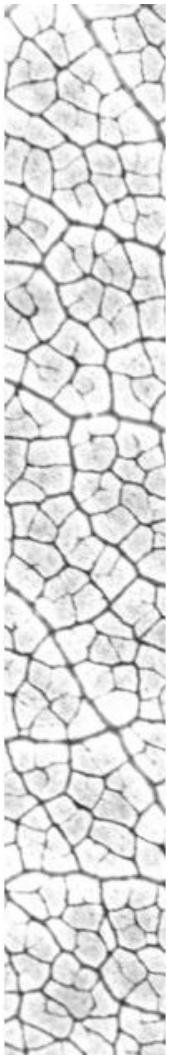

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Impact of the lowest unit price of arabica coffee on increasing farmers' income in North Toraja Regency

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Abstract
The aims of the research is to determine the impact of setting the lowest unit price of Arabica coffee on increasing farmers' income in North Toraja Regency. The study was conducted in Buntu Pepasan Subdistrict, North Toraja Regency. Research data were collected carried out for three months, from June 2019 to September 2019. Sampling (respondents) of this study was conducted on farmers and key informants involved in the policy of setting the Lowest Unit Price for Arabica coffee commodities through the value added approach in Toraja Regency North. Research data were collected by conducted a survey using data collection techniques, such as interviews by using a questionnaire. Data analysis is descriptive quantitative. The results showed that with the determination of the Lowest Unit Price, the impact on farmers 'income increased by IDR. 7,009,280 / farmer and farmers' income per hectare, which was IDR. 3,721,741 / Ha. In addition, the determination of the Lowest Unit Price aims to improve the welfare of coffee's farmers such as increasing the productivity of coffee fields, increasing the quality of beans and increasing regional income without harming other parties, namely the collecting traders and the Home Industry / Coffeshop (which also has a role as inter-island traders even exporters at the time of the study).

Keywords: lowest unit price, arabica coffee, added value, farmers' income

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INTRODUCTION

Arabica Coffee is premium quality coffee that is processed through post-harvest processing stages and is closely monitored so as to produce special and special flavors according to the region of origin. The growth in the area of Arabica coffee in Indonesia has increased significantly, which is 11.77% each year. The development of area is supported by an increase in the area of Arabica coffee plantations in all types of highest business, the Arabica coffee plantations undertaken by the state increased by an average of 1,598.08% per year while Arabica coffee plantations owned by the people increased the lowest at 12.29% per year (BPS, 2017).

In 2014, Indonesia's coffee production declined, maked it the fourth coffee exporter in the world with an average coffee export of 568.33 thousand tons or controlling the world coffee market of 7.41%. While the first exporting country is occupied by Brazil with an average export volume of 2.04 million tons each year or contributing 26.61%, then the second exporting country is occupied by Vietnam with an average total export of 1.58 million tons or controlling share coffee trade up to 20.59% and third position by Colombia which controls coffee trade share up to 9.06% or export volume up to 694.32 thousand tons (USDA, 2016). Indonesian coffee exports have reached European countries, the United States and Asian regions such as Japan (AEKI, 2013).

Smallholder plantations in South Sulawesi Province produce an average of 12.50% of Indonesia's Arabica coffee, equivalent to 20.10 thousand tons each year. In 2015, Arabica coffee produced by community plantations in the province reached 20.35 thousand. One of the largest Arabica coffee production centers in South Sulawesi Province is in North Toraja Regency, in 2017 it gave a share of production of 10.37% or with a total production of 2.11 thousand tons (BPS, 2017).

With the large amount of Arabica coffee production in North Toraja Regency, Arabica coffee's farmers in North Toraja Regency have problems with domestic selling price of coffee. Price fluctuations on the world market that have an impact on national prices, farmers are often forced to sell their coffee below the market price to make ends meet. Monopoly of the prices is even more caused by the absence of the Lowest Unit Price made by the local government to protect farmers from the act of the collectors entrusted by large companies. The selling price of coffee in the country is still low and

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not feasible; therefore many farmers do not pay attention to coffee plants which will have an impact on the quality of coffee produced so that many coffee beans do not meet export quality standards. In addition, many farmers also turn to other plants.

