

# The Strategy of Sheep Farming Development at Ngawonggo Village, Tajinan Sub-District, Malang Regency

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## Abstract:

The research on the strategy of sheep farming development at Ngawonggo Village was aimed to identify internal and external factors which could affect the sheep farming development and formulate the proper development strategy for the cattleman at Ngawonggo Village. Moreover, this research was conducted at Ngawonggo Village, Tajinan Sub-district, Malang District. The method of research was survey method. Sources of data from this study were taken using the Purposive sampling technique. This research requires informants or sources to obtain the necessary data and information. Researchers divide the informants into main informants and key informants. The key informants involved were 5 people, consisted of: the head of the Islamic boarding school, the informal head of the sheep breeder and the livestock group consisting of 3 breeders. The results showed that the analysis of the internal and external environment for the development of the sheep farming business was that there were 10 internal factors and 10 external factors that had an effect. the IE matrix is in a stable growth position based on the score of internal factors of 2.56 and external factors of 2.51. Based on the SWOT analysis, the priority results of the strategy that have the highest value are obtained, namely the SO (Strength - Opportunity) strategy.

**Keywords — Development strategy, SWOT analysis, QSM, sheep farming business.**

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## I. INTRODUCTION

The need of livestock meat in Indonesia is increasing every year. The awareness of nutritional need and intake which is obtained from livestock meat turns the demand for livestock meat even higher. One of the livestock whose demand is getting higher every year is sheep. The demand of lamb also affects the livestock population in east java. This statement is based on the data from Central Bureau of Statistics (2019), the sheep population is increasing every year, in last 2017, the sheep population has reached about 1.362.062, in

2018, the population has reached about 1.374.742, and in 2019, the population has turned about 1.405.574. This data has shown that the sheep population from 2017 until 2019 has been increasing and can be a potential of business opportunity.

Ngawonggo Village has many potentials that can support the sustainability of livestock business. There is still a lot of lands and various greeneries to be one of factors that can be benefitted as the support for the sustainability of sheep farming business. Most of the land use at Ngawonggo Village has been benefitted productively which

shows that the region of Ngawonggo Village has adequate natural resources that are ready to be processed. The land area of Ngawonggo Village is approximately 375.628 Ha. This land area is divided for various purposes and categorized into the area of public facility, residential area, farming, plantation, economic activity, and so on. The land area that has been inhabited is about 3.596 Ha, agricultural area is about 126.645 Ha, and rice field is about 182.313 Ha. Next, the land area for public facility is as follows: 0.136 Ha for the office complex, 0,284 Ha for the school area, 0,600 Ha for sport facility, and 0,638 Ha for the public burial place (Azizah, et al., 2020). A plenty of green sources for the animal feed is one of potentials that can be used for the sheep farming. Commonly, the forage is divided into three types: grass (*Gramineae*), legume (*Leguminosae*), and non-grass and non-legume. The difference of forage types between legume and grass generally is on nutritional content, particularly on crude fiber and crude protein contents (Hasan, 2012).

However, the potential in this village cannot be benefitted optimally because the lack of knowledge and information obtained by the cattleman, moreover, the average of main job is farm worker, so the local community cannot take advantage of the abundant natural resources in this village optimally. To benefit this potential so the sheep farming business at Ngawonggo Village can develop even more, it needs strategies which are able to optimize the sheep farming business. There are several factors that support the development of sheep farming business as natural resource, human resource, facility, institution, and technology.

This research is aimed to identify the internal and external factors which can affect the development of sheep farming business and find the proper strategies for the sheep farming at Ngawonggo Village, Tajinan Sub-district, Malang District.

## **II. LITERATUR REVIEW**

### **A. Sheep Farming**

The genuine sheep of Indonesia is known as local or domestic sheep. The local sheep has a lot of advantages and economic value as below:

- 1) The high adaptability to environmental conditions (it includes to the poor quality of forage)
- 2) The sheep live in a colony which make it easier to do a control over them
- 3) The sheep have relatively high reproductive ability
- 4) The utilization of secondary products as skin, fleece, bone, manure which can be used as the industrial raw material
- 5) The population of sheep tends to be in a quite high increase (15,9%) as the superior livestock after buffalo (Abidin & Sodik, 2002).

