



STRATEGY FOR DEVELOPMENT OF BEEF CATTLE CULTIVATION IN LILIRILAU DISTRICTS OPP ENGREGENCY, SOUTH SULAWESI PROVINCE, INDONESIA

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ABSTRACT

This research aimed to formulate strategies that can be implemented in developing beef cattle cultivation and determining priority strategies in developing beef cattle cultivation in Lilirilau District, Soppeng Regency. This research was carried out in Lilirilau District, Soppeng Regency. The method used in this research is the case study method (*Observational case studies*) with a quantitative approach that combines qualitative and quantitative data input at once (*Mixmethod*). The data analysis used is SWOT analysis to formulate strategies and QSPM analysis to determine strategic priorities. The results of the research show that the priority alternative strategy in developing beef cattle cultivation in Lilirilau District, Soppeng Regency is increasing livestock productivity by utilizing available resources, technology, capital, and government assistance with a TAS (*Total Attractiveness Score*) of 6.43.

Keywords: *development strategy, beef cattle.*

INTRODUCTION

Livestock as an agricultural sub-sector in Indonesia is expected to make a useful contribution to national development. Livestock development is aimed at increasing food security and increasing people's purchasing power through improving income (Sudaryanto and Jamal, 2000). The increase in population will have an impact on the demand for meat as nutritional fulfillment can increase (Pagala *et al.*, 2021).

One of the livestock sectors that has great potential to be developed is beef cattle farming. Rusdiana and Adawiyah (2018) stated that beef cattle are a producing resource that has high and important economic value, cattle produce various kinds of needs, especially as a food ingredient needed by the community.

The performance of beef cattle businesses in Indonesia is currently still low, this can be caused by the supply of cattle which is still supported by small farmers. Small holder livestock farming generally has limited land, leading some beef cattle farmers to adopt an integrated crop-livestock system (Paris, 2002). Efforts to increase beef cattle production must be continuously pursued by formulating a strategy that can actively increase community participation, encourage live stock business investment in rural areas, and empower farmer-live stock communities (Sudaryanto and Jamal, 2000).

One way to overcome this problem is to utilize available resources (Pagala *et al.*, 2021), increasing the supply of cattle breeds for breeding, fattening, and slaughtering to meet consumer demand. Increasing the supply of breeding stock and productive bulls has resulted in an increase in livestock reproduction (Rusdiana, 2018).

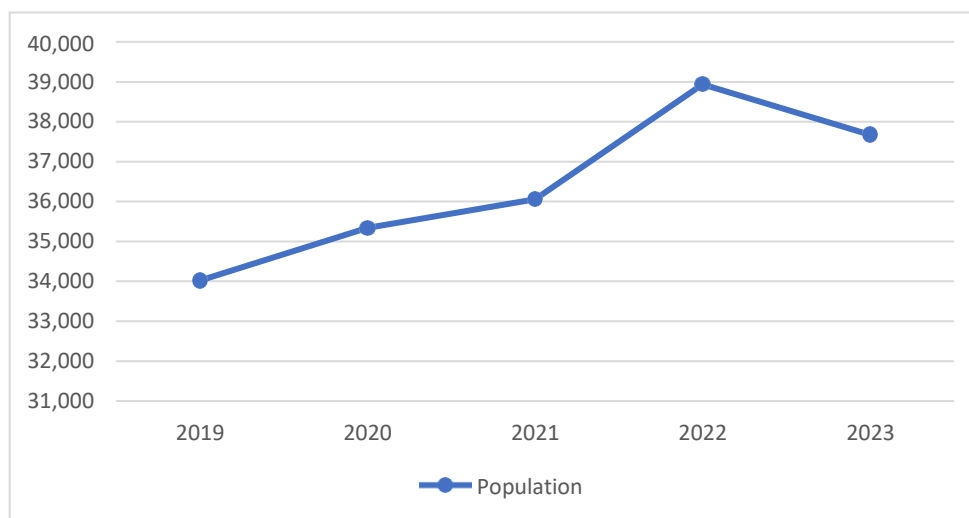


Figure1.Cattle Population inSoppeng Regency2009-2023

Soppeng Regency is one of the regencies located in South Sulawesi Province, with a majority of the population working as farmers. The cattle population was 38,936 heads in 2022, which was an increase from previous years. However, in 2023, the cattle population decreased to 37,672 heads (BPS-Statistics Soppeng Regency, 2024).

