Profit and Financial Feasibility Analysis of Broiler Chicken Livestock in South Konawe District, Indonesia

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Abstract. This study is to find out: 1) the cost structure of broiler chicken farming; 2) the level of profitability of broiler chickens; 3) financial feasibility of broiler chicken farms. This research was conducted in Konawe Selatan Regency. To answer the research objectives, the type of data used is primary data obtained by interviews and observations. The analytical tool is descriptive analysis. The results showed that: 1) the types of costs in the chicken farming business were dominated by feed costs and DOC; 2) The profit of broiler chickens farming is quite large at an average of Rp. 28,778,493 per harvest season in which the largest amount of income is Rp. 61,239,900 and the smallest income is Rp. 4,934,250 per harvest season; 3) calculation of R-C Ratio is 1.55 on average or more than 1, so it is feasible to keep it running.

Keywords: Cost, Profit, Business Feasibility, Broiler Chickens

1. Introduction
Animal Husbandry is a subsector of the agriculture field. The livestock subsector has an important role in supporting the economy of the community and the region. Broiler chicken commodity has a big prospect along with the increasing number of requests. Broiler chicken is a type of livestock belonging to the group of poultry that is one of the food sources and nutritious protein provider and has a lower cholesterol content compared to beef or goat. In addition, in terms of price, broiler chickens are also relatively cheaper compared to other livestock. The business of broiler chicken farming is a type of business that is quite likely to increase farmers’ income because this business has several advantages compared to other meat-producing farm animals because of the fast capital rotation and short maintenance time.

Regional data on poultry population in Southeast Sulawesi Province shows that broiler chickens are the largest poultry population of other types of chickens. Based on data from the Central Statistics Agency (BPS), South Konawe Regency and Kendari City are the biggest.

Every business certainly has advantages and disadvantages. Likewise, the business of broiler chicken farming also has weaknesses and is quite risky. namely broiler chickens are very susceptible to disease if the handling is not right in terms of maintenance, hygiene, and sanitation. Broiler chickens or commonly referred to broilers are chickens from the crossing of chicken nations that have high productivity. Therefore, the opportunity to generate profits is also higher. However, if improper handling will be a very risky loss. The biggest loss of broiler chicken rancher ever happened
when it was hit by a bird flu outbreak. Based on this experience, it would certainly be a valuable experience to be more professional in manning chicken farms.

Running a business certainly aims to make a profit. The parameters that can be used are profitability and financial feasibility analysis. The efficiency of production factors being part of expenditure, both fixed costs and operational costs, are expected to produce the desired benefits. The purpose of this study is to find out: 1) the cost structure of broiler chicken farming; 2) profitability of broiler chicken business; 3) financial feasibility of broiler chicken farms. This research was conducted in South Konawe Regency.

2. Research Methods
2.1 Research Location
This research was conducted in South Konawe Regency in two sub-districts, Konda and Ranomeeto. In Konda sub-district, the research was conducted in the Lalowui village, while in Ranomeeto sub-district, Ranooha village was chosen as the representative location. The location was selected purposely considering that the research location was a potential area in the operation of broiler chickens compared to other districts, sub-districts, and villages. Moreover, broiler chicken farming was a livelihood for the community there.

2.2 Population and Sample
The population is the whole study object. The population in the study in Lalowui was 15 farmers, while in Ranooha was 16 farmers. The sample in this study was the entire population determined by census method. A census is a sampling technique when all members of a population are used as a sample.

2.3 Data Types and Sources
The data used in this study are primary data and secondary data. Primary data were obtained through direct interviews with chicken farm business owners in the village of Lalowui and Ranooha villages and by conducting direct observations. Secondary data is obtained through relevant agencies and documents related to the problem and research object.

2.4 Data analysis method
*Production cost.* Production cost is all economic expenses incurred by chicken farmers.

\[
TC = TFC + TVC
\]

Information:
- \( TC \) = Total cost of chicken farming (Rp)
- \( TFC \) = Total fixed cost of chicken farming (Rp)
- \( TVC \) = Total variable cost of chicken farming (Rp)

*The advantage.* Business profit is a reduction from total revenue with total costs from chicken farming. Mathematically it can be written as follows:

\[
\pi = TR - TC
\]

Information:
- \( \pi \) = Profit (Rp)
- \( TR \) = total revenue (Rp)
- \( TC \) = Total cost (Rp)

*Financial Feasibility Analysis.* To determine the feasibility of a business, it can be analyzed using the calculation of Revenue Cost Ratio, which is a comparison between total revenues and total costs

\[
\text{Revenue Cost Ratio} = \frac{TR - C}{TC}
\]

If the \( R - C \) Ratio > 1, then the business has a profit and is feasible to be developed.

