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An added value analysis of Pulu Mandoti rice agricultural commodities at farmers level

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Abstract. Pulu Mandoti rice is a local rice variety that has high economic value. This rice is phenomenal because it can only grow in two villages, one of which is Salukanan Village, Enrekang Regency. Having a distinctive aroma, texture, and taste makes the demand for rice even higher in the market also to foreign countries. The high demand for pulu mandoti has an impact on the selling price of these commodities to affect the income and profits of farmers. This research aims to analyze the added value of pulu mandoti to farmers who cultivate them. This research was conducted in Salukanan Village, Baraka Subdistrict, Enrekang Regency, South Sulawesi Province, by using value-added calculations using the Hayami Method. Sampling was done by simple random sampling, with a total sample of 39 respondent farmers. The results showed that the added value of IDR 2,851,414, with a profit rate of 90.27%.

1. Introduction

One of the most expensive rice in Indonesia is glutinous rice with mandoti flavor. Mandoti glutinous rice, which is more typically called Pulu mandoti scented rice is a local rice variety that has high economic value. The uniqueness of Mandoti Pulu rice is that it can only grow in two villages namely Salukanan and Kendenan Villages, Baraka District, Enrekang District with an altitude of 700 meters above sea level and a slope of 60°. Some farmers often try to plant it outside the village even though it thrives, but the results are not the same because it has no aroma [1].

The problem that occurs at this time is that the area of land that can be planted with mandoti scented rice is only around 150 hectares. Mandoti scented rice production averages about 500 tons per year because, in general, the rice fields of the population are planted more rice for consumption rice. Only about parts of the rice fields in Salukanan Village are used for the development of Pulu Mandoti. The amount of production turned out to be insufficient to meet market needs within the District of Baraka. In an agricultural activity, production systems need to be considered from planting to maintenance, harvesting systems, and a series of marketing value chain activities. These things become important activities to see how effective they are, and then there will be price margins between actors in the value chain [2].

One way to increase the added value of Mandoti Pulu products is to process them into various processed products (agroindustry). Agroindustry is an attempt to create a processed product in the form of finished goods and semi-finished goods whose primary raw material is from agricultural products [3]. Agroindustrial activities are considered to be able to increase added value. The benefit



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(added value) in question is the added value of a product or commodity because it experiences better processing, transportation, or storage processes in production [4].

Based on the description above, this study was shown to analyze the added value of the agricultural commodity of sticky rice in Mandulu at the farmer level in Salukanan Village, Baraka District, Enrekang Regency.

2. Methods

This research was conducted in Salukanan Village, Baraka Subdistrict, Enrekang Regency, in February-March 2019. Determination of the location was done intentionally (purposive with the consideration that the area was the area where the commodity development of Mandulu was developed. The samples in this study were 39 respondents. The data used in this study are primary data and secondary data. The research method in this study uses the method of adding value to the Hayami method. The analytical approach in this study is the quantitative analysis approach used to analyze the magnitude of an added value obtained by farmers. The calculation of value-added will be analyzed using the Hayami method [5].

Table 1. Calculation of value-added Hayami method.

Output, input, and price	Notation
Output (kg / production process)	A
Raw material (kg/production process)	B
Labor (HOK/production process)	C
Conversion Factor (1/2)	$D=A/B$
Labor coefficient (3/2)	$E= C/B$
Product Price (IDR / kg)	F
Average labor wage (IDR / production process)	G
Revenue and Benefits	
Price of raw material input (IDR / kg)	H
Other input contributions (IDR / kg)	I
Product Value (IDR / Kg) (4x6)	$J= DxF$
a. Value Added (IDR / Kg) (10-8-9)	$K=J-I-H$
b. Value added ratio (%) $(11a / 10) \times 100\%$	$L= (K/J) \times 100\%$
a. Labor income (5x7)	$M= ExG$
b. Labor Share (%) $(12a / 11a) \times 100\%$	$N \% = (M/K) \times 100\%$
a. Benefits (IDR / kg) (11a-12a)	$O= K-M$
b. Rate of return (%) $(13a / 11a) \times 100\%$	$P= (O/J) \times 100\%$

3. Results and discussions

Added value is the addition of the value of a commodity because it experiences processing, storage, transportation in a production process. The added value of Mandulu Pulu rice farmers is calculated from the result of reducing the value of output minus the contribution of other inputs and the price of raw materials for Mandulu Pulu rice farmers. The results of the added value of farmers can be seen in table 2.

