ABSTRACT

The income analysis function is to measure the success or failure of business activity, find the main components of income, and whether that component can still be improved or not. This study aims to analyze the income of beef cattle fattening business in West Binjai District, Indonesia. The research method is a census, which also known as a complete enumeration method, where all individuals in the population are investigated or interviewed as respondents. This type of research is a quantitative descriptive study. The population in this study was all beef cattle breeders with the aim of maintenance for fattening. The data collection method was carried out by the census of 37 farmers. The data used in this study include primary data and secondary data. The results showed that the beef cattle fattening business in the study area was an economically profitable activity for beef cattle farmers that were 86,703,940 rupiah per year, and the average net income received by beef cattle business farmers was Rp. 7,225,328 per month. In terms of business, feasibility is a type of activity that feasible to cultivate and developed because of the Revenue Cost Ratio value 1.38.

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Keywords: Animal husbandry; beef cattle; business; feasibility; income analysis.

1. INTRODUCTION

Cattle breeder of West Binjai District has been working on beef cattle well. However, in the implementation of production requires a more intensive handler. More intensive handling of the production process often faced with obstacles. Among the obstacles faced in the production of beef cattle is the level of risk in the production process. Risk is an uncertain situation faced by a person or company that can provide a harmful impact [1].

Profit analysis serves to measure the success or failure of business activity, find the main components of income, and whether these components can still be improved or not [2]. Business activities are said to be successful if the income meets sufficient requirements to meet all means of production; the business analysis is a detailed description of revenues and expenditures for a certain period [3].

West Binjai Subdistrict is an area that has a variety of resources that can develop to achieve the primary goal of economic development in the field of animal husbandry, namely increasing the number and types of employment opportunities for local communities so that the welfare of the community is equitable. To achieve these goals, the government must be able to develop potential economic sectors to develop as a leading sector. With the hope that the sector can contribute to the economy, besides, it was to have a high-efficiency value as a productive economic endeavor [4].

West Binjai Sub-district has increased production every year, and beef cattle farming has a significant potential for Indonesian livestock production. Beef cattle production increased from 2011 - 2015, namely 537 head to 781 head. However, large-scale business and high production at certain times are not enough as a guarantee if not followed by increased productivity. The productivity of beef cattle from 2012 to 2015 decreased from 141,14/m² to 117,47/m² [5].

The use of appropriate and efficient production factors affects the income of beef cattle farmers. If production increases, it can ultimately increase the income of beef cattle farmers [6]. Therefore, it is necessary to research know revenue on beef cattle farming in the district of West Binjai Langkat, which has a decrease in productivity.

2. METHODOLOGY

This research conducted through an approach of quantitative descriptive research that describes the condition variables derived businesses cattle cow beef, which is related to the entire data and field studies obtained. This type of research is a descriptive study of researchers who describe the variable conditions obtained by beef cattle business operators. The method used in this study was a direct interview with cattle breeders using a questionnaire that had made beforehand. The research location is taken purposively (intentionally) on the basis that one of the areas that have great potential in the efforts development effort cattle beef.

The population in this study were all beef cattle breeders in the District of West Binjai, as many as 37 farmers. In this study, the sampling census or whole. The census method is also known as the complete enumeration method, where all individuals in the population are investigated or interviewed as respondents [7].

The parameters observed in this study include beef cattle family data, data analysis of production costs, beef cattle business revenue, consisting of a broad scale of business, feed, breed, labor, and medicines that will affect the profits of the beef cattle business in West Binjai District.

Data collection conducted in this study, namely:

1. Observation, namely direct observation of beef cattle business in West Binjai District.
2. Questionnaires and interviews are data collection by distributing questionnaires or questionnaires to farmers and communicating directly with respondents to obtain the data needed.

Analysis of the data used to determine beef cattle business income in the District of West Binjai. To find out beef cattle business income, using the formula:

\[ \pi = TR - TC \]

\[ \pi = Total\ income\ received\ by\ farmers\ (Rp / yr) \]
TR = Total Revenue obtained by farmers (Rp / yr)
TC = Total Cost or costs incurred by farmers (Rp / yr)

The general form of acceptance from sales is

\[ TR = P \times Q \]

TR = Total revenue or revenue,
\( P = \text{Price or selling price per unit product} \)
\( Q = \text{Quantity or the number of products sold.} \)

### 3. RESULTS AND DISCUSSION

#### 3.1 Characteristics of Respondents

Characteristics of respondents are the description of beef cattle breeders in West Binjai District covering age, formal education, number of children, and experience in the beef cattle business. Respondent diagnostic data can see in Table 1.

