

Marketing Strategy for Kemenyan (*Styrax spp.*) by Community Around The Protected Area HPHTI of PT. Toba Pulp Lestari

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Abstract. Incense is a type of sap produced from kemenyan tree (*Styrax spp.*) by tapping the wood bark. Incense is one of the vegetative non-timber forests product which categorized to resins group that can be processed and utilized for various uses. The purpose of this study was to determine the marketing strategy of incense by the community around the protected area in PT. Toba Pulp Lestari concession. A SWOT analysis was applied to find the best strategy scenario. The analysis result recommends Strength-Opportunity (SO) is the best marketing strategy to be adopted.

1. Introduction

Non-wood forest products are one of the commodity groups of forest products that need to be utilized optimally because they are of high value and can be directly cultivated by the community around the forest. One of the economically valuable NTFPs commodities incense. According to [1] the types of NTFPs consist of 9 groups. Non-wood forest product grouping (NTFPs) includes resins, essential oils, fatty oils, starches and fruits, tannins, coloring agents and gums, medicinal plants and ornamental plants, palm and bamboo group, alkaloid, and animal product and others. This study focus on the resin/gum group. Resin can be in the form of resin, aloes, incense, etc. Incense is a type of sap produced by the incense tree (*Styrax spp.*) through the process of wood bark tapping. As one of the non-wood forest products, incense sap can be processed and utilized for various uses.

Incense tree (*Styrax spp.*) is a forest plants that produces high-value sap-products for many purposes such as medical use, medicines, cosmetics, aroma therapy, insectised, textile and others. However, information and data on the phenology of incense's flowering and fruit are still very limited, including the cycle of flowering to fruit and the magnitude of the flower to fruit ratio [2].

The utilization of incense trees at this time (especially on the old trees) is very limited except for firewood only. The limitations of the incense tree utilization are mainly due to limited information regarding the characteristics of incense wood and other initiation of use [3].

One of the non-wood forest products included in the predetermined resin group is frankincense. Incense (*Styrax spp.*) Is a commodity of North Sumatra that has high economic value. Currently incense forest management faces many problems, including lack of market information, incense gum prices that are unstable and the absence of intensive cultivation of incense forest management. Incense management



becomes the culture and source of life and social prestige of a family as measured by how extensive the incense garden is owned [4]

HPHTI (Industrial Plantation Forest Concession) is a business permit granted to utilize forest products in the form of wood in a plantation forest in then production forest. The HPHTI protected area is an area determined based on the identification and must be protected for environmental sustainability which includes natural and man-made resources. Farmers or community has an opportunity to manage some of the protected areas of PT TPL concession with incense trees, yet still not well managed and tend to retains the traditional way in cultivation, harvesting, post- harvesting and marketing. Farmers are also faced with some challenges to get high economic value from incense trade due to lack of knowledge, the absence of strategy and trapped in ineffective daily usual practise. Hence study and analysis of internal and external is quite necessary to provide the best solution and strategy in incense bussiness thatincrease the economic value while protecting and remain the forest existence. Therefore, This study aims to develop a marketing strategy for incense by the community around PT Toba Pulp Lestari's HPHTI Protected Area.

2. Materials and Methods

2.1 Research Time and Location

This research was conducted in the HPHTI Protected Area of PT Toba Pulp Lestari during April-May 2019.

2.2 Research Tools and Materials

The tools used in this study are digital cameras and stationery. The material used was a questionnaire to collect primary and secondary data, previous research reports and various supporting libraries to complete direct observation in the field.

2.3 Data collection

The data consist of primary data and secondary data. Primary data include socio-economic data, incense marketing flow, price comparison of incense selling prices ranging from the smallest to largest traders. Secondary data included general site conditions or general data available at government agencies.

2.4 Sampling

This activity is a data collection carried out by direct observation in the field through interviews with sugar palm farmers, collectors and the community to obtain an overview of the field conditions and community activities. Research location was determined by pre-survey of locations physical condition, community observation and studying the secondary data with the distribution of sugar palm area as basis criteria. The number of respondent samples taken using the formula from Taro Yamane or Slovin [5].

$$n = \frac{N}{N \cdot d^2 + 1} \quad (1)$$

Information:

n = Sample size / number of respondents

N = Number of population

d2 = Precision (set at 5% with a level 95% confidence)

Secondary data to supplement primary data is collected through a literature study of the results of previous related research, local government reports (sub-district or village offices), textbooks, and so on.

