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Enbal Agribusiness Development Strategy in The Kei Islands, Southeast Maluku Regency

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Abstract:
Enbal plant is a mainstay commodity in Southeast Maluku Regency because it has been widely diversified into value-added and selling value products. They can anticipate future food insecurity, so it can be an alternative to support national food security, especially in Maluku. This study aims to find out the various internal and external factors that influence the development of *enbal* agribusiness and formulate the *enbal* agribusiness development strategy in Southeast Maluku Regency. The research was carried out in the Kei Kecil Islands, Southeast Maluku Regency. The research locations are in three villages/*Ohoi*, namely Kelanit, Wain, and Debut. The research location was chosen deliberately with a specific purpose (purposive sampling) because the people in these villages generally work as farmers and *enbal* processing. The sample in this study amounted to 30 people who were taken by the census, and seven experts from BaLitbang agencies, the Agriculture Service, and the Ohoi/Village Government were selected intentionally (purposive sampling). The data collection stage evaluates internal factors and external factors, which are formulated into a table of internal strategic factors or IFAS (Internal Strategic Factors Analysis Summary) and external strategy tables or EFAS (External Strategic Factors Analysis Summary). The SWOT analysis results produce seven alternative strategies that can be applied in developing *enbal* agribusiness. The results of the QSPM analysis resulted in the right strategic priorities to be used in the development of agribusiness in Southeast Maluku Regency, namely the development of areas for processing *enbal* centers by increasing facilities both in terms of production and marketing to increase visitor engagement with a TAS (Total Attractive Score) value of 5.380.

Keywords: *Enbal*, agribusiness, development, diversified, processing**.**

1. Introduction

Food is everything that comes from biological sources of agricultural, plantation, forestry, fishery, aquatic, and water products, both processed and unprocessed, which is intended as food or drink for human consumption, including food additives, food raw materials, and other ingredients. Other materials used in preparing, processing, and/or making food or beverages (Law No. 18 of 2012 concerning food).

Local food is produced and developed according to the potential and resources of the region and local culture. Therefore, the type, quantity, and quality of local food products will depend on the specific conditions that exist in the region. This condition affects not only land suitability, soil properties, climate and cultivation aspects, but also the social, economic and cultural conditions of the region's people. Various local foods are spread throughout Indonesia, such as corn, arrowroot, canna, gembili, gadung, yam, and cassava [1].

Maluku Province is an archipelagic area with potential local food development, including sago, corn, hotong, and tubers, such as cassava, taro, sweet potato, breadfruit, and banana. In the context of food diversification based on local food ingredients (Perda Prov. Maluku No. 5 of 2014 concerning local food).

Southeast Maluku Regency is one of the regencies with a fairly high local food diversity source. Farmers in this area have cultivated several commodities for generations, including red rice, corn, cassava (*enbal*), yams, peanuts, and green beans. *Enbal* is one of the types of cassava cultivated by farmers in Southeast Maluku Regency and is a type of bitter cassava (Manihot esculenta Crantz) which has high cyanide acid (HCN) (> 96 ppm) and the harvest age is more than six months ([2] in [3]).

Judging from the harvested area and production in 2017, *enbal* plants is a commodity that dominates the production of Palawija in Southeast Maluku Regency, with a production of 7,544 tons and a harvested area of 781 Ha. However, production decreased by 39.08 percent from the previous year [4]. Judging from the aspect of its potential, cassava is a mainstay commodity in Southeast Maluku Regency because it has been widely diversified into value-added and selling value products, able to anticipate food insecurity in the future so that it can be an alternative to support national food security, especially Maluku in the future [5]. This considerable potential has a positive impact on increasing regional economic development, so the development of cassava must be carried out with an agribusiness system approach. The results of [6] showed that the operation of the *enbal* agroindustry in the short term was quite good, although there was a slight excess capacity in using production inputs. The DMU of the *enbal* agroindustry, which was in the constant return to scale position of 40.63%, indicated that the *enbal* agroindustry craftsmen had used production inputs efficiently because the increase in production was proportional to the use of inputs or the use of inputs was more proportional. The DMU of the *enbal* agroindustry, which was in the decreasing return to scales position of 15.63%, indicated that using production inputs was inappropriate, which would reduce output and increase production costs. This study aims to find out the various internal and external factors that influence the development of *enbal* agribusiness and formulate the *enbal* agribusiness development strategy in Southeast Maluku Regency.

