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Beef Cattle Breeder Income Improvement Strategy with Different Maintenance System in Langkat Regency

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ABSTRACT

This study aims to determine the strategy for developing beef cattle business after looking at the weaknesses, strengths, opportunities and threats that occur in Hinai District and Besitang District, Langkat Regency. This research was conducted in Hinai district and Besitang district, Langkat Regency in April-June 2022 with a total of 60 respondents. Analysis of the data used is using multiple linear analysis and the development strategy used is SWOT analysis. The results of the study note that the strategy obtained is the S-O Strategy, which is a strategy that uses internal strengths to take advantage of external opportunities, where internal strengths will take advantage of external events as follows: a. Utilization of good stables, human resources and experience of farmers to take advantage of the good natural and climatic conditions in Langkat to meet the high demand for buying cattle. b. Utilizing the experience of farmers and human resources in the use of AI technology, in meeting the high demand for cattle purchases.

KEYWORDS

Beef cattle; extensive; semi-intensive; SWOT analysis

INTRODUCTION

Langkat Regency is one of the livestock centers in North Sumatra where the area is ± 6,263.29 Km2, has a population of 1,028,309 people with a population density of 164 people/km2 and is the area with the largest population of beef cattle in North Sumatra. The population of beef cattle in Langkat Regency in 2020 is 218,246 heads (BPS, 2021).

Livestock business is one of the activities carried out by many people in Langkat Regency and is one of the centers of beef cattle production in North Sumatra. Cattle farming is one of the activities that can be classified as an agribusiness opportunity and the opening of jobs so that it can increase the income of farmers and is a savings for owners of livestock. The development of livestock agribusiness in Langkat Regency is very promising and has begun to be developed by the government with a meat self-sufficiency program. The development that is highly expected is the development in terms of livestock rearing, production and productivity of livestock, especially beef cattle.

In Besitang and Hinai Districts, many breeders carry out semi-intensive and extensive maintenance systems. The large number of oil palm plantations and the lack of land for farmers in Besitang District have caused many farmers to carry out extensive maintenance systems. Farmers who use an extensive maintenance system are those who lack capital and production facilities. In the Hinai District, the breeders carry out a semi-intensive maintenance system due to lack of capital to provide feed to livestock so that the breeders provide feed that is not routinely carried out in cages, but livestock are left to look for their own grass during the day and in the afternoon until the evening forage feeding is given in the barn. in cages as animal feed at night (Siregar, 2013).

Preparation of several alternative strategies for developing beef cattle farming in Langkat Regency. The strategy is prepared using a SWOT matrix analysis tool as an integration stage. The factors contained in the SWOT analysis include Strengths, Weaknesses, Opportunities and Threats. The SWOT analysis is made in the form of a matrix that clearly describes the external opportunities and threats faced by the company and is adjusted to the strengths and weaknesses it has. Based on the SWOT matrix, a strategic plan can be drawn up that can be used as a guide (priority) in developing beef cattle in each cattle rearing system in Besitang District and Hinai District in Langkat Regency.

RESEARCH METHODS

This research will be carried out in Hinai District and Besitang District, Langkat Regency. The selection of the area is done purposively because this area is a livestock center and the condition of the area supports livestock development efforts. The data to be collected in this study are primary data and secondary data. Primary data obtained directly from beef cattle farmers by interview method and through filling out a list of questions. Secondary data is data taken from related agencies, namely the number of cattle population at the research location.

Table 1. Types of Data Used in Research

Description	Type of Data	Source
External Factors	a. Extension Workers	a. Breeder
	b. SIWAB Program Program	b. Breeder, PPL
	c. Cattle Purchase Request	c. Breeder
	d. Natural and climatic Conditions	d. Breeder
	e. Land	e. Breeder
Internal Factors	a. Modal	1. Breeder
	b. Farming experience	2. Breeder
	c. Animal feed	3. Breeder
	d. Livestock marketing	4. Breeder
	e. Cage	5. Breeder
	f. Human Resources	6. Breeder

Testing the first hypothesis must determine the income or profit of beef cattle farmers extensively and semi-intensively by using the following formula:

$$\pi = TR - TC$$

Description;
π = *Income/ Profit*
TR = *Total Revenue*
TC = *Total Cost*

To test the difference in income between semi-intensive beef cattle farmers and extensive beef cattle farmers, the formula is used:

$$thit = \frac{XA - XB}{S^2 (1/nA + 1/nB)}$$

$S^2 = (nA - 1) S_2A + (nB - 1) S_2 B / (nA + nB - 2)$

t_{tabel} = t { (nA + nB – 2) ; α}, if the variance is homogeneous **t_{tabel} = t { (nA –1) atau (nB – 1) ; α},** if the variance is not homogeneous.

