

## **Strategy for The Development of Processed Food Products Based on Local Wisdom in South Halmahera**

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### **ABSTRACT**

The purpose of this research is to design a strategy for developing superior processed food products to encourage economic growth in South Halmahera Regency. Using a SWOT analysis, the research findings are increasing community participation in increasing their production capacity through collaboration with other institutions (SO strategy); 2) utilizing technology to enhance people's creativity create more competitive products (WO Strategy establishing a soft approach to the community to support government programs (ST Strategy); increas coordination with the village government to ascertain the program is successfully proven (WT strategy). The results of this study indicate that the government program in developing processed products has not been fully implemented by the community. Therefore, further research should develop by adding key informants.

**Keywords:** Local Wisdom Strategy, South Halmahera, SWOT Analysis

### **INTRODUCTION**

The development of regional superior products (PUD) has become the agenda of the central government to develop at the local government level. Superior products should meet several criteria, such as having raw materials, and approv able by upholding socio-cultural values including local wisdom to make unique products by utilizing the market. This development arises because of uneven increase in each region's potential resources which its local production national markets. Some regions remain in need of strengthening entering the local and regional markets. Their focus of development lies in the optimization of resources with local competencies in mobilizing regional finance to overcome financial and sustainable development issues. This is an empowerment effort.

The development of superior products is one of the strategies of the official government policy based on Minister of Home Affairs Regulation No. 1 of 2014. Increased productivity of superior products will certainly increase the efficiency of a region's business. Regional superior products, product offers, value creation, resource utilization, employment opportunity provision, bringing in funds for the community, productivity and investment boost.

Food security is crucial to create quality, independent and prosperous Indonesian people through the realization of safe, quality, nutritious, diverse and evenly distributed food in affordable price. Food security includes not only an understanding of adequate food but also the ability to access (including buying) food. It does not require food availability on any party must also stand on three pillars, including enough availability,

easily accessible, and not dependent on other parties (towards food independence) (Ministry of Agriculture, 2004). In addition, food is a basic need for every human being to be able to carry out daily activities and maintain their life. Food is a basic right for every citizen playing a significant role for the life of a nation. Supporting food that does not meet people's needs can create economic instability.

According to Tarigan (2009), analysis of local economic potential related to real sectors necessary to be developed for rapid local economic development. Excellence sectors have better prospects to develop and are expected to encourage other sectors' development. In line with this, Kuncoro (2009) states that in development policies and sectoral development of the regional economy, it is necessary to prioritize superior sub-sectors needed by each district/city. With the identification of regional leaders, it is easy for stakeholders to take strategic policy steps in the regional.

Local wisdom is part of the community to survive according to environmental conditions, needs, and beliefs that have rooted and difficult to remove. Sumarmi and Amirudin (2014) explain how local wisdom with its belief systems, norms, culture reflected in the lifelong traditions and thoughts. Local wisdom is a form of community or certain communities providing assistance to the environment without having to damage it.

Those lead to conclusion that food security is an important aspect in realizing community welfare. From the aspect of consideration, affordability, it seems that food security has a close relationship with the problems in increasing processed food, particularly the purchasing power and price. Finally, the food security requirements will be agreed upon during the discussion of the regional economy.

Furthermore, this research aims to determine: 1) proper development strategies to improve the competitiveness of regional superior processed food products in South Halmahera Regency; 2) strategies for developing the potential of regional superior processed food products to enhance the creative industries in South Halmahera Regency; 3) strategies for developing selected processed food products in South Halmahera Regency. The research will make a meaningful contribution to science related to the strategy of developing regional superior processed food products and the role of the region as a center for the development of regional superior food products, as a development model for processed food products potentially developing in the future.

South Halmahera Regency as one of the study areas no detailed planning local economic development based on its superior products. The development of regional superior products is regions are considered relatively more independent to implement this development pattern in their economic development. Regional superior products describe the ability of an area to create products and added value, make real use of resources, create employment opportunities, bring income to the community.

Therefore, the development of superior products as a regional economic potential in the era of autonomy is a work not easy to do, since it is closely related to political will or policy of the regional government. For this reason, the role of the regional government is significant in the development and empowerment of the regional superior products as an effort to accelerate and expand regional economic development.

