



## Strategy of Community Empowerment Based on Honey Bee Management in Tanah Laut Regency

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Article published on July 15, 2022

**Key words:** Strategy, Community, Empowerment, Honey bee, Management

### Abstract

Honey bee cultivation activities before community empowerment In Tanah Laut Regency have actually been carried out independently the great interest of these farmers needs to be supported by community/community/group based empowerment programs so that in the future farmers can more easily access the needs they need. In addition, with groups, farmers can increase productivity and income compared to if done individually. The methods used in this research include SWOT analysis. The results showed that the condition of honey bee cultivation in Tanah Laut Regency is good. The strategy that must be carried out is synchronizing regulations starting from the Central, Provincial, Regency/City governments, which is very important so that the policies made can be applied in the field. The synergy between agencies and institutions will support and accelerate the success of community empowerment programs based on honey processing. The main strategy for community empowerment based on honey bee management in Tanah Laut District can be done by increasing the quantity and quality of honey production in order to attract consumers to use the products produced by farmers/breeders.

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## Introduction

Honey is an agricultural product that has high economic value and benefits. Some of the honey production, which is around 75%, is still owed on forest products. Meanwhile, the area of forest where there is a reduction in emissions will also have an impact on reducing honey production. Most of the community has been cultivating honey bees to increase production. However, public interest is still very low due to a lack of knowledge and the assumption that the business is not profitable (Satriana, 2018).

Tanah Laut Regency is one of the centers for *Apis mellifera* honey cultivation in South Kalimantan. The cultivation of *A. mellifera* honeybees has an important role in beekeeping and honey production in Indonesia. *A. mellifera* is widely cultivated by breeders because it has high productivity between 25-35kg per colony per year, is docile does not easily escape. Tanah Laut Regency is one of the areas in South Kalimantan that has become a priority for the development of the *A. mellifera* honey bee cultivation business, supported by a fairly good bee forage plant (Illiyya, 2017).

*Trigona* bees are small black insects, with a body length of 3-4mm and a wingspan of 8mm (Surata, 2017). Worker bees have large heads and long jaws. The queen bee is 3-4 times the size of a worker bee, has a large belly similar to moths brownish in color and has short wings. This bee has no sting (a stingless bee). The production and development of *Trigona sp* bees is very reliable by environmental factors, including temperature, humidity, rainfall and altitude. Besides that, the availability of feed really helps the cultivation of *Trigona* bees. Efforts to increase honey production both in terms of quality and quantity are closely related to air temperature, cleanliness and security, modern use, application of good bee cultivation techniques, as well as pest and bee disease control. By going for production honey, in the end it is hoped that it can increase the income of the honey farmer group in particular and the people of Antapan village in general. In a situation like this, *Trigona sp* honey bee cultivation is an option. This stingless small bee not only produces honey, but also

propolis which has a high economic value (Dewantari, M and I. G. Suranjaya. 2019).

*Apis cerana* is an indigenous Indonesian honey bee species (Koetz, 2013). *Apis cerana* honey bee livestock business is an effort to improve the people's economy with the initial capital of agricultural land, plantations and forests in rural areas. The honey bee farming business of *A. cerana* does not require large capital and can be started from a small number of colonies and does not need to be unemployed following the spring season (stationary beekeeping system) (Joshi *et al.*, 2002; in Abrol, 2013). In addition to producing honey and wax, the honey bee livestock business also has the potential as an apotherapy treatment business and honey bee tourism. The honey bee livestock business can increase the income of people living in agricultural and plantation areas, so that it is hoped that it can improve the standard of life from poor to prosperous.

The results of the identification of Non-Timber Forest Product Potential carried out by BPDAS Barito in 2013 (Balai Pengelolaan Daerah Aliran Sungai Barito, 2013) stated that Tanah Laut Regency is one of the most prospective areas for honey bee development. This is seen from the availability of feed, land for development, farmer group institutions, government regulations and marketing potential. However, currently honey bee management has not been carried out optimally.

Through the Decree of the Regent of Tanah Laut Number 188.45/463-/KUM 2013 dated 10 September 2013 concerning the Determination of the Types of Leading Non-Timber Forest Products in Tanah Laut Regency, Honey Bees are designated as the leading Non-Timber Forest Products besides aloes and Wood Charcoal. Honey is also designated as one of the national leading Non-Timber Forest Products through the Decree of the Director General of RLPS Number SK.22/V-BPS / 2010 concerning the Determination of National Leading Non-Timber Forest Products.