2.5 Sampling technique

Techniques and Stages Data collection is carried out in data collection as follows:

1. Observe and analyze problems in the field to obtain information about farmers and incense entrepreneurs.
2. Conduct interviews and discussions using a questionnaire against farmers and incense entrepreneurs.
3. Overall data, both primary and secondary, then tabulated according to needs before data processing and analysis is carried out.

2.6 SWOT analysis

Strengths Weaknesses Opportunities Threat (SWOT) analysis is conducted by maximizing strengths and opportunities and minimizing weaknesses or threats, so that alternative marketing strategies can be identified. Data obtained from the field in the form of questionnaires and interviews, and secondary data such as data on the situation in the field were analyzed descriptively then both data were analyzed using SWOT analysis techniques. SWOT analysis compares the Internal Factors Analysis Summary (IFAS) with the External Factors Analysis Summary (EFAS). There are several steps carried out to compile the IFAS and EFAS matiks. The stages are as follows:

1. Identify and register internal (strength and weakness) and external (opportunity and threat) factors faced by farmers.
2. Each factor is given a weight of around 0.0 (not important) up to 1.0 (very important). The factors that are considered important are given the highest weight and the sum of all weights is equal to 1.0.
3. Rating on a scale of 1 to 4. Rating ratings for strengths and opportunities are positive (greater strengths and opportunities are given a rating of 4, but if the strengths and opportunities are small given a rating of 1). Rating of weaknesses and threats is the opposite (if the value of weaknesses and threats are very large given a rating of -4, if the weaknesses and threats are small given a rating of -1)
4. Multiply the weight of each factor by its ranking.
5. Add up the average score for each variable

Internal factors entered into a matrix called the internal strategy factor matrix or IFAS can be seen in Table 1.

Table 1. IFAS (*Internal Factors Analysis Summary*)

Internal strategy factors	Bobot	Rating	Skor
Strenght			
1.			
Etc			
Total			
Weakness			
1.			
Etc			
Total			1.00

Source: [6]

External factors included in the matrix called EFAS external strategy factor matrix can be seen in Table 2.

Table 2. EFAS (*Eksternal Factors Analysis Summary*)

Eksternal strategy factors	Bobot	Rating	Skor
Opportunity			
1.			
Etc			
Total			
Threath			
1.			
Etc			
Total		1.00	

Source :[6]

After the internal and external strategy factor matrix is completed, the results are included in a quantitative model, namely the SWOT matrix to produce alternative strategies (SO, ST, WO, WT). These results are included in the SWOT analysis table:

a. SO Strategy

This strategy is made with the mindset of the company that is by utilizing all the power to seize and take advantage of maximum opportunities.

b. ST Strategy

This strategy is created to overcome external threats by using the strength of the company.

c. WO Strategy

This strategy is implemented based on the utilization of existing opportunities by minimizing existing weaknesses.

d. WT Strategy

This strategy is based on activities that are defensive and try to minimize existing weaknesses and avoid threats [6].

The results of the analysis from IFAS and EFAS tables are mapped to the company organizational position matrix to determine the priority marketing strategies that can be seen in Figure 1.

Opportunity

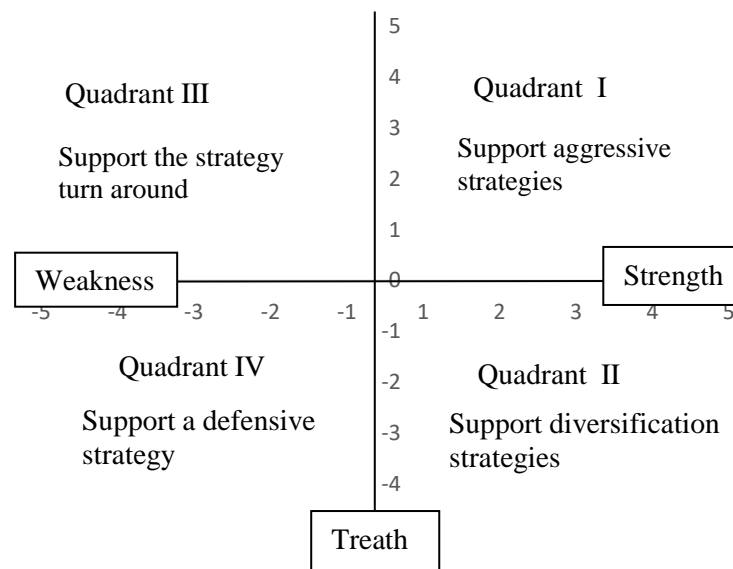


Figure 1. Matrix position of the marketing strategy

(Source: [6])

a. Quadrant I = SO Strategy

A very favorable situation for the company because they have the opportunity and strength so they can take advantage of the opportunities that exist. The strategy adopted is to support aggressive policies.