2. Literature Review

2.1. Cassava Agribusiness System

Enbal is the term for cassava used by the people of Southeast Maluku, whose harvest age is more than six months. The local community generally cultivates superior varieties of cassava, namely Adira 2 and Adira 4. *Enbal* is a staple food or specialty of the Kei people, which, if processed, can be used as an agribusiness commodity and a source of family income [7]. Cassava plants are cultivated by farmers in Southeast Maluku from cultivation to processing into *enbal* because farmers do not sell cassava harvests in fresh form, but they have been processed. It is easier to get money than sell fresh because the cassava produced is not for direct consumption [5]. Based on cassava flour or starch, the food industry requires cassava with white tubers and high starch content. For the tapioca flour industry, tubers with high HCN levels are not a problem because the toxic material will be lost during processing into flour and starch. Some suitable varieties are Adira 2, Malang 1, Malang 4, and Darul Hidayah. Modified cassava flour (mocaf) is cassava flour resulting from biomass fermentation with the help of microorganisms. Modified cassava flour has better protein content and psychrochemical properties than ordinary cassava flour (without fermentation). The manufacture of modified cassava flour goes through several stages: cassava preparation (peeling, washing and cutting), fermentation, drying, and converting dry chips into flour. Modified cassava flour can be produced by fermentation using various microorganisms such as lactic acid cultures in the form of *Lactobacillus casei* [8].

Enbal processing has been carried out for generations with simple methods and equipment and until now, has produced various marketable products such as flower *enbal*, peanut sugar, and butter cheese ([9] in [2]). The marketing of processed *enbal* products is extensive, from within the Southeast Maluku Regency to Tual City. Some entrepreneurs directly market it to consumers and have established business partnerships with retailers in the district and Tual City. Usually, when there is an exhibition or religious holiday, *enbal* entrepreneurs are included in the activity while promoting the results of cassava processing [7].

2.2. Strategy Concept

Strategy is a tool to achieve a company's long-term goals by utilizing all resources to achieve those goals. The success of each strategy formulated by a company can be determined by the company taking action, either in the form of activities that are better than its competitors (distinctive competence) or actions that lead to specific company activities to be superior to its competitors (competitive advantage) [10].

Analyzing, formulating, and evaluating these strategies is called strategic planning. The main purpose of strategic planning is for companies to objectively see internal and external conditions to anticipate changes in the external environment. Strategic planning is important to gain a competitive advantage and have products that are by consumer desires with optimal support from existing resources [10]. Agribusiness development strategy integrates business management activities between each policy formation at the macro

and micro levels and the entrepreneur level of a series of agricultural-based business systems and other resources from upstream to downstream [11].

2.3. Quantitative Strategic Planning Matrix

Quantitative Strategic Planning Matric (QSPM) is a tool that strategists use to evaluate alternative strategic choices objectively based on previously identified internal-external key success factors. Conceptually, the purpose of QSPM is to determine the relative attractiveness of the various strategies that have been selected and which approach is considered best to implement [12].

The positives of a QSPM are that the set of strategies can be examined sequentially or simultaneously and that strategists are required to integrate relevant external and internal factors into the decision process. Developing a QSPM makes it less likely that key factors will be overlooked or weighted inappropriately. A QSPM draws attention to the relationships that influence strategic decisions. Although developing a QSPM requires several subjective decisions, making several small decisions throughout the process increases the likelihood that the final strategic decision is best for the organization [13].

The QSPM is not without some limitations. First, the process always involves intuitive judgment and calculated assumptions. Ranking and rating attractiveness require subjective decisions, but objective information must be used. Discussions among strategic planners, managers, and employees throughout the strategy formulation process, including developing the QSPM, are constructive and improve upon past strategic decisions. Constructive discussions during strategy analysis and choice can arise simply because of differences in the interpretation of information and differing opinions. Another limitation of the QSPM is that the concept is only as good as the information prerequisites and matching analysis on which it is based [13].

3. Research Methods

The research was conducted in the Kei Kecil Islands, Southeast Maluku Regency. The research locations are in three villages/Ohoi, namely Kelanit, Wain, and Debut, each of which is located in three sub-districts: Kei Kecil, Kei Kecil Timur, and Manyeuw Districts. The research location was chosen deliberately with a specific purpose (purposive sampling) because the people in these villages generally work as farmers and *enbal* processing. Research time in August-September 2019.

The sample in this study amounted to 30 people who were taken by census, and seven experts from BaLitbang agencies, the Agriculture Service, and the Ohoi/Village Government were selected intentionally (purposive sampling).

The data collection stage evaluates internal and external factors, which are formulated into a table of internal strategic factors or Internal Strategic Factors Analysis Summary (IFAS) and external strategy tables or External Strategic Factors Analysis Summary (EFAS). The strategy implemented by the company will be more optimal if it is determined based on the condition and position of the company. IE Matrix maps the total score of the resulting IFAS and EFAS Matrix [10].

