

Strategy For Strengthening The Institution Of Mustard Farmers in Torongrejo Village, Junrejo District, Batu City

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INDEXING	ABSTRACT
Keywords: Keyword 1; Institution Keyword 2; Mustard Farmers Keyword 3; Strategy Keyword 4; Strengthening Keyword 5; Torongrejo	The farming institution that has been established in Torongrejo Village has not yet functioned maximally in providing services to its members. However, Torongrejo Village has significant potential for mustard plant development. The objective of this research is to understand the strategies for strengthening the Mustard Farming Institution in Torongrejo Village, Junrejo District, Batu City, as well as to identify the strengths, weaknesses, opportunities, and threats in strengthening the Mustard Farming Institution in Torongrejo Village, Junrejo District, Batu City. This study employs a qualitative method. Data were obtained through interviews, questionnaires, and documentation. The number of respondents involved was 41 farmers from 6 farmer groups. Data were analyzed using SWOT analysis. The results showed that the greatest strength factor in strengthening the mustard farming institution is the availability of Human Resources Training in managing the Mustard Farming Institution. The biggest weakness factor is the limitation of the younger generation interested in vegetable farming. Meanwhile, the greatest opportunity for strengthening the institutional capacity of mustard farmers is the chance to manage farmer institutions professionally with the availability of human resources training. The biggest threat is the government's policy changes regarding the use of agricultural land for vegetables, as well as the declining number of vegetable farmers if there are no young vegetable farmers. The formulation of strategies that can be implemented to strengthen the institutional capacity of mustard farmers in Torongrejo Village, Batu City includes 14 strategies, consisting of 4 strategies in the S-O component, 4 strategies in the W-O component, and 3 strategies each in the S-T and W-T components. The suggestion for the farmers' organization in this research is to pay attention to the strengths, weaknesses, opportunities, and threats that have been identified as evaluation material in the activities program for mustard plant agriculture in Torongrejo Village.

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INTRODUCTION

Mustard plants are leafy vegetables that are widely consumed due to their high nutritional content such as vitamins, minerals, and antioxidants (Meena *et al*, 2022). In addition, mustard plants also have several agronomic advantages, such as a relatively short harvest period after planting and can be cultivated in narrow land or at high altitudes (Biswas, 2021). Considering its bright market prospects and agronomic advantages, the government has designated mustard plants as one of the priority horticultural commodities, as well as explained by Mawar *et al* (2021), and Barik (2023).

The farmer institution that was formed in Torongrejo Village has not yet functioned optimally in providing services to its members. In fact, Torongrejo Village has a significant potential for developing mustard plants, such as suitable irrigated paddy fields, appropriate climatic conditions, human resources in the form of experienced farmers in highland vegetable cultivation, good market potential because Batu City is a tourist destination, and the existence of farmer institutions in the form of Farmer Groups that have existed since the year 2000.

According to Hermanto and Swastika (2011), weak farmer institutions are characterized by a lack of interaction and cooperation among farmers. The farmer institution that was formed in has not yet functioned optimally in providing services to its members. The lack of interaction and cooperation among farmers has resulted in difficulties in accessing technology information and government assistance schemes (Aker *et al*, 2016). Farmer groups, as the leading institutions at the field level, have not functioned optimally in empowering their members (Desiana and Aprianingsih, 2017). The minimal meetings and interactions between farmers have caused the flow of information and new knowledge to not circulate well among them. Therefore, specific strategies are needed to strengthen farmer institutions so they can support increased productivity and the welfare of mustard farmers in Torongrejo Village.

Researchers are interested in conducting a study on the strengthening strategy of institutional support for mustard farmers in Torongrejo Village, which is important to provide concrete policy recommendations that can be implemented to enhance the role of farmer institutions in increasing productivity and the welfare of mustard farmers. The aim of this research is to understand the Strategy for Strengthening the Institutional Support of Mustard Farmers in Torongrejo Village, Junrejo District, Batu City, as well as to identify the strengths, weaknesses, opportunities, and threats in strengthening the Institutional Support of Mustard Farmers in Torongrejo Village, Junrejo District, Batu City.