In order for sustainable forest management to be realized in a just manner and at the same time

improving the welfare of the community, forest management must be able to accommodate the aspirations, customs, culture, habits and values/norms of the community that develop according to local environmental conditions. One of the most important things that state administrators need to pay attention to, especially in the forestry sector, so that the management and utilization of forest resources can be equitable and sustainable is by providing access to local communities. This is a fundamental issue that must be addressed so that their existence and involvement in forest and land management can be legally recognized.

In fact, community empowerment in and around the forest is nothing new. The Ministry of Forestry and other institutions and elements of society have issued many policies on this matter. Various activities related to community empowerment have been carried out, including in the Tanah Laut Regency area. Even though the community empowerment that has been carried out so far has not all been successful, they have also experienced a lot of benefits.

Honey bee cultivation activities prior to community empowerment have actually been carried out independently, especially in Telaga Langsat Village and followed by farmers from other villages because of the beneficial results. However, the high interest of these farmers needs to be supported by community/community/group based empowerment programs so that in the future the farmers can more easily access the needs they need. In addition, with groups, farmers can increase productivity and income compared to if done individually. By aggregating the economic, ecological and social benefits can be further enhanced.

The implementation of community-based development is an alternative solution for the implementation of development that favors the community. In line with the results of research (Nurseto, H. E., & Nugraha, D. A. 2017) that one of the strategies that need to be done in managing forests is to involve the community from the beginning to know the extent of access and benefits

that can be obtained. In order to achieve more directed, coordinated and useful activities, especially in the management of Non-Timber Forest Products honey bees, a community empowerment model based on honey bee management is needed in and around forest areas. This model describes and regulates strategies, the roles of stakeholders and strategic policies that can accommodate communities in and around forest areas in the Tanah Laut area.

The motivation in this research is that from the description above, it is necessary to conduct research on the development of honey bee cultivation and analyze internal and external factors that influence it. By measuring these internal and external factors, a strategic model can be made for the development of community empowerment-based honey bee cultivation in Tanah Laut District.

### **Materials and methods**

#### *The Specificity of Materials and Equipment*

The equipment and materials used in this research include List of questions as material for the interview, Questionnaires for tourists and the public, Writing tools for taking notes, Camera for documentation, Recording device, Laptop for data processing, Administrative map of Banjar Regency for completeness of research materials, GPS (Geographic Information System), The calculation sheet.

#### *Sampling (Qualifications and Chopped)*

According to Indriantoro, N. *et al.* (2002: 115), population is a group of people, events or everything that has certain characteristics. The population is a generalization area consisting of objects or subjects that have certain qualities and characteristics that are determined by researchers to study and then draw conclusions (Sugiyono, 2016: 80). The research population is the whole (*universum*) of the research object, in the form of humans, animals, plants, symptoms, air, values, events, life attitudes and so on, which can be a source of research data (Sugiyono, 2016: 85).

The population in this study are people who live in and around the forest who are involved or have been involved in or have followed the agenda of

exploitation and management of honey bees, namely: Telaga Langsat Village, Takisung District, Karang Taruna Village, Pelabuhan District, Sabuhur Village Jorong District, Tirta Jaya Village, Bajuin District and Batu Ampar Village, Batu Ampar District.

The research sample is part of the number and characteristics possessed by the population or the social conditions of the study (Sugiyono, 2016: 81). Sampling was carried out purposively, namely the sample was selected with certain considerations and goals. Given the scope of the research concerning community empowerment based on honey bee management, the sample selected is the community cultivating/managing/cultivating honey bees at the research location.

Determination of the sample used as a data source is based on a predetermined population area. The sample intensity is based on the large number of households as formulated by Slovin (Akbar *et al.*, 2019), namely:

$$n = \frac{N}{(1 + N.e^2)}$$

n = Number of samples (number of samples)

N = Total population (the number of all members of the population),

e = Error tolerance (tolerance for errors; significance level),

^ 2 = square

Number of informants for interview activities according to field conditions. The purpose of the interview is to obtain qualitative data and will be considered sufficient if it has been able to answer questions from the research objectives. The sample in this study can be seen in Table 1.

