

## Feasibility Analysis of Kale Farming in JawaRa Farm Surabaya Hydroponic Farm



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**ABSTRACT:** The feasibility of farming is an indicator of the success of a farm. This study aims to determine the economic feasibility of kale commodity farming in JawaRa Farm Surabaya Hydroponic Garden. Data collection was carried out by quantitative descriptive analysis using two approaches: the ratio of revenue to costs (R/C Ratio) and the break-even point (BEP). The results showed that the cultivation of kale commodities was JawaRa Farm Surabaya Hydroponic Garden. Average R/C Ratio 1.112; average BEP receipts Rp.403,937,-; average production BEP 43 kg; and an average BEP price of Rp. 17,993,. If the price of output is greater than the BEP price, then a farm can be said to be feasible to develop. In addition, farm income can be used as a measure in assessing a business's success and become one of the determining factors in the continuity of a business.

**KEYWORDS:** Feasibility, BEP, Hydroponics

### INTRODUCTION

The largest sector engaged in Indonesia in meeting the nation's food and economic needs is the agricultural sector. The agricultural sector is able to meet the food needs of the Indonesian people ranging from staples, vegetables, fruits, herbs, furniture, and others. The agricultural sector also develops business fields by utilizing its agricultural products. This farming business will provide profits and be able to boost the Indonesian economy. Farming businesses need to know their potential in order to determine how activities run properly. So the information is needed to find out the feasibility of farming. Eligibility that needs to be known includes the economic, social, and financial feasibility of a farming business is run. From this feasibility, farmers can continue to develop their businesses and control deviations that can be detrimental. And also the need for an analysis of farm income to regulate all the needs that should be spent.

Revenue is very important in determining the profit or loss of a business, the profit or loss is obtained by comparing revenue with the expenses or costs incurred on the income (Marsaoly et al., 2020). Revenue can be used as a measure in assessing the success of a business and also a determining factor in the continuity of a business. Income can be interpreted as the amount of money received by a person or business entity during a certain period of time (Sari, 2014). The level of income is influenced by many factors including production, land area, fertilizer, education, and experience (Ridha et al., 2017). This is because, without capable and reliable human resources, it will be a factor in the realization of development goals and achievements in achieving prosperity. The quality of human resources is a determining factor for the success of the development and progress of a nation. The experience of Asian countries such as Japan, South Korea, Taiwan, Hongkong, and Singapore proves this. The five countries, which are said to signify the "Asian Economic Renaissance", have succeeded in driving their economic progress tremendously. The focus of their progress is not the abundant natural wealth but the quality of their human resources.

Economic feasibility is a feasibility that shows the economy of an area as a whole from a land use system for the community. So that it can find out the efficiency of land resource utilization. While social feasibility is seen from the distribution of costs and benefits between community parties (stakeholders). And financial feasibility aims to find out whether the farming you want to do includes a business that is worth working on or not. If a farm is feasible to cultivate, then the business can continue and be developed. That way it can have a positive impact in the form of benefits to be received, such as an increase in income from these agricultural business actors. Meanwhile, if it is not feasible to pursue, there are alternatives in the form of action, such as stopping or improving and the form of improvement itself can be conservation or diversification, and intensification. This study aims to analyze the feasibility of kale farming in JawaRa Farm Surabaya Hydroponic Garden.

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### RESEARCH METHODS

The feasibility research for the Jawara Farm Hydroponic Garden Farm was carried out on Januari 2023 at Jalan Ketintang number 23, Wonokromo, Wonokromo District, Surabaya City, East Java, 60243. This research used quantitative descriptive methods with an approach to revenue-to-cost ratio analysis (R/C ratio) and break-even analysis (BEP). Data obtained using data collection techniques in the form of interviews conducted online through the Google Meet application were then processed using quantitative descriptive methods. The study used quantitative design to analyze the feasibility of kale farming owned by Jawara Farm Hydroponic Garden. The purpose is to assess or conclude whether this farming business is feasible or not and find out whether it is profitable for this company.

