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Farmer Empowerment Strategies Through Organic Vegetables Development

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Submitted : April 8th, 2020 ; Revised : April 21th, 2020; Accepted: April 28th, 2020

Abstract

Keywords:

Empowermen
strategies;
organic
vegetables;
SWOT
analysis

Organic vegetable cultivation system is a system for growing vegetables that is safe for consumption. The aims of this study were to conduct external and internal analysis of Mulyo Santoso Farmers Group Association using SWOT analysis, to find out effective strategies in empowering farmers through vegetable development, and to compile strategies for empowering farmers through organic vegetable development by Mulyo Santoso Farmers Group Association. This study is a descriptive study using quantitative descriptive approach. The data used were primary data obtained through interviews using questionnaires. This research used SWOT analysis method. The sampling technique used was census, using all members of the population as samples. Internal factor analysis results show the acquisition of a strength indicator score of 1.53 and a weak indicator score of 1.04. The results of the analysis on external factors acquisition show the opportunity indicator score of 1.32 and the threat indicator score of 1.20. The resulting value of SWOT diagram analysis on the X axis for internal factors is 0.49 and Y axis on external factors is 0.12. Based on the results of the SWOT analysis, it is known that the strategy used by Mulyo Santoso Farmers Group Association is an aggressive or progressive strategy, by using the power to take advantage of opportunities by creating, producing and developing businesses of processed agricultural products, such as processed chips and catering services of healthy foods, as well as adding more varieties of cultivated vegetables and sell organic fertilizer to supplement the income.

How to Cite (APA 6th Style):

Murdayanti, M., Ibrahim, J. T., & Baro, I. (2021). Farmer Empowerment Strategies Through Organic Vegetables Development. *SOCA: Jurnal Sosial Ekonomi Pertanian*, 15(1), 108–119. <https://doi.org/https://doi.org/10.24843/SOCA.2021.v15.i01.p10>

INTRODUCTION

Healthy vegetables are organic vegetables. Organic vegetables are vegetables that are produced through organic cultivation. According to Las et al. (2006) organic vegetable cultivation is a vegetable cultivation system that only uses natural ingredients (organic) without using chemicals substances which is one of the options for the community in consuming safe and healthy vegetables. Organic vegetables are agricultural products that can provide benefits for saving land from damage due to the use of natural (organic) material in their cultivation on land that has recently experienced a decline in fertility due to the use of chemicals substances (Kalaba, 2018). Organic vegetables are the second most preferred agricultural product for consumers after rice. People prefer to consume safe and healthy vegetables, influenced by the healthy lifestyle. (Galih Seno Samodro, 2018).

The problem in developing organic vegetables in Malang City is the lack of farming land. Most of the people who cultivate organic vegetables are living in urban areas and only using some plots for cultivation. It is difficult to get support from the related government, such as additional capital in developing organic vegetables. There is no specific market for farmers to sell their agricultural products. However, these problems can be slightly overcome through several opportunities owned by farmers in developing organic vegetables in Malang city, namely by the high demand for organic vegetables from the community, the availability of good facilities and infrastructure that are easy to obtain. Training or courses for farmers can develop the vegetables' quality and increase the sale values.

An effort that can be made to improve the farming skill of farmers in organic vegetable cultivation is farmer empowerment. According to Setiani (2016) farmer empowerment is an effort made to make farmers independent through the realization of the potential capabilities that have been owned by farmers in accordance with their fields. Farmer empowerment can be done through a good strategy. According to Arifin (2017) strategy is a thinking instrument needed to determine the steps to achieve the goals and objectives set, while farmer empowerment strategy is one of the methods used to support the program to make farmers independent through their respective abilities.

