Profit analysis of broiler chicken business in Beringin Village, STM Hilir District, Deli Serdang Regency

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Abstract. The purpose of this study was to analyze the benefits received by broiler chicken farmers in Beringin Village, STM Hilir Subdistrict, Deli Serdang District. The type of research is descriptive quantitative research, which is the researcher who describes the condition of the variable, namely the amount of income obtained by broiler chicken businessmen. The population in this study were farmers of broiler chickens in Beringin Village, STM Hilir Subdistrict. The analysis method used is income analysis and business feasibility analysis. The results showed that broiler chickens in Beringin Village, STM Hilir Subdistrict, Deli Serdang District, were feasible to be developed economically with the highest profit generated by respondents 5 of IDR 12,300,000,- and the lowest in respondent 5 is IDR 27,320,125 per period with an average profit of IDR 101,758,063 per period / cycle.

Keywords – profit analysis, broiler chicken business, Beringin Village, STM Hilir District, Deli Serdang Regency.

1. Introduction

Deli Serdang Regency, especially the Senembah Tanjung Muda (STM) Hilir Subdistrict, is one of the autonomous regions that have a variety of resources that can be developed to achieve the main objectives of economic development, namely increasing the number and type of employment opportunities for the local community so that the welfare of the community is ever more. In an effort to achieve these goals, the government must be able to develop a potential economic sector to develop as a leading sector. Based on the Central Statistics Agency of North Sumatera, broiler chickens in the Senembah Tanjung Muda Hilir Subdistrict in 2012-2015 experienced various developments and can be seen in the table 1.

| Year | Total Population (Tail) |
|------|-------------------------|
| 2012 | 516.000                 |
| 2013 | 554.000                 |
| 2014 | 523.169                 |
| 2015 | 575.000                 |

Source: BPS North Sumatera, 2016.

Based on the statistical data above, the increase in broiler chicken population is seen from 2012 - 2013 and in 2014 there was a decline then in 2015 there was an increase. Based on surveys and
statistical data, in the District of STM Hilir which included 15 villages, only 9 villages that raised broiler chickens as shown in Table 2.

| No. | Village          | 2012  | 2013  | 2014  | 2015  |
|-----|------------------|-------|-------|-------|-------|
| 1.  | Gunung Rintih    | 71.000| 75.000| 69.000| 72.000|
| 2.  | Kuta Jurung      | 51.000| 50.000| 47.169| 51.500|
| 3.  | Lau Barus Baru   | 20.000| 25.000| 22.000| 32.000|
| 4.  | Limau Mungkur    | 92.500| 97.500| 91.000| 95.000|
| 5.  | Negara/Beringin  | 120.000| 130.000| 125.000| 133.000|
| 6.  | Siguci           | 20.500| 23.500| 20.500| 22.500|
| 7.  | Sumbul           | 37.000| 42.000| 40.000| 50.000|
| 8.  | Taduken Raga     | 41.500| 45.500| 43.500| 44.000|
| 9.  | Talun Kenas      | 62.500| 65.500| 65.000| 75.000|

Source: BPS North Sumatera, 2016.

Based on Table 2, it can be seen that Beringin Village is the village with the highest distribution of broiler chickens compared to other villages in STM Hilir Subdistrict. Beringin Village also experienced a high population increase compared to other villages, which was 133,000 in 2015.

In business activities, broiler breeding in Beringin Village, of course, requires capital, costs, and labor. The capital used in this nursery is its own capital and partners. While costs incurred include production costs, labor costs, and equipment depreciation costs. Costs incurred will affect the profit process received by the farmer. Every business in running its business always wants to make a big profit, where the profit is a guarantee for the survival of a business or activity of a business. Based on this description, researchers are interested in conducting research on the profit analysis of broiler chicken farming in Beringin Village, STM Hilir Village, Deli Serdang District. The purpose of this study was to analyze the benefits received by broiler chicken farmers in Beringin Village, STM Hilir Subdistrict, Deli Serdang District.

2. Methods

2.1. Location selection

This research will be carried out during February 2018 to May 2018 in the STM Subdistrict, Deli Serdang Regency, North Sumatera Province, on the grounds that the area is one of the areas that have great potential in the development of broiler chicken farming, in addition to the scale of business owned by many local farmers. Requirements for respondents are broiler breeders in the study area. The research method used is a survey method with a family analysis unit that maintains broiler chickens.

2.2. Populasi dan sampel

Samples are farmers who will be used as respondents, while the determination of samples is done by purposive sampling technique by selecting several partnerships in the STM Hilir Subdistrict, Deli Serdang Regency, North Sumatera Province and making the partnership members into research samples. In this study, the sample was determined in the Beringin Village with a partnership pattern which had the highest population among other villages.