If the \( R - C \) Ratio <1, then the business is operating at a loss and is not feasible to be developed.

If \( R - C \) Ratio = 1, then the effort is at the break-even point (Break-Even Point).
3. Results and Discussion

3.1 Production Cost Analysis

In running a broiler chicken farm, it cannot be separated from the use of production costs. This is because the amount of effective and efficient production costs will determine the success of a business. There are two types of costs, namely fixed costs and variable costs. The fixed cost component in broiler farms in the study area consisted of the costs of cage depreciation and equipment depreciation. Data related to the fixed costs component of Broiler chicken business can be seen in Table 1 below:

| No. | Respondent | Cage depreciation (Rp) | Equipment Depreciation (Rp) | Total of Fixed Cost (Rp) |
|-----|------------|------------------------|-----------------------------|-------------------------|
| 1   | 1.500.000  | 375.650                |                             | 1.875.650               |
| 2   | 800.000    | 387.500                |                             | 1.187.500               |
| 3   | 1.250.000  | 268.240                |                             | 1.518.240               |
| 4   | 850.000    | 254.650                |                             | 1.104.650               |
| 5   | 2.300.000  | 525.210                |                             | 2.825.210               |
| 6   | 2.300.000  | 524.265                |                             | 2.824.265               |
| 7   | 1.250.000  | 250.700                |                             | 1.500.700               |
| 8   | 1.250.000  | 348.250                |                             | 1.598.250               |
| 9   | 1.000.000  | 276.520                |                             | 1.276.520               |
| 10  | 2.200.000  | 442.000                |                             | 2.642.000               |
| 11  | 1.650.000  | 283.820                |                             | 1.933.820               |
| 12  | 1.275.000  | 254.000                |                             | 1.529.000               |
| 13  | 2.225.000  | 225.000                |                             | 2.450.000               |
| 14  | 1.320.000  | 285.350                |                             | 1.605.350               |
| 15  | 4.300.000  | 650.000                |                             | 4.950.000               |
| 16  | 2.200.000  | 212.650                |                             | 2.412.650               |
| 17  | 2.350.000  | 567.250                |                             | 2.917.250               |
| 18  | 750.000    | 420.300                |                             | 1.170.300               |
| 19  | 1.260.000  | 285.300                |                             | 1.545.300               |
| 20  | 1.250.000  | 275.400                |                             | 1.525.400               |
| 21  | 750.000    | 620.600                |                             | 1.370.600               |
| 22  | 1.550.000  | 530.766                |                             | 2.080.766               |
| 23  | 2.050.000  | 328.333                |                             | 2.378.333               |
| 24  | 800.000    | 267.980                |                             | 1.067.980               |
| 25  | 1.400.000  | 665.300                |                             | 2.065.300               |
| 26  | 1.600.000  | 466.350                |                             | 2.066.350               |
| 27  | 1.500.000  | 285.666                |                             | 1.785.666               |
| 28  | 1.800.000  | 400.000                |                             | 2.200.000               |
| 29  | 1.356.000  | 325.150                |                             | 1.681.150               |
| 30  | 1.466.000  | 286.000                |                             | 1.752.000               |
| 31  | 1.800.000  | 250.000                |                             | 2.050.000               |
| **Average** | **1.592.000** | **372.200** | **2.077.113** |

Source: Primary data 2019 (processed)
The average fixed costs incurred for depreciation of the cage was Rp. 1.592,000 in one season. While the average fixed costs for depreciation of equipment was Rp. 372,200. Based on observations at the research location, it showed that the existence of the cages stayed in a decent condition and always maintained. Maintaining the cleanliness of the cage is an important factor for the sustainability of the chicken farm business. Running a broiler business is not easy, because it is very susceptible to contracting the disease and this, of course, can have an impact on losses.