LITERATURE REVIEW

Farmer Institutions

Farmer institutions are a set of norms, rules, and organizations formed by farmers to regulate various activities related to their farming endeavors. Farmer institutions encompass both formal and informal organizations that are formed by, from, and for farmers in managing their agricultural enterprises (Mardikanto, 2016). According to Mosher (1987), farmer institutions are an organized pattern of social relationships, which includes values and norms that regulate farmers' behavior in farming. Farmer institutions play a crucial role in assisting farmers in facing challenges in the field, such as marketing agricultural products, procuring agricultural production inputs, and accessing agricultural technology.

Farmer institutions can take formal and non-formal forms. Formal institutions include cooperatives, farmer groups, and joint farmer groups. Meanwhile, non-formal institutions include community savings groups, study groups, and lending groups which indirectly support agricultural business activities (Soekartawi, 2018). With the existence of both formal and non-formal farmer institutions, it is hoped that they can help improve farmers' welfare. Several recent studies show that farmer institutions play an important role in agricultural development. Rosyadi *et al*. (2018) found that farmer institutions are involved in agricultural extension and the transfer of agricultural technology to farmers. Farmer

institutions also function as a platform for cooperation among farmers to improve productivity and the efficiency of farming businesses (Rusdiana & Maesaroh, 2013).

Strategy for Strengthening Farmer Institutions

Institutional strengthening is an effort to improve the performance of an institution so that it can function well according to its goals (Saptana et al., 2017). According to Mosher (2011), institutional strengthening is the process of improving the capacity of an organization or institution to carry out its tasks, achieve its objectives, and sustain itself amidst its environment.

Institutional strengthening includes three main aspects, namely strengthening human resource capacity, strengthening management and organizational governance, and strengthening networks of cooperation and partnerships (Hettne, 2013). The primary goal of institutional strengthening is to form effective and sustainable institutions in achieving their missions and objectives. Institutional strengthening is crucial for farmer institutions to optimally enhance farmers' welfare (Anantanyu, 2011).

Strengthening the management of farmer organizations such as farmer groups is necessary for the organization to function efficiently and effectively in achieving its goals. Several strategies that can be applied include organizational management training administrative and financial assistance, facilitation of deliberations, and preparation of strategic plans (Anantanyu, 2015). The continuous application of management strengthening strategies will enhance the capacity of farmer organizations in planning, organizing, executing, controlling, monitoring, and evaluating activities professionally.

RESEARCH METHOD

Types and Sources of Data

This type of research is qualitative, utilizing a survey method. The survey approach is used to access data from specific natural environments, while the researcher intentionally carries out actions or interventions during the data collection process, such as distributing questionnaires, conducting structured interviews, and other methods. The survey method was chosen in this research because it aims to obtain data and information directly from the field regarding the institutional conditions of mustard farmers in Torongrejo Village.

Primary data is a source of data that directly provides data to the data collector. This data is information that researchers obtain directly from the field or primary data from the research location. The primary data used in this research comes from the interviews obtained by the researcher from informants. Secondary data is research data obtained indirectly through intermediary media or used by other institutions that are not the processors but can be utilized in a particular research. In this study, secondary data is needed, namely previous literature studies related to the research topic, which the researcher obtained from various sources.

Population and Sample

Population is the entire subject of research; if the researcher wants to study all its elements within the research area, then the research is a population study. The population in this study consists of all cabbage farmers who are part of farmer groups in Beji Village, Junrejo District, Batu City. Based on observation data from Beji Village, there are 6 farmer groups with a total of 41 cabbage farmers. (3) select the names of farmer group members to be used as research samples.

Table 1. Number of Mustard Farmer Samples in Torongrejo village

No	Group Name	Number of Samples (People)
1	Kt Rukun Tani	4
2	Kt Guyub Rahardjo	6
3	Kt Gotong Royong	5
4	Kt Mulyo Rejeki	4
5	Kt Tani Makmur	11
6	Kt Argo Mulyo	6
7	Kt Puji Lestari	5
	Total	41

Source : Authors (2025)

Data Collection Methods

The following are some data collection methods used in this research:

1. Interview

Interviews were conducted personally using in-depth interview techniques with mustard green farmers in Torongrejo Village, who were selected as research samples. The interviews aimed to obtain detailed information related to the dynamics of farmer groups, the role of farmers' cooperative groups, partnership patterns, as well as the problems and hopes of farmers regarding the strengthening of institutions. The interview results are expected to uncover accurate and in-depth data and information. Data were collected using a questionnaire by providing rating weights for each question.

