THE FEASIBILITY ANALYSIS OF LAYER LIVESTOCK BUSINESS IN ALEBO VILLAGE KONDA DISTRICT SOUTH KONAWE REGENCY

Muh. Zaresta¹*, Yusna Indarsyih¹, Fahria Nadiryati Sadimantara¹)

¹Department of Agribusiness Faculty of Agriculture, Universitas Halu Oleo Kendari 93232

*Corresponding author: restarossi@gmail.com


Received: December 21, 2021; Accepted: March 04, 2022; Published: March 05, 2022

ABSTRACT

This study aims to analyze the feasibility and sensitivity of laying hens in terms of financial aspects and if there is an increase in variable costs and a decrease in product prices. This research was conducted in Alebo Village, Konda District, South Konawe Regency, from September 2021 to January 2022. The object of this research is the Laying Chicken Livestock Business. This research uses the case study method. Research variables include respondent identity and business feasibility analysis. Analysis of the data used in the financial feasibility analysis includes the analysis of Net Present Value, Net Benefit-Cost Ratio Analysis, Internal Analysis of Return, Payback Period Analysis, and Sensitivity Analysis. The results of this study indicate that the financial aspect obtained an NPV value of IDR774,411.584, with a discount factor used of 15%, Net B/C of 2.32, IRR of 49%, the Payback period for two years four months so that the chicken farming business laying breeds are declared financially viable. Based on the sensitivity analysis, the business is still feasible to run despite an increase in the price of corn feed and DOC by 30% and a decrease in the selling price of eggs by 15%.

Keywords: business feasibility; laying chicken; sensitivity.

INTRODUCTION

Indonesia is an agrarian country where the livelihood of the majority of the population is in the agricultural sector (Muhammad & Yekti, 2019). The development of the livestock sector is part of agricultural development and national development, which has a target to increase the income and welfare of farmers, ranchers, and their families (Elpawati et al., 2018). Livestock is one source of animal protein producers other than fisheries that can meet animal protein needs for the wider community (Rinanti et al., 2020). Along with the increasing population and increasing public awareness of the importance of animal nutrition (protein), the need for eggs, especially chicken eggs, tends to increase. Therefore, it is necessary to develop a laying hens business to meet this demand. Laying chicken agribusiness is a promising business in the livestock sector. The prospect of developing laying hens agribusiness in the future can be seen from the supply and demand sides for eggs (Husen et al., 2020).

Data from the Badan Pusat Statistik Provinsi Sulawesi Tenggara (2020) regarding the population of laying hens by Regency/City in Southeast Sulawesi Province for the year (2017-2020) shows the population of laying hens in South Konawe Regency always shows the largest population among other regencies. Some of the things that led to this progress were improvements in laying hens processing technology in cages, superior seeds, quality feed, sanitation, and vaccines (Rakhmadevi & Wardhana, 2020). According to Alif (2017), the development of laying hens can work well if the breeders understand the characteristics of laying hens themselves. Therefore, proper preparation is needed before running a business to not run aground in the middle of the road (Rasyaf, 2011).

Laying hens in South Konawe Regency is expected to positively impact the community by providing job opportunities, increasing income and improving living standards, and meeting market demand for eggs. From data from the Badan Pusat Statistik Kabupaten Konawe Selatan (2020), regarding poultry egg production by sub-district in South Konawe district in 2020, it can be seen that...
the production of purebred chicken eggs is higher than other types of poultry, this condition proves that people who raise laying hens are more productive. Produce eggs compared to other types of poultry farmers. Konda District is the sub-district with the highest egg production in South Konawe Regency. Even though an increase in egg prices accompanies it, the increase in broiler egg production shows that public demand for purebred chicken eggs remains and continues to increase from year to year (Wibowo, 2019).

It is known that there are only one laying hens farming business located in Alebo Village, Konda District, and it is one of the livestock businesses that contribute to egg supply in South Konawe Regency and the surrounding area. Breeders started their business in 2016 until now, with a maintenance scale of 2,700 heads. High initial investment and capital are used to build laying hens cages finance other supporting facilities and infrastructure that will determine the business's success, so it is necessary to study the implementation of the business from cultivation to marketing to what extent these activities can provide benefits if carried out. From the results of the calculation of the business feasibility analysis, it can be seen how much of the benefits and profits will be obtained, which will later determine the feasibility of the business to run (Boer et al., 2019).

The laying hens farming business is a business that can generate fast capital turnover. However, the business of laying hens is still very vulnerable in its development, and this is due to the fluctuating prices of materials and products produced. Without proper anticipation and handling, few livestock businesses suffer losses and even close their businesses. To achieve maximum profit, it is necessary to know the feasibility of a laying hen farming business (Ramadhani, 2017). The purpose of this study was to analyze the feasibility and sensitivity of laying hens business in terms of financial aspects and if there is an increase in variable costs and a decrease in product prices.

