

## ANALYSIS FEASIBILITY OF DAIRY BUFFALO MILK BUSINESS SYARIAH IN LUBUK PAKAM DISTRICT, DELI SERDANG REGENCY

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**Abstract:** This study aims to determine and analyze the feasibility of a dairy buffalo business in syariah system in Lubuk Pakam District, Deli Serdang Regency. This research was conducted in Lubuk Pakam District, Deli Serdang Regency. This study used a saturated or census sampling method. In this study, the respondents were 7 dairy buffalo milk farmers in Lubuk Pakam District. Data analysis uses BEP (Break Event Point) and R/C ratio (Return Cost Ratio). The results of the feasible to cultivate because it had obtained the R/C ratio (Revenue Cost Ratio) is  $2.51 > 1$  and the total production ("3,476 liters") > production BEP (107.03 liters) means that the dairy buffalo business in Lubuk Pakam District, Deli Serdang Regency is profitable. Operational Aspects Product Quality, The recommended location for the cage, Number of Workers and Wages. Marketing Aspect that become attention from this research are Consumer Interest Analysis, Market Position Apart from being feasible from the results of this research, this buffalo milk business is sharia provisions and has sustainability for running the business in the future.

**Keywords:** Income, Feasibility. Dairy Buffalo

### Introduction

The livestock sector is one of Indonesia's agricultural subsectors, where the agricultural sector is still one of the sectors that has a large influence on gross domestic income (GDP). This condition requires improving the quality of livestock, especially buffalo farming in Indonesia. The high increase in population causes the need for food to increase, so that the problem of food is always more urgent and more important besides other needs. The issue of feed in terms of fulfilling nutrition is still a problem that has not been fully solved, especially in rural areas, this will be clearly visible because the economic conditions are still low. Buffalo is the second largest milk supplier in the world after cows (Yendraliza, 2014). If the world population of cattle grows with a small growth percentage of  $<0.1\%$ , then the population growth of dairy buffalo is  $>2\%$ . In Asia (India, Pakistan, Thailand, Philippines, Nepal and Burma) the contribution reaches  $>50\%$ . In India itself, even though the ratio of buffalo to cow is 1:3, 60% of fresh milk production comes from buffalo. Meanwhile, in Pakistan the contribution of buffalo milk reaches 70%, even though the number of buffalo is 30% less than the number of cows.

Murrah buffalo is the most important river buffalo in India and several other countries. Murrah buffalo are also found in Indonesia, and kept in North Sumatra by people of Sikh descent, in India. Murrah buffalo are among the most efficient buffalo in producing milk. Milk production is 1800 kg per lactation with a fat content of 7-8%. Meanwhile, the length of lactation is 9-10 months. The general characteristics of the Murrah buffalo are a dense and short body, a relatively small neck and head, a wide back, tightly coiled horns like a spiral, and very small, the body weight of an adult female is 450 kg and an adult male is 550 kg.

This industrial effort is certainly very closely related to finance. System Finance is an important tool in the civilization of modern society tasked with collecting funds from those excess funds and channel them to those who needs to be invested in the sector production or investment, as well to be used for purchasing goods and services, so that economic activity can be grow develop and improve society's standard of living (Abdul Rahman & Naula Oktaviani, 2022). The consumption of Muslim citizens in Indonesia continues to increase and grow along with the continuing growth of the number of Muslims throughout the world. This has a positive effect on business sharia (Leksana, 2019). According to Agustin (2017) Study Sharia Business Eligibility is systematic report of research with using scientific analysis regarding worthy (accepted) or not worthy (rejected) proposal for a halal business venture according to View of Islamic Sharia in order company investment plans. Therefore Business actors must have a foundation strong religion (Sharia) so that it is deep carrying out its business does not violate law and does not harm others, with a balance between life worldly and hereafter will come true qualified entrepreneurs and morality. The main benefits of SKBS is to make a choice decision accept or assess a business proposal business (Dr. Hamdi Agustin, S.E., 2017). This feasibility analysis is related to investmen decisions in order to gain Maximum profit and avoidance there is a waste of resources ( Apriyanti, I.,et al., 2017)

The dairy buffalo milk farming business has an important role in the community, the aim of raising dairy buffalo is to extract the milk so that it can be marketed because it has potential that can be developed by providing education about good dairy buffalo milk farming so that it can develop better and be better known by the public. general. For this reason, researchers are interested in conducting further research regarding income analysis and sharia business feasibility in this buffalo milk business at the research location.

