

Break Even Point (BEP) Analysis of Honey Bee Cultivation Business *Trigona Sp* in UPTD KPH TARAKAN

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ABSTRACT

Study this aim for see cost and reception effort honey at UPTD KPH Tarakan, as well as see appropriateness effort honey with analyze Break Even Point value . Study this done in Tarakan City precisely in the Region Forest Managed Protect by UPTD KPH Tarakan . Election respondent use Purposive sampling method , namely election on purpose with criteria that have been writer set namely : owner effort honey cooperate with UPTD KPH Tarakan and has operate effort honey During more than 1 year . In study this use type study Descriptive Quantitative that is analyze data with method describe or describe the data that has been collected as existence . Technique data analysis using analysis cost , Break Even Point analysis . Results study this show that cost existing production in the effort cultivation bee honey is cost permanent Rp . 374,356, cost variable Rp . 139,806, total cost Rp . 514,262 for one time production . With reception reach Rp . 1,200,000 per month and income amounting to Rp.685,738. BEP Unit value reaches 2.50 bottles with size 250 ml, BEP price Rp.72,537 BEP Acceptance Rp . 424,695 from Break Even Point calculation can be seen that effort cultivation bee honey experience profit and worthy for run because has beyond Break Even state.

Keywords:

Keywords: *Trigona* sp , Forest Protect, Break Even Point

INTRODUCTION

Honey is one of the prima donna products of NTFPs (non-timber forest products) in Indonesia. The many benefits of honey for health, beauty and others have caused market demand for natural honey and beekeeping honey to become one of the options. This small bee that does not have a stinger not only produces honey but also propolis which has a *fairly high economic value*.

Trigona sp honey bee cultivation business is an average of Rp. 2.035.703 and the average income is

Rp. 3.064.000 per person per year. And the value of profitability is 49.34% per year. In Saputri (2015), the honey bee cultivation business in North Lombok Regency generates an income of Rp. 1.812.000/production process, with costs incurred of Rp. 498.500/production process. With the average honey production per production process is 15.43 bottles, and the average production value is Rp.2.314.700. Honey bee cultivation is feasible to be developed with an R/C ratio value of 4.2. The BEP indicator shows that the revenue BEP is Rp. 196,000,

the production BEP is 1.5 bottles, with an average bottle size of 550ml and the BEP price is Rp. 52,700/bottle. Honey bee cultivation is the use of natural potential without disturbing the environment and harming the community. As well as being a very meaningful potential for increasing the income and welfare of the people around the research area.[1] In Kalimantan itself, there is a honey bee cultivation of *Trigona* sp which is located in the city of Tarakan and is managed by the Regional Technical Service Unit (UPTD) of the Tarakan Forest Management Unit (KPH). The Regional Technical Service Unit (UPTD) of the Tarakan Forest Management Unit (KPH) runs the *Trigona* sp honey bee development business . Tarakan City has the potential for timber forests, namely the houses where the *Trigona* sp honey bees live, whose location and conditions are very suitable for their habitat. UPTD KPH Tarakan developed the honey bee cultivation of *Heterotrigona itama* and *Tetrigona apicalis* located in the Mount Slipi Protection Forest, Wana Wisata Nursery and Gunung Selatan. The kelulut bee that is cultivated is harmless and does not have a venomous venom . Regarding the harvest period, the honey is harvested once a month and the production of honey bees affects the climate and types of plants around the location. However, in the cultivation carried out by the UPTD KPH Tarakan, they have not analyzed the Break-even Point and Business Ratio of *Trigona* sp.

This study aims to determine costs and revenues, unit BEP, price BEP and revenue BEP and to see the ratio of honey bee business in UPTD. KPH Tarakan.

METHOD

1. Research Location and Time

This research was conducted in Tarakan City and this research was conducted for 3 months from February 2020 to April 2020.

2. Method determination Sample

Sugiyono (2017) states that purposive sampling is not all samples have criteria in accordance with what the author has determined. [2] The criteria in question are:

- a. *Trigona* sp honey bee business and cooperates with UPTD. KPH Tarakan
- b. Length of business for 1 year

From the criteria mentioned, there are 3 places that can be sampled, namely Mr. Kamali's business which is located in Kampung Satu Kota Tarakan, Mr. Zul which is located in Gunung Selatan and Mr. Megita which is located on Jl. Agatis, Nursery. The three producers cooperated with the UPTD KPH Tarakan by being given the capital of the kelulut colonies which were placed in the three locations mentioned for cultivation.

