

# Analysis Of Value Added And Development Strategy Of Public Sago Agroindustry Business In Kepulauan Meranti Regency

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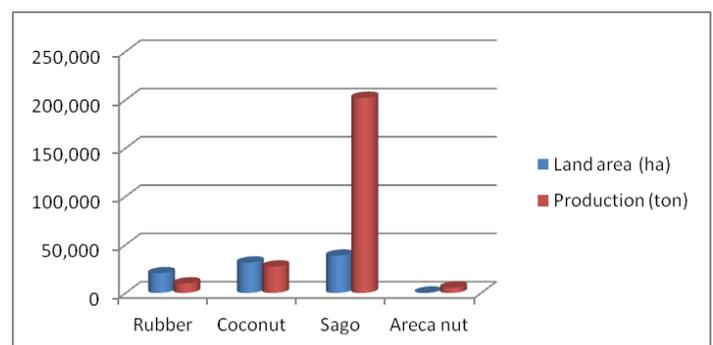
**Abstract:** Sago is a potential agricultural commodity that has economic value, multipurpose, producing potential starch to support the development of various industries. Traditional food made from sago starch in Kepulauan Meranti regency is the indigenous knowledge from this region, which has great potential to be developed as an alternative food to support food security. This study aims to analyze the added value of sago processing and to determine alternative strategy of sago agroindustry business development. Research was conducted in Kepulauan Meranti regency by using survey method. Samples were taken by using purposive sampling, for wet sago sampling was conducted using business actors in Sungai Tohor village, sub-district Tebing Tinggi Timur, while for sago flour sampling was conducted from sago business of Tanjung Lalang village, Tebing Tinggi Barat District. The added value analysis was conducted by Hayami method, and for the strategy determination was conducted by using SWOT analysis. The research result shows that processing sago stem into sago flour presents higher added value (Rp 826.20/kg with value added ratio 69,09%) compared to wet sago (Rp 198,18/kg with value added ratio 39,17%). The profits gained by wet sago business actor was about 72,15% and labor gained 25,79%. Meanwhile, the profit gained by sago flour business actor was about 129.74% and the labor gained 29.60%. Based on SWOT analysis, the development strategy of sago agroindustry business in Kepulauan Meranti Regency is using WO (Weaknesses-Opportunity) strategy, defines growth strategy by overcoming the internal weaknesses to pursue the opportunities today.

**Index Terms:** Agroindustry, Value Added, public sago, Strategy

## I. INTRODUCTION

The agricultural sector defines a strategic factor, the economic base of the people in the countryside, dominating the lives of most of the population, absorbing more than a half of the total number of labor and even becoming a safety valve during the economic crisis (Arifin, B. 2004). In the globalization era, the enactment of free market creates market getting more complex, causing uncertainty to agricultural commodities if the agricultural products are not able to compete in accordance with market demands. It is getting worse because most of agricultural products are still distributed as raw materials (primary product). Due to this condition, it needs an effort to improve bargaining position to gain a higher value, in order to increase the regional economy. One of the efforts that can be done to increase the value of agricultural products in rural areas goes through the industrialization of products (agroindustry). The value-added of agricultural commodities can be improved through the rural industrialization development by utilizing the technology and the power of natural resources and human resources. Each region will try to build its area based on the potential of the region. One of the rural development strategy currently introduced in Indonesia is the One Village One Product (OVOP or one village one product) approach.

This approach defines community movement to develop the potential of the region in an integrated way to increase the income and welfare of the community as well as increasing the confidence and pride of their own ability and their region (Pasaribu, S.M, 2011). Kepulauan Meranti regency is the youngest regency in Riau Province, located on the East Coast of Sumatera Island, with coastline directly bordered a number of neighboring countries and incorporated into the triangle of economic growth among Indonesia-Malaysia-Singapore (IMS-GT). Most of area consists of lowland, forest-dominated swamps and large agricultural areas. With adequate agricultural potential, the development of this area is focused on the agricultural sector, which is then directed to spur the development of manufacturing, trading, tourism services, and other sectors. The livelihood of over 20% population is farming, the contribution of the agricultural sector to GDP is about 32.07% (BPS, 2015). This great contribution should become a government's concern to improve the performance of the agricultural sector. One of efforts is to explore the potential of the agricultural sector and to develop it into a growing SMEs (Hamid and Susilo, 2011). Various agricultural commodities are coming from Kepulauan Meranti regency, but the main commodity is sago Figure 1.



