AN ANALYSIS OF COFFEE FARMER INCOME IN PINOGU BONE BOLANGO

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ABSTRACT

This research confers an analysis of coffee farmer income in Pinogu Bone Bolango. The research method deployed was a survey based on primary and secondary data. The sample units were 80 respondents. Data analyses applied were a household income analysis, inferential statistical analysis (Z test), and product risk analysis. Findings demonstrate that coffee and other farming income was IDR2,894,013 and IDR3,286,500/farmer/year, respectively. Meanwhile, non-farming income was IDR17,357,138/farmer/year. The farmer household income was thus IDR17,357,138/farmer/year. Considering income contribution, coffee farming income delivered a lower contribution than other incomes.

Keywords: *Coffee Farmer, Household Income, Coffee Farming*

INTRODUCTION

The agricultural sector is one of the non-oil and gas sectors significantly contributing to the national income. This condition opens more opportunities for the sector to thrive. Additionally, most people in Indonesia put much hope on the sector, upon which their wellbeing is built, as agriculture is their primary livelihood. The agricultural sector is categorized into several sub-sectors, i.e., plantation, animal farming, fishery, crops, and forestry. Plantation crops, in general, were more suitably planted in summery areas, e.g., Indonesia (Permatasari, 2014).

Gorontalo Province, particularly Bone Bolango, is one of the potential areas for coffee production. The district is 1,984.58 km^2 (16.24 of the total area of Gorontalo Province) and has 18 subdistricts and 165 villages. 14 of the 18 subdistricts produce coffee, with Pinogu as the largest coffee producer. According to Statistics Indonesia (BPS), in 2018, the amount of coffee production in Bone Bolango was 686.83 tons, to which Pinogu contributed the most, namely 443.08 tons (Statistics Indonesia in Gorontalo Province, 2018).

Coffee farmers are a permanent job for the Pinogu community. Coffee productivity should acquire top attention from both farmers and the Bone Bolango government because this annual plant should be professionally handled under proper procedures for agricultural sectors in order to increase the amount of production. With good care, coffee production will likely increase, and more job opportunities will be available for coffee farmers.

This research aims to examine coffee farmer income in Pinogu Bone Bolango.

LITERARY REVIEW

Agriculture

Agriculture is a primary industry, which manages soil, water, mineral, and capital resources. Also, it is a form of management operated by particular workers who set objectives of producing and marketing various goods. It is considered the most crucial sector in the economy of developing countries. Besides, it is also the most imperative sector in the national economic growth because of its contributive role to farmer commodity, which is the preeminent commodity in Indonesia. Likewise, the contribution of agricultural sectors had a great effect in Indonesia (Farmasari, 2018).

Agriculture is also important for the development of Indonesia, especially in the context of food self-sufficiency. Therefore, the agricultural commodity should be prioritized by the government to address agricultural issues (Gusti, in Saputro, 2020). Furthermore, in Indonesia, agriculture significantly contributes to elevate the community economy. However, although most of the Indonesian people were farmers, agricultural productiveness did not cater to expectations (BPT of Agriculture, in Purba, 2019). Thus, developing agricultural sectors was a must as almost half of the total number of Indonesian citizens considerably hinged on the sectors (Ramli, in Fatmah, 2015).

Agricultural sectors are considered more efficient than others in Indonesia. Agricultural products are one of the sources of foreign exchange income for the country. The commodity was derivative products from plantations, one of which was clove (Hendra, in Fatmah, 2015).

Farming and Farmers

As argued by Shinta, in Permatasari (2014), the science of farming business was to study how individuals allocate extant resources in an effective and efficient manner, to gain high profits within certain periods. It is effective if farmers can well allocate resources they own, and it is efficient if the use of the resources generates outputs exceeding the number of inputs rendered.

The science of farming business studied how farmers managed inputs or production factors (soil, workers, capital, technology, fertilizer, seeds, and pesticide) in an effective, efficient, and continuous way to breed a high production rate and thus increase farming income (Kristi, 2014). Soekartawi, in Purba (2019), contended that production factors were all “goods sacrificed” to plants in order to make them grow and produce well. These factors are also known as inputs or “sacrificed goods for production”. Additionally, they exceptionally determine the amount of production got. Land production, capital to buy seeds, fertilizer, pesticide, workers, and management are the most pivotal production factors. The correlation between production factors (input) and production results (outputs) was called a production function or relationship factor (Purba, 2019).

