



Economic Feasibility Analysis of Cattle Fattening Business Case Study at Lembu Handhini Farm in Blitar Regency, East Java Province, Indonesia

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Received: 20 March 2022; Revised: 24 May 2022; Accepted: 28 November 2022

Abstract

The purpose of this study was to determine the feasibility level of beef cattle business at Lembu Handini Farm, which is located in Sumber Village, Sanan Kulon District, Blitar Regency, East Java. This research is a case study with a descriptive quantitative approach. The data collected during the next study were analyzed quantitatively and then described. The material used in this research are primary data and secondary data. Primary data was obtained through interviews and direct observation at Lembu Handini Farm. Secondary data obtained from research reports or from relevant agencies related to the theme of this research. The results obtained in this study are the profits obtained per month by raising 6 beef cattle of Rp. 9,124,250 with an R/C value of 1.04. Based on the analysis, it can be concluded that the beef cattle fattening business at Lembu Handini Farm is still feasible in terms of business sustainability.

Keywords: beef self-sufficiency, cattle fattening, economic feasibility analysis

Introduction

Beef cattle are a type of ruminant livestock. Beef cattle is one type of livestock that is a priority in livestock development. Beef cattle farming business has great potential to be developed in Indonesia and used as a source of income because the market demand for beef is high while beef production to supply this demand is still lacking (Keloay, Pangemanan and Pandey, 2022). The demand for beef to meet the increasing need for animal protein in Indonesia must be balanced with the beef cattle population (Sio, Sikone and Usboko, 2017). The national demand for beef of 700,000 tons in 2020 is only supplied by 400,000 tons and 300,000 tons of beef is still supplied from imports. The government continues to promote the program to increase the number of beef in order to achieve national beef self-sufficiency in order to be able to supply the national beef needs without relying on imports. Beef cattle farms must be able to produce beef cattle that are healthy and have a maximum body weight to supply the national demand for beef (Hidayat *et al.*, 2020; Rahman

and Widyanto, 2021).

The realization of the national beef self-sufficiency program has not been achieved because there are many challenges in increasing cattle productivity so that meat production has not been maximized (Ratriyanto, Hadi and Widyawati, 2021). The challenge in the beef cattle development program that is now emerging is the narrowing of business land which has an impact on the carrying capacity of natural resources, especially forage for livestock businesses, due to the conversion of agricultural land and changes in cultivation patterns. In addition, most beef cattle farming businesses are lacking in the utilization of the potential carrying capacity in their area (Hidayat *et al.*, 2020).

The problems faced in the development of beef cattle are not only technical issues but involve several interrelated non-technical aspects. Beef cattle marketing is also an important aspect that needs attention in the beef cattle development program. The availability of the market can spur the development of programs in implementing technology. Marketing of beef cattle to date

is relatively simple. The role of traders is still large in buying and selling beef cattle puts farmers in a low bargaining position so that the income obtained by farmers is low (Keloay, Pangemanan and Pandey, 2022). In order to know the benefits obtained by beef cattle farmers, it is necessary to conduct research on the feasibility analysis of beef cattle fattening business.

Materials and Method

This research was conducted in October – December 2021 at Lembu Handhini Farm in Sumber Village, Sanan Kulon District, Blitar Regency, East Java Indonesia.

Method

The research is a case study with a descriptive quantitative approach. Quantitative approach is a research method by utilizing numbers, scoring or ranking. The data collected during the next study were analyzed quantitatively and then described.

Material

The material used in this research is primary data and secondary data. Primary data was obtained through interviews and direct observation at Lembu Handini Farm. Secondary data is obtained from research reports or from relevant agencies related to the theme of this research.