Secondary data collection by visiting the Central Statistics Agency of North Sumatera to see the number of broiler chickens in STM Hilir Subdistrict. For the study used questionnaires and interviews as a tool to retrieve primary data.
2.3. Data collection
Data collection conducted in this study, namely:
1. Observation, which is a direct observation of broiler chickens in STM District.
2. Questionnaires and interviews are data retrieval by dividing questionnaires or questionnaires to farmers and communicating directly with respondents to obtain the necessary data.

2.4. Data analysis method
Data analysis was used to determine the income of broiler chickens in Beringin village. To find out the income of beef cattle business, the general formula is used:

\[ \pi = TR - TC \]

- \( \pi \) = Total profits earned by farmers (IDR/year)
- \( TR \) = Total Revenue earned by farmers (IDR/year)
- \( TC \) = Total Cost (IDR/year)

The general form of revenue from sales is

\[ TR = P \times Q \]

- \( TR \) = total revenue,
- \( P \) = the selling price per unit of product
- \( Q \) = the number of products

![Diagram](image)

**Figure 1.** Scheme of research procedure.

3. Results and discussion
3.1. Analysis of costs and revenues
3.1.1. Cost analysis
Costs incurred by farmers in managing broiler chicken 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 the costs for which they are used are not used up in one production period and are still issued even if they do not produce, among others, depreciation costs. The fixed costs incurred in this
broiler chicken business are the cost of shrinkage of the cage and shrinkage of tools. One way to
calculate depreciation costs is the difference between the initial value of the item and the final value of
the item divided by the length of usage.

Variable costs are costs that can change at any time depending on the size of the production volume
or the costs spent during production. The variable costs of broiler chicken business include the cost of
broiler chickens, feed costs, costs of medicines, vitamins and labor costs. For more details, the average
costs incurred in this business can be seen in Table 3.

Table 3. Total Production Costs During Research.

| No | Business Scale (tail) | Total Fixed Cost (IDR) | Total Variable Cost (IDR) | Total Cost (IDR) |
|----|-----------------------|------------------------|--------------------------|-----------------|
| 1. | 10,800                | 5,130,193              | 212,430,000              | 217,560,193     |
| 2. | 24,770                | 9,566,250              | 480,440,000              | 490,006,250     |
| 3. | 11,500                | 5,441,693              | 239,046,000              | 244,487,693     |
| 4. | 16,340                | 6,517,561              | 341,404,000              | 347,921,561     |
| 5. | 31,500                | 10,748,050             | 547,618,000              | 558,366,050     |
| 6. | 8,500                 | 3,510,875              | 170,344,000              | 173,854,875     |

Source: Primary data, 2018.

Table 3 shows that the average fixed costs incurred in broiler chicken business at the study location
amounted to IDR 6,819,104 consisting of depreciation costs and depreciation of livestock equipment.
While for variable costs consist of the cost of production facilities and labor costs with an average cost
of IDR 331,880,333. Based on the results of the study it can be seen that variable costs are greater than
the fixed costs. This is in line with Soumena's (2012) study which states that expenditure on fixed
costs does not affect the number of products produced but affects the level of profit obtained by broiler
chicken farmers. While the expenditure on variable costs affects the number of products produced.

3.2. Profit business

The size of the broiler chicken business income is largely determined by the size of the production
and price at harvest time. Prices of broiler chickens range from IDR 14,000 and IDR 15,000 per
kilogram. The average production of broiler chickens is 17,235 birds per period. The average income
and profit of broiler chicken farming can be seen in Table 4.

Table 4. Average Acceptance and Benefits of Broiler Chicken Farming Business Per Period.

| No | Description              | Business Value (IDR) |
|----|--------------------------|----------------------|
| 1  | Fix Cost                 | 6,819,104            |
| 2  | Variable Cost            | 331,880.333          |
| 3  | Total cost (1+2)         | 338,699.437          |
| 4  | Total Revenues (P*Q)     | 440,457.500          |
| 5  | Profit (4 - 3)           | 101,758.063          |

Source: Primary data, 2018.

Table 4 shows the average production value (revenue) generated from broiler chicken business in
this study area of IDR 440,457.500, - per period. The average total cost which is the result of the sum
of fixed costs and variable costs is IDR 338,699.437. The results of the data from Table 8 show that
the average profit received by broiler chicken farmers obtained from the total revenue is reduced by
the total cost / total cost of IDR 101,758,063 per period. The assessment criteria for a business is
profitable if a price level is multiplied by the amount of broiler chickens production exceeding all
costs, then it can be ascertained that broiler chicken business is feasible to be developed. At the level
of efforts to maximize profits are usually realized through increasing technical efficiency.
3.3. Economic analysis and business feasibility

After completing the analysis of production costs and income analysis, then the feasibility analysis of broiler chickens in Beringin Village, STM Downstream District can be seen in Table 3, while the average business feasibility analysis can be seen in Table 5 below.