Table1.AreaofGrazingLand inSoppeng Regency

No	Subdistrict	LandArea (ha)
1.	Lililau	213
2.	Lalabata	160
3.	Liliriaja	72
4.	Donri-Donri	40
5.	Marioriawa	30

Source: BPS-StatisticsSoppengRegency,2024

Accordingtothe2024statisticaldataofSoppengRegency,thegrazinglandinLilirilauDistrictis larger compared to other districts, with a grazing area of 213 hectares. This area has highpotential agricultural land for the development of beef cattle farming. Lilirilau District is oneof the districts in Soppeng Regency with high potential agricultural land for the developmentofbeefcattlefarming.Theareaaischaracterizedbyhillyterrain,extensivedryfields,communityforests,andrainfedricefieldsthatcanproduceabundantgrassandotherlivestockfeedduringt herainyseason.This makes it very conducive for beef cattle farming, making beef cattle farming a promising business opportunity.

RESEARCHMETHODS

This research was carried out from January to February 2024 in Lilirilau District, SoppengRegency. This type of research is descriptive, namely a method that examines certain statusesand objects, certain conditions, certain systems of thought, or certain events at present. Ther respondents selected were 9 people, namely parties who are competent with research andexperts in the field. The method used is a case study (observational case studies) with aquantitative approach that integrates both qualitative and quantitative data inputs (mixedmethod).Duringanalysis,qualitativedatawillbeprocessedintoquantitativedatausingSWO T andQSPM analysis,andtheresultswillbeconcludedthroughthequalitativedescriptionoftheanaly

sis. The data analysis process is as follows:

1. IFE and EFE Matrix Analysis

IFE and EFE matrices classify internal factors into company strengths and weaknesses and external factors into company opportunities and threats. The results of the IFE and EFE matrices are entered into the IE matrix to determine the company's position.

2. Internal-External (IE) Matrix

IE matrix positions various divisions of an organization within a nine-cell diagram. The IE matrix is based on two key dimensions: the total weighted IFE score on the x-axis and the total weighted EFE score on the y-axis. The total weighted scores obtained from these divisions enable the arrangement of the IE matrix at the corporate level.

3. SWOT Matrix

SWOT matrix is an important matching tool to help parties in an organization produce four types of strategy, SO strategy, WO strategy, ST strategy, and WT strategy.

Table 2. SWOT Matrix

	Strengths (S)	Weaknesses (W)
Opportunities (O)	S-O Strategy Use strengths to take advantage of opportunities	W-O strategy Minimize weaknesses to take advantage of opportunities
Threats (T)	S-T Strategy Use strengths to overcome threats	W-T Strategy Minimize weaknesses and avoid threats

4. QSPM matrix

QSPM matrix is used to evaluate and select the best strategy that best suits the external and internal environment. The alternative strategy that has the largest total value in the QSPM matrix is the best strategy.

RESULTS AND DISCUSSION

General Condition of Research Location

Lilirilau District is one of the government areas in Soppeng Regency, South Sulawesi Province with an area of 187 km² which is 12.47% of the total land area of Soppeng Regency. Lilirilau District consists of 12 villages/sub-districts with a population of 38,598 people with a percentage of 16% of the total area of Soppeng Regency. The height of the Lilirilau District area is 10 meters above sea level. The astronomical location of Lilirilau District is between 4°6'0" and 4°32'0" south latitude and 119°4.2'18" and 12°06'13" east longitude.

General Conditions of the Population

1. Gender:

Lilirilau District, Soppeng Regency consists of a male population of 18,418 people with a percentage of 47% and a female population of 20,180 people with a percentage of 53%. The existence of gender has created different roles between men and women in society. Generally, the livestock business is run by men because farming requires extra physical strength. According to Mitasari *et al.* (2022), companies that employ female workers generally view women as more reliable in terms of perseverance, discipline, thoroughness, and skills. Apart from the advantages of female workers, of course, they require different treatment and rules from male workers, because women's biological and physical conditions need to be accommodated specifically.

2. Age

The majority of the population in Lilirilau District is aged 15 to 64 years, totaling 27.609 people, which is 71% of the population. The smallest group is those aged over 65 years, totaling 3.681 people, accounting for 10%. The age range of 15 years and above is considered productive, as they still have the physical strength to support farming/livestock activities. According to Harmoko et al. (2021), age is a supporting factor in determining a person's ability to run a type of business. In other words, when someone wants to become a livestock farmer, they should be within the productive age range to support the increase in business productivity. Productive age helps individuals effectively manage their business, as running a business requires physical strength to achieve the desired results.

3. Education Level

The education level in Lilirilau District, Soppeng Regency, is predominantly individuals with less than elementary school education, totaling 9,605 people. This includes elderly individuals who have never attended school and children who have not yet entered elementary school. According to Lains amputty (2021), farmers with low educational attainment often have limited knowledge, impacting their farming practices. Education level reflects a person's capability to engage in livestock farming, prompting every farmer to strive for skill and knowledge enhancement in livestock farming, particularly through training programs, knowledge sharing with other farmers, and other initiatives.