b. Quadrant II = ST Strategy

There are various threats, but they still have internal strength. The strategy that must be applied is to use power to take advantage of opportunities by means of a diversification strategy

c. Quadrant III = WO Strategy

Has a very large market opportunity, on the other hand there are various internal weaknesses. The strategy adopted is to minimize internal problems within the company.

d. Quadrant IV = WT Strategy

Unfavorable situation for the company. The company faces various internal threats and weaknesses. The strategy used is a defensive strategy [6].

3. Results and discussion

Based on the results of interviews by the community, several key aspects, both internal and external, can be formulated, as follows:

Internal aspects

Internal aspects of strength that have an influence on marketing incense are:

1. There is still a large amount of community incense land.
2. The incense is a exporter which is of high value.
3. Managing incense has become a tradition hereditary
4. The lack of management costs.
5. Access to transportation that is very supportive.
6. Have a farmer group

While the internal aspects of weakness that have an influence on marketing incense are:

1. Lack of interest from young people formanage.
2. Lack of market information by farmers.
3. Lack of cultivation carried out by farmers.
4. Lack of labor.

5. Less running of farmer groups.
6. Relatively long harvest time compared crops.

External aspects

External aspects in the form of opportunity that have an influence on marketing incense are:

1. There is support from PT Toba Pulp Lestari.
2. The incense market access.
3. Increased local good market demand and abroad.
4. The development of technology make it possible to increase production incense.

While the external aspects in the form of threats that have an influence on the marketing of incense are:

1. Increasing land requirements by the community for other agricultural businesses.
2. Unclear land status and land boundaries community incense.
3. Unstable prices.
4. Land fires

SWOT analysis can illustrate opportunities and threats that can be adjusted according to strengths and weaknesses. Research from the SWOT analysis results including strengths and weaknesses can be seen in Table 3.

Table 3. IFAS strategy factors

No	Strenght	Weight	Rating	Score
1	There is still a large amount of community incense land.	0.08	3	0.24
2	The incense is a exporter which is of high value.	0.12	4	0.48
3	Managing incense has become a tradition hereditary	0.08	3	0.24
4	The lack of management costs.	0.08	3	0.24
5	Access to transportation that is very supportive.	0.11	4	0.44
6	Have a farmer group.	0.09	3	0.27
Total				1.91
No	Weakness			
1	Lack of interest from young people for manage.	0.08	2	0.16
2	Lack of market information by farmers.	0.03	1	0.03
3	Lack of cultivation carried out by farmers.	0.06	2	0.12
4	Lack of labor.	0.10	3	0.30
5	Less running of farmer groups	0.07	2	0.14
6	Relatively long harvest time compared crops.	0.10	3	0.30
Total		1.00		1.05

Based on Table 3, the score generated by the strength factor is 1.91 and the weakness factor is 1.05 where the strength value is higher than the weakness value, which is the difference between the strength factor and the weakness factor is 0.86.

The results of the SWOT analysis which include opportunities and threats can be seen in Table 4.

Table 4. Factors of EFAS strategies

No	Opportunity	Score	Weight	Total
1	There is support from PT Toba Pulp Lestari.	0.20	4	0.8
2	The incense market access.	0.18	4	0.72
3	Increased local good market demand and abroad.	0.13	3	0.39
4	The development of technology make it possible to increase production incense.	0.15	3	0.45
Total				2.36

Threats				
1	Increasing land requirements by the community for other agricultural businesses.	0.06	1	0.06
2	Unclear land status and land boundaries community incense	0.10	2	0.20
3	Unstable prices.	0.07	1	0.07
4	Land fires	0.11	2	0.22
Total		1.00	0.55	
Totality		5.87		

In Table 4 it can be seen that the score generated by the opportunity factor is 2.36 and the threat factor is 0.55 where the opportunity value is greater than the threat value ie the difference from the opportunity factor and the threat factor is 1.81. So that the total overall factor analysis of the incense marketing strategy in the HPHTI Protected Area of PT. Toba Pulp Lestari amounted to 5.87. Calculation of the final score of the IFAS factor and EFAS factor can be seen in Table 5.