Variable costs are also a component of production costs that determine the success of broiler chicken farming. The variable cost component at the study location consisted of DOC, feed, vitamins and medicines, husk, electricity, gas, and labor. In detail related to the use of variable costs in this study can be seen in the following Table 2.

| No | Respondent | DOC | Feed | Vitamin and Medicines | Husk | Electricity | Gas | Labor | Total | Variable Cost |
|----|------------|-----|------|-----------------------|------|-------------|-----|-------|-------|--------------|
| 1  | 12,500.000 | 24,620.000 | 780.000 | 312.000 | 145.000 | 300.000 | 3,000.000 | 41,657.000 |
| 2  | 7,250.000  | 50,400.000 | 620.000 | 287.000 | 160.000 | 300.000 | 1,600.000 | 60,617.000 |
| 3  | 11,000.000 | 56,000.000 | 650.000 | 360.000 | 180.000 | 250.000 | 1,800.000 | 70,240.000 |
| 4  | 13,400.000 | 41,050.000 | 1,310.000 | 286.000 | 200.000 | 280.000 | 1,000.000 | 57,526.000 |
| 5  | 14,600.000 | 40,520.000 | 480.000 | 280.000 | 260.000 | 200.000 | 1,000.000 | 57,340.000 |
| 6  | 8,250.000  | 44,000.000 | 1,000.000 | 280.000 | 180.000 | 310.000 | 900.000 | 54,920.000 |
| 7  | 11,400.000 | 44,000.000 | 720.000 | 300.000 | 200.000 | 300.000 | 900.000 | 57,820.000 |
| 8  | 16,700.000 | 38,945.000 | 680.000 | 300.000 | 200.000 | 280.000 | 900.000 | 58,005.000 |
| 9  | 16,200.000 | 42,000.000 | 620.000 | 280.000 | 210.000 | 560.000 | 2,800.000 | 62,670.000 |
| 10 | 12,000.000 | 26,420.000 | 698.000 | 280.000 | 200.000 | 375.000 | 900.000 | 40,873.000 |
| 11 | 11,000.000 | 48,000.000 | 815.000 | 280.000 | 250.000 | 420.000 | 900.000 | 61,665.000 |
| 12 | 11,500.000 | 46,000.000 | 2,200.000 | 275.000 | 340.000 | 620.000 | 2,750.000 | 63,685.000 |
| 13 | 12,600.000 | 28,310.000 | 1,860.000 | 280.000 | 225.000 | 740.000 | 1,500.000 | 45,515.000 |
| 14 | 16,400.000 | 35,350.000 | 2,750.000 | 220.000 | 315.000 | 610.000 | 675.000 | 56,320.000 |
| 15 | 11,000.000 | 40,212.000 | 865.000 | 300.000 | 270.000 | 750.000 | 820.000 | 54,217.000 |
| 16 | 12,000.000 | 41,500.000 | 1,810.000 | 200.000 | 200.000 | 910.000 | 2,200.000 | 58,820.000 |
| 17 | 9,500.000  | 36,420.000 | 980.000 | 375.000 | 348.000 | 350.000 | 1,252.000 | 49,225.000 |
| 18 | 12,000.000 | 28,565.000 | 1,404.000 | 420.000 | 150.000 | 460.000 | 1,345.000 | 44,345.000 |
| 19 | 7,500.000  | 36,500.000 | 820.000 | 178.000 | 184.000 | 280.000 | 0 | 45,462.000 |
| 20 | 8,750.000  | 38,750.000 | 925.000 | 258.000 | 285.000 | 300.000 | 1,625.000 | 50,893.000 |
| 21 | 12,200.000 | 42,200.000 | 1,200.000 | 272.200 | 250.000 | 220.000 | 1,220.000 | 53,617.200 |
| 22 | 12,500.000 | 41,200.000 | 1,200.000 | 280.000 | 280.000 | 250.000 | 580.000 | 56,310.000 |
| 23 | 11,200.000 | 35,780.000 | 902.000 | 186.000 | 185.000 | 500.000 | 0 | 48,753.000 |
| 24 | 12,500.000 | 32,575.000 | 1,267.500 | 320.000 | 220.000 | 320.000 | 842.000 | 48,044.500 |
| 25 | 11,600.000 | 32,300.000 | 1,300.000 | 315.000 | 160.000 | 580.000 | 489.000 | 46,744.000 |
| 26 | 18,500.000 | 40,480.000 | 1,320.000 | 275.000 | 225.000 | 380.000 | 465.000 | 61,645.000 |
| 27 | 11,650.000 | 32,650.000 | 1,225.000 | 280.000 | 168.000 | 325.000 | 485.000 | 46,783.000 |
| 28 | 11,000.000 | 28,362.000 | 1,220.000 | 200.000 | 180.000 | 450.000 | 856.225 | 42,268.225 |
| 29 | 17,000.000 | 31,288.700 | 1,740.000 | 315.000 | 150.000 | 350.000 | 840.000 | 51,683.700 |
| 30 | 16,200.000 | 36,500.000 | 1,650.000 | 280.000 | 160.000 | 500.000 | 600.240 | 55,890.240 |
The largest variable cost and dominating the structure of broiler chicken farming costs was feed with a percentage of 70.68 percent, followed by DOC or baby chickens of 23.30 percent, continued by costs for vitamins and medicines by 2.19 percent, gas purchasing costs by 0.77 percent, costs for husks by 0.53 percent and payment for electricity costs were the smallest variable costs of 0.40 percent.