XA = Average income of beef cattle farmers in semi-intensive way
XB = Average income of beef cattle farmers extensively
Na = Number of samples from beef cattle farmers semi-intensively
nB = Number of samples from extensive beef cattle farmers
S2A= Variance of XA
S2B= Variance of XB

Decision:
If t count t table , then it fails to reject
If Ho If $t_{count} > t_{table}$, then reject Ho.

If Ho is accepted (failed to be rejected), it means that the observation value of beef cattle farmers extensively is not different from the observation value of semi-intensive beef cattle farmers. Thus the extensive maintenance system has no significant effect, on the contrary if Ho is rejected then the extensive maintenance system has a significant effect. To answer the second research hypothesis, multiple regression tests were carried out, namely:

$$Y = a + bX1 + bX2 + bX3 + bX4 + bX5 + bX6 + bX7 + bX8 + \mu$$

where :
Y = Beef Cattle Breeder Income (Rp/year)
X1 = Cage Cost (Rp)
X2 = Cost of Seeds (Rp/year)
X3 = Feed Cost (Rp/year)
X4 = Labor Cost (Rp/year)
X5 = Selling price (Rp/head)
a = constant
b = variable coefficient
μ = Error

RESULTS AND DISCUSSION

Strength Factor

Farming Experience

The experience of raising livestock is a strength factor in the beef cattle business in Langkat Regency which has a score of 4. Febrina (2011) states that the experience of raising livestock is an internal factor in the livestock business. Beef cattle breeders in Langkat Regency have a long experience of raising cattle. The cattle breeders in Langkat Regency who continue to do a lot of beef cattle business which were inherited by their previous parents. High experience is needed to produce good and maximum beef cattle production, good cow health and good quality meat to be marketed.

The longer the breeders do the cattle business, the more trained and skilled the breeders will be in raising beef cattle. This is in accordance with the statement of Mastuti and Hidayat (2008) which states that with increasing experience in the field of animal husbandry, it is expected that the knowledge gained will increase so as to improve skills in operating livestock. According to Nainggolan's literature (2016) which states that the length of time in the livestock business can affect income because it can increase efficiency and can have an influence in reducing production costs which are smaller than sales results.

Human Resources

Human resources are a strength factor in the beef cattle business in Langkat Regency which has a score of 3. According to Panji (2011) Human resources are an internal factor in the

cattle business. Livestock businesses are generally managed by the farmers themselves. Farmers as managers as well as workers. Labor is the amount of human labor required associated with raising livestock.

A good workforce is every 10 cows are cared for by 1 worker as well as its multiples. The more workers, the better the cattle production and quality will be. According to Karim (2019) which states that the more workers in caring for cows, the better cow production will be.

Cage

Kandanag is a strength in beef cattle business in Langkat Regency with a score of 3. Based on the literature Sukmawati et al. (2010) which states that the cage has a function, among others, to maintain the safety of livestock from theft, facilitate the management of livestock in the production process such as feeding, drinking, cleaning the cage and marriage, and can increase the efficiency of the use of labor. The cage is an external factor, where a private cage and having good equipment is a good thing in supporting cattle production. The use of cattle herd cages can also affect cattle production where livestock are mixed with livestock belonging to other herd members. Beef cattle breeders in Langkat Regency with a semi-intensive maintenance system use private cages but have good and bad buildings. Extensive beef cattle ranchers do not have pens where cattle are grazed or let loose on existing plantation lands.

Weakness Factor

Animal feed

Animal feed is a weakness factor in beef cattle business in Langkat Regency which has a score of 2. There are still many beef cattle farmers who only provide feed in the form of grass without providing other feed. Feed is the most important thing in increasing production and income of beef cattle business. The quality and quantity of feed are the most important factors in fattening livestock and important in improving livestock genetics. Quality feed and available continuously throughout the year is one of the important factors in livestock development efforts.