**Table 1.** Number of Samples at Each Research Location.

No	Research Location (Village)	Population	Sample
1	Telaga Langsat	350	77
2	Tirta Jaya	325	76
3	Karang Taruna	520	83
4	Batu Ampar	450	81
5	Sabuhur	325	76
Total		1677	393

*Measurement*

The data collected consists of external and internal data. External data obtained from observations outside the object of research that provide influence are then entered into the external strategic factor matrix (External Strategic Factor Analysis Summary / EFAS).

**Table 2.** External Strategic Factor Analysis Summary/EFAS Matrix.

Internal Factors	Weighted Value	Weighted Rating	Weighted Value x Note Rating
Opportunity (O)			
Total of Opportunity (O)			
Threat (T)			
Total of Threat (T)			
Total of O + T			

Internal data relates to the aspects that affect the object of research. Then entered into the internal strategic factor matrix (Internal Strategic Factor Analysis Summary/IFAS).

**Table 3.** Internal Strategic Factor Analysis Summary/IFAS Matrix.

External Factor	Weighted Value	Weighted Rating	Weighted Value x Note Rating
Strength (S)			
Total of Strength (S)			
Weakness (W)			
Total of Weakness (W)			
Total of S + W			

In order to know the relationship between internal and external factors and a strategic plan can be formulated, a SWOT matrix is compiled. The matrix will help researchers to adjust every aspect of both the opportunities and external threats faced can be adjusted according to their strengths and weaknesses (Rangkuti, 2007).

*Research Design*

The research method used by researchers is descriptive research methods or designs with a quantitative approach. A basic assumption of this model is the paired conditions of Strengths and Weaknesses, and Opportunities and Threats.

This pairing condition occurs because it is assumed that in every strength there is always something hidden and from every open opportunity there is always a threat that must be watched out for. This means that every single Strengths formula (S) must always have one Weaknesses (W) pair and every one Opportunities (O) formula must have one pair of one Threats (T). Then after each component is formulated and paired, the next step is do the process. The assessment is done by giving a score to each subcomponent where one subcomponent is compared with other subcomponents in the same component or following each vertical line. The subcomponent that determines the course of the organization, gives a greater score. Custom-made standards based on mutual consent to reduce levels of subjectivity.

#### *Stages of the Workings*

##### *Survey/Questionnaire*

The questionnaire was used to collect quantitative data with structured interview techniques. A structured interview uses written questions for which alternative answers have been provided. Data recording is done in writing and is equipped with a tape recorder.

The questionnaire was used to find out about the conditions of management and exploitation of honey bees, government policies related to this and the factors (internal and external) that influence the management and policies. This is related to the concept of a Community Empowerment strategy based on Honeybee Management for Forest Conservation and Improvement of Community Welfare.

#### *Interview*

##### *Focus Group Discussion (FGD)*

Focus group discussions (FGD) aim to explore ideas, identify and formulate problems and seek alternative solutions to problems that are effective and efficient. The FGD was held at the agreed place by presenting representatives of related agencies, village officials, community leaders, farmer group managers, community empowerment officers, companies and forestry extension agents.

#### *Participatory Observation*

Observation technique is an attempt to collect impressions about the surrounding environment based on the ability of human sensory absorption. This study also uses observation techniques in the hope that researchers will increasingly understand the realities that exist both humans and nature. Observation techniques are also carried out on people who are still not used to expressing their feelings, ideas and knowledge. Observation steps (a) preparation, (b) entering the research environment, (c) starting the interaction, (d) observing and recording and (e) completing fieldwork (Sutriani Winny Gulo, 2002: 117).

#### *Literature review*

Secondary data support in the form of reports, study results and other information from various sources and related agencies is a comparison, complement and balance to the direct results obtained in the field. Literature study can be directly used or processed and re-analyzed to produce new data according to the desired needs.

#### *Parameters*

The parameters used include parameters of internal strength and external influence of the company, each of which will identify the identity of external and internal elements through the External Factor Evaluation (EFE) and Internal Factor Evaluation (IFE) matrices. The purpose of using the IE matrix is to achieve a more detailed business strategy at the honey bee cultivation level. (Rangkuti, 2007: 163). Combining the two Internal and External (IE) matrices produces nine kinds of cells that are weighted total value combinations from the IFE and EFE matrices. But in principle the nine cells can be grouped into three main strategies which have different strategic implications.

#### *Data Analysis*

Data processing is carried out from quantitative numbers or qualitative statements that come from observations and/or respondents to describe a

situation. Analysis means categorizing, structuring, manipulating and summarizing data to obtain answers to research questions (Nurseto & Nugraha, 2017). The analytical method used to process and test data on research questions using certain procedures.