Feed and DOC were very decisive variable costs and contributed greatly to the total costs. However, the feed was a major problem that was always complained of by chicken farms. This was because it was very difficult to obtain it at the research location. In addition, the quality of DOC or seeds was also a determining factor in business continuity. The good quality of DOC was taken from good broodstocks that require efficient feed, but have large meat and fast growth and were not deformed.

In the business of broiler farming, several risks should be faced by farmers, namely production risk, market risk, and policy risk. The death risk was caused by various things such as unqualified DOC, weather, and poor maintenance management. As a result, the need for vitamins and drugs was also a component of the costs that were needed in the business of broiler chicken farming. It was because this enormous risk could be seen for 1-3 days according to research conducted.

The use of rice husk is also a component in the business of broiler chickens. Costs for the purchase of husks were not too large, but rice husks that function as a mat for the cage must also be replaced regularly to maintain the cleanliness of the cage. The use of gas as fuel for brooders is also very much needed.

Based on the table it can be seen that the total variable cost needed in broiler chicken farms in South Konawe Regency was Rp. 1,658,279,365, with an average total cost of 31 poultry farmers was in the amount of Rp. 53,492,883 in one season.

### 3.2 Acceptance Analysis

Revenue can be interpreted as the amount of money obtained from the sale of products produced by broiler livestock entrepreneurs. The acceptance data obtained by broiler breeders in South Konawe Regency were formulated in the following Table 3.

| No. Respondent | Number of Live Chicken | Chicken weight (kg/chicken) | Weight (kg) | Price (Rp) | Revenue (Rp/Kg) |
|----------------|------------------------|----------------------------|------------|-----------|-----------------|
| 1              | 2.956                  | 1.90                       | 5.616      | 18.500    | 103.903.400     |
| 2              | 1.950                  | 1.85                       | 3.608      | 18.500    | 66.738.750      |
| 3              | 2.450                  | 1.78                       | 4.361      | 18.500    | 80.678.500      |
| 4              | 2.265                  | 2.20                       | 4.983      | 18.500    | 92.185.500      |
| 5              | 2.860                  | 1.88                       | 5.377      | 18.500    | 99.470.800      |
| 6              | 2.518                  | 1.78                       | 4.482      | 18.500    | 82.917.740      |
| 7              | 1.898                  | 1.84                       | 3.492      | 18.500    | 64.607.920      |
| 8              | 3.552                  | 1.65                       | 5.861      | 18.500    | 108.424.800     |
| 9              | 2.884                  | 1.78                       | 5.134      | 18.500    | 94.970.120      |
| 10             | 2.180                  | 1.90                       | 4.142      | 18.500    | 76.627.000      |