Provision of feed for cattle can come from agricultural, plantation and agro-industry residues, but few farmers use agricultural waste as animal feed. According to Santoso (2005), in principle, forage is given 10 percent of the cow's body weight, which is between 30 and 40 kg/head/day. It is given 2-3 times a day but basically breeders with extensive maintenance systems only graze their livestock without paying attention to the feed they eat, so many cows with extensive rearing systems have a smaller weight than cows with semi-intensive rearing systems.

Livestock Marketing

Slag marketing is a weakness factor in beef cattle business in Langkat Regency which has a score of 2. Based on the literature of Heryadi (2011) which states that the creation of an efficient and profitable marketing system for both farmers and consumers, farmers must choose a short marketing route. The determination of the price of livestock is based on the interpretation of carcass weight and the condition of the cow, but in fact farmers are less or unable to interpret carcass weight, this is due to a lack of knowledge about the quality of livestock. Beef cattle farmers in Langkat Regency still sell cattle through agents so that the marketing is not good and the price is classified as cheaper. Based on the opinion of Siregar (2012) which states that direct buyer sales to farmers can create greater and better farmer income.

Waste Utilization

Utilization of waste is a weakness factor in beef cattle business in Langkat Regency with a score of 2. Utilization of waste as animal feed is an alternative in an effort to meet nutritional needs for livestock. Considering the supply of grass and other forage is very limited. Basically there is no awareness of farmers to use agricultural waste as feed. The use of palm oil waste such as palm fronds and solids and the use of rice straw as a source of feed for beef cattle have not been used.

Source of Knowledge

Source of knowledge is a weakness factor in beef cattle business in Langkat Regency with a score of 2. Breeders who have few sources of knowledge cause lack of use of technology and make livestock production and income for beef cattle low. The breeders who only run their business based on their experience and do not dare to try new things and take advantage of existing technology.

Scoring External Factors (Opportunities and Threats)

External factors in this study are extension workers, SIWAB Program, demand, natural and climatic conditions, cages, grazing land, AI technology. The purpose of scoring on internal factors is to identify strengths and weaknesses. Scores 1 and 2 indicate threats and scores 3 and 4 indicate opportunities. Based on the results of the study, the scoring of external factors is shown in Table 2.

Table 2. Scoring of External Factors

No	External Factor	Scores
Opportunity		
1	IB Technology	4
2	Natural and Climatic Conditions	3
3	Request	3
Threat		
1	Grazing land	2
2	Extension Workers	2
3	SIWAB Program	1

Source: Processed data 2022, Appendix 14

Based on Table 2 above, external factors that are opportunities are AI technology, cages, natural and climatic conditions and demand with a score of 3. External factors that are threats are grazing land, extension workers, SIWAB Program with scores of 2 and 1.
The following is a brief description of each internal factor in the beef cattle business in Langkat Regency.

Opportunity Factor

IB Technology

AI technology is an opportunity for beef cattle farmers in Langkat Regency with a score of 4. Artificial Insemination (IB) or injection mating is a method or technique to introduce thawed and processed semen (sperm or semen) from male cattle into in the female genital tract using a special method and tool called an 'insemination gun'. The purpose of AI is to improve the genetic quality of livestock, to optimize the use of superior male breeds more broadly in a longer period of time, to increase the birth rate quickly and regularly, to prevent the transmission/spread of venereal diseases (Siregar, 2012).

Beef cattle breeders in Langkat Regency often use AI technology. The number of breeders who use this IB can help increase beef cattle production so as to increase the income of

farmers. The better the genetics in cattle, the more it will help increase the weight of cattle, the higher the weight, the higher the selling price of cattle.

Natural and Climatic Conditions

Natural and climatic conditions are opportunities in beef cattle business in Langkat Regency with a score of 3. Temperature and humidity are two climatic factors that affect cattle production, because they can cause changes in the heat balance in the livestock body, water balance, energy balance, and behavior balance. Livestock behavior (Esmay 1982). This is in accordance with the statement of Kadarsih (2004) which states that the difference in altitude affects the performance of cattle, this is an external factor in the beef cattle business.