### RESULTS AND DISCUSSION

Table 1. Farm Fee and Revenue Structure

No.	Description	Sum
1.	Fix Cost (FC)	Rp 400.000
2.	Variabel Cost (VC)	Rp 589.600
3.	Total Cost (TC)	Rp 989.600
3.	Product Price (P)	Rp 20.000
4.	Production amount (Y)	55 kg
5.	Total Revenue (TR)	Rp 1.100.000
6.	AVC	Rp 10.720

Source: data primer, 2023

The interviews that have been conducted obtained the results of the cost structure and revenue of farming in the form of tables as above. Farm feasibility is measured using quantitative descriptive analysis using two approaches, namely.

#### a. Analysis R/C

$$\frac{R}{C} = \frac{TR}{TC} = \frac{1.100.000}{989.600} = 1,112$$

#### b. Analysis Break Event Point

BEP Revenue

$$BEP R = \frac{FC}{\left(1 - \left(\frac{AVC}{TR}\right)\right)}$$
$$BEP R = \frac{400.000}{\left(1 - \left(\frac{10.720}{1.100.000}\right)\right)} = 403.937$$

BEP Production

$$BEP Y = \frac{FC}{P - AVC}$$
$$BEP Y = \frac{400.000}{20.000 - 10.720} = 43$$

BEP Price

$$BEP P = \frac{TC}{Y}$$
$$BEP P = \frac{989.600}{55} = 17.993$$

Financial management is a part of the responsibility of company leaders with main responsibilities such as making important decisions regarding investment and company financing. If it is related to management principles, the activity of obtaining and using data for investment and financing of the company must be carried out effectively and efficiently. It is necessary to carry out management functions, planning, directing, and controlling functions in using and meeting the company's financial needs (Setia, 2015).

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Based on the results of calculations that have been done, Jawara Farm farmers incur fixed costs of Rp.400,000. Fixed costs are costs whose amount is fixed in a certain volume of activities, fixed costs are also defined as costs in total that do not change when business activities increase or decrease (Winarko et al, 2018). Fixed costs in Jawara Farm farming are obtained from all depreciation costs from all needs or equipment used included in fixed costs. Meanwhile, the variable cost of Jawara Farm farming is Rp.589,600. Variable costs are costs whose amount changes in proportion to changes in the volume of activities, but there is another definition of variable costs, namely costs whose amount changes proportionally to changes in activity levels (Winarko et al, 2018).

Jawara Farm's variable costs are obtained from labor calculation costs and other variable cost inputs. From the sum of fixed costs and variable costs, the total cost used at Jawara Farm is Rp.989,600. Obtaining these total costs will help in determining the calculation of the feasibility of farming. In addition, there is also a selling price value (P) of Rp. 20,000.00, the amount of production is 55 kg and the revenue obtained is Rp. 1,100,000.

In the calculation of the analysis, the calculation of the Revenue Cost Ratio (R/C) determines the feasibility of a business. It is believed that a business is said to be feasible and profitable if the R/C ratio is  $> 1$  (Saiful, 2020). It is known that the calculation of Revenue Cost Ratio (R/C) is a division between Total Revenue (TR) and Total Cost (TC), then the calculation of Revenue Cost Ratio (R/C) has a directly proportional relationship with TR and inversely proportional to TC. The greater the TR value, the greater the Revenue Cost Ratio (R/C) value, and vice versa. Meanwhile, if the TC value is small, then the Revenue Cost Ratio (R/C) value will be even greater, and vice versa. Based on the calculation of the Revenue Cost Ratio (R/C), a value of 1.112 is obtained. This means that for every Rp 1,- issued by Jawara Farm, the revenue of Rp1,112 is obtained,-. This shows that the R/C value  $> 1$ , meaning that Jawara Farm farming is feasible and profitable.

