Abstract

As the Ongole Cross-Breed breeding cluster, cattle farms in the Wawasan village area had applied beef products of diversification beef floss to solve fluctuations in cattle prices, low farm income, and seasonal cattle sales. This study purposed to analyze the economic efficiency of beef floss production in KWT Karya Sejahtera. The basic method of this research was descriptive-analytic. The research location was chosen purposively by KWT Karya Sejahtera as the production center for beef floss in Tanjungsari District. The analytical method was cost analysis, profitability, and business efficiency. The analysis results and discussion showed that the beef floss production was efficiently managed. It was indicated by the efficiency value of the beef floss business of 1.3 (more than 1). As a whole, beef floss production contributes an additional 20% of what is run by farmers, so this business is feasible to run economically.

Keywords: beef floss, business efficiency, cost of goods manufactured
A. Introduction

Beef is one of the national strategic commodities that often became the public's concern and the media. The national beef cattle agribusiness system is complex in the upstream, on-farm, downstream, and trading systems. The national beef cattle population is very small, only around 12,324,477 heads (BPS-ST2013). The prediction from those populations can only produce 2.4 million head of cattle per year, while the estimated necessity reaches 3.8 million head/year. (Meat Consumption Assumption 2.56 kg/capita).

The supply-demand description above shows that Indonesia still needs imports in feeder cattle and frozen meat to fulfill the increasing demand for beef. Discontinue imports Policy is not thoughtful because it will suppress too little local cattle population. In this dilemmatic situation, feeder cattle or frozen meat imports must be conducted with very measurable quantities and purposes to reduce pressure on local cattle slaughtering.

The potential of the livestock sector in Lampung Province always increases and contributes directly to the GDP of Lampung Province. Based on the data from Lampung Province in Figure (Lampung dalam Angka, 2015), Lampung Province GDP is about Rp. 231.008.426,05 (June), and the contribution of agricultural and animal husbandry sectors is about Rp. 59.703.261,70.

The value of beef production in Lampung Province was 62,524.71 tons in 2015. The largest beef production center in South Lampung Regency amounts to 20,938.24 tons in Lampung Province Livestock and Animal Health Office (Lampung Dalam Angka, 2015). The rapid progress at the technical level of cattle production is not directly proportional to the farming community's economic level, especially in rural areas. Bank Indonesia (2016) explains that enormous economic inequality occurs between urban and rural areas, and the number of poor people is widely spread in rural areas.

The poverty has increased from 2012 to 2015, reaching the highest poverty rate of 17%. Most poor people come from the household farm of food crops and livestock sectors (Badan Pusat Statistik, 2016). Furthermore, based on Susenas data in Badan Pusat Statistik (2016), the Indonesian population's average consumption expenditure per capita per month for food in rural areas is Rp. 397,100, while non-food is Rp. 314,166.

Further scrutiny of data on public food consumption showed that the average per capita consumption of beef per year is 0.417 kilograms (Departemen Pertanian (Ministry of Agriculture), 2017). This figure is quite small compared to the consumption level of neighboring countries Singapore of 55 kilograms and the Philippines 7 kilograms.

Farmers at an unfavorable position and their farms provide little added value. In addition, the monopolsony powers (blank) in the livestock farming output market caused low output prices received by farmers, while input prices tend to be expensive (Mandaka & Hutagaol, 2005). The farmer group in small-scale farms is determined by limited capital ownership of the breeder, resulting in low income. The income level is related to optimal profit and efforts to achieve optimal profit. Achieving business efficiency is required to increase profit if all production factors have been allocated to their optimal and efficient use.

Diversification of processed beef products can be an alternative to increase margin. Therefore, continuous creativity and innovation are required in business continuity to increase the capability of the economic value of the product (Nirmagustina et al., 2013) and for the dependency farmers income on upstream cattle farm subsystem. Beef can process into other foods that have higher value-added, such as beef floss, meatballs, rendang, nuggets, sausages, cakes, and others.

Based on consumer preferences and food market opportunities, beef floss has great potential to develop cattle breeders. Large industries have produced the business of sausages and nuggets. It is supported by research by Rahayu & Hartatie (2016) that shredded beef is more in demand by consumers because it is more durable and has good taste. The production of beef floss on the UMKM scale will be the only one in Lampung Province; therefore, the market for beef floss is available for farmers.