These factors are factors that affect livestock production and productivity. If livestock are kept in an area that is not in accordance with the physiological conditions of livestock, their production and productivity can decrease. Based on Putra's literature (2017) which states that the optimum climate and weather in the cage can support the physiological and production of livestock.

Cattle Purchase Request

Demand is an opportunity in the beef cattle business in Langkat Regency with a score of 3. Based on the Manurung literature (2017) which states that high demand in the livestock business is a good opportunity and is an external factor.

Demand for beef is an opportunity to increase beef cattle production. the higher the demand for beef, it can affect the availability of beef cattle and the production of beef cattle. According to Soekartawi (2002), beef cattle business income is strongly influenced by the number of cattle sold by farmers. So that the more number of cattle owned, the more possibilities these cattle can be sold by beef cattle breeders.

Capital

Capital is an important factor in supporting the development of beef cattle farming. With the capital, supporting facilities and infrastructure, the needs for beef cattle farming will be fulfilled. Capital is an important factor where in starting a business capital is needed to buy livestock seeds, build cages and other things. Capital is a weakness in beef cattle business with a score of 2.

Capital from the livestock business is the own capital issued by beef cattle breeders in running a beef cattle business. Capital in the form of livestock originating from the business inherited from parents and money obtained through the sale of cattle previously carried out. This is in line with the opinion of Siregar (2012) which states that by using own capital. The number of breeders who have little capital so that it can affect the production of beef cattle resulting in low body weight so that the sale of cattle is cheap so as to reduce the income of beef cattle farmers.

Threat

Grazing Land

Grazing land is a threat in beef cattle business in Langkat Regency with a score of 2. In every 1 hectare of cattle, it can accommodate 1 ST (Livestock Unit) and 1 ST for 2 beef cattle. The extent of oil palm plantations in Langkat Regency is not widely used by farmers. This is because many oil palm owners do not give permission to breeders to graze their cattle on their plantations. The lack of cooperation and trust from the plantation parties causes cattle to be not allowed to enter the plantation land. This has resulted in reduced grazing land for cattle.

Extension Workers

Extension workers are a threat in the beef cattle business in Langkat Regency with a score of 1. According to the Marpaung literature (2019) which states that extension workers are an external factor, this is because they are outside the control of the farmer. The role of agricultural extension workers is needed to foster and train farmers. Based on the Minister of Agriculture Regulation No. 72 of 2011 if in one village there are less than 8 (eight) farmer groups, then 1 (one) Agricultural Extension Officer can be placed to foster 2 (two) villages. if in one village there are more than or equal to 8 (eight) farmer groups, then 1 (one) Agricultural Extension Officer will be placed.

According to Siergar (2012) which states that the absence of counseling to farmers resulted in farmers often making mistakes in applying production inputs and farmers not knowing information about innovations in the field of animal husbandry. The lack of frequency of meetings between extension workers and breeders is a factor in the lack of knowledge of farmers so that farmers' incomes are not good.

SIWAB Program Program

The SIWAB program is a threat in the beef cattle business in Langkat Regency with a score of 1. Another support that can support the livestock business development area is the livestock SIWAB Program which must continue to be built to be able to support the development of the beef cattle business. both in the livestock business and is an external factor (Manurung, 2017). According to Soemarno (2011) which states that there is a need for physical and financial assistance to beef cattle farmers so that they can achieve independence, and in order for the development of livestock groups to achieve independence, physical and financial assistance from the government is expected to end at the end of the 3rd year or so. -4. Furthermore, the government will only develop functionally so that the livestock group can be developed towards the formation of an agribusiness/agro-industry cooperative based on beef cattle farming, which is then able to establish partnerships with local private business partners.

The Special Effort for pregnant cows (UPSUS SIWAB) is one of the programs launched by the Ministry of Agriculture to accelerate the acceleration of the target for fulfilling the domestic beef cattle population. This siwab program has not been evenly distributed and has not been well coordinated, which causes the SIWAB program to be ineffective between the government and beef cattle farmers in Langkat Regency.