Table 5. Final IFAS and EFAS scores

IFAS		EFAS	
Category	Total Score	Category	Total score
Streight	1.91	Opportunity	2.36
Weakness	1.06	Threath	0.55
Total (S-W)	0.86	Total (O-T)	1.81

Based on the above calculation, it can be seen that the strength value is higher than the weakness value with a difference of (+) 0.86 and the opportunity value with threats has a difference of (+) 1.81 from the results of identification of these factors can be illustrated in the SWOT diagram in Figure 2.

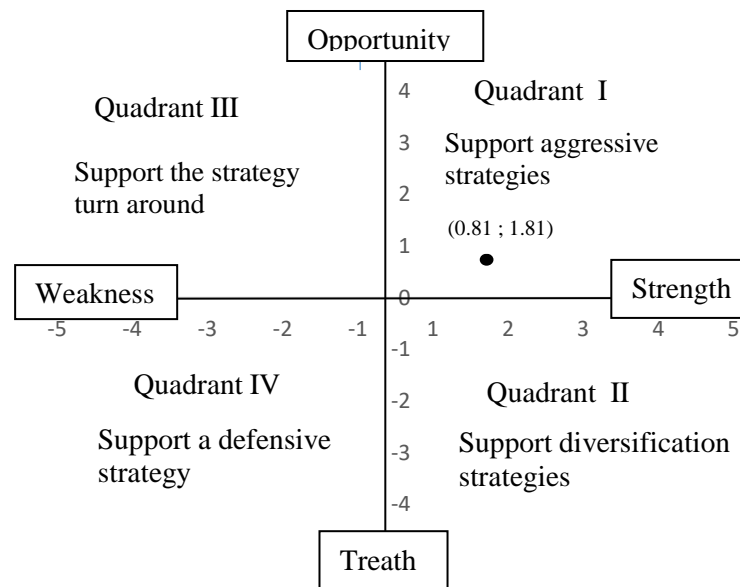


Figure 2. Position matrix of the marketing strategy of incense

Based on Figure 2, that the incense marketing strategy is in quadrant I (positive, positive). This position indicates that the marketing strategy is in a strong and likely condition. The recommended strategy is a progressive strategy, which is very possible to continue to develop, expand marketing, and achieve maximum progress. This is in accordance with the statement of [6] where the first quadrant is a

very favorable situation for the company because it has the strength and opportunity so that it can take advantage of existing opportunities. The strategy that must be applied in this condition is to support an aggressive strategy.

The resulting strategy was prepared based on the view of researchers and with the help of supporting data aimed at achieving optimal development and marketing and for the welfare of incense farmers.

S-O Strategy

1. Establish cooperation with PT Toba Pulp Lestari in marketing incense.

Collaboration is very important to be able to grow and strengthen relations between the two parties. Farmers will get various things by cooperating with PT TPL, among others PT TPL can connect farmers with investors to market incense at a higher price.

2. Increasing the quality and production to increase the selling value of incense.

[7] stated to increase and maintain the selling price must be in line with increasing the quality and production of the incense.

3. Expanding land and cultivating incense trees to increase production.

Considering that there are still a lot of unexplored unused land which is very potential to be planted with incense trees, with the increase in the extent of incense forests can increase incense sap production.

4. Conduct training for farmer groups in developing and marketing incense.

Training is needed for farmer groups to increase farmers' knowledge in incense development and marketing.

W-O Strategy

1. To socialize the young people to have interest in incense management for the high economic value. The needs is cooperation assistance from the government to conduct awareness on incense is a valuable asset to be managed by young people in the future.

2. Supervise the incense marketing system.

[8] states that the price of incense is very unstable namely the rise and fall of prices due to the price of the game carried out by collectors, so it is very necessary to be supervised so that it does not affect the community's interest in managing the incense.

3. Cultivating incense sustainably. By conducting cultivation in a sustainable manner, it will benefit farmers from the economy because it will increase their production and on the other hand will make the environment more awake.

4. Socializing the community on the importance of farmer groups. Existing farmer groups are still not going well need to be given an understanding that the important role of farmer groups in the development and marketing of incense forests.

5. Planting using superior seeds and good management. Planting using superior seeds and good management will affect the quality, the amount of production and also will increase the sale value. Management that can be done starting from good nurseries and perfecting harvesting techniques.