MATERIALS AND METHODS

This research was conducted in Alebo Village, Konda District, South Konawe Regency, from September 2021 to January 2022. Researchers used the case study method (Pamungkas & Rahayu, 2020). According to Nurmalina et al. (2020), the criteria commonly used to determine business viability are Present Net Value (NPV), Net Benefit-Cost Ratio (Net B/C), Internal Rate of Return (IRR), Payback Period, and sensitivity. The feasibility of the laying hens business was assessed using sensitivity analysis on the components of variable costs and product prices because it was considered that these components were the most important in a laying hens business. This sensitivity analysis shows how big the business tolerance limit is if there is a change in product costs and prices.

RESULTS AND DISCUSSION

Characteristics of Respondents

The laying hens farming business in Alebo Village is an independent farm business operating from 2016 until now. Respondents in this study were business owners of laying hens.

Table 1. Characteristics of respondents

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Year</td>
<td>66</td>
</tr>
<tr>
<td>Education</td>
<td>Year</td>
<td>12 (Senior High School)</td>
</tr>
<tr>
<td>Business Experience</td>
<td>Year</td>
<td>6</td>
</tr>
<tr>
<td>Family Dependents</td>
<td>Person</td>
<td>1</td>
</tr>
<tr>
<td>Land Area</td>
<td>Ha</td>
<td>1.5</td>
</tr>
<tr>
<td>Layer Cage Capacity</td>
<td>Tail</td>
<td>2,700</td>
</tr>
</tbody>
</table>

The respondents in this study were the owners of laying hens in Alebo Village, who were 66 years old. Based on the results of direct interviews with respondents, it is known that the business owner employs one permanent employee as the head of the stable and two freelance employees or on-call employees who are still in their productive age. This is in line with Suyono and Hermawan’s (2013) research results that the working-age in the productive age has high creativity, better knowledge, and insight and is responsible for tasks. This will have a positive impact on business productivity.

The last education a business owner took was high school. Education will generally affect the mindset of farmers in making decisions, and this is one of the considerations for business owners to hire one permanent employee who has a bachelor’s degree. This is in line with Tuwo’s (2011) opinion,
which states that education affects the way of thinking of farmers. Farmers who have adequate formal education can be more responsive to changes in their farming.

The number of family dependents is the number of household members who are still dependent on the household in meeting their daily needs. The number of family dependents is divided into two: small family dependents and large family dependents. Small family dependents are around 1-4 people, while more than four people include many family dependents (Hardin, 2019). The business owner has two married sons and has their respective jobs, so the number of family dependents is relatively small because they only have one dependent family, namely a wife who works as a housewife.

Breeder's have a managed farm area of 1.5 hectares with a layer cage capacity of 2,700 heads so that it is included in the category of the small business scale. This is following the opinion of Fadilah (2013), which says that the broiler farm business is divided into three categories of business scale, namely small scale (people's livestock) with a livestock population below 50,000 heads, medium scale (established breeders) with a population ranging from 50,000-100,000. Tail and large scale (enterprise scale) with a population of over 100,000 individuals. Chicken farms that are run on a small scale have advantages and disadvantages. The advantages are that the capital that needs to be provided is relatively small or can be run with limited capital. The cage can be built simply, the location can be near the residence, and the ownership is individual. Weaknesses, business continuity throughout the year does not run smoothly, and the scope of marketing is limited. However, with the experience of raising laying hens for six years, this weakness does not become an obstacle for farmers to continue to develop their business. It is proven that farmers have run their livestock business until now. Business experience is useful in making operational business decisions to achieve success (Purba & Khadijah, 2020). Before starting a business, farmers had received training on laying hens. After participating in the training, the breeders were interested in the world of laying hens, so they decided to take an internship and work as an employee in a laying hen farming business. This was done to gain experience and insight and try to raise capital with the determination to open their own business. This is in line with Tuwo's (2011) opinion, which states that experience is an educational process obtained outside of school, but from an event or event that has been experienced, which is very useful for someone to do better than before.