Those potentials are very suitable for the small farmers who take it as the side business in addition to their main agricultural business. The development will be directed to small business (low income farmers), because this business system does not require to a large amount of capital, also this business system really depends on low-cost and efficient local resources (available forage). The program of sheep farming development is a good recommendation to create an integrated source of income for the farmers with food crops that support each other (Diwyanto&Handiwirawan, 2004).

### **B. Human Resource**

According to Hasibuan (2003), the researcher has argued that the human resource means an integrated expertise which is derived from power of thought and physic owned by everyone. The people and nature are still closely related as the offspring and its environment, while the work achievement is motivated by a desire to fulfill the wishes.

The human resource involves power of thought and physical power on every individual. Obviously, the human resource refers to an ability in every human determined by his thought and physical power. Further, the human resource is a significant element in various activities.

### **C. Natural Resource**

Natural resource means everything that has use value. The natural resource is overall physical, chemical, biological, and social factors which create the surrounding environment. Hunker, et al have defined that the natural resource is all things that comes from earth, biosphere, atmosphere, and the existence depends on human activity. All parts of our natural environments (such as seeds, trees, soil, water, air, sun, river) are the natural resources. In addition, the natural resource is referred to the elements that are consisted of vegetable natural resource (plant) and animal natural resource (animal) and all surrounding non-living elements which as a whole that form an ecosystem (Suhartini, 2009).

#### **D.Facility**

The facility and infrastructure are significant potential factors which aim to determine the direction and future development of a region, since the development will not succeed and run well without the support of adequate facility and infrastructure, the village infrastructure refers to a public facility which mainly supports the implementation of a process or activity in the village, which it finally will define the village development. Therefore, the urban infrastructure is defined as a public facility which can be the main support for the implementation of a process or activity in the village, so it will determine the village development (Jayadinata in Juliawan, 2015).

#### **E.Institution**

According to Pakpahan in Elizabeth (2010), an institution is characterized by three main factors: (1) jurisdiction of boundary, (2) property right, and (3) rule of representation. The change delivers a favorable performance which is determine by these following factors: (1) sense of community, (2) externality, (3) homogeneity, and (4) economic scale.

Each institution has certain aims, and the people involved inside also have certain behavioral patterns and values and norms that have been agreed and it is unique. Each institution is created for certain function. Hence, we know the educational institution, economic institution,

religious institution, and so forth. In short, our world contains many forms of institution and human surely get into those institutions (Sudaryanto, 2005).

#### **F.Technology**

The term of technology is closely related to science and engineering. In the technology, it is consisted of two dimensions. The two dimensions are science and engineering which cannot be apart from each other. Meanwhile, Djoyohadikusumo (2005) has defined that the technology is closely related to science and engineering and they are interrelated. The science refers to an understanding, our understanding on real world surround us, it means about the basic natures on dimension of space, material, and energy within the interaction between one and another.

The technology is also viewed as human ability. The technology that can be seen from the human ability itself includes several things related to the human and what inside the human. It is said that the human can create the ability and the ability is the technology. Next, according to Nazaruddin (2008), the technology is assumed as the human ability which covers these following points: 1) object embodied technology, 2) human embodied technology, 3) organization embodied technology, and 4) document embodied technology.

### **III.METHODOLOGY**

This research was conducted in November – December 2020 at PondokPesantrenAngkringanFathulUlum, Ngawonggo Village, Tajinan Sub-district, Malang District. The research method was survey method. The data source in this research was taken through purposive sampling technique. The researchers divided the informants into two: main informant and key informant. The key informant is consisted of 5 people (head of boarding school, sheep breeder who was in the partnership with farmer group, and the farmer group of 3 people). The data analysis was done by using descriptive qualitative method.