S-T Strategy

1. Improve and increase the quality so that collectors can further increase the price of incense.

Farmers can increase their income by improving processing methods so that the harvest obtained is more incense that has good quality because the price of the incense sap is very influential from the quality.

2. Conducting boundary management activities to determine the boundaries of the incense land of the community with the State forest area.

Communities around the area of PT Toba Pulp Lestari always conflict due to the land being managed because it is included in the area of PT Toba Pulp Lestari so it is necessary to set boundaries so that these conflicts can be avoided and both parties can maintain good relations that are mutually beneficial.

3. Supervise and guard against land fires

The rise of forest fires that occurred in the PT Toba Pulp Lestari HPHTI protected area due to the dry season and also negligence from the local community and the deliberate actions that were carried out due to land clearing for their fields. This is in accordance with the statement of [8] which states that forest fires are a very serious problem so that the possibility of incense trees to grow is no longer available, there needs to be safeguards to anticipate fires such as giving sanctions to anyone caught burning and conducting direct supervision to the field and so on.

W-T Strategy

1. Coaching farmers in management to improve the quality of incense.

Development of farmers in management is very necessary because there is still a lack of community knowledge in managing incense. The training can provide sufficient management system knowledge which value to farmer welfare.

2. Intensive cultivation of incense trees.

Cultivation which is carried out intensively can indirectly increase the amount of production.

3. Establish good relations between farmers and collectors to avoid unilaterally trade and monopolies.

The volatility of the incense price is affected due to the price game played by collectors, therefore a good relationship between farmers and collectors is very necessary to avoid that situation. This is consistent with the statement of [9] which states that farmers and collectors need to have good relations in order to have trust in both parties.

Based on the SWOT analysis of the incense marketing strategy that can be carried out by the community around PT Toba Pulp Lestari's HPHTI Protected Area is an SO Strategy, namely:

1. Establish cooperation with PT Toba Pulp Lestari in marketing incense.

The collaboration is to develop incense production with superior seeds so that the resulting production is of higher quality so that it can be marketed with several investors who set high quality standards due to the needs of industrial raw materials.

2. Increasing the quality and production to increase the selling value of incense.

Improving the quality is really needs to be considered as the widest use of incense is for industrial that require incense aromatic compounds. Quality improvement can be obtained from a good harvesting process and at the end will increase the selling price of incense. Increasing demands from within and outside the country should be followed by productionimprovement through intensive cultivation.

3. Expanding land and cultivating incense trees to increase production.

Expanding the land in question is planting incense trees on vacant land that is only overgrown with shrubs and has not been processed. It is very potential to plant incense trees by cultivating incense trees, which is very possible because the cooperation and assistance received by farmers will greatly assist in the nursery and maintenance process.

4. Conduct training for farmer groups in developing and marketing.

Training for farmer groups in the development and marketing of incense must be carried out because the incense management carried out by farmers is still classified as traditional, ranging from nurseries, planting, maintenance, logging, until harvesting is still under going with unproperlymanagement. Farmerstraining can provide a knowledge of goodsilvicultural systems. In terms of marketing incense, farmers need to know market information so that the collectors are not take advantage unilaterally in the selling process.

Based on interviews and researchers' views, we can find out the strengths, weaknesses, opportunities and threats that are found around the PT Toba Pulp Lestari HPHTI Protected Area. Several alternative marketing strategies that can be carried out by the community around the HPHTI Protected Area of PT. Toba Pulp Lestari is summarized in Table 6.

