# The marketing strategy for sugar palm (*Arenga pinnata*) by people around the protected forest aren HPHTI of Toba Pulp Lestari

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**Abstract**. Sugar palm is a plant that produces various high economy value product. The superior products of sugar palm as a food and energy source, among others, are brown sugar, palm-suiker, fresh sap, *kolang-kaling* (a type of candied fruit made from palm sugar), and alcoholic beverages. The purpose of this study was to analyse the marketing strategies that can be adopted by the community who utilise sugar palm living around the area of PT. Toba Pulp Lestari. Analysis carried out in this study is analysis SWOT. The results of this study found that there are several strategies that have been made based on the SWOT analysis. One of them is creating farmer groups and cooperatives at the village level, providing market information to farmers, increasing road access, and developing farmer capacity building.

## 1. Introduction

Forest is an area that is overgrown with trees and other vegetation. Utilization of forest products consists of wood forest products and non-wood forest products. Timber forest products are still the focal point of forest product management today. Nonetheless, non-timber forest products have considerable potential to be managed by communities around the forest. Generally non-wood forest products are by-products of a tree, such as leaves, fruit, sap, and bark. Harvesting of non-timber forest products is a traditional activity of people living around the forest, even in some places, the harvesting of non-timber forest products is the main activity as a source of daily community life such as sugar palm, bamboo, rattan, incense and others.

According [1], non-timber forest products are vegetative and animal-based forest products along with derivative and aquaculture products except wood originating from the forest. Generally, non-timber forest products categorised into 9 groups: (1) resins, (2) essential oils, (3) fat oil, starches and fruits, (4) tannins, colouring and gums, (5) medicinal plants and ornamental plants, (6) palms and bamboo, (7) alkaloids, (8) another forms, (9) animals.

Sugar palm is a non-timber forest product that is almost all parts are useful and can be used for various needs, ranging from physical parts such as roots, stems, leaves and fibres as well as their products such as sap, starch / flour and fruit [2].

Various palm products as a source of food and energy include brown sugar, palm-suiker, fresh juice, palm candy, and alcoholic drinks. Besides sugar palm products are widely used for craft materials, as well as building materials [3].

The benefits of sugar palm economically are not only in its valuable products but also in labour absorption and the growth of home industries at the farm level. Yet the management of plants to the collection of yields and the final product of sugar palm from time to time is still done traditionally. Though the technology and new ways can increase farmers' yields and the finding of higher end products with higher economic value can increase the prestige of these palm plants to become more valuable crops thereby increasing the variety of products and income of sugar palm farmers [4].

Sugar palm plants have a potential high economy value, therefore many people around PT Toba Pulp Lestari's HPHTI protected areas use palm sugar as a source of daily livelihood. However, not a few people or sugar palm farmers whose lives are less prosperous. Therefore, researchers want to find out how the sugar palm marketing channel and try to develop an appropriate sugar marketing strategy so that the community or sugar palm farmers in the research location can live more prosperously from the results of sugar palm management.

## 2. Methods

Research was conducted in May 2019 in the protected areas of PT. Toba Pulp Lestari concession within sectors of Aeknauli, and some villages surrounding the protected areas. 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].

$$n = \frac{N}{N.d^2 + 1}$$

Information:
n = number of samples
N = total population
$d^2$ = precision (set at 5% with a confidence level of 95%)

*2.1 Techniques and stages of data collection*
The purpose of sampling is to obtain a descriptive picture of the characteristics of the unit of observation included in the sample, and to make generalizations and estimate population parameters. Data taken from a portion of the population called the sample to represent the population. The sampling technique in this study is snowball sampling technique which used for identifying, selecting and taking samples in a network or continuous chain of relationships [6].

Data was collected directly in the field as follows:
a. Observe and analyse the development of palm sugar processing products in the field to obtain information about the management process and its development
b. Identification of palm trees harvested by the community in the study area. All data, both primary and secondary, are then processed according to data processing and analysis needs
c. Interviews and discussions using a questionnaire to the represent farmers and stakeholders in the management of sugar palm trees for livelihood.