1. Questionnaire

The questionnaire contains structured questions distributed to respondents to obtain quantitative data such as age, education, land area, production, and so on. It also gathers data on farmers' perceptions of institutional functions with scoring. The questionnaire also complements and validates the results of the interviews.

2. Documentation

Collecting secondary data from relevant agencies, farmer groups, and other sources such as previous research. Useful as supplementary data and for comparing research results.

Data Analysis Method

The analytical tools used in formulating company strategies are the IFAS matrix, EFAS matrix, and SWOT matrix. The calculation of the IFAS matrix involves determining the weight, rating, and score where the total weight does not exceed 1.00, and calculating the rating value of each factor by providing a scale from 1 (below average/not important) to 4 (very good). According to Rangkuti (1998), the strategic factors of a company can be summarized by combining external strategic factors with internal strategic factors into a

summary analysis of strategic factors. This analysis requires managers to condense the factors to less than 10.

The steps to analyze the internal environmental strategy (IFAS) are:

- 1) Listing the most important IFAS items into the strategy factor column.
- 2) Determining the relative importance degree of each internal factor (weight). The weighting is done by assigning scores or weights to each factor. The weight scoring is as follows:
 - a) Weight 1, if the vertical factor is equally important to the horizontal factor;
 - b) Weight 2, if the vertical factor is more important than the horizontal factor;
 - c) Weight 0, if the horizontal factor is more important than the vertical factor.
- 3) Entering the weight of each factor into the IFAS matrix.
- 4) Rating each factor from 4 (outstanding) to 1 (poor) based on the factor's relation to the institutional conditions of mustard plant farmers.
- 5) Multiplying the weight by the rating to produce a total in the weighted score column.

The steps to analyze external environmental strategies (EFAS) are:

- 1) List the most important EFAS items into the strategic factors column.
- 2) Determine the relative importance degree of each external factor (weight). The weighting is done by giving a score or weighting number to each factor. The scoring weights are:
 - a) Weight 1, if the vertical factor is equally important as the horizontal factor.
 - b) Weight 2, if the vertical factor is more important than the horizontal factor.
 - c) Weight 0, if the horizontal factor is more important than the vertical factor.
- 3) Enter the weight of each factor into the EFAS matrix.
- 4) Rate each factor from 4 (outstanding) to 1 (poor) based on the factor's relation to the company's condition.
- 5) Multiply the weight by the rating to produce the total in the weighted score column.

Based on the table above, it shows that the weight given to the IFAS and EFAS matrices can be adjusted according to the weighting criteria. The weight begins from the smallest value of 0.00 - 0.15 with criteria that can be seen in the table above, while the largest value is >0.20. Based on the results obtained, the weight used for the IFAS matrix and the EFAS matrix is >0.20; this is assumed because without this aspect, the business will not develop and will not operate. Additionally, this aspect is a very dominant aspect in strengthening farmer institutions.

$$\alpha_i = \frac{x_i}{\sum_{i=1}^n x_i}$$

Where:

- α_i = weight of the i-th variable
 x_i = value of the i-th variable
 i = 1,2,3,
 n = number of variables

The formulation of strategies for the development of dairy cattle farming can be carried out through SWOT analysis using two results of identifying internal and external factors depicted in the SWOT matrix. The SWOT matrix clearly illustrates how external

opportunities and threats can be matched with strengths and weaknesses in dairy cattle farming, thereby resulting in a strategy arrangement that can enhance strengths and opportunities while reducing existing weaknesses and threats.

The SWOT matrix is an important matching tool that requires managers to develop four types of strategies, namely SO Strategy (Strengths Opportunities), WO Strategy (Weaknesses Opportunities), ST Strategy (Strengths Threats), and WT Strategy (Weaknesses Threats).