In recent years the price coffee tends to be at a low level and the position of coffee producing countries very unfortunate, because it happened oversupply in the world coffee market. This matter cause the producers and exporters coffee in Indonesia is experiencing difficulties in looking for breakthroughs and efforts in order to raise the price of coffee (Kustiari,2007; Hutabarat 2006)

The good Indonesian coffee production apparently not accompanied by the processing industry (Pratiwi, 2015). Whereas, the increase in the quantity and quality of coffee produced by farmers is also expected to increase their profits and prosperity. Wahyudi and Jati (2012) believe if the price of coffee is the main obstacle facing coffee producers. Coffee farmers only earn about 19- 22% of the total price of a cup of coffee, contrast to the price of coffee in the consumer countries. Unstable coffee prices at national and international levels play a major role in coffee producers. In the season when coffee prices fall, farmers may not be able to allocate funds and resources for coffee production technology. If this continues to happen, the quality and the yield of their crops will gradually decline (Asfaw, Bezabh, Anteneh, &Kumela, 2016).

Because of these problems, so that that is the reason, that cases need the research, to determine the effect of economic prices on Arabica coffee, so farmers can be protected and earn better income and encourage Indonesia to become more competitive as well as becoming the world's largest coffee exporter and bring in foreign exchange.

METHODOLOGY

This type of this research is descriptive research with quantitative and qualitative analysis. The location chosen for sampling is in Buntu Pepasan Subdistrict, specifically in Sapan Village, North Toraja Regency, South Sulawesi. The research location was chosen purposively with the consideration that the chosen location was the best Arabica coffee production center. Data were collected for three months, from June 2019 to September 2019 because that time is the Arabica coffee harvest season in North Toraja Regency, so researchers are expected to be able to see first hand the harvesting process, post-harvest treatment to marketing in order to complete the data needed in this research. Sampling (respondent) from a population in this study was carried out on farmers and key informants involved in the policy of setting the Lowest Unit Price for Arabica coffee commodities through the value added approach in North Toraja Regency.

Determination of farmer's respondents in this study used the Simple Random Sampling technique which was carried out randomly based on the number of farmers working on Arabica coffee plants in Sapan Village, Buntu Pepasan District. Through this approach, sampling of members of the population is done randomly without regard to the strata that exist in that population. This method is used when members of the population are considered homogeneous. In addition, sampling is also done because members of the population have the same opportunity to be selected as samples (Sugiyono, 2013). The number of respondents in this study were 30 Arabica coffee's farmers. While the determination of respondents as key informants (key informants) was carried out intentionally (purposive), such as 3 officers from the Horticultural Production Division of the North Toraja Agriculture Office, 3 Field Extension Officers (PPL) accompanying Arabica coffee's farmers from Buntu Pepasan District, and 5 collector Arabica Coffe. Research data were collected by conducting a survey using data collection techniques, by interviews using a questionnaire. The questionnaire used was a closed and open questionnaire. The analytical approach used in this research is qualitative and quantitative analysis.

RESULT AND DISCUSSION

Lowest Unit Price Determination of Arabica Coffee in Buntu Pepasan District, North Toraja Regency with Value Added Approach

In this research, determination of Arabica coffee's prices in North Toraja Regency will be calculated using the Full Costing method. In this method, the costs contained in the Full Costing method are raw material costs, direct labor costs, Fixed Overhead costs, and Variable Overhead costs. The Full Costing method is also called the Absorption Costing or Conventional Costing method. Understanding Full Costing according to Mulyadi (2007) is a method of determining the price of production that takes into account all elements of production costs into the cost of production, consisting of raw material costs, direct labor costs, and factory overhead costs, both behaving variable or fixed ". Marimin and Maghfiroh (2010), the concept of value added is a change in value that occurs when there is a treatment of an input in a production process.