Land Area and Production of Plantation Commodity in Kepulauan Meranti Regency, Year 2015. Sago is spread in almost all subdistricts in Kepulauan Meranti, this area is about

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51,086 ha largest sago plantations in Indonesia, which produce 491,444,7 tons sago (BPS, 2015). Sago is a traditional food and superior product area with various processed food produced. Traditional food made from sago starch in Kepulauan Meranti regency is an indigenous knowledge of the area, which has great potential to be developed as an alternative food to support food security (Syah and Hariyadi, 2004, in Alvon JB and A.Rivaie, 2011). Based on the potential of the region, sago agro industry in Kepulauan Meranti Regency is very good, has the opportunity to develop and prospective (Elida, S. 2016; Indrawati, H. 2015; Dorlan et al., 2009). To develop modern agriculture and competitiveness, the agroindustry is expected to become a locomotive to increase the added value of agricultural products. Steps in agro-industries include: 1) Efforts to increase added value, 2) Produce products that can be marketed or used or consumed, 3) Increase savings, and 4) Increase revenue and profit of producers (Hicks 1995). Agroindustry can be the right alternative to improve the welfare of agricultural sector actors and to absorb rural labors through the mechanism of extending the economic chain of agricultural products in rural areas (Syahza, 2011). Sago Agroindustry in Kepulauan Meranti regency is generally classified as a small business scale. This sago factory produces both sago flour and wet sago. This business has been sustained by rural community in years and able to survive in various economic conditions, despite using a simple technology. It proves this agroindustry contributes in the economy of entrepreneurs, especially to create added value. The potential strength of natural resources and human resources is a comparative advantage of Kepulauan Meranti regency, but it must be accompanied by competitive advantage in order to compete with competitors from outside the region. The potential of Kepulauan Meranti regency to produce agricultural products has a comparative advantage in agroindustry development. Several agricultural products (sago) have been processed into various products, but in marketing, these products still have a weakness to compete with products from outside. Therefore, it requires considering of the external and internal strategic factors which affect the agroindustry development. This study aims to analyze the added value of sago processing and to determine alternative business development strategy.

## 2 RESEARCH METHODS

The method used in this research is survey method. The research was conducted in Kepulauan Meranti regency, from July to December 2016. Samples were taken purposively (purposive sampling), namely wet sago agroindustry in Sungai Tohor Village, Tebing Tinggi Timur District and sago flour agroindustry in Tanjung Lalang Village, Tebing Tinggi Barat District. This determination is based on the consideration of this area as a production center and homogeneity of community's business. The data used in this study are primary and secondary data. Primary data is coming from the interviews conducted to business actors through questionnaires related to the analysis of wet sago and sago flour business. To identify the strategic factors is going through the depth interview technique to the key informants who understand sago agroindustry in Kepulauan Meranti regency. Secondary data is obtained from related institutions, used as primary data amplifier. The amount of added value both of wet sago and sago flour agroindustry is analyzed using Hayami

method (1987), and the development strategy conducted using SWOT analysis which defines as the method to describe and mapping the existing condition in an organization and to evaluate the problems that arise, in order to achieve strategic planning. The SWOT analysis is conducted by considering of internal factors (strengths and weaknesses) and external factors (opportunities, and threats), then comes into Quantitative Strategic Planning Matrix (QSPM) (David, 2012).

## 3 RESULTS AND DISCUSSION

### Sago Agroindustry

Sago agroindustry in Kepulauan Meranti regency is a sago processing coming from the form of stem to starch to produce wet sago or sago flour, then ready to be distributed. In sago agroindustry, the number of raw material in the form of stem to produce wet sago is around 200-500 stem per process (average 225 stem or 29,250 kg) with wet sago production as much as 6,750 kg, while in sago flour needs around 650-810 stem (average of 710 stem or 92,300 kg) with the number of sago flour production is 21,300 kg. Processing of sago in Kepulauan Meranti regency is still conducted using simple technology, processing conducted in several stages. The processing of wet sago starts from stripping of sago stem, cleavage, dissolution, filtration, storage, sedimentation I, II, and III, packaging. As for the sago flour processing should be followed by clean washing/milling/destruction after wet sago stayed for one night, then drying with oven to produce pure sago flour which contains 20% water.