Strategic Factor Weighting

The weighting can be done through a paired comparison technique with a comparative scale value of 1, 2 and 3. After obtaining the value of the importance of each of the respondents, an assessment matrix of each factor is made from all respondents, then the average comparison of all respondents is sought using a geometric formula and then the average value is normalized by using arithmetic. The average of the normalized values is the weight of each factor. The weighting of internal and external factors can be seen in Table 3.

Table 3. Weighting Internal and External Factors.

No	Factor	Indicator	Weight
1		Capital	0,11
2		Farming Experience	0,16
3		Animal feed	0,11
4		Livestock Marketing	0,13
5	Internal	Cage	0,14

6		Human Resources	0,13
7		Waste Utilization	0,13
8		Source of Knowledge	0,11
Total			**1**
9		Extension Workers	0,11
10		SIWAB Program	0,13
11		Cow purchase request	0,18
12	External	Natural and Climatic Conditions	0,16
13		Grazing land	0,11
14		IB Technology	0,16
Total			**1**

Source: Processed 2022, Appendix 21 and 22

Based on Table 3 above, it can be seen that the internal factor of livestock experience used in the beef cattle business has the highest weight of 0.16, it can be seen that the experience of the breeder is the most important factor in the beef cattle business in Langkat Regency. The experience factor is a factor that affects the beef cattle business in Langkat Regency.

On the external factor of beef cattle business in Langat Regency, the demand for purchasing cattle is the most influencing which has a value of 0.18. The demand for beef cattle in Langkat Regency must be utilized as an opportunity to increase beef cattle business in Langkat Regency. Other factors that can be used as opportunities are natural and climatic conditions as well as AI technology which has a weight of 0.16. Utilization of AI technology can increase the production of beef cattle and can increase the income of beef cattle. Basically, there are still threat factors in beef cattle business, namely the lack of extension workers and grazing land that cannot be used optimally by beef cattle breeders.

Determination of Beef Cattle Business Improvement Strategy

The final stage of SWOT is determining alternative strategies. The SWOT matrix can be compiled based on internal and external factors. Based on the SWOT matrix, 4 main strategies will be obtained, namely Strengths-Opportunities (SO), Weaknesses-Opportunities (WO) strategy, Strengths-Threats (ST) strategy and Weaknesses-Threats (WT) strategy.

The following stage is a strategy evaluation stage in increasing beef cattle business. Where the evaluation stage of internal and external factors can be carried out through the evaluation matrix table for internal and external strategic factors. The steps that need to be taken in evaluating internal and external factors are calculating the multiplication between scores and weights. The amount of weight is obtained based on the pair comparison technique, namely the technique of comparing one factor with other factors in each group of internal factors and external factors. The score can be obtained through predetermined parameters, where these parameters are determined based on data obtained through interviews with research respondents.

The scoring stage is the score is calculated for each strategic factor based on the set parameters. Scores 1 and 2 are weaknesses in internal factors, scores 3 and 4 are strengths. On external factors scores 1 and 2 are threats, while scores 3 and 4 are opportunities. Then the calculation of the multiplication of the score with the weight is carried out. Multiplication of weights and scores on internal and external strategy factors in increasing beef cattle business in Langkat Regency can be seen in Tables 17 and 18.

Based on Table 31 below, it can be seen that internal factors have 3 strengths and 5 weaknesses. Strengths have the highest score, namely the experience of breeders of 0.62 and

on the weakness it is known that the highest score is livestock marketing with a score of 0.26. Based on the following results, we can know that the experience of farmers is the most important factor in the beef cattle business in Langkat Regency. So the experience of farmers, stables and human resources can be optimized in the beef cattle business in Langkat Regency.

Table 4. Matrix of IFAS Internal Factor Evaluation

No	Internal Factor	Score	Weight	Total
Strenghtness				
1	Breeder Experience	4	0,16	0,62
2	Human Resources	3	0,13	0,38
3	Cage	4	0,15	0,52
Total				**1,52**
Weakness				
1	Animal feed	2	0,11	0,21
2	Livestock Marketing	2	0,13	0,26
3	Capital	2	0,11	0,22
4	Waste Utilization	2	0,13	0,25
5	Source of Knowledge	2	0,10	0,21
Total				**1,15**
Strenghtness– Weakness				**-0,37**

Source: Data 2022

Table 5. EFAS External Factor Evaluation Matrix

No	External Facator	Score	Weight	Total
Opportunity				
1	IB Technology	3	0,16	0,48
2	Natural and Climatic Conditions	3	0,16	0,47
3	Cow purchase request	3	0,18	0,54
Total				**1,49**
Threat				
1	grazing land	2	0,11	0,23
2	Extension Workers	1	0,11	0,11
3	SIWAB Program Program	1	0,13	0,13
Total				**0,47**
Opportunity – Threat				**1,02**

Sources: Data 2022.