#### IV.RESULT AND DISCUSSION

Ngawonggo Village was one of 12 villages in Tajinan Sub-district, Malang District which has a plenty of natural resource potentials. The area of forage land was one of natural potential in this region which could be used to support the development of sheep farming business. A variety of forages were found in this region. This condition was one of supporting factors that could be benefitted for the farming business, for example sheep farming. Moreover, the availability of water resource and human resource were also the supporting factors for the development in this farming sector.

Based on the field observation, the researchers obtained the data about the condition of sheep farming business in this location. The internal and external factors which have been identified would be evaluated by using Internal Factor Evaluation (IFE) matrix and External Factor Evaluation (EFE) matrix.

##### A. IFE Matrix

The IFE matrix was used as an evaluation to the strength and weakness in the strategy of sheep farming development at Ngawonggo Village, Tajinan Sub-district, Malang District (see table 1).

##### B. EFE Matrix

The EFE matrix was used as an evaluation to the opportunity and threat in the strategy of sheep farming development in Ngawonggo Village, Tajinan Sub-district, Malang District (see table 2). The total score of internal factor was about 2.56, while the total score of external factor was about 2.51. This result showed that the sheep farming business at Ngawonggo Village, Tajinan Sub-district, Malang District was in the growth position and stable condition (2.00 – 2.99) in order to respond the strength and opportunity also minimize the weakness and threat. Rangkuti (2008) has asserted that when the business undertaken is on the total score of IFE and EFE between 2.00 – 2.99, it refers to a stable growth.

Table 1. IFE Matrix

Internal Factors	Weight	Rating	Score
<b>Strengths</b>			
1. Forage availability	0.14	3.6	0.53
2. Land availability	0.13	3.2	0.41
3. Livestock facility	0.10	2.6	0.27
4. Capital availability	0.08	2	0.16
5. Human resource availability	0.10	2.6	0.27
<b>Weaknesses</b>			
1. Marketing system	0.09	2.2	0.19
2. Marketing facility	0.08	2	0.16
3. Knowledge of livestock care and health	0.09	2.2	0.19
4. Health service	0.07	1.8	0.13
5. Information system and communication	0.09	2.2	0.19
<b>Total</b>	1		2.56

Table 2. EFE Matrix

External Factors	Weight	Rating	Score
<b>Opportunities</b>			
1. Need of lamb	0.13	3.4	0.47
2. Neighborhood location	0.09	2.4	0.23
3. Sheep demand	0.09	2.4	0.23
4. Street accessibility	0.08	2	0.16
5. Government support	0.11	2.8	0.32
<b>Threat</b>			
1. Public interest	0.10	2.6	0.27
2. Public economic condition	0.09	2.4	0.23
3. Buying and selling by intermediaries	0.07	1.8	0.13
4. Production facility	0.08	2	0.16
5. Community culture (related to the processing/management)	0.10	2.6	0.27
<b>Total</b>	1		2.51

**C. IE Matrix (Internal – External)**

IE matrix was based on two key dimensions, the total score of IFE matrix on x axis and total score of EFE matrix on y axis. The IE matrix (the figure 1) could identify 10 strategy cells and categorized into the main strategies: growth strategy, stability strategy, and retrenchment strategy. According to Rangkuti (2008), the total score either for IFE or EFE matrix was:

- Strong: 3,00 – 4,00
- Average: 2,00 – 2,99
- Weak: 1,00 – 1,99

**D. Formulation of SWOT Matrix**

**(Strengths, Weaknesses, Opportunities, Threats)**

SWOT matrix was used to formulate the alternative strategies for sheep farming business at Ngawonggo Village, Tajinan Sub-district, Malang District by integrating both internal and external factors, the result from input step of IFE and EFE matrix could be seen on the figure 2.

