Value Added Analysis and Factors Affecting the Income of Arabica Coffee Farming in Payung District, Karo Regency

Aditia Erick Cantona Simatupang[1], Kelin Tarigan[2], Rahmanta[2]

[1]Postgraduate Students, Department of Agribusiness, Faculty of Agriculture at Universitas Sumatera Utara, Indonesia
[2]Postgraduate Lecturer, Department of Agribusiness, Faculty of Agriculture at Universitas Sumatera Utara, Indonesia

Corresponding Author: Aditia Erick Cantona Simatupang

ABSTRACT

The purpose of this study was to analyze the added value of processing Arabica coffee in the form of unhulled, greenbean and powder, to analyze the income of processing Arabica coffee in the form of unhulled, greenbean and powder, and to analyze the factors that affect the income of Arabica Coffee Farming in the study area. This research was conducted in Payung District, Karo Regency, with a purposive method. The number of samples obtained was 88 samples of Arabica Coffee Farming using the Slovin method. The analytical method used in this research is descriptive analysis, income analysis, multiple linear regression analysis. The results showed that the added value obtained from processing Arabica coffee in the form of unhulled was Rp1,773.30, greenbean form was Rp9,311.08, and the powder form was Rp136,347.69. Arabica coffee processing income in the form of unhulled is Rp2,377,742.3/production, in the form of greenbean is Rp3,823,977.5/production, powder of Rp11,152,347.7/production. Production factors, labor wages, seed costs, fertilizer costs, and selling prices have a significant effect simultaneously on the income of Arabica Coffee Farming in Payung District. Production factors, labor wages, fertilizer costs, and selling prices have a significant effect on the income of Arabica Coffee Farming, while seed costs has no significant effect on the income of Arabica Coffee Farming in Payung District.

INTRODUCTION

Indonesia is an agricultural country where the majority of the population makes a living by farming. The agricultural sector in Indonesia has an important contribution to both the economy and the fulfillment of community needs. Agricultural development as an integral part of national development has a strategic role in national economic recovery (Sinyo, 2013:1).

The large contribution of the agricultural sector signals the importance of building sustainable agriculture consistently to encourage economic growth as well as community welfare (Daryanto, 2009:2).

One of the plantation crop commodities that can play a role in the development of the agricultural sector is the coffee commodity. Coffee is one of the plantation commodities which has a high economic value among other plantation crops and plays an important role as a source of foreign exchange. Coffee not only plays an important role as a source of foreign exchange but is also a source of income for no less than one and a half million coffee farmers in Indonesia (Rahardjo, 2012).

Payung District is one of the Arabica coffee producing areas in Karo Regency,

most people plant or cultivate the Sigararutang arabica coffee plant. Arabica coffee can grow well in an altitude between 700-1700 m above sea level, has a relatively higher quality than other types of coffee and generally this type of coffee bears fruit once a year (Budiman, 2012).

Almost all areas of Payung Sub-district, cultivate coffee plants. This is because the environment (soil, climate, altitude and temperature) supports coffee growth. The plantation business in this village is generally a people's plantation business and has become one of the mainstay commodities of the surrounding community.

The area of coffee plantations in Karo Regency in 2014-2018 experienced an increase in planted area, starting from 6,203 Ha in 2014 to 8,378 Ha in 2018. However, the increase in planted area was offset by an increase in production, coffee production increased in 2015 to 6,429,64 tons. The decline in production in 2016 to 5,785.86 tonnes, occurred due to renewal of coffee trees, excessive use of fertilizers in the previous year, long drought, errors in cutting coffee branches, or seeds and the price where the seeds used by farmers were local seeds that were not included. in the category of superior seeds and fluctuating coffee prices, while a decrease in land area may occur due to a change in function to other commodities. Then production rose again in 2017 to 7,485.85 tons until 2018 to 8,777.02 tons. This problem is in line with what Prajanti and Waridin (2010) expressed that Indonesian farmers do not have the knowledge capacity and a universe of sufficient insight to be able to understand their problems, think about their problems, or choose the most appropriate problem solutions to achieve their goals. So that their knowledge is only based on incorrect information due to lack of experience, education, or existing cultural value factors.