To achieve an assessment, one had to know the level of profit efficiency of the beef floss business; an analytical tool is required in the form of business profit analysis. This study aims to analyze the costs and benefits of the beef floss business and evaluate the efficiency beef floss business.
B. Methodology

The basic method of this research was the descriptive-analytical method (Sugiyono, 2005). The selection of research locations was determined purposively, Karya Sejahtera Women Farmers Group as a center for beef floss production in Wawasan Village, Tanjungsari District. The Used analytical method was cost analysis (Full Costing HPP Approach), Revenue, Profit, Farm Efficiency, and Cost Of Goods Sold Analysis. It can be done with a simple approach to determine business efficiency, namely operating income obtained from the Ratio between total revenue and total costs R/C ratio (Soekartawi, 2011).

Revenue was the total revenue (Total Revenue) owned by a business unit obtained from the sale of products.

\[
\text{Farm profit} = \text{Revenue} - \text{Cost Of Goods Manufactured} - \text{Administration Cost and Marketing}
\]

Income directly affected farm profits—the greater the income, the greater the business profit.

\[
\text{Revenue} = \text{Selling Price} \times \text{Amount of Total Physical Production}
\]

Business efficiency was analyzed with an income approach income obtained from the Ratio between total revenue and total costs (R/C ratio), mathematically as follows (Soekartawi, 2011).

\[
\text{R/C ratio} = \frac{\text{Total Revenue}}{\text{Total Cost}}
\]

Decision-making criteria:
If the R/C ratio > 1, the business is profitable
If the R/C Ratio = 1, the business is Break Even
If the R/C Ratio < 1, the business is Loss

C. Result and Discussion

Beef Floss had a long economic life as a preserved food from beef (8 months). The Karya Sejahtera Women Farmer Group has operated the production of beef floss since 2019; Business efficiency analysis is needed for business planning to develop a business scale for beef floss production. Efforts to increase the production of beef floss are implemented by providing beef floss filling material, which was papaya. The innovation of beef floss production generated with papaya's addition was expected to increase food diversity/diversification. Furthermore, the addition of papaya could provide a variety of flavors from beef floss and increase its nutritional value. Production cost analysis uses the full costing method on Cost of manufactured/Cost of goods sold (Handayani et al., 2018). The results of the analysis of production costs, revenues, and business feasibility can be explained in Table 1.

1. Raw Material Cost

Raw materials were the main ingredients required to produce the finished product (Mulyadi, 2005). The first raw material was fresh beef. For each production, it takes 3 kilograms.

That fresh meat was obtained from slaughterhouses (Rumah Potong Hewan/RPH) that have been certified HALAL from LPPOM MUI (Majelis Ulama Indonesia/ Indonesian Ulema Council). The Cost of fresh beef was Rp. 120,000- per kilogram. Besides the fresh meat, the additional ingredients required were Banana Fruit and Fried Union. The Composition was 60% beef floss, 30% papaya, and 10% fried onions. The details of the costs required can be seen in Table 1.

Table 1. The Beef Floss Cost Production Analysis

| No | Description of Raw Materials | Amount | Price (Rp) | Cost (Rp) | Total Cost in 1 Month |
|----|-------------------------------|--------|------------|-----------|----------------------|
| 1  | Fresh Meat                   | 3 kg   | 120,000    | 360,000   |                      |
| 3  | Papaya                       | Four pcs | 2,500     | 10,000    |                      |
| 3  | Fried Union                  | 1 kg   | 15,000     | 15,000    |                      |

385,000 3,850,000
2. Direct Labor Costs

Mulyadi (2016) defines direct labor costs as labor used to transform or convert raw materials into finished products and can be traced directly to the product. Labor costs were prices charged for human labor in producing goods (Mulyadi, 2005). This research allocated direct labor costs to process raw materials into finished goods. Direct labor costs included compensation for all labor that could be economically traced to a cost object. The number of workers who worked in production activities was two family members. Labor costs were given daily/based on Worker’s Day (HOK) activities. The research results by Anggraeni et al. (2020) show that the partial correlation between Labor Costs and Production Volume has a negative relationship, which means every increase in Labor Cost will be followed by a decrease in Production Volume. Based on this, it is necessary to measure the efficiency of labor costs. Working People Day (HOK) depends on the number of workers, working days, and working hours per day. The product of all these factors is then divided by 8 hours as one unit of HOK. Labor costs were adjusted to production activities, as shown in Table 2.