Mulyo Santoso Farmers Group Association is one of the independent farmer groups in Malang Regency. Farmer empowerment is carried out directly by the chairman. The development of organic vegetables carried out by farmers in Mulyo Santoso Farmers Group Association only uses small plot of land from their respective households and makes their own organic fertilizer, as well as uses a planting program that is useful for producing various types of vegetables that can be harvested within a specified time. The concept of empowering farmers to develop organic vegetables independently and the circumstances described above became the background for this research, entitled " Farmer Empowerment Strategies Through Organic Vegetables Development by Mulyo Santoso Farmers Group Association". The aims of this study were analyzing the external and internal factors regarding the

empowerment strategy of Mulyo Santoso Farmers Group Association in the development of organic vegetables using SWOT analysis and developing farmer empowerment strategies through developing organic vegetables by Mulyo Santoso Farmers Group Association.

RESEARCH METHODS

This research was quantitative descriptive research. The type of data used in this study was qualitative data. Primary data were obtained from interviews and direct observation. Secondary data were obtained from previous studies such as books, journals, and letters related to empowerment strategies. The research was conducted in December 2019 until January 2020 which was located at Mulyo Santoso Farmers Group Association, Rajawali Road 6, Sukun Village, Sukun District, Malang City, and East Java. Determination of the place was done purposively by considering that Mulyo Santoso Farmers Group Association is an independent farmer group which carries out the farmer empowerment for its members.

This research used census method, a sampling technique that uses all members of the population as research samples (Ibrahim, 1999). Respondents in this study only numbered 40 people from all active members. These 40 members were still doing organic vegetable cultivation, both of which were developing in groups and individually. Data analysis method used in the study was SWOT analysis. According to (Rangkuti, 2003) SWOT analysis is a systematic identification instrument for formulating strategies based on logic that can maximize strengths and opportunities, as well as minimize weaknesses and threats that exist both from internal factors or external factors of an organization or company. The results of identification of internal and external factors analysis were summarized into an Internal Factor Evaluation (IFE) matrix and an External Factor Evaluation (EFE) matrix. According to David (2009) internal factor analysis is an analysis of several factors related to internal conditions and an analysis of external factors is an analysis of several factors originating from outside the organization or company.

RESULT AND DISCUSSION

Respondents' Characteristics

The characteristics of 40 respondents in this study are as follows:

Table 1. Number and Percentage of Mulyo Santoso Farmers Group Association members

No	Characteristics	Categories	Number	Percentage (%)
1	Gender and age	Female	10	30
		Male	3	38
2	Education	Female (High School)	15	47
		Male (High School & Bachelor)	6	38
3	Land Area	100-200m ²	25	72
		201-300m ²	9	13
		301-400m ²	6	14
4	Family dependants	0 person	2	5
		1 person	0	0
		2 persons	2	5
		3 persons	14	35
		4 persons	17	43
		5 persons	4	10

	6 persons	1	2
5	Monthly income Rp.500.000 – Rp.1.000.000	21	53

Source: Processed Primary Data, 2020

Based on table 1, by gender and age, respondents who had the largest percentage were 38% of men aged 51-55 years and 30% of women aged 51-55. This is in line with the results of Shofiyah's research (2019), the productive age of 15 to 64 years will have a stronger physical strength in farming so that the level of productivity is high. Based on education level, the highest average of high school and bachelor education was for male respondents with a percentage of 38% and 47% for the highest level of high school education for female respondents. This is in line with the opinion of Soekartawi (2002) that educated farmers more quickly understand and comprehend the use of technology and are able to accept new innovations. Based on the amount of land area used in cultivation, the highest average obtained from 40 respondents was 100-200m² with the largest percentage of 73%. This is in accordance with Narti (2015) which stated that the area of land exerts an influence on the application of technology, because the more extensive the land used in farming, the higher the yield of production and so does the income earned by farmers. Based on family dependents, from the largest percentage, the average family dependency was 4 persons (43%). Based on monthly income, the average income of organic vegetable farmers was IDR 500,000-IDR 1,000,000 with the largest percentage of 53%.