The formulation of a community empowerment strategy based on honey bee management uses an analysis of strength, weakness, opportunity and threat (SWOT). This analysis compares external factors (opportunities and threats) with internal factors (strengths and weaknesses) (Sutriani. W. G, 2014). SWOT elements are weighted (value) then linked to each other to obtain several strategic alternatives. The highest ranking (value) is an alternative strategy for community empowerment policies based on honey bee management to create sustainable forests and prosperous communities.

The process of formulating a strategy includes three stages, namely:

1) Evaluation of internal and external factors. The steps to analyze internal and external strategic factors are as follows:

- Take inventory of internal factors that affect the achievement of goals/objectives as well as vision and mission that have been set in detail (in detail) with brainstorming techniques. Next, discuss any internal factors, including strengths or weaknesses.
- Take inventory of external factors that affect the achievement of goals/objectives as well as vision and mission that have been set in detail (in detail) with brainstorming techniques. Then discuss any external factors whether including opportunities or threats.

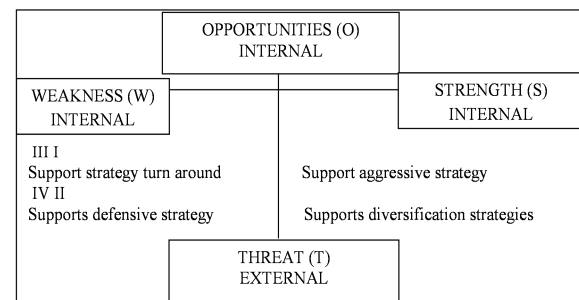
2) Creating internal and external matrices. The aim is to see the position of each factor that has entered the strengths, weaknesses, opportunities or threats after weighting, rating and assessment.

3) Formulation of a general strategy in the form of a SWOT matrix. The goal is to formulate a general strategy (grand strategy) by utilizing the results of the SWOT analysis into a format by selecting 5-10 main factors for each strength, weakness, opportunity and threat. The shape and structure of the SWOT can be seen in Table 4.

**Table 4.** SWOT analysis matrix model.

	EFAS Opportunity	Threat
IFAS		
Strength	Comparative Advantage	Mobilization
Weakness	Divestment/Investment	Damage Control

4) Strategy decision making. The decision to choose the best alternative strategy is carried out after knowing the internal and external conditions which are grouped into four quadrants as in Fig. 1.



**Fig. 1.** System in various conditions.

- Quadrant 1, is a very favorable condition, namely the system has good strength and opportunities.
- Quadrant 2, the system has strengths but faces various threats. The right strategy is diversification, namely using strength to take advantage of long-term opportunities.
- Quadrant 3, the system has a good chance, but is constrained by internal weaknesses. The right strategy is to minimize internal problems in order to better seize external opportunities.
- Quadrant 4, very unfavorable conditions. The right strategy is defensive, which is to minimize the losses that will arise.

**Results and discussion**

Business development strategy, the results of identification of internal factors in the form of strengths and weaknesses of the company will be analyzed using the IFE matrix, while the results of the identification of opportunities and threats are analyzed using the EFE matrix. The analysis results obtained from the IFE (Internal Factor Evaluation) and EFE (External Factor Evaluation) matrices will then be entered into the IE (Internal External) matrix and the SWOT matrix (Sutriani Winny Gulo, 2014).



Honey bees are one of the potential forest resources to be developed and cultivated. This is due to their high economic value and the support of abundant feed sources, almost all plants that produce flowers can be a source of food, both forest plants, agricultural crops, plantation crops, shrubs and even grasses.

The bee livestock business is carried out to meet the increasing need for honey products, which until now has not been fully fulfilled by farmers/breeders, so it needs cultivation and development. The success or failure of the honey bee development/exploitation strategy is determined based on management indicators covering ecological, economic and socio-cultural aspects. Based on this, the internal and external factors that influence it are determined, namely strengths, weaknesses, opportunities and threats. Based on the results of the identification of internal and external factors, the weighting, ranking and score of each element is then carried out, then a management strategy

is determined using the SWOT matrix. Strategy is a tool used to achieve goals (Rangkuti, 2007). The formulation of strategies to increase the success of honey bee cultivation produces variables that are summarized to obtain alternative development strategies through an internal-external matrix.