*2.2 Data analysis*

SWOT analysis is the systematic identification of various factors to formulate an organisation's strategy. This analysis is based on logic that can maximize strengths and opportunities, but simultaneously can minimize weaknesses and threats. The process of making strategic decisions is always related to the organisation's mission, goals, strategies and policies. Thus, strategic planning (strategic planner) must analyse the factors of the organisation's strategy (strengths, weaknesses, opportunities and threats) in the current conditions [7].

   Some stages should be carried out in making a SWOT analysis to obtained precise decisions are:

1. Data collection is made by the evaluation of external and internal factors.

2. The analysis phase is the making of an internal, external, and SWOT matrix.
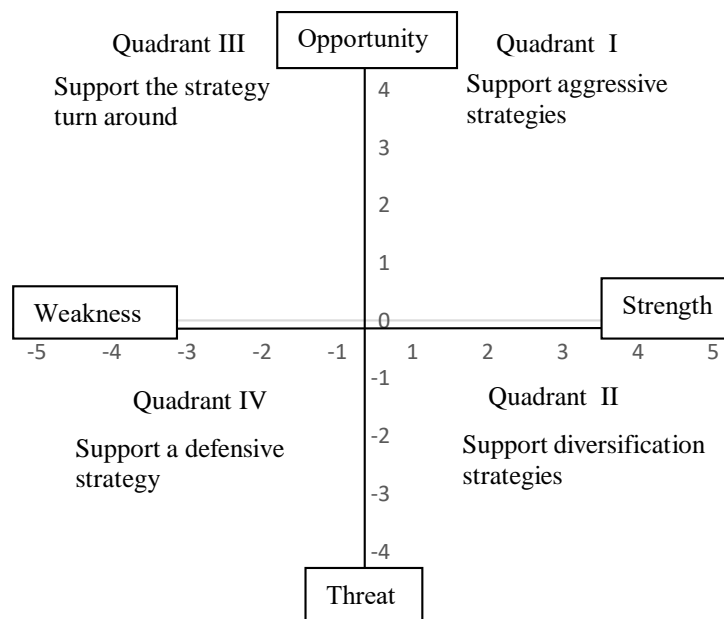
3. Decision making stage.



**Figure 1**. Matrix position of the marketing strategy

## 3. Result and discussion

*3.1 SWOT Analysis*

The results of the interview provide several main internal and external factors as follows:

   Internal Factors

   Internal factors are strengths that have an influence on the development and marketing of sugar palm are:

1. Good quality of palm juice

2. Palm sugar processing is part of the culture of the community

3. The time to produce palm juice is relatively short

4. Marketing is not through many intermediaries

5. The industry need small capital to run the business

   While internal weakness factors that have an influence on the development and marketing of sugar palm are:

1. There is no sugar palm farmer group yet

2. Lack of market information received by farmers.

3. Price differentiation at the farmer level

4. The equipment used is still conventional tools

5. Transportation access to and from the village is in poor condition

6. Lack of farmer capacity in management.
    External Factors
    The opportunity from external factors that have an influence on the development and marketing of sugar palm are:
1. Image of the study area as a source of good quality palm wine
2. High demands on palm wine
3. Policy on expansion of livelihood plants by the PT. TPL's management
    While external factors such as threats that have an influence on the development and marketing of sugar palm are:
1. Land status and unclear boundaries
2. Lack of business permits and guarantees
3. Land requirements for others crops and needs are increasing.
    After the internal and external factors has been identified, the next step is the data analysis stage. The model used is the internal strategic factors analysis summary (IFAS) matrix and the external strategic factors analysis summary (EFAS) matrix. The internal strategy factor evaluation matrix (IFAS) is presented in Table 1.