## Literature Review

Production is the final result of a main process or output. Products or production in the agricultural or other fields may vary due to, among other things, differences in quality. This is understandable because good quality is produced by a good production process that is carried out well and vice versa, the quality of production becomes less good if the farming is carried out poorly. Because the production value of agricultural products sometimes does not reflect its actual value, the production value is often measured at the paid price (Soekartawi, 1995).

Production costs are costs incurred in the production process and turning certain goods into products and include goods purchased and services paid for. Costs can be grouped into fixed costs and variable costs as well as cash costs (real) and non-cash costs (imputed). Fixed costs are costs whose use is not exhausted within a production period, for example, land tax,

purchase of equipment and its maintenance as well as depreciation of equipment and buildings. Variable costs are costs whose size depends on the scale of production, including fertilizer, seeds, medicines, labor outside the family, harvest costs, and processing costs. Cash costs include taxes, purchasing seeds, medicines, and outside labor. Non-cash costs include costs for family labor, depreciation, interest on loan capital, and installments if borrowing capital from a bank. Family labor wages can be estimated at local labor wage rates. Labor wages are a large expense if family labor is also taken into account. Traditional livestock business systems have negligible expenditure on feed (Sukirno, 2002).

Livestock business income is the value of money received from the principal sale of livestock business, not including loans for livestock business purposes. Gross revenue from a livestock business is the amount of production produced in a livestock business activity multiplied by the selling price prevailing in the market. The income from livestock businesses is the result of multiplying the production obtained by the selling price (Siregar, 2009). According to Harnanto (1992), the acceptance of each respondent varies depending on the number of livestock populations owned by each breeder.

Income is the income that business actors are entitled to from the sales of products that have been received after deducting operational costs during the production process. Before finding the amount of income, it is necessary to know the value of receipts and production costs from the business. Analysis of farming income is always accompanied by measurements of the efficiency of farming income. To determine the efficiency of a farm in terms of the use of one unit of input can be described by the value of the revenue and cost ratio, which is a comparison between the gross receipts received by the farm in each production process (Kasmir and Jakfar, 2003).

Investment costs are initial costs incurred while running a business, where investment costs are invested or spent on a business with a purpose make a profit in that period will come, that is, during the business executed. Fees included in the fees investments include building business premises (Rangkuti et al., 2020)

The main objective of a feasibility study is to avoid carrying out investments that require large amounts of funds which turn out to be unable to provide economic benefits. A feasibility study on financial aspects is a determining factor. Investment cash flows must consider the concept of the time value of money. Business feasibility can be seen as the feasibility of an idea that comes from an individual entrepreneur. Business activities generally prioritize financial benefits over social benefits. Various business feasibility analysis techniques can be used, including Net Present Value (NPV), Internal Rate of Return (IRR), Return Cost Ratio (R/C), and Break Event Point (BEP) units. (Suratman, 2001).

Return Cost Ratio (R/C) analysis can be used to find out whether the dairy buffalo milk farming business carried out by the farmer is feasible or not. R/C is a comparison between total revenue and total costs which include variable costs and fixed costs (Suratman, 2015).

With the following formula:

$$R/C = (\text{Total Revenue}) / (\text{Total Cost})$$

Information :

R = Revenue (Rp)

$C = \text{Cost (Rp)}$

If  $R/C > 1$  then the dairy buffalo milk farming business is worth pursuing.

If  $R/C = 1$  then the dairy buffalo milk farming business is at the break-even point.

