Analysis of Beef Cattle Farmers Income in Dusun IV, Pergulaan Village, SeiRampah District, SerdangBedagai Regency, Indonesia

.

ABSTRACT

Aims: Business analysis is very important to determine beef cattle farmers' income and the business's feasibility.
Study design: This descriptive and quantitative research focuses on the variable income conditions of beef cattle breeders in Hamlet IV, Pergulaan Village, SeiRampah District, SerdangBedagai Regency.
Place and Duration of Study: The population of this study consisted of beef cattle breeders in Hamlet IV, Pergulaan Village, SeiRampah District, Serdang Bedagai Regency. Between April 2024 and May 2024, a census comprised ten farmers.
Methodology: Analysis of income and business feasibility.
Results: The analysis results show that the beef cattle farming business is economically profitable. The results include an annual profit rate of Rp. 280,000,000 and an average net income of Rp. 108,525,000. Because the revenue-cost ratio value is 1.6, this type of business is worth pursuing in terms of business feasibility.
Conclusion: The beef cattle farming business in Hamlet IV Pergulaan Village has an economic profit and is worth developing and pursuing.

Keywords: Analysis, Beef Cattle, Income, Revenue

1. INTRODUCTION

The need for livestock ingredients will continue to increase along with the increase in population, income, and public awareness of consuming more nutritious food as a result of increasing the average education level of the population [1]. Therefore, livestock development strategies have good prospects for the future [2].

One of these developments is the agricultural sector, which includes animal husbandry. One type of livestock farming often carried out by rural communities is raising beef cattle, which is a successful community livestock business if it has contributed income and can meet the daily living needs of farmers [3]. The increase in the number of breeders, growth in livestock weight, and growth in the number of beef cattle shows this.

One area that shows progress in beef cattle farming is in Hamlet IV, Pergulaan Village. The number of beef cattle in Hamlet IV Pergulaan Village continues to increase every year due to progress in managing livestock businesses, both those carried out traditionally (offering) and intensively, such as fattening beef cattle. Hamlet IV Pergulaan Village has many beef cattle breeders. Because this business is only managed traditionally, it needs to be clarified how much profit or income is earned or received and how much costs are incurred.

So far, the traditional livestock development pattern passed down from parents to children has only been used as a side business in Hamlet IV, Pergulaan Village. Hopefully, this research can encourage breeders in Hamlet IV Pergulaan Village to change their mindset about raising beef cattle in a better way. Thus, they will be more motivated to improve their welfare and social status. In addition, livestock beef farmers can analyze their analysis of how to separate the components of revenue and costs that they will incur during one rearing period. This makes it easier for them to calculate their total income while raising beef cattle.

2. MATERIAL AND METHODS

2.1. Place and time of research

This study was conducted in Hamlet IV, Pergulaan Village, SeiRampah District, SerdangBedagai Regency, in April 2024. This location was chosen because it has much potential for developing livestock businesses, especially beef cattle. Apart from that, many local farmers have lots of beef cattle. A respondent must come from a beef cattle farmer in the research area. This research uses a survey method with a family analysis unit.

2.2. Type and Scope of Research

This quantitative descriptive research describes variable conditions, namely the income of beef cattle farmers. This study was conducted in Hamlet IV, Pergulaan Village, SeiRampah District, SerdangBedagai Regency. This research conducted direct interviews with farmers using a previously created questionnaire. The research location was chosen purposively because it is an area that has great potential for developing livestock businesses, especially beef cattle. This is also due to the scale of beef cattle many breeders own.

2.3. Data collection technique

The data collected in this research was collected through:

- Observation, namely directly observing the beef cattle farming business in Hamlet IV, Pergulaan Village;
- Questionnaires and interviews, namely collecting data by distributing questionnaires to farmers and talking directly with respondents.

2.4. Population and Sample

This research involved ten beef cattle breeders from Hamlet IV, Pergulaan Village. This research takes samples via census or overall. The census method is also known as a complete enumeration of the population investigated or interviewed [4].