Pertinent to the development of these superior products, the Government of South Halmahera Regency needs to identify and map superior products in its area. Therefore, it is expected to be a locomotive for the growth and development of other superior products, and an alternative for sources of economic growth in South Halmahera Regency in the future.

## RESEARCH METHOD

This research approach is descriptive. This study applies several decision-making techniques and descriptive statistical methods to explore and discover important factors in the development of regional superior food products. According to Arikunto (2003), descriptive research explains, analyzes or describes variables (conditions or situations) both past and present (currently occurring), to find out how to formulate strategies for developing regional superior food products in South Halmahera Regency.

This study was conducted in South Halmahera Regency, due to its great potential in the agricultural and utilization sector providing a high contribution to increasing regional economic growth. The research on strategies for developing superior processed food commodities based on local wisdom in South Halmahera carried out in July to December 2019.

The data collect are:

1. Primary data collected through field observations to determine the conditions and potentials of the regions in South Halmahera Regency, and interviews
2. Secondary data obtained from the regional government of South Halmahera Regency, including Central Statistics bureau (BPS) and other agencies.

The data processing:

1. Data Grouping, grouping the data obtained by their types;
2. Data Tabulation, regularly arranging the data tables;
3. Data Analysis, analyzing the data using predetermined analysis tools;
4. Interpretation, explaining the results in sentences and conclusions can be drawn.

The collected data was then examined and analyzed using SWOT matrix clearly illustrating how internal and external opportunities and threats from various aspects. Subsequently, the problems were resolved by identifying the strengths and weaknesses they have (Rangkuti, 2005). SWOT according to David (2004). SWOT matrix is an important matching tool that helps managers develop 4 (four) types of strategies including SO (Strenght-Opportunities), WO (Weakness-Opportunities), ST (Strenght-Threats) and WT (Weakness-Threats).

## RESULTS AND DISCUSSION

### Overview of Research Objects

South Halmahera Regency is located in North Maluku Province. Based on its geographical location, South Halmahera Regency is bordering on the City of Tidore Islands (North), Ternate City (South), Seram Sea (East), and Maluku Sea (West). Its total area is 40.263,72 km<sup>2</sup> consisting of land area of 8.779,32 km<sup>2</sup>, equivalent to 22% of total, and sea area of 31.484,40 km<sup>2</sup> or 78 % of total.

Based on statistical data, the geographic circumstances of South Halmahera Regency consists of 30 subdistricts located in seven large islands and two small islands, including Obi Island, Bacan Island, Batang Lomang Islands, Makian Island, Kayoa Island, Kasiruta Island, Mandioli Island, Halmahera Island, and Islands Joronga.

Table 1 presents data of the area, population, population growth rate and density on districts in South Halmahera Regency.

**Table 1. Area, Population, Growth Rate, Population Density, of South Halmahera Regency of 2018**

Sub District	Area	Total Population	Population Growth Rate	Population Density
Obi Selatan	1,083.48	13,133	0.91	
Obi	1,073.15	16,338	1.86	
Obi Barat	94.53	3,943	1.13	
Obi Timur	636.23	3,678	0.93	
Obi Utara	160.69	8,918	0.92	
Bacan	304.69	24,832	3.58	
Mandioli Selatan	138.81	6,339	1.04	
Mandioli Utara	96.79	3,466	1.91	
Bacan Selatan	169.21	16,603	3.02	
Kep Batang Lomang	55.81	6,677	0.89	
Bacan Timur	463.5	11,520	3.27	
Bacan Timur Selatan	321.13	7,241	1.41	
Bacan Timur Tengah	276.28	6,068	1.91	
Bacan Barat	180.78	3,916	1.19	
Kasiruta Barat	272.98	5,030	1.29	
Kasiruta Timur	247.93	4,394	1.67	
Bacan Barat Utara	264.94	4,706	1.75	
Kayoa	87.62	8,873	0.92	
Kayoa Barat	27.07	3,801	1.09	
Kayoa Selatan	26.06	6,305	0.82	
Kayoa Utara	39.22	2,987	1.36	
Pulau Makian	55.5	9,758	0.96	
Makian Barat	35.54	3,845	1.45	
Gane Barat	493.67	8,533	0.73	
Gane Barat Selatan	252.55	6,304	1.61	
Gane Barat Utara	501.69	6,521	0.90	
Kep Joronga	148.93	5,702	0.92	
Gane Timur	656.72	9,677	1.25	
Gane Timur Tengah	309.67	4,332	1.67	
Gane Timur Selatan	304.15	3,840	1.19	
South Halmahera	8,779.32	227,280		