### Value Added Sago Agroindustry

One of the objectives of processing agricultural products is to produce added value from raw materials of agricultural products in a production process. The added value gained is a reward for services and allocation of labor and producer profits. The added value generated from sago agroindustry is the difference between output and raw material cost and other input contributions per production process. Processing of sago stem through various process, then to produce wet sago or sago flour will give added value to their raw material (sago). The added value of sago agroindustry for wet sago and sago flour can be seen in Table 2.

**Table 2.** Analysis of Value Added Agroindustry wet sago and Sago Flour Production Process in Lalang Tanjung Village 2015.

No	Variables	Value	
		Wet Sago	Sago flour
A	Output, Input, and Price		
1	Output (Kg)	6.750	21.300
2	Input (Kg)	29.250	92.300
3	Direct Labor (HOK)	21,37	22,85
4	Conversion Factor	0,23	0,154
5	Labor Coefficient (HOK / Kg)	0,00073	0,0002
6	Output Price (Rp/Kg)	2.200	5.500
7	Wages of Labor (Rp/HOK)	70.000	620.000
B	Revenue and Profit		
8	Raw Material Price (Rp / Kg)	307,69	307,69
9	Other Input Contribution (Rp/Kg)	0,10	135,34
10	Output Value (Rp/Kg)	506	1.269,23
11	a. Added Value (Rp/Kg)	198,18	826,20

	b. Add Value Ratio (%)	39,17	69,09
12	a. Labor Revenue (Rp/Kg)	51,14	153,49
	b. Share of Labor (%)	25,80	18,58
13	a. Profit (Rp/Kg)	147,04	672,71
	b. Profit Rate (%)	74,19	81,82
C Reply Service Owner Factor Production			
14	Margin (Rp/Kg)	198,31	518,51
	a. Labor Revenue (%)	25,79	29,60
	b. Other Input Contribution (%)	0,05	26,10
	c. Employer Profit (%)	72,15	129,74

The added value obtained from the processing of sago stem into sago flour is higher than wet sago. The processing of sago stem becomes wet sago, with the selling price of Rp 2,200/kg, adding value of Rp 198.18/kg, with value added ratio of 39.17. This means that every Rp 100 value of wet sago product contains added value of Rp 39.17, profit of Rp 147,04/kg, so the remuneration received by entrepreneur is 72,15% and labor 25,79%. While processing of sago flour with a selling price of Rp 5,500, - /kg gives added value of Rp. 826,20/kg, with value added ratio 69,09% showing every Rp 100 value of sago flour contains added value equal to Rp 826,20, then company profit equal to Rp. 672,71/kg, compensation received by employers amounted to 129.74% and labor received around 29.60%.

### SWOT Analysis

To determine the development strategy of sago agro industry was held by considering the internal and external factors that can be identified based on key informants. SWOT does not only identify the competencies (capabilities and resources) of the company, but also to identify opportunities that the company has not made due to its limited resources. Some internal and external factors to determine the direction of the strategy are shown in Table 3 and Table 4.

**Table 3. Internal Factor Analysis Results (EFI) Sago Agro Industry Development in Meranti Islands Regency**

Internal factors		Weight	Rating	B x R
Power				
1.	Land ownership status is mostly private property	0,07	3	0,21
2.	Availability of raw materials	0,08	4	0,32
3.	Availability of manpower	0,05	3	0,15
4.	Quality of raw materials	0,07	4	0,28
5.	Motivation	0,05	4	0,20
6.	Institute builder	0,04	3	0,12
7.	Craftsman's experience	0,07	3	0,21
amount		0,43		1,49
Weakness				
8.	Limited capital owned	0,13	3	0,39
9.	The ability of human resources in absorbing knowledge	0,07	2	0,14
10.	Processing technology	0,10	3	0,30
11.	Business management is weak	0,05	3	0,15
12.	Implementation of coaching	0,07	2	0,14
13.	The absence of product standardization	0,08	3	0,24
14.	Market access	0,07	3	0,21
Amount		0,57		1,57
Number of EFIs (strengths and weaknesses)		1,00		3,06