RESULT AND DISCUSSION

Overview of the Research Location

Torongrejo Village is one of the villages in Batu City, East Java, which has the potential to be a tourism village. This village offers several tourist attractions, such as natural beauty, vast agricultural land, a rich cultural community, and a unique history. Meanwhile, as reported by the Batu.Net website (2024), Torongrejo Village is geographically and administratively one of 24 villages and urban villages in Batu City, with an area of 4.106 km² and an altitude of 700 meters above sea level. This village is located in the southern part of Batu City and is bordered by Temas Urban Village to the west, Pendem Village in Junrejo District and Tawangargo Village in Karangploso District, Malang Regency to the east, Pandarejo Village and Giripurno Village to the north, as well as Torongrejo Village and Mojorejo Village to the south. The land in this village consists of 36% dry land and 64% rice fields.

Identification of Internal Strength Factors

Based on the research results in the field, the identification of internal factors yields a total of 5 strengths. The following are the strength factors possessed by the farmer institution of mustard plants in Torongrejo Village, Batu City, which can be seen in the table below,

Table 2. Identification of Strength Factors or Strengths

Number	Factors of Strengths
1.	The Existence of Human Resource Training in Managing the Institutional Framework of Mustard Farmers.
2.	Mustard farmers possess good vegetable farming skills.
3.	The institutional framework of mustard farmers has strong financial support from various parties for operational activities.
4.	The negotiation and cooperation skills of farmers with other institutions are very good.
5.	The leadership of the mustard farmers' institutions is strong.

Source: Researcher (2025)

Identification of Internal Weakness Factors

Based on the results of field research, the identification of internal factors was obtained, namely weaknesses or weaknesses totaling 5 weaknesses. The following are the weakness factors possessed by the mustard plant farmer institutions in Torongrejo Village, Batu City, which can be seen in the table below.

Table 3. Identification of Weakness Factors or Weaknesses

Number	Factors of Weaknesses
1.	Obstacles of miscommunication among members during farmers' institutional meetings.
2.	The limited interest of the younger generation in vegetable farming.
3.	Lack of more specific advanced training on modern agricultural technology.
4.	Lack of discussions among farmers' institutions.
5.	Minimal participation of members in farmers' institutional meeting activities.

Source: Researcher (2025)

Identification of External Opportunity Factors

Based on the research results in the field, the identification of internal factors yielded 5 opportunities. The following are the opportunity factors possessed by the farmer institution of mustard plants in Torongrejo Village, Batu City, which can be seen in the table below.

Table 4. Identification of Opportunity Factors

Number	Opportunity Factors
1.	There is an opportunity to manage agricultural institutions professionally with the availability of human resource training.
2.	Collaboration with local governments in providing quality vegetable seeds.
3.	Support from private sectors in training for the use of modern agricultural technology.
4.	The use of new and modern agricultural technology can be implemented.
5.	Opening profitable markets for vegetable products in the digital era.

Identification of External Threat Factors

Based on the research results in the field, an identification of internal factors was obtained, namely threats totaling 5 threats. The following are the threat factors faced by the farmer institutions cultivating mustard greens in Torongrejo village, Batu city, which can be seen in detail in the table below,

Table 5. Identification of Threat Factors (Threats)

Number	Threat Factors
1.	The number of vegetable farmers continues to decline if there are no young vegetable farmers.
2.	Changes in government policies regarding the use of agricultural land for vegetables.
3.	The conversion of vegetable farmland into non-agricultural buildings.
4.	Unforeseen circumstances such as natural disasters and plant diseases cause vegetable farmers to incur losses.
5.	Market price fluctuations cause the selling price of vegetable products to drop, making it unable to cover production costs.

