

Assessing the Economic Potential of Banana Production on Critical Land in Plandaan Sub-District, Jombang Regency

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ABSTRACT

Banana fruit productivity on critical land, although it has limited land capacity, has economic potential if the regional potential is developed. This study aims to determine the economic potential of banana production by measuring the level of efficiency and farm income on critical land in Plandaan sub-District, Jombang Regency. This research was conducted using a survey method with the determination of sample villages using the Simple Random Sampling method, as many as 39 people were sampled. The results of this study indicate that banana fruit farming per hectare requires a production cost of Rp. 31,010,000 with a gross income of Rp. 58,500,000, so the net income is Rp. 27,490,000. The results of the analysis of the R/C Ratio obtained that the efficiency level of banana fruit farming on 1 Ha land was 1.886 which showed a profit. This means that banana fruit farming in Plandaan District, Jombang Regency is feasible to be developed.

Keywords: Economic potential, farming efficiency, banana plants, critical land

ABSTRAK

Produktivitas buah pisang pada lahan kritis, walaupun memiliki keterbatasan kemampuan lahan, namun memiliki potensi ekonomis jika dilakukan pengembangan potensi daerah. Penelitian ini bertujuan untuk mengetahui potensi ekonomi produksi tanaman pisang melalui pengukuran tingkat efisiensi dan pendapatan usaha tani pada lahan kritis di Kecamatan Plandaan Kabupaten Jombang. Penelitian ini dilakukan dengan menggunakan metode survey dengan penentuan desa sampel menggunakan metode Simple Random Sampling, sebanyak 39 orang sampel. Hasil penelitian ini menunjukkan bahwa usaha tani tanaman buah pisang per hektarnya membutuhkan biaya produksi sebesar Rp. 31,010,000 dengan pendapatan kotor sebesar Rp 58,500,000, sehingga pendapatan bersihnya Rp. 27,490,000. Hasil analisis R/C Ratio diperoleh tingkat efisiensi usaha tani tanaman buah pisang pada lahan 1 Ha sebesar 1,886 yang menunjukkan keuntungan. Hal ini berarti usaha tani tanaman buah pisang di Kecamatan Plandaan Kabupaten Jombang layak dikembangkan.

Kata kunci : Potensi ekonomi, efisiensi usaha tani, tanaman pisang, lahan Kritis

INTRODUCTION

Each region generally has potential in agriculture or other potentials, which can be utilized in economic development in the area. In every area, especially rural areas, the community will take advantage of every inch of land so that it can be utilized. People in general really use the land to plant crops that can be useful to support their daily needs. Local fruit production in Jombang Regency itself has high potential. The types of fruits in Jombang Regency that have the potential for farmers include Mango, Orange, Avocado, Rambutan, Durian, Banana, Sapodilla, Papaya, Pineapple, Salak, Watermelon, Soursop, and Jackfruit.

Jombang Regency has a geological structure that is generally composed of rock and quaternary mud deposits. The control of complex geological structures is found in the northern area of the Brantas River, while for the southern area of the Brantas River the results of volcanism activity dominate. Based on the physical characteristics of the soil in Jombang Regency, it can be divided into two parts, namely (1). The northern part of Jombang Regency is part of the limestone mountains which have relatively less fertile soil, (2). Jombang Regency south of the Brantas River is mostly agricultural land so it is suitable for agriculture. (Naziha, 2018).

Plandaan District is located in the north of Jombang Regency with the geological conditions of the area consisting of limestone mountains as described above. Despite these geological conditions, most of the residents work as farmers. Generally, farmers in the area cultivate horticultural crops that are easy to grow on their land. Although the geological conditions of the area are not good, there are several fruit plants that can be used with the potential to boost the economy in the region.

A banana is a fruit plant that grows in the tropics. In Indonesia, banana production is spread across 32 provinces and is increasing every year. Banana production in 2019 was around 7.28 million tons. an increase of about 0.22% from 2018. The largest contribution of banana production came from the provinces of East Java with a production of 21.17 million tons, West Java 12.20 million tons, and Lampung 12.10 million tons. (Wara, 2020) as well as banana production data according to the data from the National Statistical Center, banana production in East Java province in 2018 reached 2 059 922 tons and in 2019 with a production output of 2,116,974 tons and reached the highest figure in 2020, namely 2 618 795 tons.