If  $R/C < 1$  then the dairy buffalo milk farming business is not worth running.

According to Rivai (2012), a proper business according to Islam is a halal business, namely a business that fulfills the halal concept both in terms of the type of business and the way the business is run. Feasibility means that the analysis carried out in-depth will produce results conclusions that determine whether the business that will be or is being carried out will provide results the benefits are greater than the costs incurred. In other words, worthy has a significant sense of financial and non-financial significance by the objectives want to be achieved which can be enjoyed by not only the company that runs it but also for investors, creditors, the government and the wider community.

## Method

The research method used is a case study. Case study is a method that explains the type of research carried out by looking directly at problems that arise in an area where the situation is not necessarily the same as in other areas within a certain period of time.

### Method for Determining Research Locations

Determining the research location was carried out purposively, namely selecting subjects based on certain characteristics or characteristics that were previously known and selected based on certain considerations. Based on this, the research location was chosen in Lubuk Pakam District, Deli Serdang Regency on the grounds that this business was already classified as large scale, and there were already a large number of dairy buffalo.

### Sampling Method

The sample is part of the population which is expected to represent the research population. The samples used in this research were dairy buffalo milk farmers in Lubuk Pakam District. So this research uses a sampling method with a saturated sampling method or census. The saturated sampling method or census is a sampling technique when all members of the population are sampled. This is often done when the population is relatively small. The sample respondents were 7 buffalo dairy farmers in Lubuk Pakam District.

### Data Collection Methods and Techniques

Research methodology is a necessary stage in problem solving, so that the main problem at hand is known, so that appropriate problem solving can be determined in dealing with the problem. The data collected from this research consists of:

#### Primary data

Primary data was obtained through interviews, interviews, namely data collection by conducting interviews with farm owners and stable workers. Apart from interviews, researchers also collected data through observation. Observation is direct observation of actual conditions at the research location. Primary data consists of the number of buffalo population, cage area, milk sales price, animal feed raw material costs, equipment and building costs, medicine costs, and labor wages.

## Secondary Data

Secondary data was obtained from related agencies, BPS Deli Serdang data, and books that support research in scientific publications and relevant literature as well as the internet for data related to this research.

## Data analysis method

### Calculating the BEP (Break Event Point) and R/C ratio.

BEP (Break Event Point)

To answer the first problem of the buffalo milk business in the research area, the following measuring instrument was used with the BEP (Break Event Point) formula.

Product BEP (Kg) =  $FC / (P - AVC) \times 1 \text{ kg}$

Information :

P = Price per liter (Rp)

AVC = Variable cost per kilo (Rp)

FC = Fixed Costs (Rp)

Return Cost Ratio (R/C)

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## Result and Discussion

### Analysis of the Cost of Income of a Dairy Buffalo Milk Business

Farmers must too pay attention and prepare all financial aspects. Financial aspect considered very important in running a cattle farming business because requires large capital as well return of capital over a long period. Selling price decreases and increases prices of production inputs that occur expected to result losses so that the business is not feasible attempted. Even though the livestock business is This has been done for a long time, of course by breeders hope this business can be done profitable, as well as farmers not yet know how to qualify towards his business (Putri et al., 2022)

#### 1. Fixed Costs

Fixed costs are costs incurred by entrepreneurs that do not affect the size of the amount of production produced. The fixed costs calculated are land tax costs, electricity costs, and equipment depreciation costs (NPA) which consist of rickshaws, claws, shovels, brooms, hoes,

buckets, milk jugs, and tool spray machines. The details of the average fixed costs in the dairy buffalo milk business can be seen in the following table

Table 1. Fixed Costs of Dairy Buffalo Milk Business

No	Description	Cost
1.	Land Tax	Rp 278.571
2.	Electricity	Rp 213.000
3.	Tool Depreciation	Rp 281.833
	<b>Fixed Cost</b>	<b>Rp 773.404</b>

## 2. Variable Costs

The production produced by farmers in the study area varies, this is due to the different levels of ability of the farmers. It is also influenced by production factor variables such as pond area, seeds, feed, and labor. Factors of production are production inputs such as pond area, seeds, feed, and labor. The term factor of production is often also called the sacrifice of production, because production factors or inputs are sacrificed to produce products. Factors of production are factors that are absolutely necessary in production consisting of 4 components namely land, labor, capital and management (Yudha Andriansyah Putra et al., 2023).