**E. Recapitulation of Calculation Result on Strengths, Weaknesses, Opportunities, and Threats (SWOT)**

Based on the calculation result, this research found that the final score from internal factors as strengths and weaknesses and external factors as opportunities and threats would be presented on this following table 3.

Table 3. The Recapitulation of IFE and EFE Matrix

No	Description	Score
1	Internal Factors	
	Strengths	1.66
2	External Factors	
	Opportunities	1.43
	Threats	1.08

Based on the result of recapitulation on the table 3, the overall strategy could be identified by using strengths as the main capital, minimizing the weaknesses, making the best of opportunities, and

pressing the threats within the development of sheep farming business at Ngawonggo Village, Tajinan Sub-district.

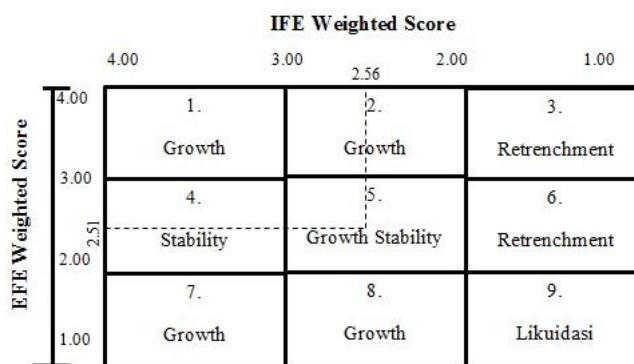


Figure 1. Diagram of IE Matrix

Internal Factors	Strength Factors (S) 1. Forage Availability 2. Land Availability 3. Livestock Facility 4. Capital Availability 5. Human Resource Availability	Weakness Factors (W) 1. Marketing System 2. Marketing Facilities 3. Knowledge of Animal Care and Animal Health 4. Livestock health services 5. Information and communication systems
External Factors	Opportunity Factors (O) 1. Need of Lamb 2. Neighborhood Location 3. Demand of Sheep 4. Street Accessibility 5. Government Support	WO Strategies 1. To increase the sales 2. To provide information relating to sales increase 3. To provide animal husbandry instructors
	Threat Factors (T) 1. Public Interest 2. Economic Condition of Community 3. Buying and Selling by Intermediaries 4. Production Facility 5. Community Culture	WT Strategies 1. To develop the partnership network 2. To set the information system on sheep farming development 3. To develop the marketing system
	SO Strategies 1. To expand the development of sheep farming business 2. To improve the quality of livestock 3. To improve the quality of human resource	ST Strategies 1. To conduct the coaching on sheep farming business development 2. To improve the service in sheep farming marketing 3. To create the market of sheep livestock

Figure 2. The Formulation of Marketing Strategies through SWOT Matrix

Based on the analysis result in SWOT, this research drew up the strategic priorities due to the combination of strategies that have the highest score until the lowest score. Based on the analysis result in SWOT, it was referred that the SO strategies could result the highest weight that was followed by ST, WO, and WT strategies. The SO strategies benefitted all strengths in order to grab and make use the greatest opportunities. Moreover,



based on SWOT matrix, the SO strategies have these following strategies:

- 1) To expand the development of sheep farming

The development of sheep farming was very beneficial and significant at Ngawonggo Village, Tajinan Sub-district, Malang District. Due to the limited population, the huge livestock demand outside the area, but because of some limitation, the livestock marketing was still dominated by the traders with large capital. The breeders initiated and collaborated with the University of Brawijaya Malang creating a farming which would invite the surrounding community involving in the breeding and sales, so the sheep farming could be the major sector at Ngawonggo Village, Tajinan Sub-district, Malang District. Through this program, the commodity of sheep farming would have a broader development space. Furthermore, to keep being the sheep livestock producer, the breeder should keep improving the quantity and quality of the livestock. Then, the breeder could increase their income from the sheep farming business.