Based on Table 17 above, it can be seen that on external factors there are 3 opportunities and 3 threats. Opportunities have the highest score, namely the demand for cattle purchases of 0.54 and on the threat it is known that the highest score is grazing land with a score of 0.23. Based on the following results, it can be seen that the demand for cattle purchases is the most important factor in the beef cattle business in Langkat Regency. Threat factors that have a negative role in the beef cattle business in Langkat Regency must be addressed immediately with the opportunities and strengths possessed by beef cattle farmers to increase the beef cattle business of farmers.

The IFE score is 0.37 which is positive on the horizontal line, the EFE value in the study is 1.02 which is located in the quadrant on the vertical line on the X axis which is in quadrant I (growth), growth is a favorable situation. Where businesses will have opportunities and strengths so they can take advantage of existing opportunities. The strategy applied in this

condition is to support an aggressive growth policy. In the position that it can be interpreted that the beef cattle business has the capital strength to carry out business development by taking advantage of existing opportunities, the strategy that is in accordance with the potoprong cattle business occupies a Quadratic I position is the Aggressive strategy.

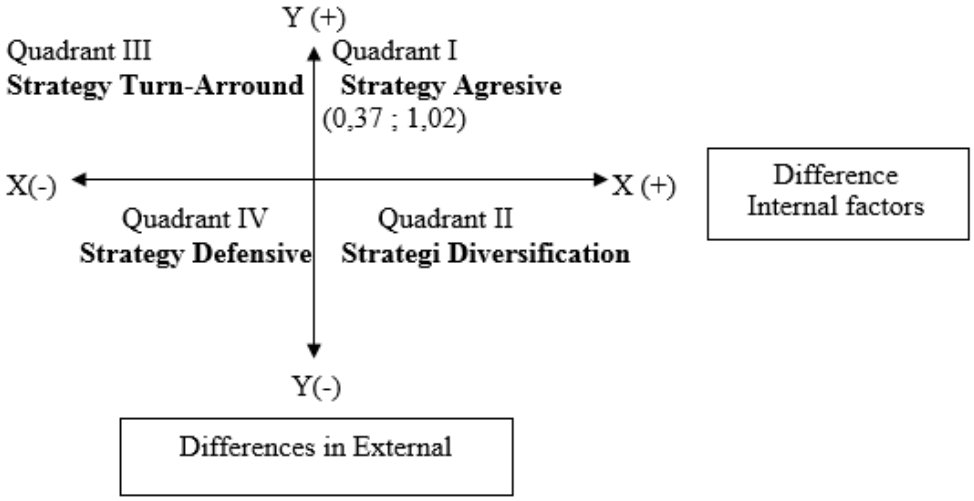

Figure 3. Matrix of the Position of Beef Cattle Business Improvement in Langkat Regency.

The strategic position matrix for increasing beef cattle business in Figure 5 shows that the X value > 0.37 and the y value > 0 which is 1.02. Thus, it means that the strategic position of beef cattle business improvement in Langkat Regency is in quadrant I. Based on the literature Rangkuti (2015) which states that quadrant I which is a very profitable situation with the strategy recommendations given is an Aggressive strategy which means that farmers Beef cattle have opportunities and strengths that can be utilized to support an aggressive growth policy (growth-oriented strategy).

An important opportunity in the beef cattle business is the very high demand for cattle. High demand can help increase farmers' income. An important opportunity is also the use of AI technology where the use of AI technology can increase the production of beef cattle weight. Mating with good seeds can increase beef cattle production. An important strength in the beef cattle business is the experience of raising cattle. The longer the breeders do the cattle business, the more trained and skilled the breeders will be in raising beef cattle. Strategies that can be carried out by beef cattle farmers can be seen in Table 19 below.