Internal Environmental Analysis of Mulyo Santoso Farmers Group Association

Internal environmental analysis in this study began with the strategy planning process by determining the strengths and weaknesses of the organic vegetable development effort by Mulyo Santoso Farmers Group Association. The following are the results of calculating the average questionnaires for internal factors in determining the strengths and weaknesses in the development of organic vegetables by Mulyo Santoso Farmers Group Association:

Table 2. Internal Environmental Analysis of Organic Vegetable Development

No	Internal Indicators	Average Rating	Information
1	Various developed organic vegetables	3.55	S
2	Well-educated farmers	3.48	S
3	Use of household yards	3.55	S
4	Self-made organic fertilizers	3.63	S
5	Farming programs	3.53	S
6	Lack of attention from the government related to the development of organic vegetables	3.40	W
7	Lack of capital to develop organic vegetable business	3.40	W
8	Lack of land to develop organic vegetable cultivation	3.40	W
9	Lack of use of innovation or technological applications	3.25	W
10	Lack of Promotion	3.20	W
Average Rating		3.44	

Sumber: data primer, diolah 2020

Table 2 shows the average rating of the internal environmental indicators which were then averaged and resulted in 3.44. Indicators that have an average score of more than (>) 3.44 are classified as indicators of strength, while indicators that have a score equal to or less than (<) 3.44 are classified as indicators of weakness in organic vegetable development by Mulyo Santoso Farmers Group Association.

External Environmental Analysis of Mulyo Santoso Farmers Group Association

Analysis of the external environment in this research began with the process of strategic planning by determining the opportunities and threats of the organic vegetable development effort by Mulyo Santoso Farmers Group Association. The following is the result of calculating the average questionnaires for external factors in determining opportunities and threats in the development of organic vegetables by Mulyo Santoso Farmers Group Association:

Tabel 3. External Environmental Analysis of Mulyo Santoso Farmers Group Association

No	External Indicators	Average Rating	Information
1	Government attention related to the development of organic vegetables	3.33	O
2	High demand for organic vegetables	3.48	O
3	Training/courses	3.50	O
4	Availability of good production infrastructure	3.30	O
5	Availability of good agricultural inputs	3.38	O
6	The unavailability of permanent market for organic vegetables	3.20	T
7	Expensive price of organic vegetables	3.00	T
8	Competition between organic vegetable farmers	2.80	T
9	Reducing of Land	2.98	T
10	Less intensive government attention related to the development of organic vegetables	3.20	T
Average Rating		3.22	

Source: Processed primary data, 2020

Table 3 shows the average score of the external environmental indicators that was then averaged and resulted in of 3.22. Indicators that have an average score of more than (>) 3.22 are classified as opportunity indicators, while indicators that have a score equal to or less than (<) 3.22 are classified as threat indicators for organic vegetable development by Mulyo Santoso Farmers Group Association.

Internal Strategy Factor Matrix Analysis (IFAS)

Internal strategy factor matrix analysis was carried out through identification of internal factors of farmer empowerment strategies through the development of organic vegetables to know the strengths and weaknesses of Mulyo Santoso Farmers Group Association. Furthermore, after identification, it was continued by giving a weighting and rating. The results of weighting and rating of the internal factors of Mulyo Santoso Farmers Group Association are as follows:

Table 4. Internal strategy factor matrix analysis (IFAS)

Internal Strategy Factors	Weight	Relative weight	Rating	Score	Information
Strengths					
Various developed organic vegetables	3.55	0.13	3	0.39	Kekuatan 1
Well-educated farmers	3.48	0.09	2	0.18	Kekuatan 2
Use of household yards	3.55	0.13	3	0.39	Kekuatan 3
Self-made organic fertilizer	3.63	0.09	2	0.18	Kekuatan 4
Farming programs	3.53	0.13	3	0.39	Kekuatan 5
Total		0.57		1.53	
Weakness					
Less intensive government attention related to the development of organic vegetables	3.40	0.04	1	0.04	Kelemahan 1
Lack of capital to develop organic vegetable business	3.40	0.13	3	0.39	Kelemahan 2
Lack of land to develop organic vegetable cultivation	3.40	0.13	3	0.39	Kelemahan 3
Lack of use of innovation or technological applications	3.25	0.04	1	0.04	Kelemahan 4
Lack of Promotion	3.20	0.09	2	0.18	Kelemahan 5
Total		0.43		1.04	
TOTAL (Weaknesses + Strength)		1,00		2.57	

Source: processed primary data, 2020.