**Table 4. Results of External Factor Analysis (EFE) Sago Agro Industry Development in Kepulauan Meranti regency**

External Factors		Weight	Rating	B x R
Opportunities				
1.	Central, provincial & district government policy	0,13	4	0,52
2.	Partnership	0,07	3	0,21
3.	Alternative food substitutes for rice	0,05	3	0,15
4.	Increasing population	0,07	4	0,28
5.	The number of processed products that can be produced	0,07	3	0,21
6.	Export potential	0,09	4	0,32
7.	Ease of establishing a business	0,08	3	0,24
amount		0,56		1,93
Threat				
8.	The results marketing system	0,08	2	0,18
9.	Infrastructure is inadequate	0,07	2	0,14
10.	Price fluctuations	0,08	2	0,16
11.	Access capital/ credit	0,09	1	0,09
12.	Product substitution	0,05	2	0,10
13.	Competitive product development	0,03	3	0,09
14.	Land fire	0,04	3	0,12
Amount		0,44		0,88
Number of EFIs (strengths and weaknesses)		1,00		2,81

The development of strategic factors (key success factor) of sago agro industry is formulated based on IE (David, 2012) matrix. In Table 3, the internal component value (EFI) covering the strengths and weaknesses of sago agro industry in Kepulauan Meranti regency is 3.06. The total weight value for weakness (1.57) is greater than the strength (1.49), this means the weakness factor should be the focus in the strategy step of developing sago agro industry. The main strength of this sago agro industry is the availability of raw materials in the form of tual sago, so that business activities can be implemented. The availability of sufficient sago stem because this area is a center of sago production and entrepreneurs do not take advantage of sago growing wild, but sago plants have been cultivated. While the weaknesses are in processing technology, sago refineries still use traditional technology. In Table 4, the value of external components (EFE) covering opportunities and threats of sago agro industry is 2.81. The weight of value for opportunity factor (1,93) is bigger than threat (0,88). The main opportunity in developing sago agro industry is the policy of central, provincial and district government to develop sago in order to increase food security, and also to succeed government's program in the development area to OVOP (One Village One Product). While the threats are the marketing system and price fluctuations, which in the marketing of entrepreneurs remain in a weak position. Prices of sago (sago sago and sago flour) are not determined on the basis of costs incurred in the production process, but are determined by consumers (toke) from Cirebon or Malaysia. The results of the analysis on the SWOT diagram (strengths, weaknesses, opportunities, and threats) indicates that the strategy of developing sago agro industry in Kepulauan Meranti regency is located in quadrant III that is namely WO (Weaknesses and Opportunity) strategy. According Rangkuti (2003), in quadrant III this is a growth strategy, by overcoming the weakness to pursue opportunities.

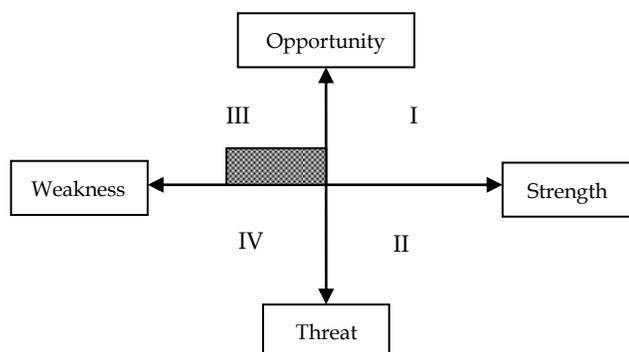


Figure 2 : SWOT analysis diagram

Based on the SWOT matrix of various alternative strategies that can be applied for the development of sago agro industry in Islands Meranti Regency. The alternative strategy is presented in Table 5.

Table 5. Alternative Sago Agro Industry Development Strategy in Kepulauan Meranti Regency Based on SWOT Matrix