Strategy formulation through a SWOT analysis approach by selecting perceptions and assessments of internal and external factors, in order to obtain the strength factors, weakness factors, opportunity factors and threat factors.

*Formulation of Internal Factors*

Based on the results of document studies, literature, questionnaires, FGD results and the economic, social and cultural conditions of the people in the research area, internal factors are obtained as presented in Table 5 below.

**Table 5.** Formulation of internal factors and results of respondents' assessments.

No	Internal Factors	Value	Criteria
1.	Human resources has attended training	9,0	S
2.	Availability of large land for honey bee cultivation	8,5	S
3.	The honey bee cultivation pattern of <i>A. cerena</i> and <i>Trigona sp</i> through farmer group institutions economically and ecologically can ensure the sustainability of the production of both honey and its derivatives.	8,5	S
4.	The use of bee feed, especially <i>Kaliandra</i> and <i>Air Mata Pengantin</i> , is financially and socially possible to provide the greatest benefit	8,0	S
5.	Honey bees <i>A. cerena</i> and <i>Trigona sp</i> produce 4 benefits at the same time, namely from pure honey, Bee Pollen, Propolis and hive which can be sold inside or outside the city	7,5	S
6.	Manual production equipment	6,0	W
7.	Even though it has been labeled halal by Indonesian Ulema Council (MUI), honey bee products have not standardized SNI (Indonesian National Standard)	5,5	W
8.	There are still some packaging processes that are less hygienic	5,5	W
9.	Limited access and information for promotion	5,0	W
	Average Value	7,0	

Note: a value > 6.7 means good, a value < 6.7 means less

Table 5 shows the average of all internal factors of 7.0. Furthermore, the internal factors are divided into two parts, which have a value above the average, are grouped as strength or strength (S), while the value below the average is grouped as weakness or weakness (W).

The strength factor of honey bee cultivation human resources have attended the training, the availability of a large area for honey bee cultivation.

The honey bee cultivation pattern of *A. cerena* and *Trigona sp* through farmer group institutions economically and ecologically can ensure the sustainability of the production of both honey and its derivatives. The use of bee feed, especially *Kaliandra* and *Air Mata Pengantin*, is financially and socially possible to provide the greatest benefit. Honey bees *A. cerena* and *Trigona sp* produce 4 benefits at the same time, namely from the results of pure honey, bee pollen, propolis and hive which can be sold inside or outside the city.

Weakness factors for honey bee cultivation Production tools that are manual, even though they have been labeled halal by the Indonesian Ulema Council (MUI), but honey bee products have not standardized SNI There are still some packaging processes that are less hygienic. Limited access and information for promotion. Consumers of honey and other beekeeping products have the power to choose products according to their tastes, this is due to the

large number of honey bee farmers outside Tanah Laut Regency who produce honey and beekeeping products that offer a variety of products and prices.

*Formulation of External Factors*

Based on the results of document studies, literature, questionnaires, results of interviews on the socio-cultural and economic conditions of the community, external factors are obtained as in Table 6 below.

**Table 6.** Formulation of External Factors and Results of Respondents' Assessment.

No	External Factors	Value	Criteria
1.	There is government support from both the Regional Government and the <i>Tanah Laut</i> of Forest Management Unit	9,5	O
2.	The dry season becomes the season for bees to produce honey.	9,5	O
3.	Consumer trust in the product	9,5	O
4.	Consumer demand increases and has an impact on increasing the regional economy (pro growth)	8,5	O
5.	Competition among honey bee farmers in marketing honey products	6,0	T
6.	Bargaining power of consumers	5,0	T
7.	Quality raw materials for honey are difficult to obtain due to increased land conversion	6,0	T
	Average	7,7	

Information: value > 7.0 means good, value <7.0 means not good

Based on the results of the FGD and questionnaires to the respondents, the values for each external factor were obtained. This value is obtained from the average of all external factors, namely 7.7. Furthermore, these external factors are divided into two parts, which have a value above the average, are grouped as opportunities (O), while values below the average are grouped as threats (T).

The honey bee cultivation business opportunity factor is the existence of government support from both the Regional Government and the Forest Management Unit of Tanah Laut, the dry season becomes the season for bees to produce honey, consumer confidence in the product. Consumer demand increases and has an impact on increasing the regional economy (pro growth).