- 2) To improve the quality of sheep livestock products

The strategy that could be done was to improve the quality of sheep livestock products, the breeder should increase the business scale by optimizing the production and growth of sheep, either the newly purchased sheep or the lamb of their own livestock. The superiority of Ngawonggo Village was a lot of forages that could be found in this area, which the forage was benefitted to improve the production of sheep farming. Another advantage was the breeder could save the cost for the animal forage because of a great quantity of forage sources, then they did not need to spend cost for animal feed. The forage could be also used as an alternative or feed fermentation during the dry season and be traded to the other breeders outside the village.

- 3) To improve the quality of human resource

The factor which could affect the success of farming business was human resource. The competent human resource would be able to improve the productivity and livestock. Grossman & Helpman (1991) have stated that the most important aspect of human resource potential was knowledge which could change the input or resource to be production output. The majority of community at Ngawonggo Village, Tajinan Sub-district worked as the farmers. Through the counseling and understanding on sheep farming, it would deliver an opportunity for the community to develop the sheep farming business and turn a great potential for the sheep farming at Ngawonggo Village in the future.

#### **F. Analysis on QSPM Strategy**

The step of decision making was a step to determine the priority lists of the most priority strategic alternatives to be implemented in the program. The matrix of QSPM quantitative strategic planning was an objective technique which could define the most priority strategic alternatives that should be implemented. The priority of strategic alternatives was determined by finding the level of total attractiveness score (TAS). The determination of priority strategy was based on the result of strategic alternatives resulted by SWOT matrix through QSP matrix analysis.

- 1) To expand the development of sheep farming
- 2) To improve the quality of livestock
- 3) To improve the quality of human resource
- 4) To provide the development of sheep farming business
- 5) To improve the service in sheep farming marketing
- 6) To create the market of sheep livestock
- 7) To increase the sales
- 8) To provide the information in order to increase the sales rate
- 9) To provide the experts or instructors of animal husbandry

- 10) To expand the partnership network
- 11) To set the information system on sheep farming development
- 12) To improve the marketing system

Based on the calculation on QSPM matrix, the implementation of the most three priority alternative strategies were found: (1) To expand the development of sheep farming, (2) To improve the quality of human resource, and (3) To improve the quality of sheep livestock. This result was in line with the result of SWOT strategy which has asserted that the SO strategies have obtained the highest score among the other strategies and the priority was to expand the development of sheep farming (score 5,76). The calculation of QSPM matrix could be seen on this following table 4.

Table 4. QSPM Calculation

Key Factors	Weight	1 <sup>st</sup> strategy		2 <sup>nd</sup> Strategy		3 <sup>rd</sup> Strategy	
		AS	TAS	AS	TAS	AS	TAS
<b>Strengths</b>							
• Forage Feed Availability	0.14	4	0,42	3	0,56	4	0,56
• Land Availability	0.13	4	0,52	3	0,39	4	0,52
• Livestock Facility	0.10	3	0,3	3	0,3	3	0,3
• Capital Availability	0.08	3	0,24	2	0,16	2	0,16
• Human Resource Availability	0.10	4	0,4	3	0,3	2	0,2
<b>Weaknesses</b>							
• Marketing System	0.09	3	0,18	2	0,27	2	0,18
• Marketing Facility	0.08	2	0,16	2	0,16	2	0,16
• Knowledge on Livestock Care and Health	0.09	2	0,09	1	0,18	2	0,18
• livestock Health Service	0.07	2	0,07	1	0,14	1	0,07
• Information System and Communication	0.09	3	0,18	2	0,27	2	0,18
<b>Opportunities</b>							
• Need of Lamb	0.11	4	0,33	3	0,44	3	0,33
• Neighborhood Location	0.13	4	0,52	3	0,39	3	0,39
• Demand of Sheep	0.09	3	0,27	3	0,27	3	0,27
• Street Accessibility	0.09	3	0,27	2	0,18	3	0,27
• Government Support	0.08	2	0,16	3	0,24	3	0,24
<b>Threats</b>							
• Public Interest	0.10	3	0,2	2	0,3	3	0,3
• Economic Condition of Community	0.09	2	0,18	2	0,18	1	0,09
• Buying and Selling by Intermediaries	0.07	2	0,14	2	0,14	2	0,14
• Production Facility	0.08	3	0,16	2	0,24	2	0,16
• Community Culture	0.10	2	0,2	2	0,2	2	0,2
<b>Total Score of Attraction</b>			5,76		4,54		4,9
<b>Order of Priority Strategy</b>			1		3		2