| No | Description of Direct Labor Costs | Amount (Hours) | Amount (Worker’s Day) | Cost (Rp) | Total Cost in 1 Month |
|----|----------------------------------|----------------|-----------------------|-----------|----------------------|
| 1  | Cutting                          | 0.25           | 0.0625                | 3.125     |                      |
| 2  | Mashing                          | 0.5            | 0.125                 | 6.250     |                      |
| 3  | Mixing spices                    | 0.25           | 0.0625                | 3.125     |                      |
| 4  | Frying                           | 2              | 0.5                   | 25.000    |                      |
| 5  | Drining                          | 0.5            | 0.125                 | 6.250     |                      |
| 6  | Packing                          | 2              | 0.5                   | 25.000    | 68.750               |

*HOK = (∑ labor x working days x working hours per day)/8

Table 2 shows that the labor cost for total production in 1 month is Rp. 687,500,-. It indicates that labor costs are lower than the regional average labor costs (regional minimum wages). The reason is that labor allocation to produce beef floss is still very small and has not been conducted on a large scale.

3. Factory Overhead Cost

According to Garrison et al. (2013), Factory Overhead costs were all producing costs that were not included in raw materials and direct labor costs. Factory overhead costs were also referred to as manufacturing overhead costs, indirect manufacturing costs, or indirect producing costs. Therefore, the Definition of factory overhead costs was all production costs other than raw materials and direct labor. The auxiliary materials and indirect labor costs were included in factory overhead costs. There was no indirect labor cost in the beef floss production business at KWT Karya Sejahtera because all employees were direct labor. The types of factory overhead costs were as follows:

a) Auxiliary Material Cost

Besides main raw materials, the auxiliary materials used in the production process were complementary spices/kitchen spices, salt, sugar, coconut milk, and cooking oil. In this research, the Total Cost of auxiliary materials is Rp. 225,000,-.

b) Equipment Depreciation Cost

Production equipment was an initial investment expensed by the factory to process the beef floss production. The type of equipment was determined using a straight-line approach. Equipment depreciation was a fixed BOP. The type, number of equipment, and the calculation of equipment depreciation are presented in Table 3.

c) Electricity cost

KWT Karya Sejahtera requires electricity for the process of making spices (blender), product packaging (sealer), and drying (spinner and oven). In addition, electricity was also used for a freezer machine (meat storage). The Cost of electricity that was expressed every month is IDR 100,000,-.
Table 3. Investment Costs for Beef Floss Making Equipment

| No | The type of equipment | Service Life (Year) | Purchase Price (Rp) | Depreciation (Year) |
|----|-----------------------|---------------------|---------------------|---------------------|
| 1  | Basin                 | 3                   | 30.000              | 10.000              |
| 2  | Knife                 | 3                   | 15.000              | 5.000               |
| 3  | Cutting board         | 3                   | 9.000               | 3.000               |
| 4  | Stove                 | 5                   | 200.000             | 50.000              |
| 5  | Gas cylinders         | 5                   | 150.000             | 30.000              |
| 6  | Cormorant             | 3                   | 60.000              | 20.000              |
| 7  | Fork                  | 3                   | 6.000               | 2.000               |
| 8  | Scales                | 5                   | 20.000              | 4.000               |
| 9  | Blender               | 5                   | 100.000             | 20.000              |
| 10 | Measuring cup         | 3                   | 6.000               | 2.000               |
| 11 | Pan                   | 3                   | 30.000              | 10.000              |
| 12 | Sutil                 | 3                   | 6.000               | 2.000               |
| 13 | Klp filter            | 3                   | 6.000               | 2.000               |
| 14 | Filter cloth          | 3                   | 12.000              | 4.000               |
| 15 | Spinner               | 10                  | 4.000.000           | 800.000             |
| 16 | Seller Machine        | 5                   | 500.000             | 100.000             |
|    | Total                 |                     |                     | Rp 1.064.000        |

Whereas the depreciation value per month = \( \text{Rp } 1.064.000 \div 12 = \text{Rp 89.000} \)

e) Gas Cost

Cook beef floss, a frying and boiling process was required. A gas stove is used for the cooking process with an LPG cost of Rp. 50,000 per month.