Table 1. confirmed that Obi Selatan Sub-district is the largest area of 1,083.48 while Kayoa sub-district has the required area. Meanwhile, the largest population is in Bacan, with 24,832 population and density level of 3.58, the highest among all. Kayoa Selatan has less than 3,000 population with low population density level.

The area of each sub-district is used for settlements, wetland agricultur, non-wetland agricultur, and non-agricultur as shown in table below.

**Table 2: Number of Types of Land Use Per District of South Halmahera Regency of 2018**

Sub Districts	Types of Land Use (ha)				
	Village Area (ha)	Settlement/ Housing	Paddy Agricultural Land	Non-Paddy Agricultural Land	Non-Agricultural Land
Bacan Timur Tengah	27.63		27	286.50	343.50
Kepulauan Batang Lomang	-		-	-	-
Gane Barat	493.7	42,960.5		6,389.5	
Gane Barat Selatan	252.55	26.90	-	-	-
Gane Barat Utara	501.7	-	-	-	-
Gane Timur	-	-	-	-	-
Gane Timur Selatan	304.2	46.4	-	-	30,368.6 (Community Plantation)
Gane Timur Tengah	309.67	-	-	30.830,40	136.60
Kasiruta Barat	273.00	1.565,30		2.5233.70	80.00 (Bacan Mining)
Kasiruta Timur	21,145			19,958	1,187
Kayoa Barat	27.1	379.7	-	10,988,3	-
Kayoa	87.6	-	-	8,608.7	151.2
Kayoa Selatan	26.5	-	-	2.572	27.5
Kayoa Utaras	39.2	-	-	3,786.4	133.6
Kepulauan Joronga	-	-	-	-	-
Makian Barat	-	-	-	3,497.	0.530
Mandioli Selatan	138.8	78.6			13,715.4 (Community Plantation)
Mandioli Utara	96.8	34.4	-	-	-

Obi Barat	111.5	-	-	109.42	2.125
Obi	1,073.2	296.4	-	-	106.980,8 (Community Plantation)
Obi Selatan	153.1	1,494.47	-	14,005.53	-
Obi Timur	636.2			63,442.24	1,777.76
Obi Utara	160.7		-	15,816	9,253.1
Pulau Makian	55.5	-	-	5.608,3	241.7

Table 2 shows that most of the land area are used for non-paddy agricultur and non-agricultur (plantation and bacan mining). Only 27 hectares in the Middle East Bacan District are used for Paddy Agriculture. Non-paddy agricultures oduce sweet potatoes, taroes, and sagoes consumed as staple food after some sweet potatoes, taroes, and sagoes are local food products that are consumed for generations. However, thhave not become superior products as they were not well managed. They are potentially processable to be flour, *laksa*, vermicellies, and various snacks. Added value is highly possible to double upon these local foods.

### **Economic Structure**

The agricultural sector and other sector activities have had the highest growth of 121.59 percent. The accommodation, food and beverage supply sector growth were 9.21 percent and other services by 8.86 percent. The economic potential of South Halmahera can be seen from the structure of its economy during 2017, remaining dominated by three business sectors including agriculture, forestry and fisheries (44.67 percent), government administration, defense and mandatory social security (13.65 percent), and wholesale and retail trade (8.74 percent). Large contribution of the agricultural sector to the GRDP shows that the economic base of the people relies on the agricultur. Thus, it is the backbone of the economy in South Halmahera Regency.

Agricultural sector consists of several sub-sectors, including food crops (rice, second crops, vegetables, and fruits), plantations, fisheries, livestock and forestry. The biggest contribution to the agriculture sector was contributed by food crops and estate crops sub-sectors with their largest contribution of 6.29% and 44.90%, respectively. The wholesale and retail trade sectors contributed the third in driving the economy of South Halmahera Regency aside from the agriculture sector. In 2014, it fell to 4.31% it was 4.55% in 2015. Of the three subsectors, the highest contribution (compared to 8 other sectors) to the wholesale and retail trade subsector was 7.52%.