**Analysis of Financial Aspects and Sensitivity**

Measuring whether a business is feasible or not requires several financial feasibility criteria. The financial feasibility criteria to answer the objectives of this study are similar to those of Wicaksono et al. (2020). The business feasibility criteria used in this analysis are NPV, IRR, Net B/C, Payback Period, and Sensitivity. The results of the financial feasibility analysis of laying hens can be seen in Table 2.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
<th>Unit</th>
<th>Value</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>NPV</td>
<td>IDR</td>
<td>774,411,584</td>
<td>Feasible</td>
</tr>
<tr>
<td></td>
<td>Net B/C</td>
<td>Ratio</td>
<td>2.32</td>
<td>Feasible</td>
</tr>
<tr>
<td></td>
<td>IRR</td>
<td>%</td>
<td>49%</td>
<td>Feasible</td>
</tr>
<tr>
<td></td>
<td>Payback Period</td>
<td>Year; Month</td>
<td>2.4</td>
<td>Feasible</td>
</tr>
<tr>
<td>Increase in Corn Feed Price by 30%</td>
<td>NPV</td>
<td>IDR</td>
<td>551,615,208</td>
<td>Feasible</td>
</tr>
<tr>
<td></td>
<td>Net B/C</td>
<td>Ratio</td>
<td>1.81</td>
<td>Feasible</td>
</tr>
<tr>
<td></td>
<td>IRR</td>
<td>%</td>
<td>43%</td>
<td>Feasible</td>
</tr>
<tr>
<td></td>
<td>Payback Period</td>
<td>Year; Month</td>
<td>3.2</td>
<td>Feasible</td>
</tr>
<tr>
<td>DOC Price Increase by 30%</td>
<td>NPV</td>
<td>IDR</td>
<td>758,924,815</td>
<td>Feasible</td>
</tr>
<tr>
<td></td>
<td>Net B/C</td>
<td>Ratio</td>
<td>2.29</td>
<td>Feasible</td>
</tr>
<tr>
<td></td>
<td>IRR</td>
<td>%</td>
<td>49%</td>
<td>Feasible</td>
</tr>
<tr>
<td></td>
<td>Payback Period</td>
<td>Year; Month</td>
<td>2.5</td>
<td>Feasible</td>
</tr>
<tr>
<td>Decrease in Selling Price of Eggs by 15%</td>
<td>NPV</td>
<td>IDR</td>
<td>140,760,898</td>
<td>Feasible</td>
</tr>
<tr>
<td></td>
<td>Net B/C</td>
<td>Ratio</td>
<td>1.21</td>
<td>Feasible</td>
</tr>
<tr>
<td></td>
<td>IRR</td>
<td>%</td>
<td>28%</td>
<td>Feasible</td>
</tr>
<tr>
<td></td>
<td>Payback Period</td>
<td>Year; Month</td>
<td>5.7</td>
<td>Feasible</td>
</tr>
</tbody>
</table>

NPV is the difference between the present value of benefits and the present value of costs. NPV assessment criteria are if the NPV is greater than zero at the time the interest rates apply, then the laying hens business is declared feasible; If the NPV is less than zero at the time of the prevailing...
interest rate, then the laying hens business is declared unfeasible; If the NPV is equal to zero when interest rates apply, then the laying hens business is declared in a break-even position (Wicaksono et al., 2020). Based on the results of the NPV calculation, it shows that the NPV at a discount factor of 15% is IDR 774,411,584. This figure indicates that the laying hens business is profitable and feasible because the NPV obtained is (+). This is in line with Maulana et al. (2014), which is declared feasible because it produces an NPV greater than zero.

Net B/C is a comparison between positive NPV and negative NPV. This net B/C compares the present benefit value with the present value and costs at the prevailing discount factor rate of 15%. From the analysis of the 15% discount factor, a Net B/C of 2.32 was obtained, which means that this business is feasible because the value obtained is greater than one (Net B/C > 1), as stated in the research of Ulfia et al. (2014), when you get a Net B/C value > 1, the business is feasible (profitable).

IRR is a value that describes the return on capital for company owners who invest during the project. The IRR value obtained from the laying hens business is 49% or greater than the discount factor rate of 15%, so this business is feasible to run. Along with the research conducted by Iskandar et al. (2019), which obtains an IRR value greater than the discount factor level, the business is feasible to run.

Payback Period shows the payback period that will be used to carry out the return of the laying hens business. The payback period value obtained from the laying hens business is 2.4, which means the rate of return on investment is two years and four months. This payback period is lower than the age of the business, and the faster the payback period, the better the business will be. In line with the research of Afandi et al. (2019), which has a lower payback period than the age of the business, this business development is feasible.

Based on the sensitivity analysis results, the business is still feasible to run when there is a 30% increase in corn prices, a 30% increase in DOC prices, and a 15% decrease in egg selling prices. Meanwhile, in the research of Santosa et al. (2012), sensitivity analysis using the scenario of an increase in input prices (land rent, equipment, seeds, feed, medicines, and labor wages) and a decrease in output prices (eggs/grain prices), at the percentage level of each of 5%, and 10%.

CONCLUSIONS AND SUGGESTION

Based on the analysis of the financial aspect results, which produces an NPV of IDR (PP), which is two years four months, this condition has met the predetermined business feasibility criteria so that the laying hens business is feasible to run. Based on the sensitivity analysis results, the business is still feasible to run when there is a 30% increase in corn prices, a 30% increase in DOC prices, and a 15% decrease in egg selling prices. Suppose there is a change in conditions that exceed the specified tolerance limit. In that case, the business will generate an NPV less than 0 or a negative value, which will suffer a loss. This requires farmers always to be ready and responsive to anticipate or take appropriate action to respond to changes so that the business does not experience large losses and can continue to operate.

REFERENCE