Source: Processed by the Author (2025)

IFAS Matrix Calculation (Internal Factor Analysis Summary)

Based on the identification of internal factors, namely strengths and weaknesses, the IFAS matrix (Internal Factor Analysis Summary) table has been compiled as follows:

Table.6 IFAS Matrix Calculation

Number	Internal Factor	Value	Weight	Rating	Score
Strengths					
1.	The Existence of Human Resource Training in Managing the Institutional Framework of Mustard Farmers.	10	0,167	4	0,67
2.	Mustard farmers possess good vegetable farming skills.	6	0,100	3	0,30
3.	The institutional framework of mustard farmers has strong financial support from various parties for operational activities.	4	0,067	4	0,27
4.	The negotiation and cooperation skills of farmers with other institutions are very good.	5	0,083	2	0,17
5.	The leadership of the mustard farmers' institutions is strong.	5	0,083	4	0,33
Sub Total Value of Strengths		30			1,73
Number	Internal Factor	Value	Weight	Rating	Score
Weaknesses					
1.	Obstacles of miscommunication among members during farmers' institutional meetings.	8	0,133	4	0,53
2.	The limited interest of the younger generation in vegetable farming.	11	0,183	3	0,55
3.	Lack of more specific advanced training on modern agricultural technology.	4	0,067	3	0,20
4.	Lack of discussions among farmers' institutions.	3	0,050	3	0,15
5.	Minimal participation of members in farmers' institutional meeting activities.	4	0,067	4	0,27
Sub Total Value of Weaknesses		30			1,70
Total IFAS		60	1,0		3,43

Source: Processed by the Author (2025)

Based on the table above, it can be seen that there are 5 strengths and 5 weaknesses, with a total weight of 1.0. The subtotal value of strengths is 1.73, while the subtotal value of weaknesses is 1.70, resulting in a total IFAS value of 3.43.

Calculation of the EFAS Matrix (External Factor Analysis Summary)

Based on the identification of external factors, namely opportunities and threats, the EFAS (External Factor Analysis Summary) matrix table has been created as follows:

Table.7 Calculation of the EFAS Matrix

Number	Internal Factor	Value	Weight	Rating	Score
Opportunities					
1.	There is an opportunity to manage agricultural institutions professionally with the availability of human resource training.	9	0,150	4	0,60
2.	Collaboration with local governments in providing quality vegetable seeds.	7	0,117	3	0,35
3.	Support from private sectors in training for the use of modern agricultural technology.	4	0,067	4	0,27
4.	The use of new and modern agricultural technology can be implemented.	3	0,050	3	0,15
5.	Opening profitable markets for vegetable products in the digital era.	7	0,117	4	0,47
Sub Total Value of Opportunities		30			1,83
Number	Internal Factor	Value	Weight	Rating	Score
Threats					
1.	The number of vegetable farmers continues to decline if there are no young vegetable farmers.	8	0,133	4	0,53
2.	Changes in government policies regarding the use of agricultural land for vegetables.	10	0,167	4	0,67
3.	The conversion of vegetable farmland into non-agricultural buildings.	5	0,083	3	0,25
4.	Unforeseen circumstances such as natural disasters and plant diseases cause vegetable farmers to incur losses.	4	0,067	3	0,20

5.	Market price fluctuations cause the selling price of vegetable products to drop, making it unable to cover production costs.	3	0,050	4	0,20
Sub Total Value of Threats		30			1,85
Total EFAS		60		1,0	3,68

Source: Processed by the Author (2025)

Based on the table above, it can be seen that there are 5 opportunities and 5 threats, with a total weight of 1.0. The subtotal of opportunity values is 1.83, while the subtotal of threat values is 1.85, resulting in a total IFAS score of 3.68.

Matching the IE Matrix (Internal and External)

The following is the result of the Internal External Matrix obtained from the calculations of the IFAS and EFAS matrices, as shown in the following image.

		Total Nilai Bobot IFAS		3,43	
		Strong 4,0-3,0	Average 2,99-2,0	Weak 1,9-1,0	
	4,00	3,00	2,00	1,00	
Strong 4,0-3,0	3,00	I	II	III	X
Average 2,99-2,0	2,00	IV	V	VI	
Weak 1,9-1,0		VII	VIII	IX	
	1,00				
Y					
Total Nilai Bobot EFAS		3,68			

Figure.1 Results of the Internal-External Matrix
Source: Processed by the Author (2024)

Based on Figure 1, the position of the institutional farmers of mustard plants in Torongrejo Village is in Cell I (grow and develop), with a total IFAS Score = 3.43 and a total EFAS Score = 3.68. This indicates that the institutional farmers of mustard plants in Torongrejo Village have strengths, weaknesses, opportunities, and threats that are all in a strong position.