Source: Primary data 2019 (processed)
The amount of broiler chicken production in the study location varied. The average broiler chicken produced during the harvest at the research location was 2,504 with an average weight of broiler chickens produced 1.83 kilograms and the average total revenue of Rp. 84,235,576/head/harvest period. The revenue obtained from this broiler chicken business looked quite varied, this was because the scale of the business carried out was different, and the prices set were also different. The number of broilers produced by broiler chicken farms in the study location was still very low when compared to needs. This was evidenced by a large number of broiler chickens entering the markets originating from areas outside Southeast Sulawesi Province. Difficult and expensive feed and quality seeds and marketing problems were the factors that were always complained about by farmers. However, currently, the chicken farming business in the research location had implemented a contract farming program or could be called a business partnership activity. These activities cooperation will be established between farmers and companies. This business partnership pattern was a solution in the implementation of broiler chicken farming, following PP No. 6 of 2013 concerning the empowerment of farmers.

### 3.3 Profit Analysis and Financial Feasibility Analysis

Profits can be interpreted as results obtained in business activity after being reduced by operating costs. Business feasibility is also a form of study that must be carried out by every entrepreneur to determine whether or not the business is feasible. Data related to the benefits and feasibility of broiler chicken farming is shown in table 4 below:

|   |   |   |   |   |
|---|---|---|---|---|
| 11 | 2.250 | 1.76 | 3.960 | 18.500 | 73.260.000 |
| 12 | 2.680 | 1.50 | 4.020 | 18.500 | 74.370.000 |
| 13 | 2.665 | 1.70 | 4.531 | 18.500 | 83.814.250 |
| 14 | 2.450 | 1.70 | 4.165 | 18.500 | 77.052.500 |
| 15 | 2.797 | 1.86 | 5.202 | 18.500 | 96.244.770 |
| 16 | 2.452 | 1.58 | 3.874 | 18.500 | 71.671.960 |
| 17 | 3.250 | 1.66 | 5.395 | 18.400 | 99.268.000 |
| 18 | 2.750 | 1.75 | 4.813 | 18.400 | 88.550.000 |
| 19 | 3.180 | 1.85 | 5.883 | 18.400 | 108.247.200 |
| 20 | 2.240 | 1.72 | 3.853 | 18.400 | 70.891.520 |
| 21 | 2.220 | 1.82 | 4.040 | 18.400 | 74.343.360 |
| 22 | 2.780 | 1.95 | 5.421 | 18.400 | 99.746.400 |
| 23 | 2.560 | 2.05 | 5.248 | 18.400 | 96.563.200 |
| 24 | 1.840 | 1.96 | 3.606 | 18.400 | 66.357.760 |
| 25 | 1.850 | 1.82 | 3.367 | 18.400 | 61.952.800 |
| 26 | 2.178 | 1.86 | 4.051 | 18.400 | 74.539.872 |
| 27 | 2.740 | 1.80 | 4.932 | 18.400 | 90.748.800 |
| 28 | 2.275 | 1.78 | 4.050 | 18.400 | 74.510.800 |
| 29 | 2.220 | 2.10 | 4.662 | 18.400 | 85.780.800 |
| 30 | 2.880 | 1.88 | 5.414 | 18.400 | 99.624.960 |
| 31 | 1.860 | 2.14 | 3.980 | 18.400 | 73.239.360 |
| **Total** | **77.630** | **56.80** | **141.523** | **572.000** | **2.611.302.842** |
| **Average** | 2.504 | 1.83 | 4.565 | 18.452 | 84.235.576 |

Source: 2019 Primary Data (Processed)
Table 4. Components of Profit and Financial Feasibility of Broilers