<p><b>Internal Factor</b></p> <p><b>External Factor</b></p>	<p><b>Strength (S)</b></p> <ol style="list-style-type: none"> <li>1. Status ownership of large land of private property</li> <li>2. Supply of raw materials (sago stem)</li> <li>3. Availability of manpower</li> <li>4. Quality of raw materials</li> <li>5. Motivation</li> <li>6. Institute of Trustees</li> <li>7. Craftsman experience</li> </ol>	<p><b>Weakness (W)</b></p> <ol style="list-style-type: none"> <li>1. Limited capital</li> <li>2. The ability of human resources in absorbing knowledge</li> <li>3. Processing technology</li> <li>4. Poor management strategy</li> <li>5. Implementation of coaching</li> <li>6. Unavailability of product standardization</li> <li>7. Market Access</li> </ol>
<p><b>Opportunity (O)</b></p> <ol style="list-style-type: none"> <li>1. Central, provincial &amp; district government policies</li> <li>2. Partnership</li> <li>3. Alternative food ingredients to substitute for rice</li> <li>4. Increase in population</li> <li>5. Diversification of processed products that can be produced</li> <li>6. Export potential</li> <li>7. Ease of establishing a business</li> </ol>	<p><b>Strategy SO</b></p> <ol style="list-style-type: none"> <li>1. Maximize land use supported by government policies and facilities provided by the government ((S1), (O1), (O7))</li> <li>2. Use quality raw materials to produce quality products, in order to meet the export criteria (S2, S3, O3, O4, O6)</li> <li>3. Maximize coaching, to make craftsman more motivated and innovative (S5, S6, S7, O2.5)</li> </ol>	<p><b>Strategy WO</b></p> <ol style="list-style-type: none"> <li>1. Improve access of entrepreneur's permits to utilize existing opportunities for business development (W1, O1,2,3,4,5,6,7)</li> <li>2. Develop production processes by conducting revitalization of more modern machinery and equipment (W3, 4, O4,6)</li> <li>3. Increase market access by promoting products through social media and expo, in order to reach wider market. W7, O2</li> </ol>
<p><b>Threat (T)</b></p> <ol style="list-style-type: none"> <li>1. Marketing System</li> <li>2. Inadequate Infrastructure</li> <li>3. Price fluctuations</li> <li>4. Access to capital/credit</li> <li>5. Substitution products</li> <li>6. Competitive production development of competitors</li> <li>7. Forest Fires</li> </ol>	<p><b>Strategy (ST)</b></p> <ol style="list-style-type: none"> <li>1. Use quality raw materials, workforce in an experienced family, (S2,3,4, 7T4)</li> <li>2. Improve the quality of physical and non-physical infra-structure (S4,6, T2)</li> <li>3. The enhancement of business coaching through effective counseling by involving various elements of government, academia, private sector (S6, T7)</li> </ol>	<p><b>Strategy (WT)</b></p> <ol style="list-style-type: none"> <li>1. Credit policy with cheaper interest and simple process (W1, T4)</li> <li>2. Enhance the technology skill of entrepreneurs and set the standardization of products to resolve the weaknesses, then any threats can be avoided (W1,2,3,4,5,6,7, T4,5,6,7)</li> </ol>

In Table 5 SWOT matrix there are four alternative strategies that can be used for the development of agribusiness sago people in Kepulauan Meranti Regency. The result of determining alternative strategy on SWOT matrix is a reference in the provision of development planning of sago people agro industry. The priority strategy is chosen subjectively by considering the amount the influence of each alternative strategy to the development of community sago agro industry in the District of Meranti Islands. The priority strategy is as follows:

- 1) Maximize land use supported by government policies and facilities provided by the government.
- 2) Using quality raw materials in order to produce quality products, standardized so as to meet the export criteria.
- 3) Credit policy with cheaper interest and simpler process.
- 4) Expanding market access by promoting social media and expo, in order to wider market reach and partners increase.
- 5) Improving technology and business management in order to meet market demand.

- 6) Fostering business is enhanced through effective counseling by involving various elements of government, academia, private sector.
- 7) Improving the quality of physical and non-physical infrastructure

#### 4 CONCLUSIONS

- 1) Processing of sago to sago flour adds higher value (Rp 826,20/kg with value added ratio 69,09%) than wet sago (Rp 198,18/kg with value added ratio 39,17%) Profit accepted by entrepreneur wet sago 72.15% and labor 25.79%, while in the sago flour the profit of 129.74% and the employee received 29.60%.
- 2) Based on SWOT analysis, the strategy of developing sago people agro industry in Meranti Islands Regency is WO (Weaknesses-Opportunity) strategy, that is growth strategy, by overcoming the internal weakness of effort to pursue the opportunities that exist today.

Based on the research, it is suggested that stakeholders to develop sago agro-industry development policy in Kepulauan Meranti Today's to follow the priority strategy reference, the strategy is: a) maximizing land use supported by government policy and easiness given by government, b) using quality raw materials so that the products are qualified, standardized to meet the criteria of export, c) credit policy with cheaper interest and simpler process, d) expand market access by promoting social media and expo, so that wider market reach and partners increase) to improve technology and business management in order to meet market demand, f) enhancement of business through effective counseling by involving various elements including government, academia, private, and g) improving the quality of physical and non-physical infrastructure.

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