SWOT Matrix

Based on the research that has been conducted, the result is a SWOT Matrix that can be seen in the following table.

Table 8. SWOT Matrix as a Strategy to Strengthen the Farmers' Institution in Torongrejo Village, Batu City.

Internal External	<i>Strength</i>		<i>Weaknesses</i>	
	S-O		W-O	
1				
<i>Opportunities</i>	1. Conducting routine training and education for mustard farmers to improve their skills and knowledge. This training includes effective farming techniques, business management, and the utilization of agricultural technology. 2. Providing mustard farmers with access to resources such as superior seeds, quality fertilizers, and modern farming equipment. 3. Developing an efficient marketing network to assist mustard farmers by involving cooperation with cooperatives, local markets, or even exporting abroad. 4. Encouraging the development of various products to increase added value, such as processed mustard products (for example, pickled mustard or dried mustard), which can provide additional income for farmers.		1. Forming or strengthening mustard farmer cooperatives to facilitate the management of agricultural businesses, financing, and joint marketing. 2. Utilizing information technology to facilitate communication and marketing. Digital applications or platforms can help farmers access important information and market their products. 3. Building trust and collaboration among mustard farmers through group activities, regular discussions, and other social activities. This will enhance solidarity and cooperation in facing various challenges. 4. Developing efficient digital marketing strategies to reach a broader market.	
	S-T		W-T	
<i>Threats</i>	1. Organizing regular training for oil palm farmers so that they understand the importance of institutions and have the skills needed to		1. Strengthening communication and advocacy to ensure that the interests of farmers are accommodated in	

manage institutions effectively.	public policies, which include the participation of farmers in forums and meetings with relevant stakeholders.
2. Implementing a transparent and accountable system in institutional management to increase trust and commitment from institutional members.	2. Educating farmers about their rights and obligations and raising awareness regarding the laws that protect them from malicious practices.
3. Developing and expanding networks and communities of oil palm farmers to support each other, share information, and face challenges together.	3. Preventing corruption and misappropriation within institutions, if farmers' institutions receive assistance from the Government or private sector in agricultural activities. In this way, the trust of institutional members will be maintained.

Based on Table 8, various strategy formulations were obtained in the SWOT matrix containing 4 components, namely S-O, W-O, S-T, and W-T. S-O has 4 strategy formulations. W-O has 4 strategy formulations, while S-T and W-T each have 3 strategy formulations. Therefore, there are 14 strategy formulations that can be implemented to strengthen the institutional capacity of mustard farmers in Torongrejo Village, Batu City. These strategy formulations represent a novelty that has not been found in previous research.

CONCLUSION

The conclusion that can be drawn from this research is that the greatest strength factor in strengthening the institutional framework of mustard vegetable farmers is the existence of Human Resources Training in managing the institutions of mustard vegetable farmers. The greatest weakness factor is the limited interest of the younger generation in vegetable farming. Meanwhile, the greatest opportunity factor in strengthening the institutional framework of mustard vegetable farmers is the chance to manage farmer institutions professionally through human resources training, while the greatest threat is the change in government policies regarding the use of agricultural land for vegetables, as well as the declining number of vegetable farmers if there are no young farmers. The formulation of strategies that can be implemented to strengthen the institutional framework of mustard vegetable farmers in Torongrejo Village, Batu City includes 14 strategies, consisting of 4 S-O component strategies. There are 4 strategies for the W-O component, and 3 strategies each for the S-T and W-T components.

Recommendations for the farmers' institutional framework in this research are to pay attention to the strengths, weaknesses, opportunities, and threats that have been identified as evaluation materials in the mustard plant agricultural program in Torongrejo Village. The formulation of the best strategy can provide valuable input for all parties in formulating policies and innovations for the mustard plant agricultural program. 2. A suggestion for future researchers is to pay attention to the audit and supervision of the farmer empowerment programs for mustard plants, to ensure whether these programs are truly targeted or not.

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