Determination of the Lowest Unit Price of Arabica coffee in North Toraja Regency is determined based on a standard price of IDR. 36.000 / Kg and coffee price at the IRT / Coffeshop level of IDR. 160.000 / Kg. The calculation of the coefficient for the determination of the lowest unit price of Arabica coffee in North Toraja District is obtained for each actor in the value chain, such as the traders and the Household Industry / Coffeshop and Arabica coffee beans purchased from farmers in the form of horn-skinned. The profit gained by traders in Arabica coffee farming in North Toraja Regency is IDR

Table 1. Proposed lowest unit price with value added approach for arabica coffee commodities in Buntu Pepasan Sub-district, North Toraja Regency

No.	Respondents	Price now (IDR)	Proposed price (IDR)	Additional price (IDR)
	Farmers			
1	Production (Kg)	10,952	55,200	23,867
	Prices (IDR)	36,000		
	Revenue (IDR)	394,272,000		
	Variable Cost (IDR)	11,170,000		
	Fixed Cost (IDR)	9,484,000		
	Total Cost (IDR)	**20,654,000**		
	Collector Tarders			
2	Total Raw Materials (Kg)	43,000	90,000	35,538
	Raw Materials After Depreciation (Kg)	35,400		
	Purchase Price (IDR)	36,000		
	Selling price (IDR)	90,000		
	Variable Cost (IDR)	1,637,066,200		
	Fixed Cost (IDR)	37,831,250		
	Total Cost (IDR)	**1,674,897,450**		
	Home Industry/Coffee Shop			
3	Total Raw Materials (Kg)	47,800	250,000	53,123
	Raw Materials After Depreciation (Kg)	38,240		
	Purchase Price (IDR)	90,000		
	Selling price (IDR)	250,000		
	Variable Cost (IDR)	4,366,227,000		
	Fixed Cost (IDR)	107,700,167		
	Total Cost (IDR)	**4,376,927,167**		

Source: Primary data that has been processed, 2019

7.748 / Kg, while the savings obtained by the Home Industry / Coffeeshop is IDR 11.500 / Kg. Based on this, the determination of the Lowest Unit Price gains profits from the traders and IRT / Coffeshop which will be transferred a small portion to Arabica coffee farmers and also as a basis for determining an economical price that is feasible for horn-skinned Arabica coffee farmers which will be elaborated as follows:

$$Profit\ Coefficient = \frac{The\ price\ of\ coffee\ at\ the\ farm\ level/Kg}{Coffee\ prices\ at\ the\ Home\ Industry\ /\ Coffeshop\ level/Kg}$$

$$Profit\ Coefficient = \frac{IDR.36.000\ /Kg}{IDR.160.000\ /Kg}$$

$$Profit\ Coefficient = 0{,}225$$

$$Collector\ Trader\ Profits = Coefficient\ value\ x\ Profit/Kg$$

$$Collector\ Trader\ Profits = 0{,}225\ x\ IDR.34.438$$

$$Collector\ Trader\ Profits = IDR.7.748\ /Kg$$

$$Home\ Industry\ /\ Coffeshop\ Profits = Coefficient\ value\ x\ Profit/Kg$$

$$Home\ Industry\ /\ Coffeshop\ Profits = 0{,}225\ x\ IDR.51.113$$

$$Home\ Industry\ /\ Coffeshop\ Profits = IDR.11.500\ /Kg$$

$$Lowest\ Unit\ Prices = Farmer's\ price + Profit\ Collector\ Traders + Home\ Industry\ /\ Coffeshop\ Profits$$

$$Lowest\ Unit\ Prices = IDR.36.000\ +\ IDR.7.748 + IDR.11.500$$

$$Lowest\ Unit\ Prices = IDR.55.248\ rounded\ off\ IDR\ 55.200$$

Arabica coffee price determination in North Toraja Regency is calculated using the Full Costing method. In this method all costs are calculated both fixed and variable to be charged to the product produced in order to obtain a high production price. The price determination is needed to improve the economy of coffee farmers who have been burdened by the prices set by traders and coffee exporter companies in order to achieve maximum profits.