The mining and quarrying sector contribution in 2014 was 0.33%. It tends to be stagnant due to the lack of potential for mining and quarrying in Halsel Regency. Developing the mining sector requires large funds, therefore investors are urgently needed. The contribution of processing industry in spurring economic growth in 2017 was 14.47%. The second largest role in the processing industry was contributed by food and beverage processing industry by 8.75%. Thus, the industry is highly potential to be developed in meeting the needs of the community, both in the region and other regions.

### **Identification of Business Profiles in the Processing of Food Products**

South Halmahera natural and human resource potentials a great opportunity to increase the productivity of the agricultural crop subsector as a superior regional

product. the role of farmers, entrepreneurs, mastery of technology, development of infrastructure facilities and institutions in rural areas are crucial. Local food product processing industry has good prospects for development. Research conducted shows that factors that must be considered in developing food-based products are flavor, product diversity, business scaletourism support, food, and souvenirs. The part of the description of the results of the interview is as follows:

South Halmahera Interview results:

- Sange village, Bacan Barat sub-district

Scarring assistance 2 units. Labuha and ternate marketing

Obstacles; Production of tapioca flour and dried cassava sago

- Penambuang village, Anisa Hi. Adam (58 years old), a junior high school graduate from Obi, a child of 5 org. Tapioca products selling price is Rp. 10,000 / kg. Initial capital of Rp. 1,000,000. Help; engines, bowls, stoves, pans, scales

Obstacles; capital, transport to the market, group work, there are no rivals

- Typical Bacan products

Chips, halua cassava, fried sambal, cassava chips, banana peel chips will be marketed in Bacan and Ternate.

**Table 3. Food Material & Processing in South Halmahera Regency 2019**

Food Material	Processed Products	Product Price	Market price	Marketing
Farming	Paddy	-	-	Local
Cassava	<ul style="list-style-type: none"> <li>• Tapioca</li> <li>• Produk suami</li> <li>• Halua Ubi Kayu</li> <li>• Cassava Fried Sambal</li> <li>• Ranggina</li> <li>• Dried Sagu Kasbi</li> </ul>	Rp. 2.500 - Rp. 10.000	Rp. 5.000 - Rp. 30.000	Local
Sweet Potato	<ul style="list-style-type: none"> <li>• Snacks</li> </ul>	Rp. 15.000	Rp. 30.000	Loca
	<ul style="list-style-type: none"> <li>• Sambal Goreng</li> </ul>	Rp. 15.000	Rp. 30.000	
	<ul style="list-style-type: none"> <li>• Flour</li> </ul>	Rp. 20.000	Rp. 40.000	
	<ul style="list-style-type: none"> <li>• Halua</li> </ul>	Rp. 10.000	Rp. 20.000	
Corn	<ul style="list-style-type: none"> <li>• Corn Chips &amp; Susagong Gula</li> </ul>	Rp 6000/pack	Rp. 12.000	Lokal
Banana	<ul style="list-style-type: none"> <li>• Banana Chips</li> <li>• Banana Peel Crackers</li> </ul>	Rp 6000/pack	Rp. 12.000 - Rp. 15.000	Local

Source: Primer Data, 2019

The table shows the processed foodstuffs, production prices, market prices, and marketing. It is questionable why those products hit merely local markets despite their good taste. One reason is lack of skills to be more innovative beside the market price considered excessively expensive for the products to compete. Thus, researchers need to develop strategies through SWOT analysis as shown in the table below.