The threat factor for honey bee cultivation is that farmers who compete in the beekeeping business offer relatively competitive prices with competing products, so that people can easily choose and make choices. Consumers who use beekeeping products such as honey generally have the power to determine the brand of honey to be consumed. This is because the honey bee business is not the only business entity that produces honey and other bee products.

This can result in buyers easily moving to consume products from other companies. This situation can also be a threat to the honey bee farmers. Based on information from the head of the farmer group, buyers who buy honey products are individual buyers and agents, the proportion between individual buyers and agents is also equal.

Honey raw material is an important element for farmers in production. The reduction in the amount of quality honey raw materials has a considerable effect on production activities such as a reduction in the number of products that can be produced by farmers, an increase in the price of honey bee cultivation products, and a decrease in the amount of income received by farmers due to the large number of consumer demands that farmers cannot fulfill.

*Strategy Formulation*

Analysis of internal and external factors in honey bee cultivation activities in Tanah Laut District is the first step in formulating a management strategy. This analysis is carried out to identify the factors that are strengths and weaknesses as well as opportunities and threats, the results are used as the basis for determining business management and development strategies.



The results of the analysis of internal factors (Internal Strategic Factors Analysis Summary/ IFAS) on honey bee business activities in Tanah

Laut Regency obtained 5 strength factors and 4 selected weakness factors which can be seen in Table 7.

**Table 7.** Analysis Of Internal Factors (IFAS) Of Honey Bee Business Activities.

Internal Strategic Factor Analysis Summary (IFAS)				
No	Internal strength factor (S)	Weight	Rating	Value
1.	HR who have attended training	0,09	4	0,36
2.	Availability of large land for honey bee cultivation	0,08	4	0,32
3.	The honey bee cultivation pattern of <i>A. cerena</i> and <i>Trigona sp</i> through farmer group institutions economically and ecologically can ensure the sustainability of the production of both honey and its derivatives.	0,07	4	0,28
4.	The use of bee feed, especially Kaliandra and Air Mata Pengantin, is financially and socially possible to provide the greatest benefit	0,08	3	0,24
5.	Honey bees <i>A. cerena</i> and <i>Trigona sp</i> produce 4 profits at the same time, namely from the results of pure honey, Bee Pollen, Propolis and stew sold	0,08	2	0,16
	Total Strength (S)	0,40		1,36
No	Internal Weakness Factor (W)	Weight	Rating	Value
1.	Manual production equipment	0,06	4	0,24
2.	Even though it has been labeled halal by MUI, honey bee products have not standardized SNI (Indonesian National Standard)	0,05	3	0,15
3.	The packaging process is still less hygienic	0,05	3	0,15
4.	Limited access and information for promotion	0,05	2	0,10
	Number of Weaknesses (W)	0,21		0,64
	Total Strength + Weakness (S + W)	0,61		2,00

(Source: Primary data processing)

Information:

- 1) The weights scale starts from the numbers 1,0 (most important) – 0,0 (not important), all of these weights do not exceed the total value of 1,00. The weighting is based on the influence of these factors on the development strategy.
- 2) The rating scale starts from number 4 (outstanding) - 1 (poor). The rating is based on the influence of these factors on conditions.

Table 7 shows that, the strength factor that has the highest value is Human Resources who have participated in the training, have the legality and ability and expertise to do honey bee cultivation with a value of 0,36, while the lowest scores are honeybees *A. cerena* and *Trigona sp.* at the same time, namely from the results of pure honey, bee pollen, propolis and the sale of stacks with a value of 0,16. Meanwhile, the weakness factor shows that the highest score is manual production equipment with a value of 0,24, while the limited access and information for promotion with a value of 0,10 is the lowest score.

External factor analysis is aimed at identifying the factors that are the opportunities and threats faced. Opportunity is a condition that exists or is created that brings profit, while a threat is an environmental condition that can hinder or be detrimental to running a business/activity (Koetz, 2013).

The results of the analysis of external factors (External Strategic Factors Analysis Summary/ EFAS) on honey bee business activities in Tanah Laut Regency obtained 4 opportunity factors and 3 selected threat factors which can be seen in Table 8.