The potential for banana fruit production in the Plandaan sub-district itself, in the Plandaan sub-district according to data from the Jombang Regency Central Statistics Agency is quite high with a total production of 1975.3 in 2019 and, 479.8 tons in 2020. So with that, of course, there is potential good production to be used as an economic opportunity for farmers in the Plandaan sub-district. Therefore, researchers are trying to explore any opportunities that can be developed in analyzing the potential of banana plants in the Plandaan sub-district as a regional economic booster.

RESEARCH METHODS

Data were collected by purposive sampling in June 2022 and conducted in two villages in the sub-district of Plandaan. It is geographically a hilly area in the northern part of the Jombang. The overwhelming majority of people the farmers. That area is a cluster of limestone mountains and critical land, but they have agricultural potential, especially for bananas. Thus the area can be used as a parameter of economic growth in the field of banana production.

Table 1.
Total population and sample of banana farmers in Plandaan

No	Villages	Total Population (person)	Number of Sample(person)
1	Jipurapah	1,923	20
2	Gebang bunder	1,831	19
Total			39

Source: Primary data for 2022

The marketing agency in this study is a marketing agency in Plandaan, the closest institution to the community, currently, there are three institutions. Namely: private collectors, village agents, and retailers. Sampling for marketing institutions is carried out using the census sampling method, this is because the population of marketing institutions in the research area is relatively small.

To determine the level of efficiency of banana farming carried out by farmers who have an area of 1 ha. By using an area of 1 ha. By using the following formula:

$$R/C \text{ Ratio} = \frac{\text{Income (Receipts)}}{\text{Total Cost}}$$

Criteria:

$R/C > 1$, farming is feasible

$R/C < 1$, farming is not feasible

$R/C = 1$, farming is said to break even (Gunardi, 2013).

Marketing Fee

Marketing costs are costs incurred for marketing purposes. The number of marketing costs can be formulated as follows:

$$Mc = Mc_1 + Mc_2 + Mc_n$$

Where: Mc = Marketing Cost

Mc_n = Marketing Cost per Agency

RESULTS AND DISCUSSION

Farmer Characteristics

The characteristics of farmers in Plandaan Sub-district, Jombang Regency, are on average over 35 years old with an average farmer dependent of about 3 people. The level of education of farmers in Plandaan District, Jombang Regency is in the range of high school and below. The average needs of farmers in the Plandaan area are quite high so farmers have to try to farm intensively, the isolated condition of the area in the research location causes farmers to try well to distribute their agricultural products.

The marketing agency in the Plandaan sub-district only has 2 marketing agents, while the existing marketing channels in the area can be through the

Gapoktan located in each village. The age of marketing agents in the Plandaan sub-district is 2 years old, with market reach to large marketing institutions such as supermarkets and district local markets. In the research area, there are also sub-district fruit traders, the average age of traders is above 36 years and the highest average education level is around 12 years.

Banana Plant Business Efficiency

Production cost

Farming production costs are the total capital spent to produce products. In analyzing the total costs, the things that are taken into account as these costs consist of: land rent, production facilities costs, labor costs, and other costs. In a farming business, there is actually a depreciation in the cost of farming, but in this study, the researchers did not include the depreciation of the costs of farming in the field.

Land rental fee

In every farming business, the land is one of the assets supporting the implementation of a farming business. The land is one component of the basic needs of farmers in running their businesses. When viewed from the company's point of view, there is no difference between carrying out a farming business using their own land by using other people's leased land, because every land owner has rights to the land he owns.

The basic difference between farming with own land facilities and using farming facilities by renting land from other people. There is a land rental fee for each use of the facility, but using the land itself also has its own costs, because the land must be obtained first by the farmer who will do a farming business. As a consequence, farmers who use their own land for farming must take into account the capital of the land. A farmer should provide remuneration for the provision and use of his own land whose value is equal to the farmer's receipt if the land is rented out. The amount of the fee is adjusted to the prevailing land rental price at that time. In this study, the amount of land rent that applies in the Village of Fruit Plants, especially paddy fields is IDR. 4,000,000,-/Ha. Thus, one of the costs or capital that must be borne by farmers is land rent.

Labor costs

The cost of labor in this study is the cost of capital incurred by farmers to pay workers who help farmers in the process of caring for banana plants, as well as banana plantations starting from the beginning of the land processing until harvesting. The costs referred to are processes that use the labor and services of other people, such as land preparation, plowing or loosening, making irrigation drainage, planting processes, maintenance, and fertilization processes, as well as harvesting and transporting crops.