2.5. Data analysis method

The data analysis used to calculate the income of the Dusun IV Pergulaan Village beef cattle business is:

$$\Pi = TR - TC$$

$$TR = Py.\ Y$$

$$TC = FC + VC$$

Description :

Π :Level of income or profit in the beef cattle farming business
TR :Total business revenue
TC :Total cost
FC :Fixed cost
VC :Variable cost
Y : Production obtained in a business.
Py :Price Y

AnalysisReturn of Ratio (R/C Ratio)
Calculating the balance between income and costs is a way to determine the relative advantage of a beef cattle business. The balance value can be calculated using the cash or total expense receipt ratio.

$$R/CRatio = \frac{Total\ \mathrm{Re}venue}{TotalCost}$$

By criteria:
RCR > 1 : Beef cattle business feasible (profitable).
RCR = 1 : Beef cattle business is at the break-even point.
RCR <1 : Beef cattle business is not feasible (unprofitable).

3. RESULTS AND DISCUSSION

3.1. Respondent Characteristics
Age, education, number of children, and experience raising cattle are the characteristics of respondents from beef cattle farmers in Hamlet IV, Pergulaan Village. Table 1 shows data on respondent characteristics.

Table 1. Characteristics of Respondents

No	Description	Unit	Range		Average
			Lowest	Highest	
1.	Age	Year	24	38	31
2.	Education	Year	6	9	8
3.	Number of children	Person	0	2	1
4.	Breeding experience	Year	2	7	4

Source: Primary Data (processed), 2024.

"The age of beef cattle business respondents in the study area ranged between 24 and 38 years, with an average age of 31, indicating that the sample was productive. A person's age affects their ability to make decisions and engage in physical activity. Performance and productivity are linked to money. A person's ability to do work tends to decrease with age. The productive age group is people aged between 15 and 55 years. They are considered to have relatively high beef cattle farming capabilities". [5]

The level of education in human resources greatly influences the technology and skills required for a cattle farming business. Formal education is included in the education category, measured quantitatively by the years of further education, and then adjusted to the general education level. The sample's ability to manage their business is the goal of the educational discussion [6]. This is related to various information, such as the sample's knowledge about selecting and maintaining seeds and controlling beef cattle diseases in Hamlet IV, Pergulaan Village.

The data shows that the average sample level is eight years or the equivalent of junior and senior high school education. Hence, the management of beef cattle livestock businesses places more emphasis on technical skills acquired from generation to generation and receiving technical training from related institutions.

The number of dependent children greatly influences farmers' expenses. Expenditures on consumer goods increase with the number of family dependents [7]. If not supported by adequate household income, the sample will reduce the money beef cattle businesses spend. Apart from that, the beef cattle business patterns managed by respondents will also be affected. The cattle farming business has an average sample

dependency of 1 person, meaning that the number of workers required is manageable and can save income.

"Most beef cattle farmers have experience running their business from 2 to 7 years, with an average age of four. It shows they are quite experienced because they have been involved in the beef cattle business since the beginning of commercialization.Respondent demographics included age, education, number of children, and experience. The average age of respondents is 31 years, which shows that this sample is productive. They have an education level equivalent to junior high school and an average of one supported child, indicating that there is much labor in the family ready to be used for business. Experience will improve a person's work skills" [8].

3.2. Cost and Revenue Analysis

3.2.1.Cost analysis

"Managing a beef cattle business involves fixed and variable costs. *Fixed costs* can be defined as costs that cannot be fixed (constant) for each level of output produced or costs that are not exhausted in one production period and remain excluded, even if they do not produce results. Depreciation of cages and equipment are fixed costs incurred by this beef cattle farming business. One way to find out depreciation costs is to divide the item's initial value by the item's final value divided by the time of use. Depreciation costs are obtained by dividing the investment price by the years the investment is estimated to be used" [9].

Costs that can change according to the size of the production volume or the costs used up during the production process are called variable costs. The variable costs borne by this beef cattle business include the initial costs of raising beef cattle, the costs of adding a feed, the costs of medicines, vitamins, and labor wages. Table 2 shows the average costs incurred for this business.

Table 2. Average Costs Expended in Livestock Business

No	Description	Business Value (Rp)
1	**Fix Cost**	**75.000**
	1.1. Depreciation costs	75.000
	1.2. Tax costs	-
2	**Variable Cost**	**171.400.000**
	2.1. Cost of Production Facilities	164.200.000
	2.2. Labor costs	7.200.000
3	**Total Cost (1+2)**	**171.475.000**

Source: Primary Data (processed), 2024.