Table 1 shows that, total production of Arabica Coffee produced by farmers amounted to 10,952/kg. The selling price of coffee beans (horn-skinned) is IDR. 36,000 / kg, so the total revenue is IDR. 394,272,000. The variable costs at the farm level are IDR 11,170,000 and the fixed costs are IDR 9,484,000, so the total costs incurred for farmers are IDR 20,654,000. The proposed selling price of farmers is around IDR. 55,000 / Kg and IDR. 56,000 / Kg.

The total raw material produced by the value chain actors at the level of the trader is 43,000 kg and has experienced a shrinkage of about 20% of the treatment of drying and stripping the epidermis, leaving a 12% moisture content of the coffee beans after drying, bringing the total raw material after shrinkage to 35,400 kg The purchase price of coffee (Crusted Horns) at collectors is IDR 36,000 / kg and sold in the form of coffee (Green Bean) at IDR 90,000 / kg.

Total raw material produced in the coffee home industry is 47,800 kg, and will experience a shrinkage from the roasting process of 12% water content that will evaporate, so that the raw material is 38,240 kg. The purchase price of coffee (Green Bean) at the home industry level is IDR 90,000 / kg with the selling price of coffee (Powder and Roasted) which is IDR 250,000 / kg. The proposed selling price is expected to be IDR. 250,000 / Kg. The proposed price as the Lowest Unit Price at the farm level is IDR. 55,000 / Kg or IDR. 27,500 / Liter, this price is considered a reasonable standard for farmers based on the price of farmers' expectations at the time of the research interview, so that this retail price is able to restore the spirit of farming of Arabica coffee farmers and the production and quality will increase. While the proposed merchant prices (IDR. 90,000 / Kg)

Table 2. Calculation of Value Added before and after determined the Lowest Unit Price Value of Arabica Coffee in North Toraja Regency, 2019

No.	Variable	Before	After
	Output, input and price		
1	Output (Kg/year)	10,952	10,952
2	Raw Materials (Kg)	13,219	13,219
3	Labor (HOK)	1,538	1,538
4	Conversion factor (1/2)	0.82	0.82
5	Labor coefficient (3/2)	0.12	0.12
6	Output Price (IDR/kg)	36,000	55,200
7	Average salary (IDR/HOK)	50,000	50,000
	Receipts and Profits		
8	Raw Material's Price (IDR/kg)	5,055	5,055
9	Other input values (IDR)	598	598
10	Output Value (IDR/kg) (4x6)	29,520	45,264
11	a. Value Adde (IDR/kg) (10-9-8)	23,867	39,611
	b. Value added ratio (%) ((11a:10) x100%)	80.80%	87.50%
12	a. Employee benefits (IDR/kg) (5x7)	6,000	6,000
	b. Value added ratio (%) ((12a:11a) x100%)	25.10%	15.10%
13	a. Profits (IDR/kg) (11a-12a)	17,867	33,611
	Profit level (%) b. ((13a:11a) x100%)	74.80%	84.80%

Source: Primary data that has been processed, 2019

and industry (IDR. 250,000 / Kg) are expected to remain stable as they are today.

Impact of Lowest Unit Price Determination on Improving Welfare of Arabica Coffee Farmers in Buntu Pepasan District, North Toraja Regency.

Based on determination of the Lowest Unit Price, the lowest price obtained is IDR. 52,500 / Kg at the farmer's level while the lowest price before setting is IDR 36,000 / Kg. The difference in added value obtained by farmers before and after the Lowest Unit Price value is determined, as shown by **Table 2**. Based on **Table 2**, after the price of coffee at the farm level increased to IDR. 55,200 / kg, the added value of Arabica coffee at the farm level also increased from IDR. 23,867 per kg to IDR. 39,611 / kg. In addition, the value of profits also increased from IDR. 17,867 /kg to IDR. 33,611 / kg. This shows that the existence of the Lowest Unit Price can increase the income of Arabica coffee farmers.