Internal Factor Evaluation (IFE)

IFE Matrix Analysis was carried out after identifying internal and external factors of beef cattle farming in Lilirilau District, Soppeng Regency. The IFE analysis processes internal factors, weighting them accordingly. The weighting results in the IFE matrix are averaged to achieve a total matrix weight of 1.00. The magnitude of the weights assigned depends on their impact on the success of beef cattle farming. Ratings are based on respondents' responses to the strengths and weaknesses identified.

Table 3. Matrix of Internal Strategy Factors for Development of Beef Cattle Cultivation in Lilirilau District, Soppeng Regency

No	STRENGTH	Weight	Rating	Score
1.	High interest in cattle farming	0.15	3.00	0.44
2.	Adequate labor availability	0.12	2.44	0.29
3.	Availability of land as a feed base	0.17	3.56	0.62
4.	Abundance of agricultural waste	0.16	3.33	0.54
	Subtotal	0.60	12.33	1.89
No	WEAKNESS	Weight	Rating	Score
1.	Livestock farming as a side job	0.09	1.89	0.17
2.	Traditional livestock management	0.12	2.44	0.29
3.	Low livestock ownership	0.11	2.22	0.24
4.	Inbreeding	0.08	1.56	0.12
	Subtotal	0.40	8.11	0.83
	Total	1.00	20.44	2.72

Source: Processed Primary Data, 2024

The results of the Internal IFE matrix analysis in Table 3 indicate that the availability of land as a feed base (score 0.62) will provide opportunities for farmers to succeed in beef cattle farming. Abundant land availability as a feed base impacts the availability of abundant feed, thereby improving the performance of beef cattle. According to Nurdiyansyah et al. (2020), land area positively influences cattle ownership; the larger the grazing land area, the higher the cattle ownership, whereas smaller agricultural land leads to lower cattle ownership.

The factor with the highest score among weaknesses is traditional livestock management (score 0.29). This factor has a significant impact because traditional livestock management without technological utilization is considered inefficient, relying on rudimentary facilities that do not support optimal livestock farming performance. According to Kahfi et al. (2022), integrating technology in cattle farming can enhance and streamline farmer performance by improving skills in technology use, such as barn technology equipped with surveillance cameras

and advancements in livestock feed processing technologies like hay, silage, and fermentation.

External Factor Evaluation (EFE)

EFE Matrix analysis carried out on the external factors of the beef cattle business is divided into opportunities and threats. Opportunities and threats are weighted as is done in the IFE matrix.

Table 4. Matrix of External Strategy Factors for Development of Beef Cattle Cultivation in Lilirilau District, Soppeng Regency

No	OPPORTUNITIES	Weight	Rating	Score
1.	Population Increases	0.10	2.90	0.29
2.	Artificial Insemination Technology	0.09	2.70	0.25
3.	High selling prices of cattle	0.10	3.00	0.31
4.	Accompanying technical officer	0.09	2.60	0.23
5.	Business capital assistance	0.12	3.50	0.43
	Subtotal	0.51	14.70	1.52
No	THREATS	Weight	Rating	Score
1.	The institution of livestock farmer groups are still weak	0.09	2.60	0.23
2.	There is no education for farmers about cattle cultivation management	0.11	3.30	0.38
3.	Diseases affecting livestock	0.11	3.20	0.36
4.	High market competition	0.08	2.40	0.20
5.	Slaughter of productive female cattle	0.09	2.89	0.26
	Subtotal	0.49	14.39	1.43
	Total	1.00	29.09	2.95

Source: Processed Primary Data, 2024

The results of the EFE matrix analysis indicate that the external factor of business opportunities in beef cattle farming in the Lilirilau District is the availability of business capital assistance, which has a significant impact on beef cattle farming. Government support enhances the success of beef cattle farming and positively affects production factors such as increasing the population of beef cattle. According to Pesona et al. (2023), capital significantly influences the production value of livestock farming. All manufacturing processes heavily rely on capital, and production cannot function properly without it. Industry income increases with higher capital levels, thereby enhancing overall output or production value. This is also supported by Putri et al. (2020), who state that capital has the greatest impact on output, and increased capital consumption enhances total productivity.

The highest-scoring threat is the lack of counseling for farmers on cattle farming management. This indicates that the role of counselors significantly influences the development of cattle farming. According to Rahim et al. (2021), several roles of counselors include conducting training activities, making visits, providing counseling materials according to the farmers' needs, ensuring the completeness of counseling teaching materials, increasing the livestock yield of farmer groups, and being responsible for their work. This is also supported by Uskuluan et al. (2022), who state that counselors support has a significant impact on beef cattle productivity if the materials provided by the counselors are appropriate.