Table 8 shows that the opportunity factor that has the highest value is government support with a value of 0.36, while the lowest is consumer confidence in the product with a value of 0.18. Meanwhile, the highest threat factor is the dry season with a value of 0.18 and the lowest is product limitations with a value of 0.10. Based on the results of IFAS and EFAS, the following calculations were made: the number of strengths and opportunities (S + O) = 1,36 + 1,14 = 2,50; number of weaknesses and opportunities (W + O) = 0.64 + 1.14 = 1.78; the number of forces and threats (S + T) = 1,36 + 0,40 = 1,76; number of weaknesses and threats (W + T) = 0,64 + 0,40 = 1,04.

**Table 8.** Analysis of external factors (EFAS) of honey bee business activities.

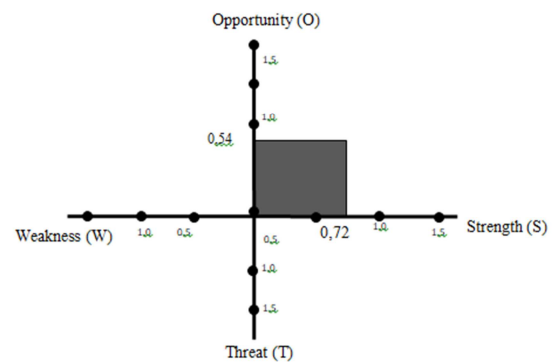
External Strategic Factor Analysis Summary (EFAS)				
No	External factors of opportunity (O)	Weight	Rating	Value
1.	There is government support from both the district government and the Forest Management Unit of Tanah Laut	0,09	4	0,36
2.	The dry season becomes the season for bees to produce honey	0,09	4	0,36
3.	Consumer trust in the product	0,09	2	0,18
4.	Consumer demand increases and has an impact on increasing the regional economy (pro growth)	0,08	3	0,24
Number of Opportunities (O)		0,35		1,14
No	Threat External Factor (T)	Weight	Rating	Value
1.	Competitors among honey bee farmers in marketing honey products	0,06	3	0,18
2.	Bargaining power of consumers	0,05	2	0,10
3.	Quality raw materials for honey are difficult to obtain due to increased land conversion	0,06	2	0,12
Number of Threats (T)		0,17		0,40
Number of Opportunities + Threats (O + T)		0,52		1,54

(Source: Primary data processing, January 2020)

Based on the score of internal factors in the honey bee management/exploitation strategy, namely the strength factor minus the weaknesses, the X value in the SWOT diagram is obtained as a horizontal axis:  $1,36 - 0,64 = 0,72$ . Meanwhile, the score of external factors in the management/exploitation strategy of honey bees, namely the opportunity factor (opportunities) reduced by the threat factors, obtained the Y value in the SWOT diagram as the vertical axis:  $1,14 - 0,40 = 0,54$ . This value is in quadrant I, which has great strength and opportunity in the development and cultivation of honey bees in Tanah Laut Regency.

The SWOT matrix is built based on the analysis of external and internal strategic factors which are arranged into four main strategies, namely: SO, WO, ST and WT.

The results of the calculation of the score on the matrix according to Tables 7 and 8, the honey bee management/exploitation strategy is in quadrant I position (0.72; 0.54). Quadrant I is (Strategy Aggressive), that is, with the strengths you have, you must be able to seize opportunities while overcoming any weaknesses that arise and anticipating threats that may occur. The position of honey bee management/cultivation is in the form of a SWOT analysis diagram as shown in Fig. 2.



**Fig. 2.** SWOT Analysis Diagram (Quadrant Position).

The honey bee management / exploitation strategy is prepared based on a combination of strengths with opportunities (S - O), strengths with threat (S - T), weaknesses with opportunities (W - O) and weaknesses with threats (W - T). SO strategy is to maximize strength to take advantage of existing opportunities, ST strategy is to maximize strength and anticipate all threats, WO strategy is to maximize opportunities and minimize all weaknesses while WT strategy (minimize weaknesses and anticipate/avoid threats. Management/Business strategy of honey bees based on analysis SWOT as in Table 9 below.

The final stage of the SWOT analysis is to determine the key success factors by looking at the relationship between these strategies and strategic actions/actions. Strategic actions are based on active

and specific behaviors that are designed to achieve clear and measurable goals. The key success factor for a strategy is chosen from the highest value of the sum of the relationship between the strategies and the

three factors above, which is then determined by the 4 key success strategies whose value is the highest ranking in each category, namely SO, ST, WO and WT strategies.