Table 6. SWOT Matrix

INTERNAL	STRENGTHS (S)	WEAKNESSES (W)
	<ol style="list-style-type: none"> 1. There is still a large amount of incense land. 2. Incense is an exporter-commodity with high economic value 3. Managing incense has become a traditional hereditary 4. The lack of management costs. 5. Access to transportation that is very supportive. 6. Have a farmer group. 	<ol style="list-style-type: none"> 1. Lack of interest from young people for manage. 2. Lack of market information by farmers. 3. Lack of cultivation carried out by farmers. 4. Lack of labor. 5. Less running of farmer groups 6. Relatively long harvest time compared crops.
OPORTUNES (O)	STRATEGY SO	STRATEGY WO
<ol style="list-style-type: none"> 1. There is support from PT Toba Pulp Lestari. 2. The incense market access. 3. Increased local good market demand and abroad. 4. The development of technology make it possible to increase production incense. 	<ol style="list-style-type: none"> 1. Establish cooperation with PT Toba Pulp Lestari in marketing incense. 2. Increasing the quality and production to increase the selling value of incense. 3. Expanding land and cultivating incense trees to increase production. 4. Conduct training for farmer groups in developing and marketing 	<ol style="list-style-type: none"> 1. Awarness the young people on opportunity of high economic value in incense management 2. Supervise the incense marketing system. 3. Cultivating incense sustainably. 4. Socializing the community on the importance of farmer groups. 5. Planting using superior seeds and good management.
TREATHS (T)	STRATEGY ST	STRATEGY WT
<ol style="list-style-type: none"> 1. Increasing land requirements by the community for other agricultural businesses. 2. Unclear land status and land boundaries community incense. 3. Unstable prices. 4. Land fires 	<ol style="list-style-type: none"> 1. Improve quality so that collectors can further increase the price of incense. 2. Conducting boundary management activities to determine the boundaries of the incense land of the community with the State forest area. 3. Supervise and guard against land fires. 	<ol style="list-style-type: none"> 1. Coaching farmers in management to improve the quality of incense. 2. Intensive cultivation of incense trees. 3. Establish good relations between farmers and collectors to avoid unilaterally trade and monopolies.

4. Conclusion

Based on the results of the study it can be concluded that the incense marketing strategy that can be adopted by the community around the HPHT Protected Area of PT. Toba Pulp Lestari is establish cooperation with PT Toba Pulp Lestari in marketing incense, increasing the quality and production to increase the selling value of incense, expanding land and cultivating incense trees to increase production and conduct training for farmer groups in developing and marketing.

5. Reference

- [1] Ministry of Forestry. 2007. *Minister of Forestry Regulations No. P.35/Menhut-II/2007 About Non Timber Forest Product*. Jakarta.
- [2] Syamsuwida D, Aminah A, Nurochman N, Sumarni E B, Ginting J. 2014. *Siklus Perkembangan Pembungaan dan Pembuahan Serta Pembentukan Buah Kemenyan (Styrax Benzoin) di Aek Nauli*. *Jurnal Penelitian Hutan Tanaman*, 11(2), 89-98.
- [3] Pasaribu G, Jasni R, Damayanti S, Wibowo. 2013. *Sifat Anatomi, Sifat Fisis dan Mekanik Pada Kayu Kemenyan Toba (Styrax sumatrana) dan Kemenyan Bulu (Styrax paralleloneurus)*. *Penelitian Hasil Hutan*. 31(2), 161-169
- [4] Budiani, E. S., & Mardhiansyah, M. M. M. 2017. *Kontribusi Hutan Rakyat Kemenyan (Styrax Spp.) Terhadap Pendapatan Rumah Tangga Petani (Studi Kasus: Desa Simarigung Kecamatan Dolok Sanggul Kabupaten Humbang Hasundutan Sumatera Utara)*. *Jurnal Ilmu-Ilmu Kehutanan*, 1(2), 10-17.
- [5] Nurdiani N. 2014. *Sampling Snowball Dalam Penelitian Lapangan*. *ComTech: Computer Mathematics and Engineering Applications (Snowball Sampling Techniques in Field Research)*. *ComTech: Computer Mathematics and Engineering Applications*, 5(2), 1110-1118.
- [6] Rangkuty, F. 1997. *Analisis SWOT: Teknik Membedah Kasus Bisnis*. Gramedia Pustaka Utama. Jakarta.
- [7] Putong, I. 2003. *Teknik pemanfaatan analisis SWOT tanpa skala industri (A-SWOT-TSI)*. *Jurnal Ekonomi dan Bisnis*, 2, 65-7.
- [8] Rajagukguk, K. 2009. *Analisis Faktor Penyebab penurunan Intensitas Pengelolaan Hutan Kemenyan, Studi Kasus: Hutan Kemenyan di Desa Tangga Batu Barat, Kecamatan Tampahan, Kabupaten Tobasa*. Universitas Sumatera Utara Press. Medan.
- [9] Gaol, S. B. L., Yoza, D., & Arlita, T. 2017. *Analisis Pemasaran Kemenyan (Styrax Spp.) Di Desa Simarigung (Study Kasus Di Desa Simarigung, Kec. Dolok Sanggul, Kab. Humbang Hasundutan)*. *Jurnal Ilmu-Ilmu Kehutanan*, 1(2), 39-45.

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