Efforts to protect land economically, ecologically, and socially are currently realized with an agroforestry system, but in fact the management of the current agro forestry system is felt to be less than optimal due to the low income of farmers due to the mismatch between production costs and the price of agroforestry commodities sold to market, while the price of agro forestry commodities was generally set by local farmers based on production costs. This is because of the fluctuation of commodity prices that can occur because the prices of agricultural and forestry commodities decline during the main harvest season, so that farmers often experience losses.

Most farmers sell their coffee in the form of unhulled coffee, which can cost up to Rp27,000/kg, the price of coffee in the form of green bean is Rp120,000/kg if it is processed from grain to ground coffee, it will have an added value, where the price of the ground coffee becomes Rp300,000/kg. However, in Payung District there is still minimal in the coffee processing industry in powder form where only one person is able to process it. The availability of production facilities also affects the further processing of coffee in the form of grain into powder. So that most farmers sell their coffee in the form of unhulled rice with an average processing income of Rp2,494,803.45/ production.

Meanwhile, the average processing income in the form of green bean is Rp6,131,700/production. And the average income in the form of powder is Rp10,250,000/production. If the processing is carried out from red cherries to unhulled, green beans and green beans, it will have added value. But in Payung District, it is still classified as traditional in the processing industry. Where, only a few have production facilities that support processing, so farmers prefer to sell their coffee in the form of unhulled rice. The low selling price makes Arabica coffee farmers faced with difficult choice conditions, namely between selling products but it could be a loss because they have to pay production costs of the products harvested, but farmers must have cash for farming capital for the next planting season and meet their daily needs.

Efforts to improve coffee productivity and quality are continuously being made so that coffee competitiveness in Indonesia can compete in world markets. According to Imam Tarigan, most of the income of coffee farmers in Payung District is still trapped by selling processed products in the form of grain, even though the selling price in the market of unhulled Arabica coffee is still relatively low. This phenomenon is due to the lack of specifications for tools/machines, capital and available knowledge in further processing of arabica coffee beans into ground coffee products with high added value.

Therefore, to get good quality Arabica coffee products with high added value, proper and effective processing is needed by doing each stage correctly as I did. The government is expected to play a role in assisting processors in solving these problems by providing training in Arabica coffee processing, capital assistance such as production facilities that support producing quality coffee products and high selling value in Payung District.

The purpose of this study was to analyze the added value of processing arabica coffee in the form of unhulled, greenbean and powder, to analyze the income of processing arabica coffee in the form of unhulled, greenbean and powder, and to analyze the factors that affect the income of Arabica Coffee Farming in the study area.

RESEARCH METHODS

This research was conducted in Payung District, Karo Regency, with a purposive method. The total population in Payung District is 776 Arabica Coffee Farming. The number of samples obtained was 88 samples of Arabica Coffee Farming using the Slovin method.

The analytical method used in this research is descriptive analysis, income analysis, multiple linear regression analysis.

The descriptive analysis and income analysis is product value shows the output value generated from one input unit (Suprapto, 2006).

The multiple linear regression analysis is as a study of the relationship of one variable called the explained variable with one or two variables that explain (Gujarati, 2006).

This analysis tool uses Eviews software. Eviews is a statistical package for Windows, used mainly for time-series oriented econometric analysis (Rahmanta, 2009).

RESULT

Payung District is one of the Districts in Karo Regency, North Sumatra Province. Its area is 47.24 km^2 with a population of 12,224 people. Payung District has an altitude of 1,124 m above sea level, with an average temperature of 19° c with an average rainfall of 2500 mm/year.

Based on the data it can be seen that the largest and smallest land use based on agricultural land and non-agricultural land in Payung District is Batu Karang village with the use of agricultural land for paddy/non-paddy fields covering an area of 1,007 hectares and non-agricultural land use covering an area of 363 hectares, while Ujung Payung village uses land use. agriculture covering an area of 81 hectares and non-agricultural land use for buildings and settlements covering an area of 129 hectares.

Based on the data, it can be seen that the largest plantation crop cultivated by residents of Payung District is the coffee plant, where the total area of coffee land is 458 hectares and the total production is 678.39 tons. Cocoa plants with a total land area of 178 hectares and a total production of 112.68 tons. Meanwhile, tobacco plants with a total land area of 120 hectares and a total production of 87.34 tonnes.