The wages given by farmers at the research site are Rp. 150,000 per day. Meanwhile, the wages of workers during the preparation period for planting, and during the maintenance period, the average farmer pays 100,000 workers a day's work.

Cost of production facilities

The production facilities used by farmers in growing bananas in Plandaan sub-district are seeds, urea fertilizer, NPK, KCL, and pesticides. The cost can be seen in table 2 below. Efficient use of production costs does not mean reducing the portion of plant needs and the development process, but the use of production costs must be right on target according to what is needed in the production process so that income levels are obtained in accordance with what farmers expect (Wijaya, 2019).

Table 2.
 Production Facilities

No	Production facilities	Unit Price	Need/ 1 time planting	Amount
1	Bibit	Rp. 12.000	2000	Rp. 24.000.000
2	Urea	Rp. 2.250	200	Rp. 450.000
3	NPK	Rp. 2.300	200	Rp. 460.000
4	KCI	Rp. 5.000	200	Rp. 1.000.000
Total				Rp. 25.910.000

Data Source: Respondent Farmers

Production Rate and Income

Production in this case is the result (output) of the banana fruit farming business process obtained by farmers in the Plandaan sub-district from the production process that is issued using certain inputs. While the revenue in question is the result of farming carried out by the farmer, the receipt is the amount of money received by the farmer from the sale of all the production obtained. Production is related to revenue and production costs, the receipts are received by farmers because they still have to be reduced by production costs, namely the overall costs used in the production process (Suratiyah, 2015).

Meanwhile, according to Tuwo (2011), farm income is income from all sources of farming including the proceeds from the sale of crops, livestock, fish, or products sold, products consumed by entrepreneurs and families during their activities, and an increase in inventory value. form of acceptance from the source of farming revenue itself.

The productivity of banana plants on critical land in Plandaan has potential because the condition of this land still has a suitable growing environment. Ritung et al. (2011) banana plants can grow well in areas with air temperature 25 – 27 0C, humidity > 60%, altitude < 1,200 m above sea level, rainfall 1,500 – 2,500 mm/year and dry months (rainfall < 60 mm). /month) 0 – 3 months. This shows that critical land has no obstacles to cultivating bananas and is able to increase banana production. The level of production and acceptance of banana farming in Plandaan is shown in table 3.

Table 3:

Production and Revenue Levels of Banana Fruit Farming in Plandaan District, Jombang Regency 2022

No	Land area	Production (Kg)	Price (Rp.)	Reception Rp.
1	1 (satu) Ha	13000	4500	58,500,000
Total				58,500,000

Source: Data processed (2022)

Mujiyo et al. (2017) added that one aspect of developing banana commodities is how to provide suitable land for a wider scale of development. Banana plants can be used as conservation plants in dry and critical areas.

Farming Income

Farming is the study of how farmers manage inputs or production factors (land, labor, capital, technology, fertilizers, seeds, and pesticides) effectively, and efficiently, and continue to produce high production so that their farming income increases (Hastuti & Rahim, 2007). The assessment of farming aspects includes the value of the sources of funds to be obtained, the need for investment costs, estimated income, and investment costs for several periods including the type and amount of costs incurred during the life of the investment (Shinta, 2011).

In farming analysis, farmer income is used as an important indicator because it is the main source in meeting the needs of daily life (Lasantu et al, 2019). Meanwhile, farm income is the difference between farm income and production costs that have been incurred by farmers in the production process, farm income is the difference between output and input. The amount of income and production costs of farming production of bananas in Plandaan district can be described in table 4 as follows:

Table 4.
 Total costs and income per hectare of banana fruit farming in Plandaan sub-district, Jombang district 2022

No	Land area	Reception	Production Price (Rp.)	Net Income
1	1 hektar	58,500,000	31,010,000	27,490,000
Total				27,490,000

Source: Data processed (2022)

Efficiency Level or R/C Ratio

The farming efficiency level is a comparison between total income and total production costs incurred in banana fruit production by farmers in the Plandaan sub-district which is the research location. The following is a calculation of the efficiency of banana fruit farming in Plandaan District, Jombang Regency.

$$\begin{aligned}
 \text{R/C Ratio} &= \frac{\text{Total Income (Total Receipts)}}{\text{Total Cost}} \\
 &= \frac{\text{Rp. 58,500,000}}{\text{Rp. 31,010,000}} \\
 &= 1,886
 \end{aligned}$$