## V. CONCLUSION

Based on the analysis result on internal and external environment of sheep farming business development, this research showed 10 significant and influential internal factors and 10 external factors. Thus, this research referred that the development of sheep farming at Ngawonggo Village, Tajinan Sub-district, Malang District was on IE matrix and position of a stable growth due to the total score of internal factor 2,56 and external factor 2,51.

On the SWOT analysis, this research found the priority strategy which has the highest score was

SO (Strength – Opportunity) strategy. This strategy was referred (1) to expand the development of sheep farming, (2) to improve the quality of human resource, and (3) to improve the quality of sheep livestock.

Based on the QSP matrix, this research referred the priority strategy which has the highest score and could be implemented in the farming business was to expand the development of sheep farming.

## VI. SUGGESTION

The utilization of natural resource potential should be more inquired in order to develop the farming business and also the utilization of human resource which could support the success of sheep farming business activity.

## VII. REFERENCES

- [1] Abidin, J., & A. Sodik. 2002. Sheep Fattening. AgromediaPustaka, Jakarta.
- [2]BPS JawaTimur. 2019. Livestock Population by Regency or City and Animal Type. <https://jatim.bps.go.id/statictable/2019/10/08/1601/populasi-ternak-menurut-kabupaten-kota-dan-jenis-ternak-di-provinsi-jawa-timur-2017-2018.html>.
- [3] Dwiyanto, K and E. HandiWirawan. 2006. Buffalo Livestock Development Strategy: Aspects of networking and distribution. Pros. National Workshop on Buffalo Animal Husbandry Supports Beef Adequacy Program at the Research and Development Center for Animal Husbandry, Bogor.
- [4] Grossman, G. M. dan E. Helpman. 1991. Quality Ladders in the Theory of Growth. The Review of Economic Studies (58).
- [5] Hasan, S. 2012. Forage for Animal Feed. IPB Press, Bogor
- [6] Hasibuan, M. 2003. Organization and Basic Motivation for Increasing Productivity. Jakarta: Bumi Aksara
- [7] Jayadinata, Johara T. (1992) Usefulness in Rural, Urban and Regional Planning. Bandung, ITB.
- [8] Nazaruddin (2008). Technology Management (First Printing).Grahallmu, Yogyakarta.
- [9] Pakpahan, A. 1989. Analytical Framework for Social Engineering Research Institute Economic Perspective.Proceedings of the Agro Economic Forum. Bogor in Elizabeth, R and Anugrah, IS. 2010. Economic Institutions in Vegetable Farming Community in Bali Province. National Seminar Proceedings.PESKP, Bogor.
- [10] S. Azizah, U. M. Ningsih, and I. H. Djunaidi. 2020. Asset Mapping as a Base for Traditional Islamic Boarding School (Pesantren) Sheep Farming Development in Ngawonggo Village Malang Regency Indonesia. Technium. 2 (7): 190-200.
- [11] Sudaryanto. 2005. Methods and Various Techniques for Language Analysis: Duta wacana University Press.
- [12] Suhartini. 2009. The Role of Biodiversity Conservation in Supporting Sustainable Development. In Proceedings of the National Seminar on Research, Education and Application of Mathematics and Natural Sciences, Faculty of Mathematics

- and Natural Sciences, Yogyakarta State University, May 16, 2009 (pp. 199–205). Yogyakarta State University. Yogyakarta.
- [13] Rangkuti, Freddy. 2008. SWOT Analysis of Dissecting Business Case Techniques. Jakarta: PT. GramediaPustakautama.