Based on table 4, the IFAS matrix is the total score from the product of the average weight and the average rating of each internal strategic factor that affects the development of organic vegetables (Setyorini, et al. 2016).

External Strategy Factor Matrix Analysis (EFAS)

The analysis of the external strategy factor matrix was done by identifying the internal factors of the farmer empowerment strategy through the development of

organic vegetables to identify Opportunities and Threats in Mulyo Santoso Farmers Group Association. Furthermore, after identification, it was proceeded with giving a weighting and rating. The results of weighting and rating of the internal factors of Mulyo Santoso Farmers Group Association are as follows:

Table 5. External Strategy Factor Matrix Analysis (EFAS)

External Strategy Factors	Weight	Relative weight	Rating	Score	Information
<i>Opportunities</i>					
Government attention related to the development of organic vegetables	3.33	0.10	2	0.20	Opportunity 1
High demand for organic vegetables	3.48	0.12	3	0.36	Opportunity 2
Training/courses	3.50	0.12	3	0.36	Opportunity 3
Availability of good production infrastructure	3.30	0.10	2	0.20	Opportunity 4
Availability of good agricultural inputs	3.38	0.10	2	0.20	Opportunity 5
Total		0.53		1.32	
<i>Threats</i>					
The unavailability of permanent market for organic vegetables	3.20	0.12	3	0.36	Threat 1
Expensive price of organic vegetables	3.20	0.08	2	0.16	Threat 2
Competition between organic vegetable farmers	2.80	0.08	2	0.16	Threat 3
Reduced land	2.98	0.12	3	0.36	Threat 4
Lack of government attention related to organic vegetables cultivation	3.20	0.08	2	0.16	Threat 5
Total		0.47		1.20	
Total (opportunities + weaknesses)		1.00		2.52	

Source: processed primary data, 2020

Based on table 5, the IFAS matrix is the total score from the multiplication of the average weight and average rating of each internal strategic factor that affects the development of organic vegetables (Setyorini, et al. 2016).

SWOT Diagram Analysis

Based on the results of the analysis of internal and external factors above, the next step was calculating the difference between the value of strengths with weaknesses and opportunities with threats. The following is the calculation:

Table 6. Differences between Internal and External Factor Scores for Mulyo Santoso Farmers Group Association

No	Indicators	Score	Difference
1	Strength	1.53	0.49
2	Weakness	1.04	
3	Opportunity	1.32	0.12
4	Threat	1.20	

Source: processed primary data, 2020

Based on the calculation in table 6, the difference between Internal and External Factors of Mulyo Santoso Farmers Group Association explained that the value of internal factors on the strength indicator was greater than the weakness indicator with the difference between the two indicators was 0.49. The calculation of external factors on the opportunity indicator was also greater than the threat indicator with the difference between the two indicators that was equal to 0.12. Difference values for internal factors and external factors were used to determine the coordinates of the SWOT diagram; X axis for internal factors with a value of 0.49 and a Y axis for external factors with a value of 0.12. The results of the evaluation of internal and external factors were used as a reference in determining the location of the quadrants on the SWOT diagram, such as the following diagram:

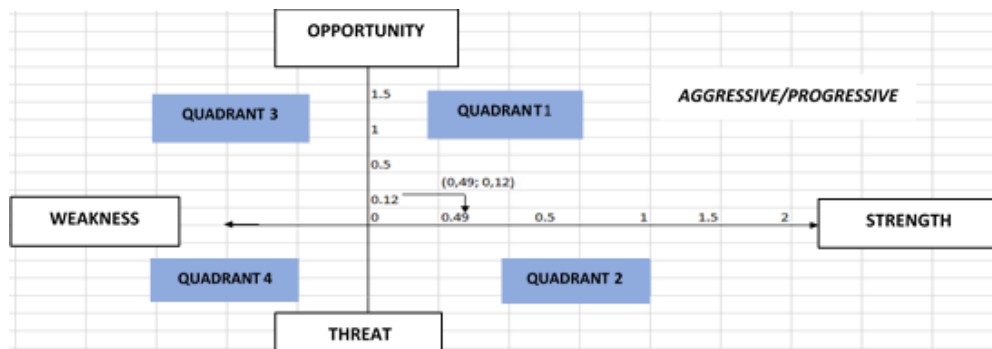


Figure 1. SWOT Diagram Analysis of Gapoktan Mulyo Santoso

Based on the results of Mulyo Santoso Farmers Group Association’s SWOT diagram, it can be seen that the position of the farmer empowerment strategy through the development of organic vegetables is in quadrant one (1). The position of quadrant one is a favorable position for the organic vegetables business, where farmers have a lot of strength and can take advantage of opportunities in the external environment that can help in the development of organic vegetables. The strategy that must be applied in this condition is supporting the sustainability of aggressive growth (growth oriented strategy). Farmer empowerment strategies that need to be carried out to support the development of organic vegetables by Mulyo Santoso Farmers Group Association are creating, producing, and developing businesses of processed agricultural products, such as making vegetable chips and healthy food catering, adding more varieties of vegetables to be cultivated, and selling organic fertilizers to increase the income.

Analysis of Strengths, Weaknesses, Opportunities and Threats of Farmer Empowerment Strategies

Analysis of strengths, weaknesses, opportunities and threats to farmer empowerment strategies was the further step of this research in carrying out the process of formulating strategies and functioning to match them, as shown in the following table:

Internal	<p>Strengths</p> <ol style="list-style-type: none"> 1. Various developed organic vegetables 2. Well-educated farmers 3. Use of household yards 4. Self-made organic fertilizer 5. Farming programs 	<p>Weakness</p> <ol style="list-style-type: none"> 1. Less intensive government attention related to the development of organic vegetables 2. Lack of capital to develop organic vegetable business 3. Lack of land to develop organic vegetable cultivation 4. Lack of use of innovation or technological applications 5. Lack of Promotion
External		
<p>Peluang (Opportunities)</p> <ol style="list-style-type: none"> 1. Government attention related to the development of organic vegetables 2. High demand for organic vegetables 3. Training/courses 4. Availability of good production infrastructure 5. Availability of good agricultural inputs 	<p>S-O strategies</p> <ol style="list-style-type: none"> 1. Creating, producing and developing business of processed agricultural products, such as making processed chips and healthy food catering. (S2,O1,O3) 2. Various developed organic vegetables (S1,S3,S5,O2,O4) 3. Selling Self-made organic fertilizer to increase the income (S4,O5) 	<p>W-T strategies</p> <ol style="list-style-type: none"> 1. Re-establishing good relations with the government. (W1,T5) 2. Conduct marketing promotions online. (W5,T1,T2,T3) 3. Increasing capital through the use of people's business loans. (W2,W3,W4,T4)
<p>Threats</p> <ol style="list-style-type: none"> 1. The unavailability of permanent market for organic vegetables 2. Expensive price of organic vegetables 3. Competition between organic vegetable farmers 4. Reduced land 5. Lack of government attention related to organic vegetables cultivation 	<p>S-T Strategies</p> <ol style="list-style-type: none"> 1. Establishing outlets to market the organic vegetable and other agricultural products produced by farmers. (T1,S1,S4) 2. Planting Family Medicinal Plants (S3,T4) 3. Maintaining the quality of vegetables produced. (S5,T2) 4. Innovating the processing of organic vegetables into ready-to-eat foods. (S2,T3,T5) 	<p>W-T Strategies</p> <ol style="list-style-type: none"> 1. Re-establishing good relations with the government. (W1,T5) 2. Conduct marketing promotions online. (W5,T1,T2,T3) 3. Increasing capital through the use of people's business loans. (W2,W3,W4,T4)