Concept of Household Income

A household is composed of two or more individuals having either a blood, marital, or adoption relation within one household, in which they communicate with each other to build and maintain a

specific culture. Commonly, there are a family head and some family members in a household. A family head is a person in charge of a household, whereas family members were those who lived with and were under the responsibility of the family head concerned (Zaidin, in Suparyanto, 2014:6).

Household income is the amount of real income earned by all family members and spent for shared or individual needs within a household. It is a reward, be it goods or a service, obtained due to contributions to production activity. In concrete, household income was derived from (Gilarso, 1992:26):

1. The businesses, e.g., trading, farming, opening a business (entrepreneurship).
2. Employment, e.g., being a civil servant or an employee.
3. Ownership, e.g., land rented, and others. The income could be either money or goods, such as compensation in the form of rice, housing facilities, and so on. In general, income was either nominal (money) and real (goods).

Income deployed to determine a household welfare rate is the household income earned from working. Each family member will work to manifest family prosperity. Meanwhile, several other studies indicated that family members, such as the wife and children, contributed to varied activities, from carrying out household chores to earning a living (Soeratno, 1996:17).

Coffee as a Farming Commodity

Coffee is one of the plantation commodities with a high economic rate and contribution to the foreign exchange. Also, about 1.5 million coffee farmers in Indonesia made a living from it (Rahardjo, in Arifin *et al*., 2018). In 2014, Indonesia exported coffee by 384,816 tons and successfully earned U$1,039,341, as posited by the Ministry of Industries (Nursari, 2018).

Farmer wellbeing is pointed out by their income. Coffee farmer income greatly relies on the average production of coffee beans and coffee market price. Coffee market price, either local, regional, or global, constituted an external factor of coffee farming (Irmeilyana *et al*., 2019). Coffee is a preeminent commodity of the plantation subsector. Besides, it possesses a good domestic or foreign market opportunity. The majority of coffee produced in Indonesia is the plantation commodity exported to the global market. Nevertheless, coffee plantation, which is dominated by community plantation in general, acquire fewer concerns. This certainly brought about some issues in the quality and amount of coffee production for an export purpose (Sutrisno, in Tanis *et al*., 2019).

RESEARCH METHODS

Data Types and Resources

Data exerted here were primary and secondary. Primary data were collected from interviews and surveys, whereas secondary data were from books, journals, or institutions relevant to research objectives. The institutions were, e.g., Statistics Indonesia in

Gorontalo Province, Statistics Indonesia in Bone Bolango, and BP3K of Pinogu.

Population and Sample

A stepwise sampling was conducted from villages to farmers.

1. Village sampling

   Of five villages in Pinogu, three, namely Dataran Hijau, Bangjo, and Pinogu Permai, were coffee producers. Random sampling performed to those villages generated two villages, which were Pinogu Permai and Bangjo.

2. Farmer sampling

   390 coffee farmers live in the village samples. We then applied Slovin's formula to determine the number of samples (Simamora, 2002).

$$n = \frac{N}{1 + (N \times e^2)}$$

where:

N = amount of production
n = number of samples
e = sampling error, set at 10%

Based on the number of population and using λ = 0.10, the number of samples was 80.

Data Analysis Technique

Data analysis was undertaken using a quantitative-descriptive analysis technique, i.e., table presentation, ratio, and percentage. Besides, a quantitative-inductive analysis technique, namely the double regression model, was also deployed.

Coffee Farmer Income Analysis

Net farm income, by definition, was the difference between gross farm income and total farm expenditure. The difference in farming income could be exerted to measure rewards acquired by farmer families from the aspects of the use of work production factors, management, and capital (Soekartawi, in Wibowo, 2012:39). Thus, net farm income could be formulated as follows:

$$\pi = TR - TC$$
$$TR = Y \times Py$$
$$TC = TFC + TVC$$

where:

π = farmer income from a coffee farm
TR = farmer reception
TC = total cost (IDR)
Y = coffee production
Py = coffee price
TFC = total fixed cost
TVC = total variable cost

Farmer income was stated higher if farming carried out was efficient, or the use of production factors spent minimum costs to induce maximum production. Farmers' success was determined by not only a large amount of production but also the production cost because a production process largely contributed to farmers' net income. Accordingly, referring to the elucidation, cost, reception, and income linked to each other (Soekartawi, 2011).