Table 5. Average Feasibility Analysis of Broiler chicken livestock business in Beringin Village, STM Hilir Subdistrict.

| No | Description                        | Unit   | Business Value     |
|----|------------------------------------|--------|--------------------|
| 1  | Total Cost                         | Rupiah | 338,699,437        |
| 2  | Total Revenue                      | Rupiah | 440,457,500        |
| 3  | Profit/Net Income (2 - 1)          | Rupiah | 101,758,063        |
| 4  | Revenue Cost Ratio (2/1)           | -      | 1,30               |

Source: Primary data, 2018.

Table 5 shows that the average R/C ratio is 1.30. The R/C ratio is obtained from the ratio of the total average revenue of IDR 44,457,500,- with an average total cost of IDR 338,699,437. Economically, broiler chicken farming in the study area is feasible to be cultivated (developed) as indicated by the R / C Ratio > 1 value which is an average value of 1,30. This means with sacrifice (production costs) of IDR 1,00 then the broiler chickens breeder will get revenue (production value) of IDR 130. By referring to this situation, broiler chickens in the research area are feasible and provide benefits even to be developed or run.

4. Conclusion

The conclusion of this study is broiler chicken farming in Beringin Village, STM Hilir Subdistrict, Deli Serdang District, which is economically feasible with the highest profit generated by respondent 5 of IDR 12,300,000, - and the lowest in respondent 5 is IDR 27,320,125 per period with an average profit of IDR 101,758,063 per period.

5. Recommendation

To increase farmer income, it is necessary to improve maintenance management and use production factors efficiently to increase business productivity.

6. References

[1] Badan Pusat Statistik. Provinsi Sumatera Utara, 2012-2015.
[2] Daniel, M. 2012. Pengantar Ilmu Ekonomi Peternakan. Penerbit Bumi Aksara, Jakarta.
[3] El-kabumaini, N. dan Tjetje, S. R. 2013. Yuk, beternak ayam pedaging dan petelur. Puri Pustaka, Bandung.
[4] Fanani, Z., 2013. Evaluasi Usaha Peternakan Ayam Pedaging di Kabupaten Malang, Fakultas Peternakan Universitas Brawijaya. Malang.
[5] Franky Z. 2014. Peraturan Pemerintah Republik Indonesia Nomor 44 tahun 1997 Tentang Kemitraan.
[6] Galeriukm. 2012. Pola kemitraan untuk menjamin keberlangsungan bisnis ternak. http://galeriukm.web.id/unit-usaha/peternakan/pola-kemitraan-untuk-menjamin-keberlangsungan-bisnis-ternak.
[7] Gusasi. A dan Saade. M.A 2012. Analisis Pendapatan dan Efisiensi Ternak Ayam Potong pada Skala Usaha Kecil. Jurnal Agrisistem, Juni 2012 Vol 2 No.1Haryono,D., 2013, Organisasi Produksi Usaha Ternak Ayam Pedaging Pola Kemitraan dan Non Kemitraan di Kecamatan Mojo warno Kabupaten Jombang, Fakultas Peternakan UB. Malang.
[8] Kamil, M. 2013. Strategi kemitraan dalam membangun pnf melalui pemberdayaan masyarakat. Badan Peneliti dan Pengembangan. Bandung.
[9] Nasir, M., 2011. Metode Penelitian. Ghalia Indonesia. Jakarta.
[10] Nirwana, M. 2011. *Rahasia sukses memelihara ayam broiler di daerah tropis*. Penebar Swadaya. Jakarta.

[11] Rahardi, 2012. *Analisis pendapatan ayam broiler*. Kanisius. Jakarta.

[12] Rasyaf, M. 2013. XXIV. *Beternak ayam pedaging*. Penebar Swadaya. Depok.

[13] Soekartawi. 2011. *Analisis usahatani*. Universitas Indonesia. Jakarta.

[14] Sudjana, 2013. *Metode Statistik*. Tarsito. Bandung.

[15] Sugianto, 2015. *Teori dan Praktik Kemitraan Agribisnis*. Penebar Swadaya. Jakarta.

[16] Sutama, 2012. *Agribisnis Berbasis Peternakan*. Pustaka Wirausaha Muda. Bogor.

[17] Wahyudin E. 2014. *Sistem dan Pola Kemitraan di Indonesia*, Majalah Poultry Indonesia. No. 194. Jakarta.

[19] Yuwanta, T., 2014. *Dasar Ternak Unggas*. Edisi ke-5. Penerbit Kanisius. Yogyakarta.

[20] Zulian Y., 2011. *Manajemen Produksi dan Operasi*. FE UII. Yogyakarta.