Table 6. Formulation of Beef Cattle Breeders Income Improvement Strategy.

IFAS / EFAS	**Strenghtness (S)** 1. Cage 2. Breeder Experience 3. Human Resources	**Weakness (W)** 1. Animal Feed 2. Livestock Marketing 3. Capital 4. Waste Utilization 5. Source of Knowledge
Opportunity (O)	**Strategy SO**	**Strategy WO**
1. IB Technology 2. Natural and Climatic Conditions 3. Cattle Purchase Request	1. Utilization of good cages, human resources and experience of farmers to take advantage of the good natural and climatic conditions in Langkat to meet the high	1. Take advantage of the high demand for cattle purchases to increase farmer's capital (W3,O3) 2. Capital, which is sufficient to

	demand for buying cattle (S1,S2,S3,O2O3) 2. Utilizing the experience of farmers and human resources in the use of AI technology, in meeting the high demand for cattle purchases. (S2, S3,O1,O3)	optimize the use of AI technology to increase weight and production so that it can meet the high demand for cattle purchases. (W3, O1, O3) 3. Utilizing agricultural waste as a source of beef cattle feed in order to meet the high demand for cattle (W1,W4, O3) 4. Utilizing the demand for cattle purchases to cut the long chain of livestock marketing by selling cattle directly to producers to increase farmer's income. (W2, O3)
Threat (T)	**Strategy ST**	**Strategy WT**
1. grazing land 2. Extension Workers 3. SIWAB Program Program	1. Optimizing existing human resources for grazing cattle in pastures. (S3, T1) 2. Through extension workers help farmers to optimize the use of cages for the development of beef cattle business (S1,T2)	1. Conducted training by extension workers to improve the provision of animal feed, sources of knowledge and utilization of waste (W1,W4,W5, T2) 2. Using grazing land to reduce beef cattle farmers' capital (W3, T1)

Based on the SWOT matrix above, several strategies can be formulated as follows:

1. S-O strategy is a strategy that uses internal strengths to take advantage of external opportunities, where internal strengths will take advantage of external events as follows:
   a. Utilization of good stables, human resources and experience of farmers to take advantage of the good natural and climatic conditions in Langkat to meet the high demand for buying cattle.
   b. Utilizing the experience of farmers and human resources in the use of AI technology, in meeting the high demand for cattle purchases.

2. W-O strategy aims to improve internal weaknesses by taking advantage of external opportunities. Strategies that can be used by farmers are:
   a. Take advantage of the high demand for cattle purchases to increase the capital of farmers.
   b. Capital, which is sufficient to optimize the use of AI technology to increase weight and production so as to meet the high demand for cattle purchases.
   c. Utilizing agricultural waste as a source of beef cattle feed in order to meet the high demand for cattle.
   d. Utilizing the demand for cattle purchases to cut the long chain of livestock marketing by selling cattle directly to producers to increase farmers' income.

3. ST strategy is a strategy that uses the internal strengths of beef cattle farmers to avoid or reduce external threats. The strategies that can be used by farmers are as follows:

a. Optimizing existing human resources for grazing cattle in pastures. (S3, T1)
b. Through extension workers help farmers to optimize the use of cages for the development of beef cattle business (S1,T2)

4. W-T strategy is a defensive tactic directed at reducing internal weaknesses and avoiding external threats as follows:

a. Conducted training by extension workers to improve the provision of animal feed, sources of knowledge and utilization of waste.
b. Using grazing land to reduce the capital of beef cattle farmers.

CONCLUSION

Based on the results of the study, it is known that the strategy obtained is the S-O Strategy, which is a strategy that uses internal strengths to take advantage of external opportunities, where internal strengths will take advantage of external events as follows:

a. Utilization of good cages, human resources and experience of farmers to take advantage of the good natural and climatic conditions in Langkat to meet the high demand for cattle purchases.
b. Utilizing the experience of farmers and human resources in the use of AI technology, in meeting the high demand for cattle purchases.

REFERENCES

Badan Pusat Statistik. (2021). Provisi Sumatera Utara Dalam Angka. Provinsi Sumatera Utara.