Table 2 shows that the beef cattle farming business at the research location incurs fixed costs of Rp. 75.000 rupiahs for the depreciation of cages and livestock equipment. Variable costs consist of production and labor costs. Production facilities for the beef cattle business in Hamlet IV, Pergulaan Village, SeiRampah District, SerdangBedagai Regency, amount to Rp. 164.200.000 consists of the costs of vitamins, medicines, and livestock prices at the beginning of the year. Labor costs are Rp. 7.200.000. Based on the research results, variable costs are greater than costs. Fixed costs affect the profit level of beef cattle farmers but do not affect the amount of production produced. On the other hand, variable costs influence production [10].

3.2.2. Analysis of Annual Revenue

Production and prices at harvest determine the size of the income of a beef cattle business. Table 3 shows the income and average income of beef cattle businesses.

Table 3. Cattle farming business income per year

No	Description	Business Value (Rp)
1	*Fix Cost*	75.000
2	*Variable Cost*	171.400.000
3	**Total Cost (1+2)**	**171.475.000**
4	**Total Revenue (P*Q)**	**280.000.000**
5	**Net Profit (4 - 3)**	**108.525.000**

Source: Primary Data (processed), 2024.

Table 3 shows the annual production value, or income, of businesses in this research area of Rp. 280.000.000. Beef cattle are sold alive. Adding fixed and variable costs produces a total cost of Rp. 171.475.000. The data results in Table 2 show the net income of beef cattle breeders from all revenues minus total costs of Rp. 108.600.000 per year. A beef cattle business may be worth developing if the assessment criteria show that the business is profitable if the price level multiplied by the amount of beef production exceeds all costs. Maximizing profits is usually achieved through increasing technical efficiency [11].

3.2.3. Annual Income Analysis

The net profit of beef cattle per year can be seen in Table 4.

Table 4. Distribution of Income Levels in Beef Cattle Research Areas

Statistik Deskriptif Net income				
Description	**Sample**	**Lowest**	**Highest**	**Average**
Net Income	10	Rp. 57.825.000	Rp. 173.625.000	Rp. 115.800.000

Source: Primary Data (processed), 2017.

Table 4 shows that beef cattle farming businesses in the research area have the lowest net income of Rp. 57.825.000 rupiah every year, with the highest net income of Rp. 173.625.000. “Therefore, beef cattle breeders in the study area earn an average net income of Rp. 115.800.000 every month. This is caused by differences in the amount of business production and the use of superior seeds owned by each farmer, which in turn causes differences in the amount of production produced. Differences will influence the costs incurred and farmers' income in the production generated” [12]. “According to a survey conducted at the research site, the difference in production also lies in the scale of the business. The larger the business scale, the greater the production and income. Conversely, the smaller the size of the beef cattle, the less production they produce” [13]. “In addition, farmers' business production in the research area is influenced by their experience. Business experience increases production and income” [14].

3.2.4.Economic Analysis and Business Feasibility

Table 5 shows the feasibility analysis of beef cattle farming in Hamlet IV Pergulaan Village after production cost analysis and income analysis.

Table 5. Feasibility Analysis of Beef Cattle Business

No	Description	Unit	Business Value
1	Total Cost	Rupiah	171.475.000
2	Total Revenue	Rupiah	280.000.000
3	Net Profit (2 - 1)	Rupiah	108.525.000
4	Revenue Cost Ratio (2/1)	-	1,63

Source: Primary Data (processed), 2024.

Table 5 shows that the R/C ratio of 1.63 is obtained by comparing the total income of 280.000.000 rupiahs with total costs of 171.475.000. This shows that the beef cattle farming business in Hamlet IV Pergulaan Village is worth pursuing because the R/C value is more than 1, namely an average value of 1.63, which means that beef cattle breeders will receive 1.63 of the production costs. Considering these circumstances, local cattle farming is worthy of research and can even be developed. [15].

4. CONCLUSION

The research results show that the beef cattle farming business in Hamlet IV Pergulaan Village still has an economic profit of IDR. 280,000,000. per year and an average net income of Rp. 108,525,000 per year. With an RCR value of 1.63, this business is worth developing and pursuing.

AUTHORS' CONTRIBUTIONS

RafikiMunthohari designed the study, performed the statistical analysis, wrote the protocol, andwrote the first draft of the manuscript. NurAsmaq and Julia Marisa managed the analyses ofthe study. Sukma Aditya Sitepu managed the literature searches. All authors read and approved the final manuscript.

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