**Table 4. SWOT Analysis of Food Materials & Processing South Halmahera Regency 2019**

<b>SWOT Analysis</b>	<b>Strenght</b>	<b>Weaknesses</b>
	<ol style="list-style-type: none"> <li>1. Government supports are available in programs, such as GEMAS or the Sago Eating Movement.</li> <li>2. Government supports are also available in education and trainings for SMEs enabling to innovate</li> <li>3. Regional Government supports available in equipment assistance of relevant Offices.</li> <li>4. Central Government provides Village Fund allowing communities advance the village economy through the Village-Owned Enterprises.</li> <li>5. The potential of food products, such as the area of non-rice farming land, are widely available.</li> <li>6. Convenience infrastructure, such markets/business areas, and roads allows to connect one place to another.</li> </ol>	<ol style="list-style-type: none"> <li>1. Central and Regional Government, and the community commitment and consistency in realizing programs and helping the community's economy to meet the needs of food availability are lacking.</li> <li>2. Competitive attitudes of the public to make innovative food products remain lacking.</li> </ol>
<b>Opportunities</b>	<b>Strategy (SO)</b>	<b>Strategy (WO)</b>
<ol style="list-style-type: none"> <li>1. Advanced Level of Community Education</li> <li>2. Technology Development</li> <li>3. Progressive Information and Communication Open Opportunities National Progress</li> </ol>	<ol style="list-style-type: none"> <li>1. Increasing the participation of students through programs created by the Central Regional, and Village Governments</li> <li>2. Improving the community knowledge by comparative studies experts or entrepreneurs</li> <li>3. Increasing the production and marketing of food product sales</li> <li>4. Establishing cooperation with other local governments or larger entrepreneurs</li> <li>5. Establishing cooperation with banks, in which the regional government as a guarantorto increase the</li> </ol>	<ol style="list-style-type: none"> <li>1. Improving the ability to use information and technology by stages of education and trainings</li> <li>2. Increasing the to make superior and competitive products</li> <li>3. Encouraging the community to build their business spirit by providing competitive opportunities through the assessment of their processed food products</li> </ol>

	business capital 6. Giving education about proper calculation of production value to the selling price	
<b>Threats</b>	<b>Strategy (ST)</b>	<b>Strategy (WT)</b>
1. Unexited attitude to learn 2. Close minded community 3. Changes in regulations and legislation interfering Government's efforts	1. Conducting soft approaches avoiding community pressured feeling 2. Periodic monitoring and evaluation of program	coordination with the village government

## RESULTS AND DISCUSSION

Referring to Government Regulation No. 68 of 2002 concerning food security, food security is defined as the condition of fulfilling food for households as reflected by the availability of sufficient food, both in quantity and quality, safe, equitable and affordable. It is vital and strategic since no country is able to carry out stable development in the absence of food security foremost. Law Number 7 of 1996 concerning Food mandates that the government together with the community realize food security for all Indonesian people. It concerns the availability and affordability of adequate and quality food. In this case there are aspects of supply which includes food production and distribution. Besides purchasing power, which includes the level of income of individuals and households plays its own role. In addition, food accessibility covers the openness and opportunities of individuals and families to get food. short, food security must include accessibility, availability, safety, and sustainability.

Accessibility means that every household is able to meet the adequacy of nutritious food. Food availability implies the average amount of food for consumption at the regional and household level. While food safety is emphasized on the quality of food that meets nutritional needs. Food security is closely related to social security, economic stability, political stability and security or national security. It is also closely related to efforts to improve the quality of Indonesian human resources. Without adequate and quality food support, it is impossible to create quality human resources. Therefore, it is not surprising that the issue of food security has become one of the main focuses in agricultural development operational policies.

### Local Food Product Development

Product development must be carried out with due regard the existing potential and its It must be adjusted to the availability of raw materials and the quality of existing human resources guarantee the business continuity. In addition, there must also be a policy to encourage banks and microfinance sources to consider farmers in accessing credit. This condition is necessary to increase output, income, and productivity of small farmers.

Furthermore, business capital is vital in developing local food products. Its is not only cruckial for the development of the local food industry but also for farming activities to maintain the continuity of raw material supply. Nyamekye (2016) states that agriculture is very influential on the economy and employment. Success in developing agricultural commodities is related to education, capital and access to counseling. The interaction of these various factors greatly influences the opportunity for product development.

For further development, managerial skills of local food industry owners are the government are required to conduct various trainings to improve the management ability of business owners to increase their capacity in interacting with other parties such as private parties related to product marketing opportunities.

### **Production Aspects**

#### **Cassava**

The analysis shows that South Halmahera district, especially the sub-districts designated for cassava producer areas generally have a relatively small production share of total cassava production at the Regency level. However, not all cassava producer sub-districts could increase productivity due to their unideal productivity. This shows that efforts to increase cassava production be more effective if pursued through an increase in planting area to increase the production as a whole because of competition in agricultural land with other commodities. Therefore, those efforts should be prioritized on the increased productivity.

