the Provinces of South Sumatra, Lampung, North Sumatra, Aceh and Bengkulu, it can be compared with the value added results of coffee processing in Table 3.

Table 3. Comparison Added Value of Coffee Processing in Five Provinces from Indonesia

No	Location	Research year	Primer Form	Secondary form	Added Value Ratio (%)
1	Luwak coffee entrepreneur in Temu Karya Village, Padang Temu Village, Dempo Tengah District, Pagar Alam City, South Sumatra Province	2012	Coffee Fruit	Luwak Coffee Powder	13,29
2	Luwak Coffee Agro-industry, Balik Bukit District West Lampung Regency and Pulau Panggung District, Tanggamus Regency, Lampung Province	2015	Coffee fruit Kopi Luwak Biji Coffee fruit	Luwak Coffee Bean Luwak Coffee Powder Luwak Coffee Powder	72,97 19,08 28,79
3	Sait Buttu Saribu Village, Pamatang Sidamanik District, Simalungun Regency, North Sumatra Province	2017	Red Coffee Fruit	HS Coffee	30,00
4	KSU Sara Ate in Central Aceh District, Aceh Province	2017	green bean asalan carelessly green bean	green bean specialty (grade 1) Green Bean Grade 2 (premium)	27,61 11,02
5	IKM Sintaro Gold Coffee Desa IV Suku Menanti Sindang Dataran District Rejang Lebong Regency Bengkulu Province IKM Sintaro Gold Coffee Desa IV Suku Menanti Sindang Dataran District Rejang Lebong Regency Bengkulu Province	2019	Green bean Green bean Green bean	premium powder coffee sintaro powder coffee APA powder coffee	39,35 34,95 22,53

Of the five value-added studies that have been reviewed, the highest value-added ratio is in the Luwak Coffee Agroindustry, Balik Bukit District, West Lampung Regency and Pulau Panggung District, Tanggamus Regency, Lampung Province, from the primary form of coffee cherries to the secondary form of civet coffee beans, namely 72.97%. . This is because the value of other inputs is less than other processing inputs, from coffee cherries to ground civet coffee. This is not in line with my own research (Dewi, et al, 2015) that the further downstream a production is, the higher the profit/added value is obtained. According to the Hubeis (1997) test criteria, the added value ratio is said to be low if it has a percentage below <15%; moderate if it has a percentage between 15% -40%; and high if it has a percentage above> 40%. This means

that only Luwak Coffee Agroindustry, Balik Bukit District, West Lampung Regency and Pulau Panggung District, Tanggamus Regency, Lampung Province, has high added value. Then the ratio of added value that is categorized as low is the Luwak coffee entrepreneur in Temu Karya Village, Padang Temu Village, Dempo Tengah District, Pagar Alam City, South Sumatra Province and KSU Sara Ate in Central Aceh District, Aceh Province.

D. Conclusion

Lampung Province has the highest value added ratio, which is 72.97%. This highest ratio is the primary processing of coffee cherries into civet coffee beans. This is caused by the value of other inputs which are less than other processing inputs from coffee cherries to ground civet coffee. This ratio is said to be high because it has a percentage above > 40%.

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