Variables

The variables observed in this study are:

Production cost analysis

Production costs are all costs incurred during the production process. Production costs are divided into two types of production costs (Haryuni, 2018).

a. Fixed cost

Fixed costs are costs whose amount is not affected by the resulting production such as salaries, rent, taxes, depreciation of equipment. Fixed costs can be calculated by the following formula:

$$TFC = FC \times n$$

TFC = Total fixed cost

TC = Fixed cost

n = Number of inputs

Depreciation costs include depreciation of equipment, stables, warehouse, taxes and interest. The amount of depreciation expense can be calculated as follows:

$$\text{Depreciation} = \frac{P_p - P_s}{T}$$

P_p = Purchase price

P_s = Selling price

T = Length of use (years)

b. Variable cost

Variable costs are costs whose size is influenced by the amount of production (operating costs). Variable costs include feed, vitamins, drugs and others. Variable costs can be calculated by the formula:

$$TVC = VC \times n$$

TVC = Total variable cost

VC = Variable cost

n = Number of units

The total cost of production can be calculated by adding up the fixed cost and variable cost

$$TC = TFC + TVC$$

TC = Total cost

TFC = Total fixed cost

TVC = Total variable cost

Revenue analysis

Revenue is the result of multiplying the selling price of the product with the size of the unit. Revenue can be calculated by the following formula:

$$TR = P_q \times Q$$

TR = Total revenue

P_q = Unit price

Q = Total production

Income analysis

Income is the difference between revenue and total costs production. The higher the business income, the more profitable the business.

Revenue cost Ratio (R/C) analysis

R/C is the ratio between revenue and all costs required during the production process. R/C value > 1 means the business is profitable. The greater the R/C value, the greater the level of profit.

Results and Discussion

Based on the results of observations and interviews at Lembu Handini Farm, data on the sale and purchase of beef cattle are obtained in Table 1 and the analysis of beef cattle fattening business in Table 2.

Table 1. Purchase and sale prices of beef cattle at Lembu Handini Farm
(1 month maintenance period)

Cattle	Body Weight (kg)		Price (rupiah)	
	Purchase	Sale	Purchase	Sale
1	456,0	534,0	19,000,000	21,700,000
2	507,0	527,0	21,100,000	22,100,000
3	480,0	509,5	19,500,000	21,200,000
4	330,5	373,0	13,600,000	16,000,000
5	355,0	393,5	14,700,000	16,900,000
6	314,0	348,5	13,100,000	14,700,000
7	520,0	565,0	21,600,000	23,200,000
8	578,5	608,0	24,000,000	25,700,000
9	577,0	587,0	23,800,000	25,300,000
10	586,0	636,5	24,300,000	25,800,000
11	562,0	604,5	23,300,000	25,100,000
12	495,0	533,5	20,600,000	22,200,000
Total (rupiah)			238,600,000	259,900,000

Information:

1. Data obtained from observations and interviews at Lembu handini Farm
2. The purchase and sale of beef cattle at Lembu Handini Farm is based on the price per head of beef cattle, not based on live weight of beef cattle

Table 2. Business feasibility analysis at Lembu Handini Farm (1 month maintenance period)

Description	Value (rupiah)	Contribution (%)
A. Fix Cost (FC)		
1. Labor salary		
2 workers @ 1,500,000/month	3,000,000	1.1963
2. Cost of depreciation		
Beef cattle shed building	10,000	0.0040
Beef weighing scale	5,000	0.0020
Feed scale	2,000	0.0008
Mixer machine	50,000	0.0199
Tosa vehicle	20,000	0.0080
Feed holding drum	1,000	0.0004
Tub for feeding beef cattle	1,500	0.0006
Tub for feed carrier	1,500	0.0006
Wheelbarrow	2,750	0.0011
Screw	1,000	0.0004
Water hose	1,000	0.0004
Total Fixed Cost	3,095,750	
B. Variabel Cost (VC)		
Purchase 12 beef cattle*	238,600,000	95.1448
Feed cost		
Forage	4,050,000	1.6150
Concentrate	4,680,000	1.8662
Fuel cost		
Tosa vehicle	100,000	0.0399
Mixer machine	200,000	0.0798
Electricity cost	50,000	0.0199
Total Variable Cost (TVC)	247,680,000	
Total Cost (TC)	250,775,750	100,0000
C. Revenue		
Sales of 12 beef cattle*	259,900,000	
Total Revenue	259,900,000	
D. Income		
Total Revenue-Total Cost	9,124,250	
E. Revenue Cost Ratio (R/C)		
	1.04	

Beef cattle business development is part of national development. This will be right on target if the implementation of livestock development is able to directly touch farmers and breeders in rural areas and is able to increase the income of farmers (Usmany, 2021).