#### **Marketing**

The strategy of marketing could be developed in two ways, including direct marketing and indirect marketing. Direct marketing is accomplished by farmers or business people directly to the product user community or the public directly showing up to the producers. Indirect marketing is carried out in collaboration with several shops/kiosks in the production area.

#### **Price**

Determination of prices, either farmer distributor prices, is decided after going through a price survey in traditional and modern markets. It is to ascertain associations keep abreast of price developments and avoid incorrect determination.

#### **Development Constraints**

Increasing population and changing consumption patterns certainly increase demand for food products. This brings nutrition and food safety It is an opportunity for food industry to increase its productivity anticipate food availability at the global level (Capone, 2014). For that reason, in developing local food products, it is important to consider various things related to these development opportunities. Research conducted shows that various obstacles in the development of local food products include continuity of supply of raw materials, quality of human resources/labor, business capital, production and marketing management, quality standards.

George (2014) states that to develop a food processing, synergetic industry is necessary among the government, the private sectors, and businesses. Natural resources in properly cultivated agricultural commodities should be well managed.

Additionally, product quality is a determining factor in the development of local food products. At present, the local food industry remains improperly applying quality standards. This results in reduced competitiveness and holds off uniformity it is necessary to make product differentiation one of the industrial owner breakthroughs Putra (2017) states that for the development of the food industry, product differentiation is needed. In addition, promotion needs to utilize various media and government policy assistance

Besides, product development is realiz food security. This relates to one of the goals to meet household needs. Sahu (2017) states that food security index is related to socio-economic aspects such as household income and family size. This also relates to the diversity of family consumption, food consumption patterns, and food independence. Therefore, the development of the local food industry plays a strategic role in realizing family food security

The results of interviews with the head of the food crops sector stated that Bacan Subdistrict is one of the sub-districts in South Halmahera Regency in which there are Micro/Small Enterprises producing special food from foodstuffs. Recently, the production is limitedly sold in conventional and unrepresentative packaging, narrowing it to be a superior product in South Halmahera.

The Regional Superior Product Development Program aims to increase the knowledge and skills of UMK craftsmen, namely product modification to packaging for small-scaled industries. Some MSEs engaged in traditional food processing include food processing businesses such as cassava into various types, shapes, flavors, product characteristics and others, while processing other food products such as rice into *rendang*, *batiah* and *gelamai*. The development of Micro and Small Businesses (MSEs) in supporting the economy. People's economy is crucial for the acceleration of economic development in South Halmahera. It refers to the development of a system with competitiveness and ability to develop independently. UMK is a real factor with the abil to show its important role as a support of the economy. This is very clearly seen when the global recession hit the world. By relying on business flexibility and sources of capital, micro, small and medium scaled businesses are relatively more able to survive compared to large scale businesses that are mostly built on fragile financial foundations.

## **CONCLUSIONS**

On those bases, the researchers:

1. Development of local food products must be carried out with due regard to excellence in the form of product flavors, product diversity, and tourism development.
2. Constraints in the development of local food products are continuity of raw materials, business capital, quality of human resources, management, and quality standards.
3. Factors that must be considered in product development are flavor, product diversity, business scale, supporting tourism (food / souvenirs for tourists).
4. Alternative strategies that can be implemented based on a SWOT matrix analysis are: 1) expanding market share to meet potential needs; 2) establishing youth farmer groups; 3) improving the quality of human resources, 4) empowering

farmers through farm capital strengthening; 5) integrated pest and disease control; and 6) optimizing the processing of regional superior products.

5. Priority strategies that can be implemented by local governments are empowering farmers through strengthening producer capital to meet the needs of quantity, quality and continuity.

#### Recommendations

1. Business actors are supposed to carry out activities of processed products in the food crop sub-sector to increase production to avoid losses.
2. Government should encourage economic business units and provide capital especially in efforts to increase production output of foodstuffs in the plant subsector.
3. District Government is necessary to bridge the central government programs through the Village Fund to improve the welfare of the village community.
4. Program through the recommendations of experts and small business owners advanced in developing their businesses to motivate other businesses.

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