A business is said to break even if for a period of one period of work there is no profit or loss, where the profit is zero (0). So it can be said that the break-even point is the relationship between sales volume, costs, and profits to be obtained at a certain level of sales, so break-even analysis is often referred to as break-even cost analysis, volume, and profit. In addition, break-even analysis can also be used to determine the policy of a company (Ali, 2018). Therefore, Break Event Point (BEP) can be calculated by the approach of sales, costs, and profits. From the calculation of the Break Event Point with these 3 approaches, Jawara farm farmers obtain a BEP Revenue (BEP R) value of Rp.403,937. This means that Jawara Farm farmers reach the BEP point when they get revenues of Rp.403,937 when compared to revenues that have a value of Rp. 1,100,000, then  $>$  receipts from BEP revenues, therefore Jawara Farm farming is worthy of development. Then from the calculation of BEP Production, Jawara Farm obtained a Production BEP value (BEP Y) of 43 kg. This value is smaller than the production of shallots from JawaRa Farm which reaches a value of 55 kg (Farm Production  $>$  BEP Production). This means that Jawara Farm farming is worthy of development. This is because JawaRa Farm's farming reached the BEP point when it obtained the production of only 43 kg. Then the BEP price value (BEP P) achieved by Jawara farm farmers is Rp. 17,993 for every kilogram of kale sold. This means that for every 1 kilogram of kale reaching BEP if Jawara Farm costs Rp.17,993. When compared to the selling price per 1 kg of Rp20,000.00, the output price  $>$  BEP Price, meaning that Jawara Farm farming is feasible to be developed.

### CONSLUCION

Based on the results of the calculation of the feasibility of Jawara farm, it can be concluded that judging from the revenue received, the R/C value of the ratio to total costs is 1.112, so Jawara farm farming is worth trying. Based on the data above, BEP R was generated at Rp 403,937,-. So, acceptance  $>$  BEP acceptance. So that Jawara farm farming is feasible to be developed. Based on the data above, BEP Y produced 43 kg. So, agricultural production  $>$  BEP production. So that Jawara farm farming is feasible to be developed. Based on the data above, BEP P was generated at Rp 17,993,-. So, output prices  $>$  BEP prices. So that Jawara Farm farming is feasible to be developed.

### REFERENCES

- 1) Ali, M. (2018). Analisis Break Event Point (BEP) pada Pabrik Gula di Kabupaten Takalar. Skripsi. Universitas Muhammadiyah Makassar.
- 2) Marsaoly, H. A., Sangadji, S. S., & Sumartono, E. (2020). Analisis Profitabilitas Usaha Tani Bawang Merah pada Unit Transmigrasi (Trans Koli). AGRITEPA: Jurnal Ilmu dan Teknologi Pertanian, 7(2), 142-151.
- 3) Ridha, A. (2017). Analisis Faktor-Faktor Yang Mempengaruhi Pendapatan Petani Di Kecamatan Nurussalam Aceh Timur. Jurnal Samudra Ekonomika, 1(2), 165-173.
- 4) Saiful. (2020). Analisis Kelayakan dan Break Event Point Usahatani Padi Sawah di Kecamatan Bontolempangan Kabupaten Gowa. Skripsi. Universitas Muhammadiyah Makassar

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- 5) Sari, D.L, Haryono, D. dan Rostanti, N. (2014). Analisis Pendapatan dan Tingkat Kesejahteraan Rumah Tangga Petani Jagung di Kecamatan Natar Kabupaten Lampung Selatan. Jurnal Ilmu-Ilmu Agribisnis. Vol 2(1), 64- 70.
- 6) Setia Mulyawan, S. (2015). Manajemen keuangan.
- 7) Winarko, S. P., & Astuti, P. (2018). Analisis cost-volume-profit sebagai alat bantu perencanaan laba (multi produk) pada perusahaan Pia Latief Kediri. Jurnal Nusantara Aplikasi Manajemen Bisnis, 3(2), 9-21.



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