**Table 1**. Internal strategy factor evaluation matrix

| No | Strength | Average Rating | Weight | Score |
|----|----------|----------------|--------|-------|
| 1 | Good quality of sap juice. | 2.6 | 0.100 | 0.26 |
| 2 | Sugar palm management is part of the culture of society. | 2 | 0.067 | 0.13 |
| 3 | The time to produce sap juice is relatively short. | 2.8 | 0.094 | 0.26 |
| 4 | Marketing is not through many intermediaries. | 2.6 | 0.087 | 0.22 |
| 5 | Limited capital. | 3.4 | 0.114 | 0.38 |
|  | Total |  |  | 1.25 |
| **No** | **Weakness** |  |  |  |
| 1 | There are no farmer groups. | 1.2 | 0.04 | 0.048 |
| 2 | Lack of market information received by sugar palm farmers. | 2 | 0.067 | 0.13 |
| 3 | Price differentiation at the farmer level. | 3.2 | 0.11 | 0.35 |
| 4 | The equipment used is still conventional tools. | 3.4 | 0.114 | 0.38 |
| 5 | Road access to and from villages is relatively in poor conditions. | 3.2 | 0.10 | 0.32 |
| 6 | Lack of capacity. | 3.2 | 0.107 | 0.34 |
|  | Total |  | 1 | 1.56 |
| | Difference   total strength – total weakness = S – W= 1.25 – 1.56= -0.31 | | | |

    The result of internal factor weighting shows that the highest value on strength is good quality of palm sap juice and the limitation of farmers capital, while the highest yield on weakness is the absence of sugar palm farmer groups. The difference between internal factors (strengths and weaknesses) is -0.31

    The results of the analysis of external factors were transferred to the EFAS matrix table for scoring (rating x weights). An external strategy factor evaluation matrix (EFAS) is presented in Table 2.

    The results of the weighting of external factors show that the highest value on opportunities is the regional image as a good quality palm wine source, while the highest value on threats is land status and unclear boundaries. The difference in external strategy factors (opportunity-threat) is 0.72, which means the effect of opportunities is higher than the effect of threats to the marketing of sugar palm. Based on the analysis of the evaluation matrix of internal and external factors, it can be seen the position of the palm marketing strategy around the area of PT. Toba Pulp Lestari. The marketing strategy position is analysed using the position matrix, so that it will produce coordinates (x, y). The value of x is obtained from the difference in internal factors (strengths and weaknesses) and the value

of y is obtained from the difference in external factors (opportunities and threats). The position matrix for the sugar marketing strategy is presented in Figure 1.

**Table 2**. External strategy factor evaluation matrix

| No | Opportunity | Average rating | Weight | Score |
|----|-------------|----------------|--------|-------|
| 1 | Image of the region as a producer of good quality palm wine. | 3.6 | 0.211 | 0.75 |
| 2 | High demand over palm wine. | 2.8 | 0.167 | 0.46 |
| 3 | Expansion of living plants by the TPL in the concession area. | 3.2 | 0.188 | 0.60 |
|  | Total Opportunity score | 1 |  | 1.81 |
| No | Threat | | | |
| 1 | Unclear land status and boundaries. | 1.8 | 0.105 | 0.189 |
| 2 | Lack of business permits and guarantees. | 2.8 | 0.164 | 0.45 |
| 3 | The need for land as another allotment is increasing. | 2.8 | 0.165 | 0.46 |
|  | Total Threat score |  | 1 | 1.09 |
|  | Difference in Total Opportunities - Total Threats = O – T= 1.81 – 1.09= 0.72 | | | |
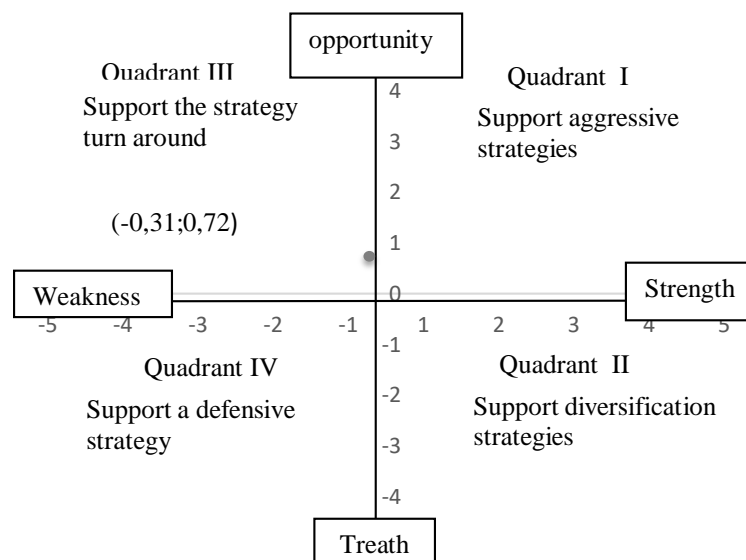