Badan Pusat Statistik. (2021). Kabupaten Langkat Dalam Angka. Sumatera Utara. Kabupaten Langkat.

Daryanto, Arief. (2009). Dinamika Daya Saing Industri Peternakan. Bogor: IPB Press

Diana, C. dan Barus, R. (2014). Analisis Data Kualitatif Teori Aplikasi dalam Analisis SWOT, Model Logit, dan Structural Equation Modeling (Dilengkapi dengan Manual SPSS dan Amos). USU pers. Medan.

Ditjennak. (2020). Blue Print Program Swasembada Daging Sapi Tahun 2014. Ditjen Peternakan dan Kesehatan Hewan. Jakarta.

Fahmi, I. 2017. Manajemen Strategis Teori dan Aplikasi. Penerbit Alfabeta. Bandung.

Febrina, D dan M. Liana. (2008). Pemanfaatan Limbah Pertanian Sebagai Pakan Ruminansia Pada Peternak Rakyat Di Kecamatan Rengat Barat Kabupaten Indragiri Hulu. Jurnal Peternakan, 5 (1) p:28-37.

Ghozali, I, (2005), Aplikasi Analisis Multivariat dengan program SPSS, Badan Penerbit Universitas Diponegoro, Semarang.

Hartati. Dwi. (2020). Analisis Pemasaran Sapi kurban di Kabupaten Langkat provinsi Sumatera Utara. Skripsi. Program Studi Peternakan. Fakultas Pertanian. Universitas Sumatera Utara.

Mondang, R. H dan C. Talib. (2015). Model Pengembangan Sapi Bali dalam usaha Integrasi di Perkebunan Kelapa Sawit. Wartazoa, 25(3):147-157.

Murwanto, A. G. (2008). Karakteristik Peternak Dan Tingkat Masukan Teknologi Peternakan Sapi Potong Di Lembah Prafi Kabupaten Manokwari (Farmer Characteristic and Level of Technology Input of Beet Husbandry at Prafi Valley, Regency of Manokwari). *Jurnal Ilmu Peternakan*, Vol. 3 No.1 hal. 8-15.

Prihantini, C.I. (2015). Efisiensi Saluran Pemasaran Garam Rakyat Di Desa Padelegan Kecamatan Pademawu Kabupaten Pamekasan Madura Jawa Timur. Skripsi. IPB, Bogor

Priyanti A, I. Mahendri., U. Kusnadi. (2011). Dinamika produksi daging sapi di wilayah sentra usaha sapi potong di Indonesia. Pusat Penelitian dan Pengembangan Peternakan dan Balai Penelitian Ternak. Bogor.

Priyanto, D. (2013). Analisis Korelasi, Regresi dan Multivariate dengan SPSS. Gava Media, Yogyakarta.

Rangkuti,F.(2015). Analisis SWOT Teknik Membedah Kasus Bisnis Cara Perhitungan Bobot, Rating, Dan OCAI. PT.Gramedia Pustaka Utama, Jakarta.

Samin Muhammad, (2012), Analisis Faktor-faktor yang Mempengaruhi Pendapatan Petani Peternak Sapi Potong Intensif dan Tradisional di Kecamatan Pantai Cermin dan Kecamatan Serba Jadi. Universitas Sumatera Utara Respositori, Medan.

Siregar, Nina Wahyu Putri. (2013). Skripsi: Faktor-faktor yang Mempengaruhi Usaha Ternak Sapi Potong di Desa Mangkai Lama Kecamatan Lima Puluh Kabupaten Batubara Provinsi Sumatera Utara. Bogor: Institut Pertanian Bogor.

Siregar, Arina Ronaria. (2021). Tesis : Analisis Keuntungan Usaha Ternak Sapi Potong Hasil Inseminasi Buatan Di Kabupaten Sragen: Fakultas Ekonomi, Universitas Sebelas Maret, Program Pascasarjana Magister Ekonomi Dan Studi Pembangunan, Surakarta. digilib.uns.ac.id.

Sukirno, Sadono. (2006). Makroekonomi Modern. PT. Raja Grafindo Persada: Jakarta

Sukirno, S. (1996). Pengantar Teori Mikro Ekonomi, Raja Grafindo Persada, Jakarta.