Table 1 shows the age range of beef cattle business respondents in the study area ranged from 32 to 68 years, with an average age of the sample being 49 years, indicating that the sample classified as productive. A person's age affects the decisions and abilities of his physical activities. Age is related to performance and productivity. As a person ages, the ability to do work tends to decrease. Productive age groups are those who are in the 15-55 years age group [8]. In the productive age group, the ability to conduct a beef cattle business estimated to be relatively high.

Human resources, as measured by education level, are essential factors in accommodating technology and skills in the beef cattle business. The education category includes formal education, which is quantitatively measured by the number of years of attending education, which equated with the stages of general education level [9]. The discussion on education intended to determine the level of ability of the sample in managing their business. It is related to various information, including knowledge of samples on the selection and maintenance of seedlings, control of beef cattle disease in the West Binjai District. The data presented shows that the average sample education is nine years or equivalent to junior high school education. So the management of beef cattle business only focuses more on the technical capabilities obtained from generation to generation, in addition to getting technical training from relevant agencies so that armed with that experience can affect the production of beef cattle.

The number of children who are dependents greatly influences the expenditure of the sample. The more the number of dependents on the family, the higher the expenditure for consumer goods [10]. If it not supported by adequate household income, the sample will reduce the amount of expenditure for beef cattle business, and this will also affect the business pattern of beef cattle managed by the respondent. The average number of sample dependents is three people. In other words, the number of dependents of the workers in the beef cattle business is not too much and can save the income received.

Beef cattle breeders have varied experiences in their cultivation business, ranging from 5-16 years. The average beef cattle breeder has nine years of experience in the beef cattle business. It can say that beef cattle breeders are quite experienced because they have worked from the beginning of the beef cattle business began to have endeavored.

Characteristics respondents were age, education, number of children, and experience. The average age of respondents was 48 years, which showed a relatively productive sample [11]. The education level of the respondent is equivalent to a junior high school. The average number of children covered is 4. The number of dependents shows the availability of labor in a family that is ready to be used in business. The level of experience will provide a change in one's work skills towards better [12].

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Unit</th>
<th>Range</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Age</td>
<td>Year</td>
<td>32-68</td>
<td>49</td>
</tr>
<tr>
<td>2</td>
<td>Education</td>
<td>Year</td>
<td>6-12</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>Number of children</td>
<td>Person</td>
<td>1-5</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Experience</td>
<td>Year</td>
<td>5-16</td>
<td>9</td>
</tr>
</tbody>
</table>

Source: Primary data (processed), 2019
3.2 Cost and Revenue Analysis

3.2.1 Cost analysis

Costs incurred by farmers in managing beef cattle business consist of fixed costs and variable costs. The average costs incurred in this business can be seen in Table 2.

Costs incurred by farmers in managing beef cattle business consist of fixed costs and variable costs. Fixed costs are costs that cannot change (constant) for each level of the number of results produced or costs whose use is not used up within one production period and still incurred even though not producing, among others, depreciation costs [13]. Fixed costs incurred in this beef cattle business are the costs of depreciation of the cage and depreciation of equipment. One way to calculate depreciation costs is the difference between the initial value of the goods and the final value of the goods divided by the length of use. Cost shrinkage is obtained by dividing the estimated number of years of investment by investment ever used [14].

Variable costs are costs that can change at any time, depending on the size of the volume of production or costs used up during production [15]. Variable costs of beef cattle business include the cost of beef cattle at the beginning of the year, the additional cost of feed, the cost of medicines, vitamins, and labor costs. For more details, the average costs incurred in this business.

3.2.2 Beef cattle revenue and revenue

The average income and business income of beef cattle can be seen in Table 3.

Table 3 shows the value of production (revenue) generated from businesses in this study area, amounting to Rp. 314,053,350, per year. Cuts sold alive and fresh. The total cost, which is the result of the sum of fixed costs and variable costs is Rp. 227,349,410. The results of data processing show the net income received by beef cattle breeders obtained from total revenue less than the total cost / total cost of Rp. 86,703,940 per year.

By looking at the assessment criteria that a business is profitable if a price level multiplied by the amount of beef cattle production exceeds all costs, the beef cattle business is inevitably feasible to develop. The level of effort to maximize profits usually realized through increased technical efficiency [16].