Source: Processed primary data, 2020

Based on the results shown in table 7, from the SWOT matrix, it was obtained several strategies for empowering farmers in developing organic vegetables in Mulyo Santoso Farmers Group Association. Here are some strategies used, namely:

1. S-O Strategies

Strength-opportunity strategy or S-O strategy is a strategy with the use of internal research strengths to take advantage of external opportunities. Alternative

strategies that are recommended as a strength-opportunity strategy are as follows: Creating, producing, and developing businesses of processed agricultural products, such as processed chips and catering for healthy food, adding more various types of vegetables to be grown, and selling organic fertilizers to increase income.

2. W-O Strategies

Weakness-opportunity strategy or W-O strategy is a strategy with the aim of fixing internal weaknesses by utilizing the external opportunities of Mulyo Santoso Farmers Group Association. Alternative strategies that can be recommended as a weakness-opportunity strategies are as follows: Collaborating with local and central government on capital development, conducting market research to monitor products, price developments and competitors, as well as leasing land.

3. S-T Strategies

Strength-threat strategy or S-T strategy is a strategy with the aim of how to use internal strength to overcome external threats that Mulyo Santoso Farmers Group Association have. Alternative strategies that can be recommended as a strength-threat strategy are as follows: Establishing outlets to market organic vegetables and other agricultural products produced by farmers, planting family medicinal plants, maintaining the quality of vegetables produced, and innovating the processing of organic vegetable products into ready-to-eat foods .

4. W-T Strategies

Weakness-threat strategy or W-T strategy is a strategy that aims to reduce weaknesses and avoid external threats that Mulyo Santoso Farmers Group Association have. Alternative strategies that can be recommended as a weakness-threat strategy are as follows: Re-establishing good relations with the government, promoting online marketing and increasing capital through the use of people's business loans..

CONCLUSION

The conclusion of the research on farmer empowerment strategies through the development of organic vegetables by Mulyo Santoso Farmers Group Association has several internal and external factors that influence the strategy of empowering farmers through the development of organic vegetables. These factors include:

Internal factors: Strengths (S) include the development of various types of organic vegetables, well-educated farmers, utilization of household yards, self-made organic fertilizer, and planting programs. Weaknesses (W) include the lack of attention from the government related to the development of organic vegetables, the lack of capital to develop the organic vegetable business, the lack of land to develop organic vegetable cultivation, the lack of technology innovation or application, and the lack of promotion.

External factors: Opportunities (O) include government attention related to the development of organic vegetables, the high demand for organic vegetables, the existence of training / courses, the availability of good production infrastructure, and the availability of good agricultural inputs.

Threats (T) include the unavailability of a permanent market for organic vegetables, the expensive price of organic vegetables, competition among organic vegetables farmers, decreasing cultivation land, and less intensive government attention related to the development of organic vegetables.

SWOT analysis produced farmer empowerment strategies throughout the development of organic vegetables carried out by Mulyo Santoso Farmers Group Association from SO's alternative strategies, namely creating, producing and developing business of processed agricultural products, such as processed chips and healthy food catering, adding more various types of vegetables to be grown, and selling organic fertilizers to increase income. The implementation of these strategies is able to support the sustainable development of organic vegetables by farmers in Mulyo Santoso Farmers Group Association..

RECOMMENDATION

Advices that can be given for the farmer empowerment through the development of organic vegetables by Mulyo Santoso Farmers Group Association is Mulyo Santoso Farmers Group Association should increase the use of social media in the promotion of organic vegetables and start using technological innovations to support the development of organic vegetables. Farmers need to expand the land used for cultivation, and be given guidance and supervision to implement empowerment strategies to enhance development so that the objectives of the strategy can be achieved and targeted. For further researchers, it is suggested to be more careful in determining the research variables.

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