The SWOT matrix contains a list of strengths, weaknesses, opportunities, and threats similar to those compiled in the environmental analysis. The SWOT matrix facilitates the preparation of alternative strategies for developing *enbal* agribusiness in Southeast Maluku Regency according to the strategic factors that have been made.

QSPM (Quantitative Strategic Planning Matric) is a tool strategists use to objectively evaluate alternative strategy options, based on the previously identified internal-external key success factors. Conceptually, the goal of QSPM is to determine the relative attractiveness of the various strategies that have been selected and which strategy is considered the best to implement [12].

4. Results And Discussion

4.1. IFAS and EFAS Matrix Analysis

Based on the IFAS Matrix Analysis (Table 1), it can be concluded that the factors that are the strength of the development of cassava agribusiness are locally processed products (0.444), positive response to product quality (0.291), and *enbal* product processing business is part of local wisdom (0.264). Another weakness for business actors is the inability of cassava farmers and processors to access credit (0.252).

Table 1. IFAS Matrix Analysis of *Enbal* Agribusiness Development

Internal strategy factors	Weight	Rating	Weight × Rating
Strength			
1. The community's positive response to the quality of the *enbal* products that have been produced	0.097	3	0.291
2. The formed market makes it easier for farmers to market *enbal* products	0.080	3	0.240
3. Resources for skilled business actors	0.088	2	0.176
4. *Enbal* is a locally processed product	0.111	4	0,444
5. *Enbal* product processing business is part of local wisdom	0.088	3	0.264
6. The impact of training activities carried out by the government has made the performance of farmers and agricultural product processors increasingly skilled	0.084	3	0.252
Weakness			
1. Inability of farmers and processors to access credit	0.084	3	0.252
2. Lack of managerial ability of thick business actors	0.062	2	0.124
3. Relatively low level of education of farmers	0.071	2	0.142
4. Limited means of production owned by farmers and processors of *enbal* products	0.071	2	0.142
5. *Enbal* packaging price is expensive	0.080	3	0,240
6. Lack of participation of farmers in the development of farmer groups followed	0.080	2	0.16
Total	1		2.727

Source: Primary Data 2020 (Processed)

Furthermore, on external factors (Table 2), the most significant opportunity for the development of cassava agribusiness is the diversification of local food products (0.456) and the potential natural conditions for the development of cassava agribusiness (0.300). Meanwhile, the most significant threat is technological developments in production facilities, production processes, harvest and post-harvest, processing, and information (0.273).

Table 2. EFAS Matrix Analysis of *Enbal* Agribusiness Development

External strategic factors	Weight	Rating	Weight × Rating
Opportunity			
1. Local food development policy by the government	0.086	3	0.258
2. Diversification of local food products	0.114	4	0.456
3. *Enbal* cultivation technology can still be maximized	0.068	2	0.136
4. The available land area for *enbal* farming is quite wide for development activities	0.063	2	0.126
5. Potential natural conditions for the development of agribusiness *enbal*	0.1	3	0.300
6. Market potential and partnership potential	0.091	3	0.273
Threat			
1. Technological development	0.091	3	0.273
2. The emergence of new competitors both at the farm level, processors and traders	0.073	2	0.146
3. Impact of climate change	0.073	2	0.146
4. Market demands to always make improvements *enbal* product quality	0.077	3	0.231
5. The procedure for a capital loan is quite difficult	0.082	3	0.246
6. Risk of distribution activities that affect quality and quantity of *enbal* product	0.077	2	0.154
Total	1		2.745

Source: Primary Data 2020 (Processed)

4.2. IE Matrix Analysis

After the IFAS and EFAS matrices are created, the Internal External matrix is compiled, which maps the total IFAS and EFAS scores. The matrix above shows an IFAS score of 2.727, which means that the development of *enbal* agribusiness is in an average position to carry out a strategy to utilize strengths to overcome weaknesses, and an EFAS score of 2.745, which means that the development of *enbal* agribusiness is at an average point to implement a strategy to take advantage of opportunities and avoid threats.

The matrix results show that the position in developing *enbal* agribusiness is in quadrant V, which means that the right strategy for developing *enbal* agribusiness is maintaining market penetration, market development, and product development.

4.3. SWOT Matrix Analysis

Based on the study's results, the strategy used includes four quadrants by identifying several internal and external factors, such as strengths, weaknesses, opportunities, and threats to the development of *enbal* agribusiness in Southeast Maluku Regency (Table 3).