Variable costs are costs incurred every time production occurs and the amount of the costs depends on the amount of production. Variable costs in a dairy buffalo milk business are costs that are consumed in one production process. Variable costs include feed costs, tool costs, and labor wages. The total expenditure for variable costs in the dairy buffalo milk business in the research area is IDR 15,824,285 which can be seen in the table:

Table 2. Variable Costs of Dairy Buffalo Milk Business/Month

No	Uraian	Biaya
1.	<b>Feed</b>	
	Bunkle	Rp 983.571
	Sweet Potato Skin	Rp 105.000
	Sweet Potato Dregs	Rp 2.270.000
	Bran	Rp 498.000
	Solid	Rp 1.500.000
	Total Feed Cost	Rp 5.356.571
2.	<b>Labor Wages</b>	
	Total Labor Wages	Rp 7.500.000
3.	<b>Tool</b>	
	Rickshaw	Rp 475.000
	Scratch	Rp 60.714
	Shovel	Rp 230.714
	Sapu	Rp 16.786
	Hoe	Rp 61.429
	Ember	Rp 194.500
	Ken Susu	Rp 785.714
	Cage Spray Machine	Rp 1.142.857
	Total Equipment Cost	Rp 2.967.714
	<b>Total Variable Cost</b>	<b>Rp 15.824.285</b>



### Analysis of Dairy Buffalo Milk Business Income

Revenue is the result of reducing revenue and costs during the production process. The income received by entrepreneurs is the product of the amount of production and the price received by the dairy buffalo milk entrepreneur. Meanwhile, business production costs consist of fixed costs (land tax, electricity, and equipment depreciation costs) and variable costs (feed, tools, and labor wages) incurred by entrepreneurs to finance their businesses. The monthly income of the dairy buffalo milk business can be seen in the following table.

Table 1. Average Dairy Buffalo Milk Business Income/Month.

No	Uraian	Keterangan	Total (Rp)	
1.	Production (Liter)	3.476 Liter		
2.	Price (Rp/Liter)		Rp	12.000
3.	Cost (Rp)		Rp	16.597.689
4.	Revenue(Rp)		Rp	41.717.143
5.	Income (Rp)		Rp	25.119.454

Table 1. Shows that the total income from the dairy buffalo milk business is IDR 41,717,143, while the total production costs are IDR 16,597,689, so the average amount of income earned in the dairy buffalo milk business in the research area per month is equal to IDR 25,119,454 per month with a production volume of 3,476 liters with a selling price of IDR 12,000/liter.

### Feasibility Analysis of Dairy Buffalo Milk Business

In the feasibility analysis for the dairy buffalo milk business, the R/C ratio (Revenue Cost Ratio) and BEP (break event point) formulas were used.

#### a. R/C Ratio (Revenue Cost Ratio)

The R/C ratio is a comparison between revenue and total costs of business production. If the R/C is greater than 1 then the dairy buffalo milk business in the research area is worth pursuing.

From the research results, it was obtained that the production results were 3,476 liters of buffalo milk with a selling price of IDR 12,000/liter, resulting in revenue of IDR 41,717,143 with production costs of IDR 16,597,689 and income of IDR 25,119,454. So the R/C ratio can be obtained as follows.

$$\frac{R}{C} = \frac{\text{Rp. 41.717.143}}{\text{Rp. 16.597.689}}$$

$$\frac{R}{C} = 2,51$$

From the calculation above it can be concluded that the R/C is 2.51 so 2.51 is greater than 1 ( $2.51 > 1$ ), this means that the dairy buffalo milk business in the research area is profitable.