3.2.3 Beef cattle farmer income per month

Table 4 shows that the lowest net income of the beef cattle business in the study area is Rp. 1,931,517 per month, and the highest net income was Rp. 42,218,167. So the average net income

### Table 2. Average costs costs in the beef cattle business

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Business Value (Rp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fixed Costs (Fix Cost)</td>
<td>513,000</td>
</tr>
<tr>
<td></td>
<td>1.1. Cost of depreciation</td>
<td>513,000</td>
</tr>
<tr>
<td></td>
<td>1.2. Tax fees</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Variable Cost (Variable Cost)</td>
<td>226,836,410</td>
</tr>
<tr>
<td></td>
<td>2.1. Cost of Production Facilities</td>
<td>221,604.743</td>
</tr>
<tr>
<td></td>
<td>2.2. Labor fee</td>
<td>5,231,667</td>
</tr>
<tr>
<td>3</td>
<td>Total Cost</td>
<td>227,349,410</td>
</tr>
</tbody>
</table>

*Source: Primary data (processed), 2019*

### Table 3. Beef cattle revenue and revenue per year

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Business Value (Rp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fixed Costs ( Fix Cost )</td>
<td>513,000</td>
</tr>
<tr>
<td>2</td>
<td>Variable Cost ( Variable Cost )</td>
<td>226,836,410</td>
</tr>
<tr>
<td>3</td>
<td>Total Cost (Fixed Cost + Variable Cost)</td>
<td>227,349,410</td>
</tr>
<tr>
<td>4</td>
<td>Total Revenue ( P * Q )</td>
<td>314,053,350</td>
</tr>
<tr>
<td>5</td>
<td>Net Income (Total Revenue - Total Cost)</td>
<td>86,703,940</td>
</tr>
</tbody>
</table>

*Source: Primary data (processed), 2019*
Table 4. Distribution of beef cattle business income levels

<table>
<thead>
<tr>
<th>Description</th>
<th>Sample</th>
<th>Lowest</th>
<th>The highest</th>
<th>Average</th>
</tr>
</thead>
</table>

Source: Primary data (processed), 2019

Table 5. Feasibility analysis of beef cattle business

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Unit</th>
<th>Business Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Total Cost</td>
<td>Rupiah</td>
<td>227,349,410</td>
</tr>
<tr>
<td>2</td>
<td>Total Revenue</td>
<td>Rupiah</td>
<td>314,053,350</td>
</tr>
<tr>
<td>3</td>
<td>Net Income (Total Revenue - Total Cost)</td>
<td>Rupiah</td>
<td>86,703,940</td>
</tr>
<tr>
<td>4</td>
<td>Revenue Cost Ratio (Total Revenue / Total Cost)</td>
<td>-</td>
<td>1.38</td>
</tr>
</tbody>
</table>

Source: Primary data (processed), 2019

received by beef cattle farmers in the study area is Rp. 7,225,328 per month. It is because there are differences in the amount of business production and the use of superior seeds owned by farmers, so the products produced also varies. The use of good quality seeds will increase farmers’ income [17]. The difference in the number of products produced will affect the costs incurred and the income received by farmers. Based on survey results, the difference in production also located on the scale of its business. The larger the scale of its business, the greater the production and its income [18]. Vice versa, the smaller the scale of the beef cattle business, the smaller the products produced. Besides this, the experience of farmers in the area of research also affects business production—the greater the business experience, the greater the opportunity to increase production and income [19].

3.2.4 Economic analysis and business feasibility

After completing the analysis of production costs and income analysis, then the feasibility analysis of the beef cattle business in the study area can then be seen in Table 5.

Table 5 shows that the R/C ratio of 1.38. The R/C ratio value obtained from a comparison of total revenues of Rp. 314,053,350 with a total cost of Rp. 227,349,410. Economically, the beef cattle business in West Binjai Subdistrict is feasible to be developed (shown) as indicated by an R / C Ratio of > 1 ie, an average value of 1.38. That means with sacrifice (production costs) of Rp. 1.00, then the beef cattle breeder will receive income (production value) of Rp. 1.38. Concerning this situation, the beef cattle business in the study area is feasible and can provide benefits and can even develop or run.

4. CONCLUSION

Beef cattle business in West Binjai District is an economically profitable activity for beef cattle farmers that is 86,703,940 rupiah per year, and the average net income received by beef cattle business farmers is Rp. 7,225,328 per month. In terms of business, feasibility is a type of activity that is feasible to cultivate and developed because of the Revenue Cost Ratio value of 1.38.

CONSENT

As per international standard informed and written participant consent has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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