FINDINGS AND DISCUSSION

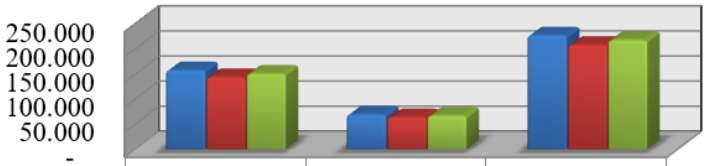
A. Coffee Farming Cost

In a production process, outputs acquired could not be segregated from costs. Coffee farming costs in Pinogu Bone Bolango were costs spent by farmers in a farming process. The costs came in two types, i.e., variable and fixed.

1. Variable cost

   The cost was inconsistent in nature and the amount spent affected the coffee production volume. It covered the cost of picking and transportation. The variable cost of

coffee farming in Pinogu Bone Bolango is pointed out in Figure 1.



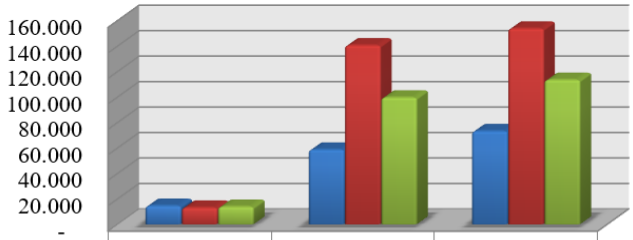
	Biaya Pemetikan (Rp/Tahun)	Biaya Transportasi (Rp/Tahun)	Biaya Variabel (Rp/Tahun)
Desa Pinogu Permai	157.625	69.625	227.250
Desa Bangio	144.125	64.125	208.250
Kecamatan Pinogu	150.875	66.875	217.750

Figure 1. Variable Cost of Coffee Farming in Pinogu Bone Bolango

As clarified in Figure 1, the cost of picking and transportation in Pinogu Permai was IDR157,625/year and IDR69,625/year, respectively, and hence, the total variable cost was IDR227,250/year. Moreover, the cost of picking and transportation in Bangjo was IDR144,125/year and IDR64,125/year, respectively, and therefore, the total variable cost was IDR208,250/year. Overall, the average cost of picking and transportation in Pinogu was IDR150,875/year and IDR66,875/year, and thus, the total average variable cost was IDR217,750/year.

2. Fixed cost

A fixed cost was the cost which should be spent by coffee farmers with no effect on the amount of production. It included land tax and depreciation on equipment. The amount of fixed cost is presented in Figure 2.



	Pajak Lahan (Rp/Tahun)	Penyusutan Alat (Rp/Tahun)	Biaya Tetap (Rp/Tahun)
Desa Pinogu Permai	14.550	58.650	73.200
Desa Bangio	13.150	140.625	153.775
Kecamatan Pinogu	13.850	99.638	113.488

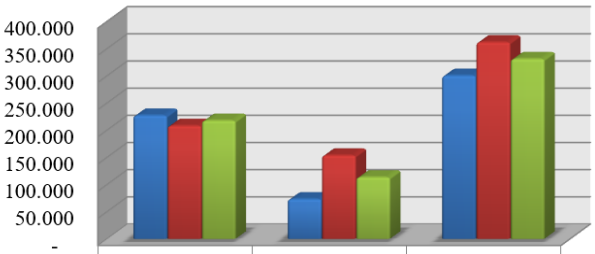
Figure 2. Fixed Cost of Coffee Farming in Pinogu Bone Bolango

The land tax and depreciation on equipment in Pinogu Permai were IDR14,550/year and IDR58,650/year, respectively, and hence, the total fixed cost was IDR73.200/year. Meanwhile, the land tax and depreciation on equipment in Bangjo were IDR13,150/year and IDR140,625/year, respectively, and

hence, the total fixed cost was IDR153,775/year. Overall, the average land tax and depreciation on equipment in Pinogu was IDR13,850/year and IDR99,638/year, respectively, and hence, the total average fixed cost was IDR113,488/year.

3. Total cost

A total cost constituted the whole cost spent by farmers in running their farming activities. A total cost was a variable cost added to a fixed one. The total coffee farming cost in Pinogu Bone Bolango is shown in Figure 3.