#### b. BEP (Break Event Point)

Break Event Point (BEP) analysis is used to test profit or loss which is used to calculate the break-even point (no profit and no loss). It is known that the price of buffalo milk per liter is IDR 12,000 with buffalo milk production of 3,476 liters, variable costs are IDR 16,597,689, and fixed costs are IDR 773,404.

$$\text{BEP of Product (Kg)} = \frac{FC}{P-AVC} \times 1 \text{ Kg}$$

$$\text{BEP of Sales (Rp)} = \frac{\text{FC}}{1 - \frac{\text{AVC}}{\text{P}}}$$

Keterangan : P = Price/liter = Rp12.000

AVC = Variable Cost/liter =  $\frac{\text{Rp}16.597.689}{3.476 \text{ liter}} = \text{Rp } 4.774/\text{liter}$

FC = Rp773.404

Y = Production = 3.476 liter

BEP of Product (Kg) =  $\frac{\text{FC}}{\text{P}-\text{AVC}} \times 1 \text{ Kg}$

$$= \frac{\text{Rp}773.404}{\text{Rp}12.000 - \text{Rp}4.774} \times 1 \text{ liter}$$

$$= \frac{\text{Rp } 773.404}{\text{Rp } 7.226} \times 1 \text{ liter}$$

$$= 107,03 \text{ liter/bulan}$$

BEP OF Sales (Rp) =  $\frac{\text{FC}}{1 - \frac{\text{AVC}}{\text{P}}}$

$$= \frac{\text{Rp } 773.404}{1 - \frac{\text{Rp } 4.774}{\text{Rp}12.000}}$$

$$= \text{Rp}1.284.369$$

From the calculation above, it can be concluded that total dairy buffalo milk production (3,476 liters) > BEP production (107.03 liters), this means that the dairy buffalo milk business is profitable. You get a BEP (Break Event Point) of IDR 1,284,369, which means that the dairy buffalo milk business will reach the BEP (Break Event Point) when you get an income of IDR 1,284,369 for a month.

## Sharia Business Feasibility Study

### Operational Aspects

There are three operational aspects assessment elements, namely:

1. Product Quality, from data indicates that the respondent attaches great importance to quality excellent raw material for produce and produce quality, clean, buffalo milk and halal, because to apply Consumer Protection Law.
2. The recommended location for the cage is separate from the house at a distance of  $\pm 10$  meters, not close to public facilities, the location of the cage is higher than the surrounding area, there is a place to collect waste, and sufficient clean water is available. The direction of the cage aims to regulate the light and wind entering the cage. The direction of the cage for a single cage faces east, for multiple cage buildings it runs from north to south. This aims to help the process of forming vitamin D in the livestock's body as well as eradicating disease. The equipment used for dairy buffalo cages is a scoop, broom, bucket, brush, trolley, rope, and small stool. Equipment for milking buffalo is a milk can, filter, and bucket
3. Number of Workers and Wages, Who is the respondent in This study only included 15 people. And for the wage system or the payment is dependent of how much milk that produced by workers, sell it with take some profit.



#### Marketing Aspect

1. Consumer Interest Analysis, from data respondents indicated that the respondent runs his business Honestly, very dairy beneficial to society, price milk is still affordable by local community or external consumers.
2. Market Position, from respondent data shows that superiority these dairy businesses are compared with palm sugar in other areas is guaranteed quality (clean from rubbish and also halal from start to finish end).

#### Conclusion

The dairy buffalo milk business in Lubuk Pakam District, Deli Serdang Regency is worth pursuing because the R/C ratio (Revenue Cost Ratio) is  $2.51 > 1$  and total production ("3,476 liters") > BEP production (107.03 liters) is obtained. This means that the dairy buffalo milk business in Lubuk Pakam District, Deli Serdang Regency is profitable. Apart from being feasible from the results of this research, this buffalo milk business is sharia provisions and has sustainability for running the business in the future.

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