Table 4. Factory Overhead Cost (1 Month)

| No | Description             | Amount (unit) | Price (Rp) | Total Cost in 1 month |
|----|-------------------------|---------------|------------|-----------------------|
| 1  | Auxiliary Material Cost | One pack      | 225.000    | 2.250.000             |
| 2  | Electricity cost        |               | 100.000    |                       |
| 3  | Gas Cost                |               | 50.000     |                       |
|    | Amount of variable BOP  |               |            |                       |
|    | Amount of Fixed BOP     |               |            |                       |
| 4  | Cost of Manufactured Calculation |

Table 5. Cost of Manufactured Beef Floss Production

| No | Description                        | Amount (Rp) |
|----|------------------------------------|-------------|
| 1  | Raw Materials                      | 3.850.000   |
| 2  | Direct Labor Costs                 | 687.500     |
| 3  | Factory Overhead Cost Variable     | 2.400.000   |
| 4  | Factory Overhead Cost Fixed        | 89.000      |
|    | Total                              | 6.976.500   |

5. Profit Factory

Factory profit is the difference between revenues and expenses (production costs). The Factory Profit of KWT Karya Sejahtera can be seen in Table 6.

Table 6. Profits from the beef floss factory (1 month)

| Description                      | Amount of Production | Price (Rp) | Value      |
|----------------------------------|----------------------|------------|------------|
| Revenue                          | 660 pack             | 15.000     | 9.900.000  |
| Cost of Manufactured             |                      |            | 6.976.500  |
| Gross Profit                     |                      |            | 2.923.500  |
| Administration and Marketing Cost|                      |            | 400.000    |
| Net Profit                       |                      |            | 2.523.500  |
| R/C ratio                        |                      |            | 1.34       |
Table 6 shows factory revenues of Rp. 9,900,000,- and the total cost was Rp. 7,376,500. These costs consist of production costs of Rp. 6,976,500,- and non-production costs of Rp. 400,000. Total net profit earned by KWT in 1 month about IDR 2,523,500,-. This profit was narrow because the beef floss product was still in the business introduction stage or in the process of growing in the product cycle.

6. Business efficiency

Business efficiency analysis was calculated to see the profit rate of a factory. Analysis of business efficiency at KWT Karya Sejahtera uses the R/C ratio approach (Handayani et al., 2019; 2020). Following the opinion(2006), it was following the opinion Furthermore, if the R/C Ratio> 1, the business is efficient. The comparison between revenue and production costs can be as follows.

\[
\text{R/C ratio} = \frac{\text{Total Revenue}}{\text{Total Cost}} = \frac{\text{Rp 9,900,000}}{\text{Rp 7,376,500}} = 1.3
\]

Overall, the beef floss business has economic feasibility because the value of the R/C Ratio is greater than 1. However, other similar businesses have greater profits than the beef floss business because the greater the value of the R/C Ratio, the greater the revenue than the production costs (Mamondol, 2018). The beef floss business is the main source of income for Wanita Tani Karya Sejahtera Group besides their role as housewives in Wawasan Village. The beef floss business has it early, so it can still grow. This business deserves to be more developed because it can absorb labor from the surrounding community. Kreuk Beef Floss produced by KWT Karya Sejahtera is the only one in Lampung Province, so it is the potential to develop become food souvenirs for the domestic tourist that can be spread to another region. It is also supported by the KPT Maju Sejahtera Cattle Farm, which has now become a P4S (training center) in South Lampung Regency.

The calculation results above showed that the balance between revenue and expenditure (Revenue Cost Ratio) in the beef floss business at KWT Karya Sejahtera was efficient to run.

A. Conclusion

Based on the research results conducted at KWT Karya Sejahtera, the cost structure of the Cost manufactured from beef floss is Rp. 6,976,500, - with a business profit of Rp. 2,523,500. The results of the business efficiency analysis indicate that the beef floss factory is efficient to run.

B. Acknowledgment

The authors thank the DRPM RISTEKDIKTI for funding the 2019 Regional Partnership Program research.

D. Conclusion

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