The results showed that the added value obtained from processing arabica coffee in the form of unhulled was Rp1,773.30, green bean form was

Rp9,311.08, and the powder form was Rp136,347.69. Arabica coffee processing income in the form of unhulled is Rp2,377,742.3/production, in the form of greenbean is Rp3,823,977.5/production, powder of Rp11,152,347.7/production.

Table 1: Multiple Linear Regression Analysis

Description	Regression Coefficient	t_{count}	Sig t
X_1:Production Factors	3574.505	38.273	0.000
X_2 : Labor Wages	-0.504	-2.651	0.010
X_3 : Seed Costs	-0.052	-0.365	0.716
X_4 : Fertilizer Costs	-0.454	-10.785	0.000
X_5: Selling Prices	265.283	13.608	0.000
R-Square : 0,967 F_{count} : 483,800 Sig F : 0,000			

Source: Primary Data after Processing (2020)

Production factors, labor wages, fertilizer costs, and selling prices have a significant effect on the income of Arabica Coffee Farming, while seed costs has no significant effect on the income of Arabica Coffee Farming in Payung District.

Production factors, labor wages, seed costs, fertilizer costs, and selling prices have a significant effect simultaneously on the income of Arabica Coffee Farming in Payung District.

CONCLUSION AND SUGGESTION

The results showed that the added value obtained from processing Arabica coffee in the form of unhulled was Rp1,773.30, green bean form was Rp9,311.08, and the powder form was Rp136,347.69. Arabica coffee processing income in the form of unhulled is Rp2,377,742.3/production, in the form of green bean is Rp3,823,977.5/production, powder of Rp11,152,347.7/production. Production factors, labor wages, seed costs, fertilizer costs, and selling prices have a significant effect simultaneously on the income of Arabica Coffee Farming in Payung District. Production factors, labor wages, fertilizer costs, and selling prices have a significant effect on the income of Arabica Coffee Farming, while seed costs has no significant effect on the income of Arabica Coffee Farming in Payung District.

The suggestions for this research are:

1. Arabica Coffee Farming in Payung District, Karo Regency, it is better if they process and sell arabica coffee in the form of greenbeans to get higher income and added value.
2. To the government, it is hoped that it can assist Arabic coffee farmers in increasing their ability to process coffee, by facilitating processing training activities and assistance with equipment such as hullers through coffee farmer groups and village heads in Payung District, Karo Regency.
3. To the next researchers, in order to further investigate other factors that affect the income of Arabica Coffee Farming in Payung District and the marketing strategy of Arabica coffee in Payung District, Karo Regency.

REFERENCES

1. Budiman, Haryanto. (2012). *Prospek Tinggi Bertanam Kopi*. Yogyakarta: Pustaka Baru Press.
2. Daryanto, A. (2011). Nilai tambah peternakan melalui agroindustri. Trobos, *137*.
3. Gujarati. (2006). *Dasar-Dasar Ekonometrika Jilid I. Edisi Ketiga.* Jakarta: Erlangga.
4. Rahardjo, Pudji. (2012). *Panduan Budidaya dan Pengolahan Kopi Arabika dan Robusta*. Jakarta: Penebar Swadaya.
5. Rahmanta. (2009). *Aplikasi Eviews dalam Ekonometrika.* Medan: USU Press.
6. Sinyo, Delawaty. (2013). *Analisis Pendapatan pada Usaha Kopi Arabica: Studi pada Petani Arabika di Perkebunan Rakyat Kecamatan Ciwidey*. Universitas Pendidikan Indonesia.
7. Supranto, J. (2006). *Teknik Sampling untuk Survei dan Eksperimen*. Jakarta: Rineka Cipta.

8. Prajanti, Sucihatiningsih Dian Wisika & Waridin. (2010). Model penguatan kapasitas kelembagaan penyuluh pertanian dalam meningkatkan kinerja usahatani melalui transaction cost, studi empiris di Provinsi Jawa Tengah. Jurnal Ekonomi Pembangunan.

How to cite this article: Simatupang AEC, Tarigan K, Rahmanta. Value added analysis and factors affecting the income of Arabica Coffee Farming in Payung District, Karo Regency. International Journal of Research and Review. 2020; 7(11): 63-67.

******