From the results of the R/C Ratio analysis, the efficiency level of banana fruit farming on 1 Ha land is 1.886 or shows a profit. Thus, it can be said that banana fruit farming in Plandaan Jombang is feasible to be developed. The criteria for the value of B/C > 1 state that banana farming in critical land is feasible because the income of banana farmers in the research area is quite good from the results of using production costs if only two years are calculated. Efficient use of production costs does not mean reducing the portion of plant needs and the development process, but the use of production costs must be right on target according to what is needed in the production process so that income levels are obtained in accordance with what farmers expect (Wijaya, 2019).

Harvest Costs and Marketing

Costs are all sacrifices that need to be made for the production process, which is expressed in units of money according to the prevailing market price, both those that have occurred and those that will occur. Carter (2010) states that costs are exchange rates, expenses, or sacrifices made to ensure the acquisition of benefits.

Cost is the value of all necessary economic inputs, which can be estimated and can be measured in the form of goods or services during the production process. Costs are all sacrifices that need to be made for a production process, which is expressed in units of money according to the prevailing market prices, both those that have occurred and those that will occur. Cost is stated as an exchange rate, expenditure, or sacrifice made to guarantee the acquisition of benefits (Firdaus & Wasilah, 2012).

Farmers in Plandaan sub-district generally sell their agricultural products to middlemen or retailers in the villages. Generally, institutions or collectors in these villages buy agricultural products from farmers at cheaper prices at market prices to take profits and cover marketing costs. Thus marketing costs are costs incurred by marketing institutions to market bananas at a certain price according to the needs needed to market the products being sold because the process of flowing goods from producers to consumers requires costs. For more details, the average use of banana marketing costs in Plandaan can be seen in table 5 below.

Table 5.
Average Marketing Cost of Bananas in Plandaan

No	Marketing Agency	Marketing Cost (per Kg)		Total
		Village Agency	Big Middlemen	
		Bp_1	Bp_2	
1	I	1000	2000	3000
2	II		4500	4500

Source: primary data processed in 2022

Based on table 5 above, it can be seen that in Plandaan District there are only two marketing institutions. from marketing agency I, village agents managed by farmer groups (GAPOKTAN) bought bananas from farmers and spent Rp. 1000 rupees. A large agent managed by Mr. Budi, who is located in the Plandaan sub-district, buys bananas from a village agent by spending a marketing fee of Rp. 2000 rupiah and the big agent buys bananas directly from the farmers by issuing a marketing price of Rp. 4500 rupiah, so the total cost of marketing on the channel I is Rp. 3000 per kilogram in the Plandaan sub-district there are no retail agents, so marketing agents in the Plandaan sub-district sell their banana plantations to large companies such as Sunpred, or to traders outside the Plandaan sub-district.

The table above also shows that village agents do not incur marketing costs while large agents incur larger costs by buying bananas directly from farmers with marketing costs of Rp. 4500 rupees. Big agents buy bananas from farmers at high prices because they only accept bananas with high quality, while village agents buy bananas at low prices because they don't care about the quality of farmers. A large agent in the Plandaan sub-district buys the bananas to be sold to companies that receive high-quality fruits.

CONCLUSION

Based on the results of research and discussion on the analysis of the cost structure, income, and feasibility of banana farming in critical land, Plandaan District, Jombang Regency, the following conclusions are obtained:

1. The Plandaan sub-district is geographically an area consisting of a cluster of limestone mountains. However, the soil structure of the area can still be planted with fertile land for agricultural centers. In banana farming in the area, there are still very few, because there are still few marketing agents,

2. Banana fruit farming requires a production cost of Rp. 31,010,000 with a gross income of Rp. 58,500,000, so the net income is Rp. 27,490,000.
3. Income from banana fruit farming in the Plandaan district has a high level of production. of Rp. 31,010,000. In addition to high revenue for farmers, marketing costs are in the range of Rp. 7500 per kilogram of banana fruit farming in the Plandaan district is quite promising even though it is not a big commodity.
4. The results of the R/C Ratio analysis obtained that the level of efficiency of banana fruit farming on 1 Ha land was 1.886 or showed a profit. Thus, banana fruit farming on critical land in the Plandaan District, Jombang Regency is feasible to be developed.

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