3. Data type Data Source

The type of data used in this research is descriptive quantitative research. Descriptive quantitative research is used to analyze the data by describing or describing the data that has been collected as it is. While the sources of data used in this study are as follows:

- a. Primary data
- b. Secondary data

4. Method Data collection

- a. Interview
- b. Observation
- c. Document study

5. Data Analysis

This study uses a descriptive method. According to Sugiyono (2005), it is stated that the descriptive method is a method used to describe or analyze a research result but is not used to make broader conclusions. [3] To answer the objectives in the research, namely:

a. Fixed Cost and Variable cost

Fixed costs are costs whose total amount will remain constant, will not be affected by changes in the volume of an activity or activity to a certain level. To calculate fixed costs, it is necessary to calculate the salvage value and depreciation of the equipment using the following formula:

$$\text{Residual value} = (\text{harga beli} \times 15) / 100$$

$$\text{Shrinkage} = (\text{harga beli} - \text{nilai sisa}) / (\text{umur ekonomis})$$

b. Total acceptance

Calculating the total revenue and total cost is formulated as follows:

$$TR = P \times Q$$

$$TC = FC + VC$$

Information:

Q = Number of Products (quantity)

P = Price (price)

FC = Fixed Cost (fixed cost)

VC = Variable Cost (variable cost)

c. Break Even Point (BEP) Analysis

Break Even Point (BEP) analysis is used to find out how many units (production BEP) must be sold in order for a Break Even Point to occur and calculate how many sales dollars (sales BEP) need to be received in order for a Break Even Point to occur. The following is the BEP formula for the two types of calculations.

$$\text{BEP Unit} = FC / (P - VC)$$

Where:

FC= fixed cost

VC= variable cost

P= selling price per unit

$$\text{BEP Price} = FC / (1 - (VC/P))$$

Where:

FC= Fixed cost

VC= Variable cost

P= sales

RESULT AND DISCUSSION

Cost and Revenue Analysis

Cost Analysis

a. Fixed cost

Fixed costs are costs that are not affected by changes in the level (Marewa, 2012).[4]

Table 2. Fixed Cost of Honey Business per Month

No	Tool Type (Unit)	Amount	Unit Price (Rp)	Total Price (Rp)	Depreciation (Rp/Month)
1.	Logs (fruit)	51	1,200,000	61.200.000	510,000
2.	Toppings (fruit)	51	250,000	12.750.000	212,500
3.	Feet (fruit)	51	350,000	17,850,000	148,750
4.	Suction (fruit)	7	500,000	3,500,000	145,833
5.	Filters (fruit)	7	19,000	133,000	44,333
6.	Hose (meters)	7	1,200	8,400	700
7.	Container (bottle)	7	10,000	70,000	5.833
8.	Battery (fruit)	7	190,000	1.330.000	55.417
Total Fixed Cost					1,123,367
Average					374,456

Source: Primary Data, 2020

Based on table 2, the total fixed costs incurred are Rp. 1,123,367, with an average monthly value of Rp.

374,456 for every single production. With the largest costs incurred, namely the use of Logs with a total of 51 pieces with a total depreciation of Rp. 510,000 and the lowest cost was Rp. 8,400 with a total depreciation of Rp. 700 for the use of a hose with a length of 7 meters.

b. Variable Cost

Variable costs needed in the honey business in UPTD. KPH Tarakan are as follows:

Table 3. Variable Costs of Honey Business in One Month of Production

No	Raw Material Type	Amount	Unit price (Rp)
1.	Packaging Bottle	24	1,200
2.	Label	24	400
3.	Harvest Wages	6	53,781
4.	Battery charge fee	7	8,333
Total variable cost			419,419
Average			139,806

Source: Primary Data, 2020

Based on table 3, the total variable cost of the honey business is IDR 419,419 with an average monthly value of IDR 139,806 for each one-time production. With the largest costs incurred, namely harvest wages of Rp. 53,781/person, while the lowest cost was Rp. 400 for label use per pack.

c. Total cost

The total cost is the total cost used in the Honey business in UPTD.KPH Tarakan.