Matrix Internal-External (IE)

Based on the previous analysis, the total weighted score in the IFE matrix for beef cattle farming in Lilirilau District, Soppeng Regency, is 2.72, while the total weighted score in the EFE matrix is 2.95. The total weighted scores of the IFE and EFE matrices are then placed on the IE matrix, allowing the current business position to be determined and alternative strategies to be formulated by the business position in the IE matrix. If the total weighted scores from the internal and external factors are mapped into the IE matrix, the current position of the livestock business is in quadrant V, which indicates that the company is in an average internal condition.

		IFE		
		4.0	2.72	
		3.0	2.0	1.0
IFE	3.0	I <i>Growth</i>	II <i>Growth</i>	III <i>Stability</i>
	2.95	IV <i>Growth</i>	V <i>Stability</i>	WE <i>Retrenchment</i>
	2.0			
	1.0	VII <i>Stability</i>	VIII <i>Retrenchment</i>	IX <i>Retrenchment</i>

Figure2.Internal and ExternalMatrix(IE)

The calculation results show that the beef cattle farming business in Lilirilau District is in quadrant V, which is in the stability area. The strategy for developing beef cattle farming can achieve good results by maximizing strengths to take advantage of opportunities. The implementation of this strategy is to encourage farmers to adopt more modern farming practices and to scale up existing farming operations with support in the form of policies, capital, knowledge, skills, and institutional strengthening.

SWOTMatrix

The SWOT matrix is a tool used to organize factors as alternative strategies that clearly illustrate how the internal strengths and weaknesses can be adjusted to the opportunities and threats in the development of beef cattle farming in Lilirilau District, Soppeng Regency. The SWOT matrix analysis produces five alternative strategies, which are as follows:

Table5.Matriks SWOT

SWOTMATRIX	STRENGTHS	WEAKNESSES
	1. High interest in cattle farming 2. Adequate availability of labor 3. Availability of land as a feed base 4. Abundance of agricultural waste	1. Livestock farming as a side job 2. Traditional livestock management 3. Low livestock ownership 4. Inbreeding
OPPORTUNITIES	S-O Strategy	W-O strategy
1. Population Increases 2. Artificial Insemination Technology 3. High selling prices of cattle 4. Accompanying technical officer 5. Business capital assistance	Increasing livestock productivity by utilizing available resources, technology, capital, and with government assistance.	Strengthening the role of field officers in the field of animal husbandry and providing assistance in the management and cultivation of beef cattle and preventing inbreeding.
THREATS	S-T Strategy	W-T strategy

1. The institutions of livestock farmer groups are still weak	Utilize counseling and supervision in activities to save productive females.	1. Improve the quality of farmer's resources technically through training activities to maximize production and competitiveness of local cattle products.
2. There is no education for farmers about cattle cultivation management		2. Strengthen the role of farmer's institutions in terms of management and their role in empowering group members.
3. Diseases affecting livestock		
4. High market competition		
5. Slaughter of productive female cattle		

Source: processed primary data, 2024

Priority Strategy for Development of Beef Cattle Cultivation in Lilirilau District, Soppeng Regency

The Quantitative Strategic Planning Matrix (QSPM) is the final stage of the strategy formulation analysis, involving the selection of the best alternative and decision-making to choose the most appropriate strategy to use in Lilirilau District, Soppeng Regency. Based on the results of the Quantitative Strategic Planning Matrix (QSPM) analysis, the following table presents the analysis results:

Table 6. Strategy for Development of Beef Cattle Cultivation in Lilirilau District, Soppeng Regency

No.	Strategy Alternatives	TAS	Rank
1.	Increasing livestock productivity by utilizing available resources, technology, capital, and with government assistance.	6.43	1
2.	Strengthen the role of field officers in livestock and assist in the management and breeding of beef cattle to prevent inbreeding.	6.27	2
3.	Utilize counseling and supervision in activities to save productive females.	5.54	5
4.	Improve the quality of farmer's resources technically through training activities to maximize production and competitiveness of local cattle products.	6.06	3
5.	Strengthen the role of farmer's institutions in terms of management and their role in empowering group members.	5.85	4

Source: Processed Primary Data, 2024

CONCLUSION

The SWOT analysis method resulted in five alternative strategies for developing beef cattle cultivation in Lilirilau District, Soppeng Regency, which can be chosen: increasing productivity by utilizing available resources, technology, capital, and government assistance; strengthening the role of field officers in livestock and providing assistance in management and breeding of beef cattle to prevent inbreeding; utilizing counseling and supervision in activities to protect productive females; improving the quality of farmers' resources technically through training activities to maximize production and competitiveness of local cattle products; and strengthening the role of farmers' institutions in terms of management and their role in empowering group members. The prioritized alternative strategy is to increase livestock productivity by utilizing available resources, technology, capital, and government assistance, with a Total Attractiveness Score (TAS) of 6.43.

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