**Figure 2**. Position matrix of the marketing strategy of sugar palm

Palm marketing position around the area of PT. Toba Pulp Lestari is in quadrant III. The strategy recommendation is Strategy Changing, meaning that the marketing person is advised to change the previous strategy. Because, the previous strategy was difficult to be able to take advantage of existing opportunities while improving the performance of sugar palm marketing actors in the area of PT. Toba Pulp Lestari Aeknauli sector. The SWOT strategy matrix is presented in Table 3.

The four possible strategies above are not used entirely in the marketing of sugar palm at the study area, but are adjusted to the positions that are known in the SWOT position matrix. In the study area the position of the marketing actors of sugar palm is in quadrant III, so that the right strategy used in that position is to changing strategy (turn around). Turnaround strategy is a strategy that focuses on the W-O (weakness-opportunity) strategy, which is to take advantage of opportunities to minimize existing weaknesses.

**Table 3**. The SWOT strategy

| Internal factors | Strengths (S) | Weaknesses (W) |
|---|---|---|
| | • Good quality of sap juice.<br>• Palm sugar processing is part of the culture of the community.<br>• Time to produce sap juice is relatively short.<br>• Marketing is not through many intermediaries.<br>• Limitation of capital. | • There are no farming group exist.<br>• Lack of market information received by sugar palm farmers.<br>• The equipment used is still conventional.<br>• Road access to and from villages is relatively poor condition.<br>• Lack of capacity. |
| External factors | Opportunities (O) | Threats (T) |
| | • Image of the region as a producer of quality palm wine.<br>• High demand over palm wine.<br>• Expansion of living plants by the TPL in the HTI concession area. | • Unclear land status and boundaries.<br>• Lack of business permits and guarantees.<br>• The need for land as another allotment is increasing. |
| Strategy | Strategy S-T | Strategy W-T |
| | • Give and set boundaries between state forest areas and community forests through boundary demarcation activities.<br>• Granting a business license and guarantee from the government. | • Fostering good relation between farmers, collector and PT. TPL management. |
| | Strategy S-O | Strategy W-O |
| | • Maintain and improve the quality of wine.<br>• Building and improving business partnerships.<br>• Expanding the marketing networks by utilizing the technology developments. | • Form farmer groups and cooperative at the village level.<br>• Provide market information to farmers.<br>• Improve road access to and from the village.<br>• Capacity building for farmers knowledge and best practise. |

So that the right strategies are used by sugar palm marketers in the study area, namely:

1. Form a farmer group and cooperative at the village level to avoid price speculation by middle collectors. These farmer groups and cooperatives are facilitated by the local government.
2. Provide market information to farmers. This is important so that farmers know the price of active trading. If the farmer does not know the price information available in the market, the farmer will be disadvantaged by the agent (middle man) who determines the price unilaterally.
3. Improve road access to and from the village with support from PT. TPL and the government to facilitate the marketing process. Damaged roads will hamper the process of purchasing palm products by agents and transporting palm products from the village to the sub-district and to the city. A good road to and from the village will saving the time and reducing cost of transportation.
4. Improve the capacity of farmer knowledge and practices through provide counselling and guidance to farmers by the local government. Farmers who have more knowledge will produce higher quality of palm products and will followed by good price and increase the welfare of sugar palm farmers.

## 4. Conclusion

Sugar palm marketing priority strategy around the area of PT. Toba pulp Lestari Aeknauli sector is forming farmer groups and cooperatives at the village level, providing market information to farmers, improving road access to and from villages and improve the capacity of farmer knowledge and practices.

## 5. Suggestion

Approach and awareness need to be delivered to the sugar palm farmers on how to implement the best management practice of palm sugar cultivation and marketing. Both PT TPL Management and the local government may create a smallholder program of non-timber forest product as an alternative livelihood for community living in surround the protected areas.

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