Table 4. Total Cost (TC) of Honey Business in One Month of Production

No	Description	amount (RP)
1	Total fixed costs (FC)	1,123,367
2	Total variable cost (VC)	419,419
Total cost (TC)		1,542,786
Average		514,262

Source: Primary Data, 2020

Based on table 4, the total cost of the honey business is Rp. 1,542,786 with an average monthly value of

Rp. 514,262 for each one-time production. this shows that the three managers of the honey business incur production costs of Rp. 514,262 every month.

d. Reception

Revenue is the result of multiplying the price of the product with the number of products produced. The following is the revenue from the honey business at UPTD.KPH Tarakan:

Table 5. Honey Business Revenue in One Month of Production

Product	Price (P)	Quantity of goods (Q)
Honey kelulut	Rp. 150,000	24
Total price (Rp)		
Total Revenue (Rp)	3,600,000	
Average Revenue	1,200,000	

Source: Primary Data, 2020

Based on table 5 above, it shows that the revenue of the Honey Business in UPTD.KPH Tarakan in One Month of Production is Rp. 3,600,000 which is obtained from the selling price of Rp. 150,000/bottle multiplied by the number of goods produced during one month of production, which is 24 bottles. Meanwhile, the average revenue from honey business is Rp. 1,200,000 with an average sale of 8 bottles.

e. Income

Income is an important part of a business. High income directly affects the level of success of a business if the expenses can be less than the total revenue.

Table 6. Honey Business Income in One Month of Production

Total revenue (Rp)	3,600,000
Total cost	1,542,786

Total Revenue (TR)	2,057,214
Average income	685,738

Source: Primary Data, 2020

Based on table 6 honey business income is Rp. 2,057,214 with an average income of Rp. 685,738. These costs are obtained after the business owner subtracts the revenue from the total costs to be incurred.

Break Even Point (BEP)

The break-even point is a condition where the business actor does not make a profit and does not suffer a loss. In accounting, the break-even point is the margin of contribution equal to fixed costs, or total revenue equal to total operating costs.

a. On the basis of units

In a Break Even situation, by dividing the total fixed costs by the margin per unit of goods, the number of units of goods that must be sold will be obtained so that the company does not experience a loss or profit.

Table 7. BEP of Tarakan Honey Business Unit in One Month of Production

	BEP condition	Present condition
Fixed Cost (Rp)	1,123,367	
Selling price (Rp/Bottle)	150,000	
Variable cost average	0.26	
BEP Unit	7.49	24
Average BEP Unit	2.50	8

Source: Primary Data, 2020

Based on table 7, the honey business reached a break even state at the time of sales of 7.49 bottles. The average BEP unit value in each honey business is 2.50. This shows that the honey business must sell 2.50 bottles of honey to cover its fixed costs or profit. In this study, the total number of honey products was

24 bottles, while the average number of products in each honey business was 8 bottles. So the honey business at UPTD.KPH Tarakan is feasible because it has passed the number of Break Evens that must be sold per month.

b. BEP price

In a state of Break Even the company's profit is zero, therefore by dividing the amount of fixed costs by its marginal income ratio, the sales level in rupiah will be obtained so that the company does not suffer a loss or earn a profit (break even point). The following is the calculation of the price BEP at UPTD.KPH Tarakan:

Table 8. BEP of Honey Business Units in One Month of Production

Total cost	1,542,786
Total production	24
BEP Price	64,283
Average BEP Price	72,537

Source: Primary Data, 2020

Based on table 8, the honey business experienced a break even condition at a price of Rp. 72,537/bottle. This shows that at a price of Rp. 72,537 honey business did not experience profit or loss. In this study, the price of one bottle of honey is Rp. 150,000, which means the selling price of the honey has exceeded or is greater than the break even state, so that when viewed from the selling price of the honey product being sold, it is profitable and deserves to be continued.

CONCLUSION

Based on the results of the research above, it can be concluded as follows: Production costs in the kelulut honey bee business in UPTD.KPH Tarakan with a total cost of Rp. 514,262, fixed costs (FC) Rp.

374,456 Variable cost (VC) Rp. 139,806 . Total revenue (R) of Rp. 1,200,000. and business income of honey bee kelulut in UPTD.KPH Tarakan of Rp. 685,738 . The break even point of the honey business at UPTD.KPH Tarakan shows that the BEP for Revenue is Rp. 424,695, BEP Unit is 2.50 bottles with a size of 250 ml, BEP is Rp. 72,537.

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