**Table 9.** Honeybee Management / Business Strategy Based on SWOT Analysis.

External	Internal	Strength (s)	Weakness (w)
		<ol style="list-style-type: none"> <li>Human resources who have attended training</li> <li>The availability of a large area for honey bee cultivation,</li> <li>The honey bee cultivation pattern of <i>A. cerena</i> and <i>Trigona sp</i> through farmer group institutions economically and ecologically can ensure the sustainability of the production of both honey and its derivatives.</li> <li>The use of bee feed, especially Kaliandra and <i>Air Mata Pengantin</i>, is financially and socially possible to provide the greatest benefit,</li> <li>Honey bees <i>A. cerena</i> and <i>Trigona sp</i> produce 4 profits at the same time, namely from the results of pure honey, Bee Pollen, Propolis and the sale of stew.</li> </ol>	<ol style="list-style-type: none"> <li>Production equipment is still manual</li> <li>Even though it has been labeled as halal from MUI, the honey bee products have not standardized SNI.</li> <li>Partially less hygienic packaging process</li> <li>Limited access and information for promotion</li> </ol>
<p>Opportunity (O)</p> <ol style="list-style-type: none"> <li>There is government support from both the Regency Government and the Forest Management Unit of Tanah Laut,</li> <li>The dry season becomes the season for bees to produce honey.</li> <li>Consumer confidence in products,</li> <li>Consumer demand increases and has an impact on increasing the regional economy (pro growth)</li> </ol>		<p>Strategy (S - O)</p> <ol style="list-style-type: none"> <li>Producing quality honey, creating superior honey products and maintaining the purity of honey (S1, S2, O3)</li> <li>Increase productivity in order to increase consumer loyalty to farmer groups. (S1, O4)</li> <li>Increasing cooperation with the government to develop honey products. (S1, O1)</li> <li>Cooperating with sales agents who have high sales (S4, S5, O4, O5)</li> <li>Exploring the potential of new marketing areas to increase honey sales (S3, O4, O5)</li> </ol>	<p>Strategy (W - O)</p> <ol style="list-style-type: none"> <li>Utilizing technology to obtain honey with low water content (W1, W2, O3)</li> <li>Using attractive packaging (W3, O3, O4)</li> <li>Implementing SOPs in packaging so that products are more hygienic (W4, O3, O4)</li> <li>Increase promotion through events organized by the local government (W5, O1, O3, O4)</li> <li>Increase production &amp; sales volume by promoting more competitive prices (W5, O4, O5)</li> </ol>
<p>THREAT (T)</p> <ol style="list-style-type: none"> <li>Competitors among honey bee farmers in marketing honey products</li> <li>Bargaining power of consumers</li> <li>Quality raw materials for honey are difficult to obtain due to increased land conversion.</li> </ol>		<p>Strategy (S - T)</p> <ol style="list-style-type: none"> <li>Providing the best service so that consumers trust and are loyal to honey products (S1, S2, S3, S5, T3)</li> <li>Preparing feed for bees during low season (S1, T1)</li> </ol>	<p>Strategy (W - T)</p> <ol style="list-style-type: none"> <li>Outreach to farmers to overcome dry seasons and increase production (W3, T1, T2)</li> <li>Increase promotion to meet consumer demand (W5, T3)</li> </ol>

(Source: Primary data processing)

Table 9 it can be seen that there are 6 patterns of strategies that are the key to success for honey bee management/business in Tanah Laut District.

The alternative management/exploitation strategies are:

- Producing quality honey, creating superior honey products and maintaining the purity of honey.

2. Improve the quality of production so that consumer loyalty to farmer groups increases by cultivating honey products with SNI (Indonesian National Standard) standards.

- Increasing cooperation with the government to develop honey products.

4. Collaborating with sales agents who have high sales volumes,
5. Exploring the potential of new marketing areas to increase honey sales.
6. Utilizing technology to obtain honey with low water content.

### Conclusion

The alternative management / exploitation strategy is producing quality honey, creating superior honey products and maintaining the purity of the honey. improve production quality so that consumer loyalty increases towards farmer groups by working on honey products with SNI standards, increasing cooperation with the government to develop honey products, cooperating with sales agents who have high sales volumes, exploring the potential for new marketing areas to increase honey sales, utilizing technology to obtain honey with low water content.

### Recommendation

This honey bee management-based community empowerment strategy needs to be applied, to be further evaluated, modified and equipped according to developments in the situation and conditions. This research can be continued and developed in the same way and method or with other methods in order to obtain the best pattern in the management/development of honey bees.

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