| No Respondent | Total Revenue (Rp) | Total Cost (Rp) | Profit (Rp) | R/C Ratio |
|---------------|-------------------|----------------|-------------|-----------|
| 1             | 103,903,400       | 43,532,650     | 60,370,750  | 2.39      |
| 2             | 67,738,750        | 61,804,500     | 4,934,250   | 1.08      |
| 3             | 80,678,500        | 71,758,240     | 8,920,260   | 1.12      |
| 4             | 92,185,500        | 58,630,650     | 33,554,850  | 1.57      |
| 5             | 99,470,800        | 60,165,210     | 39,305,590  | 1.65      |
| 6             | 82,917,740        | 57,744,265     | 25,173,475  | 1.44      |
| 7             | 64,607,920        | 59,320,700     | 5,287,220   | 1.09      |
| 8             | 108,424,800       | 59,603,250     | 48,821,550  | 1.82      |
| 9             | 94,970,120        | 63,946,520     | 31,023,600  | 1.49      |
| 10            | 76,627,000        | 43,515,000     | 33,112,000  | 1.76      |
| 11            | 73,260,000        | 63,598,820     | 9,661,180   | 1.15      |
| 12            | 74,370,000        | 65,214,000     | 9,156,000   | 1.14      |
| 13            | 83,814,250        | 47,965,000     | 35,849,250  | 1.75      |
| 14            | 77,052,500        | 57,925,350     | 19,127,150  | 1.33      |
| 15            | 96,244,770        | 59,167,000     | 37,077,770  | 1.63      |
| 16            | 71,671,960        | 61,232,650     | 10,439,310  | 1.17      |
| 17            | 99,268,000        | 52,142,250     | 47,125,750  | 1.90      |
| 18            | 88,550,000        | 45,513,800     | 43,036,200  | 1.95      |
| 19            | 108,247,200       | 47,007,300     | 61,239,900  | 2.30      |
| 20            | 70,891,520        | 52,418,400     | 18,473,120  | 1.35      |
| 21            | 74,343,360        | 54,982,800     | 19,360,560  | 1.35      |
| 22            | 99,746,400        | 58,390,766     | 41,355,634  | 1.71      |
| 23            | 96,563,200        | 51,131,333     | 45,431,867  | 1.89      |
| 24            | 66,357,760        | 49,112,480     | 17,245,280  | 1.35      |
| 25            | 61,952,800        | 48,809,300     | 13,143,500  | 1.27      |
| 26            | 74,539,872        | 63,711,350     | 10,828,522  | 1.17      |
| 27            | 90,748,800        | 48,568,666     | 42,180,134  | 1.87      |
| 28            | 74,510,800        | 44,468,225     | 30,042,575  | 1.68      |
| 29            | 85,780,800        | 53,364,850     | 32,415,950  | 1.61      |
| 30            | 99,624,960        | 57,642,240     | 41,982,720  | 1.73      |
| 31            | 73,239,360        | 56,782,000     | 16,457,360  | 1.29      |

Total 2,611,302,842 1,719,169,565 892,133,277 47.99
Average 84,235,576 55,457,083 28,778,493 1.55
Min 61,952,800 43,515,000 4,934,250 1.08
Max 108,424,800 71,758,240 61,239,900 2.39
Source: 2019 Primary Data (processed)

Based on Table 4, it can be seen that the business of broiler chicken farming in South Konawe Regency was quite varied. The average profit gained by chicken farmers was Rp. 28,778,493, where the smallest profit received by chicken farmers was Rp. 4,934,250 and the largest amount of profit were Rp. 61,239,900. The difference in the number of profits was due to differences in business scale...
and different prices, therefore production results were also different. The business partnership activities carried out in this broiler chicken business, the profits and losses obtained will be shared. And every harvest time was always profitable. Because it was in accordance with the purpose of the partnership pattern which was to increase revenue, business sustainability, increase partner group resources and increase business scale.

The analysis tool to see the feasibility of the business was R/C Ratio analysis. Based on the results of data processing contained in the table, it can be seen that the business of broiler chicken farming in South Konawe Regency was very feasible. This is seen from the calculation of R-C Ratio which an average value is 1.55 > 1. If the R-C Ratio was > 1, the business can be said to be feasible.

4. Conclusions and Suggestions
4.1 Conclusion
Based on the results of the analysis, it can be concluded that: 1) The cost structure in the business of broiler chicken farms from the largest to the smallest, namely feed, DOC, medicine, labor, procurement of gas, husks, and electricity; 2) The level of profit gained in the business of broiler chickens was quite large at an average of Rp. 28,778,493 per harvest season. Where the largest amount of revenue obtained was Rp. 61,239,900 and the smallest revenue obtained was Rp. 4,934,250 per harvest season; 3) The R/C Ratio was at an average of 1.55 or more than 1, so it was a feasible business.

4.2 Suggestion
In order to increase profits and increase the level of business viability, it is recommended to streamline management and maintenance such as punctuality and measures in feeding, vitamins, and medicines. Moreover, they also have to increase business capacity (the number of broiler chickens).

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