Beef cattle business is traditionally done by looking at the weight development of beef cattle subjectively with estimates through the eyes of causing the profits obtained by farmers are not optimal (Rahman and Widyanto, 2021). The farmer's profit depends on the marketing channel the farmer chooses. Long marketing channels require greater marketing costs and have an impact on farmers' lower profits (Keloay, Pangemanan and Pandey, 2022). In analyzing the finances of a business several things that must be considered include production costs, revenue and income (Haryuni and Fanani, 2017). The results of the analysis of beef cattle fattening at Lembu Handini Farm can be explained as follows.

Cost Production

The total cost is the total cost incurred by beef cattle farmers during the maintenance period (Danopoyo, Rorimpandey and Elly, 2021). Production costs at Lembu Handini are divided into 2 types of production costs including fixed costs and variable costs.

Fixed costs are costs incurred in the beef cattle business whose value is fixed and does not depend on changes in production, these costs are used in several production times in the beef cattle business (Qinayah *et al.*, 2021). The total fixed cost obtained in this study is Rp. 3,095,750. These costs include labor costs and depreciation costs of equipment on the farm.

Variable costs are costs that are used once in production and are used up in one production process (Qinayah *et al.*, 2021). The total variable cost in this research is Rp. 247,680,000. This cost includes costs for purchasing livestock, feed, electricity and also fuel used for 1 month. In beef cattle fattening business, variable costs are the biggest costs compared to fixed costs. The highest variable costs are incurred for the purchase of livestock and feed (Işık and Gözener, 2019). The total production cost obtained for 1 month in this research is Rp. 250,775,750.

Revenue

Revenue from beef cattle farming is obtained from the sum of the number of beef cattle sold multiplied by the selling price (Danopoyo, Rorimpandey and Elly, 2021). Revenue ob-

tained for 1 month in this study amounted to Rp. 259,900,000.

The revenue obtained in this study comes from the sale of 12 beef cattle with varying prices as shown in Table 1. Sales of beef cattle in Lembu Handini are not based on price per kg live weight but based on subjective estimates from buyers/brokers. This kind of sales system is not profitable for farmers because the price is not objective and is only based on the personal estimation of the buyer/broker.

Income

Income from an economic activity is income generated from remuneration from factors of production received by households such as money, salaries, honoraria and rental goods (Danopoyo, Rorimpandey and Elly, 2021). Income is one of the important elements for a farmer in operating his livestock business. Beef cattle farmer income is the difference between revenue and expenditure during the beef cattle breeding period (Bitu, Sudarma and Sirappa, 2021).

The income obtained in this study with the maintenance of 12 beef cattle in 1 month is Rp. 9,124,250. The income received by farmers depends on the number of beef cattle owned and the selling price of beef cattle (Qinayah *et al.*, 2021).

Analysis of Revenue Cost Ratio (R/C)

The value of the R/C ratio is the method used to measure the feasibility which is calculated by dividing the revenue (R) with the production cost (C) (Usmany, 2021).

The R/C value obtained in the study at Lembu Handini Farm was 1.04. The value of R/C ratio > 1 means that the business is profitable (decent) (Usmany, 2021). The beef cattle fattening business at Lembu Handini Farm is feasible because the R/C value obtained is 1.04, but the profits obtained are not too much.

Conclusion

Based on the analysis, it can be concluded that the beef cattle fattening business at Lembu Handini Farm is still feasible in terms of business sustainability.

Suggestion

Beef cattle farmers will get maximum profit if the sale of beef cattle is based on live weight price.

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