With an increase in farm-gate prices of IDR. 55,200 / kg, farmers 'incomes increased by IDR. 7,009,280 / farmer and farmers' per hectare income by IDR 3,721,741 / Ha. The calculation of farmers' income is as follows:

$$Income = Farmer's\ Output\ X\ Prices\ at\ the\ Farmer\ Level\ Before\ using\ the\ Lowest\ Unit\ Price$$
$$= 10.952 \times IDR\ 36.000 = IDR\ 394.272.000$$

$$Income = Farmer's\ Output\ X\ Prices\ at\ the\ Farmer\ Level\ After\ using\ the\ Lowest\ Unit\ Price$$
$$= 10.952 \times IDR\ 55.200 = IDR\ 604.550.400$$

$$Income = Income\ at\ the\ Farmer\ Level\ After\ using\ the\ Lowest\ Unit\ Price - Income\ at\ the\ Farmer\ Level\ Before\ using\ the\ Lowest\ Unit\ Price$$
$$= IDR\ 604.550.400 - IDR\ 394.272.000 = IDR\ 210.278.400$$

$$Income\ each\ Farmer = Income/\ Total\ Respondent's = IDR\ 210.278.400/30 = IDR\ 7.009.280$$

$$Income\ each\ Hectare = Income/\ Land\ Area\ (Ha) = IDR\ 210.278.400 : 56{,}5 = IDR\ 3.721.741$$

After conducting research, it was found that Arabica coffee farmers expect to be able to increase until after research is conducted that farmers expect prices to be raised in the range of IDR. 55,000 - IDR. 56,000 per kilogram, but it can be proposed that the Lowest Unit Price of Arabica coffee be IDR. 27,600 / Liter or IDR. 55,200 / kg in the form of seeds which are still skinned by increasing the price received by farmers by IDR. 10,000, - taking into account the price at the level of traders and companies (Home Industry / Coffee shop) so that it continues to provide benefits for each marketing institution. Marketing is one of the efforts conducted by the farmers in acquiring rewards for the implemented agricultural business. This becomes very important to increase the income of farmers (Mau et al 2018). Coffee sales are mostly done with the bonded system for example one of the farmers who sold his coffee at IDR 3,000 – IDR 4,000/ Kg. Even though, the price of normal coffee can reach IDR 20,000/ Kg (Hartatri et al 2011 dan Pobela 2016). And another goal is to increase the income and work productivity of Arabica coffee farmers without harming those who play a role in the Arabica coffee chain. Determination of the lowest unit price is expected to protect the selling price of farmers when production increases coffee prices do not soar down. The importance of food prices, especially at the level of farmers as producers but while still protecting consumers, is carried out by governments in various countries through intervention policies (Panggabean, et al., 2012). Prices that occur in international markets, will indirectly effect on farmer acceptance. To deal with this problem all parties concerned must try to overcome the following weaknesses, among others: increased productivity, quality and yield, improvement management efficiency, and reduction of various distortions at the cultivation level and market(Uchezuba,.2005 and Hutabarat, 2006)

CONCLUSION

Based on the results and discussion, it is concluded that with the determination of the Lowest Unit Price, the impact on farmers' income increases by IDR 7,009,280 / farmer and farmer income per hectare, which is IDR 3,721,741 / Ha. In addition, the determination of the Lowest Unit Price is aimed at improving the welfare of

coffee farmers such as increasing the productivity of coffee fields, improving the quality of beans and increasing regional income without harming other parties, namely the traders and the Home Industry / Coffeshop (which also has a role as inter-island traders and even exporters at the time the study was conducted).

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