Tabel 2. Added value of pulu mandoti rice farmers in Salukanan Village, Baraka District, Enrekang Regency, 2018.

Variable	Farmers
Output, input dan price	
Output (kg / harvest season)	58.022
Raw material (kg)	406

Labor (HOK)	446.29
Conversion factor (1/2)	142.91
Labor coefficient (3/2)	1.09
Product price (IDR / kg)	55,000
Average labor wage (IDR)	254,487
Revenue and benefits	
Price for raw material inout (IDR / kg)	449,072
Other input contributions (IDR / kg)	4,559,564
Product value (IDR / Kg) (4x6)	7,860,050
A. Value added (IDR / Kg) (10-8-9)	2,851,414
B. Value added ratio (%) (11a / 10) x 100%	36.27
A. Labor income (IDR / kg) (5x7)	277,390,83
B. Labor share (%) (12a / 11a) x 100%	9.27
A. Benefits (IDR / kg) (11a-12a)	2,574,023,17
B. Rate of return (%) (13a / 11a) x 100%	90.27

Pulu Mandoti rice farmers use raw materials from seeds that are released. The output is in the form of rice. The farmer's land area of 16 hectares with 406 kg of raw material can produce 58,022 with an average of 1,488 kg of mandoti rice per farmer, which will be sold to consumers and retailers. The price of the product or the selling price of farmers to retailers or consumers is IDR. 55,000 / kg.

The conversion factor of farmers to retailers or consumers obtained is 142.91. This conversion value shows that every process of production or maintenance of paddy fields produces grain that will be ground into the rice. The conversion factor is a comparison of the use of raw materials with rice produced. This conversion factor is associated with a large amount of production.

Total HOK of farmer labor for the maintenance of 16 hectares of paddy fields is 446.29 HOK. The average wage of a farmer's workforce is IDR 254,487 per HOK. The price of raw materials in the value-added analysis of Pulu Mandoti rice comes from the cost of input seeds, fertilizers, and pesticides per farmer. For seed input amounting to IDR 156,154 per farmer, fertilizer IDR 202,918 per farmer, and pesticide IDR 90,000 per farmer to obtain a total input price for raw materials IDR 444,072 per farmer.

Another input from farmers for the maintenance of 16 hectares of paddy fields is IDR 4,559,564 per farmer. Other input contributions are derived from the sum of costs incurred, including milling costs, NPAs, and land taxes (other than raw materials and labor costs) divided by the total area of land maintained by 39 respondent farmers.

The output value is obtained by multiplying the conversion factor with the unit price of the mandoti rice. The value of farmers' products to retailers or consumers is IDR 7,860,050. The output value provides added value of IDR 2,851,414 (36.27%). The results of added value are obtained from the difference between the value of output with the price of raw materials and other contributions. This value can be interpreted that 36.27% is the added value of product processing. The added value here is a gross added value because it does not take into account labor benefits.

The added value is the gross added value because labor costs have not been issued. Employee benefits obtained from retailers are IDR 277,390.83 (9.72%). The labor benefits are obtained from the product of labor coefficient and labor wages. This means that 9.72% of the added value is a reward received by labor.

Profit is the difference between value-added and labor benefits. The profits of farmers from traders amounted to IDR 2,574,023.17 (90.27%), which means that 90.72% of the added value was the profits of farmers. This benefit is a net benefit because it already takes into account labor benefits.

4. Conclusion

The added value obtained by the pulu mandoti rice farmers was IDR 2,851,414, with a profit rate of 90.27%. The added value obtained by the value chain actors in farmers has a relatively high ratio because the value-added ratio is > 50%.

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