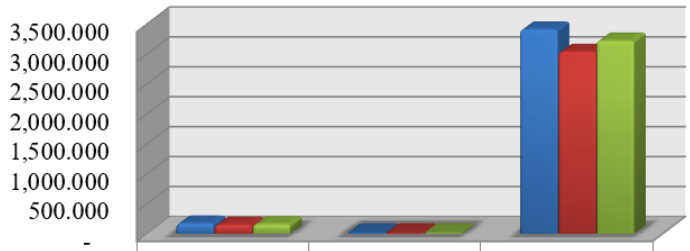
	Total Biaya Variabel (Rp/Tahun)	Total Biaya Tetap (Rp/Tahun)	Total Biaya (Rp/Tahun)
Desa Pinogu Permai	227.250	73.200	300.450
Desa Bangio	208.250	153.775	362.025
Kecamatan Pinogu	217.750	113.488	331.238

Figure 3. Total Average Cost of Coffee Farming in Pinogu Bone Bolango

Figure 3 shows off that the total variable and fixed costs in Pinogu Permai were IDR227,250/year and IDR73,200/year, respectively, and hence the total cost was IDR300,450/year. Meanwhile, the total variable and fixed costs in Bangjo were IDR208,250/year and IDR153,775/year, respectively, and hence the total cost was IDR362,025/year. Taken together, the total average cost of farming in Pinogu was IDR331,238/year.

4. Coffee farming reception

Coffee farming reception was the production output received by coffee farmers from farming. The amount of reception was determined by the amount of production and selling price applicable. As confirmed in Figure 4, the amount of production output in Pinogu Permai was IDR170,375 kg/year at a selling price of IDR20,000/kg, and thereby resulting in the reception of IDR3,412,375/year. Moreover, the amount of production output in Bangjo was IDR149,750 kg/year at a selling price of IDR20,275/kg, and thereby resulting in the reception of IDR3,038,125/year. In general, coffee production output in Pinogu was IDR160,063 kg/year at an average selling price of IDR20,138/kg, yielding an average reception of IDR3,225,250/year. Data showcased in Figure 3 demonstrate that the most production outputs, hence the highest reception, were achieved by Pinogu Permai.



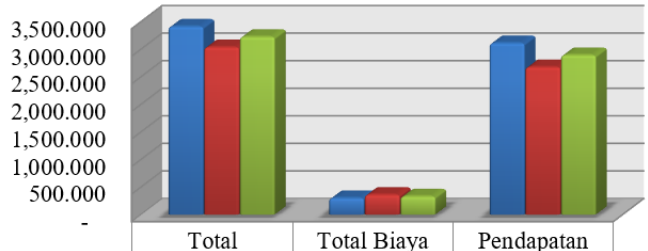
	Produksi (Kg/Tahun)	Harga Jual (Rp/Kg)	Penerimaan (Rp/Tahun)
Desa Pinogu Permai	170.375	20.000	3,412.375
Desa Bangio	149.750	20.275	3,038.125
Kecamatan Pinogu	160.063	20.138	3,225.250

Figure 4. Coffee Farmer Reception in Pinogu Bone Bolango

If we compared our findings with the previous research findings, farmers' average reception in both findings was relatively aligned. However, the reception should be optimized. We figured out that farmers in Pinogu Bone Bolango were still using traditional farming tools, decreasing the productiveness.

5. Coffee farming income

Coffee farming income was a net income output earned by farmers from the difference between total reception and total cost spent on farming. To identify coffee farming income, we should quantify coffee farming reception by multiplying the amount of production to the selling price applicable at that time and then quantify the total cost by adding fixed and variable costs.



	Total Penerimaan (Rp/Tahun)	Total Biaya (Rp/Tahun)	Pendapatan (Rp/Tahun)
Desa Pinogu Permai	3,412.375	300.450	3,111.925
Desa Bangio	3,038.125	362.025	2,676.100
Kecamatan Pinogu	3,225.250	331.238	2,894.013

Figure 5. Average Coffee Farming Income in Pinogu Bone Bolango

In Figure 5, the coffee farmer reception rate in Pinogu Permai and Bangjo was IDR2,787,675/year and IDR2,523,725/year, respectively. Overall, the average coffee farmer income in Pinogu was IDR2,665,700/year.

Comparing to that in previous research, coffee farmer income in Pinogu Bone Bolango was lower. It was because coffee farming was a side business run by farmers and therefore not their priority, which they set for rice, paddy farms, corn, and animal farms. This caused a

relatively smaller income generated from coffee farming.

CONCLUSION

The average income got by farmers in Pinogu from coffee farming was IDR2,665,700/year. The number was indeed small, but coffee farming was a side business run by farmers, who regarded rice farming as the prioritized. From non-coffee farming activities, farmers obtained an average income of IDR11.176,625/year/farmer, while from non-farming activities, they acquired IDR3,286,500/year/farmer.

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