Table 3. SWOT Analysis Matrix

IFAS / EFAS	*STRENGTHS* (S)	*WEAKNESS* (W)
	1. The community's positive response to the quality of the *enbal* products that have been produced 2. The formed market makes it easier for farmers to market *enbal* product processor 3. Resources for skilled business actors 4. *Enbal* is a locally processed product 5. *Enbal* product processing business is part of local wisdom 6. The impact of training activities carried out by the government has made the performance of farmers and agricultural product processors increasingly skilled	1. Inability of farmers and processors to access credit 2. Lack of managerial ability of thick business actors 3. Relatively low level of education of farmers 4. Limited means of production owned by farmers and processors of *enbal* product processor 5. *Enbal* packaging price is expensive 6. Lack of participation of farmers in the development of farmer groups followed
OPPORTUNIES (O) 1. Local food development policy by the government 2. Diversification of local food products 3. *Enbal* cultivation technology can still be maximized 4. The available land area for *enbal* farming is quite wide for development activities 5. Potential natural conditions for the development of *enbal* agribusiness 6. Market potential and partnership potential	S-O STRATEGY 1. Increasing the productivity of *enbal* plants through intensification and extensification based on organic farming 2. Management development for strong business actors through training and mentoring by stakeholders 3. Adding market distribution areas through sales agents in these areas	W-O STRATEGY 1. Striving for easy access and sources of financing for global business actors 2. Development of an agribusiness system directed at increasing competitiveness through the development of *enbal* processing center villages by increasing facilities both in terms of production and marketing to increase visitor engagement
TREATHS (T) 1. Technological development 2. The emergence of new competitors both at the farm level, processors and traders 3. Impact of climate change 4. Market demands always to make improvements *enbal* product quality 5. The procedure for a capital loan is quite difficult 6. Risk of distribution activities that affect quality and quantity of *enbal* product	S-T STRATEGY 1. Training and development of processor creativity to try new *enbal* product diversification with adequate facilities	W-T STRATEGY 1. Improving the partnership system that has been implemented between farmers, farmer groups, and extension workers

Source: Primary Data 2020 (Processed)

4.4. QSPM Analysis

From the SWOT matrix analysis results, seven alternative strategies have been obtained that can be applied to the development of *enbal* agribusiness in Southeast Maluku Regency. A QSPM (Quantitative Strategic Planning Matrix) analysis is carried out to determine the most appropriate and main strategic priorities. The

priority strategy is selected based on the highest TAS (Total Attractiveness) value. The results of the QSPM calculation can be seen in Table 4.

The order of strategic priorities in the development of *enbal* agribusiness in Southeast Maluku Regency, namely:

1. Development of *enbal* processing center villages by increasing facilities both in terms of production and marketing to increase visitor engagement.

   With the development of the *enbal* production center villages it can attract visitors not only to buy *enbal* products but also to see every process of *enbal* processing until the end. This is one of its added values because these villages have become culinary tourism villages complemented by natural potential and have beautiful tourist attractions in the Kei Islands.
2. Training and development of processor creativity to try new *enbal* product diversification with adequate facilities.

   In addition to processed products in the form of plain slabs and flowers with various flavors, such as peanut sauce, cheese, and chocolate, and other products in the form of sticks of different flavors, other products, such as fried *enbal*, need to be developed because they can be used as constellation *enbal* and consumed with side dishes. In addition, *enbal* can also be diversified into round and thin chips by providing other flavors, such as barbeque and more modern corn seasoning, and the development of product variations such as *enbal* bubuhuk, *enbal* cookies, and *enbal* banquets.
3. Increasing the productivity of *enbal* plants through intensification and extensification based on organic farming.

   Farmer training and development can be carried out by field extension workers (PPL) by carrying out socialization in introducing cultivation technology that is easily adopted by farmers, such as the application of organic cultivation techniques where fertilizer and medicine needs can be obtained in the surrounding environment such as the use of chicken manure for fertilizer needs and use of environmentally friendly botanical pesticides.
4. Strive for easy access and sources of financing for global business actors

   In terms of quantity, processors can still not produce in large enough quantities. Adding capital with low interest rates is expected to encourage the practical application of new technologies, significantly to improve product quality.

   Based on the ranking list above, it can be seen that based on the analysis of the QSPM model, an alternative strategy for the development of *enbal* plants agribusiness in Southeast Maluku Regency, which is the main priority is the development of the *enbal* processing center villages by increasing facilities both in terms of production and marketing to increase visitor engagement with a Total Attractive Score (TAS) value of 5.380. The implementation of alternative strategies based on the TAS value in the QSPM model can be done from the highest strategic TAS value, then the second highest, and followed by the next sequence of strategies until the most minor strategy TAS value.

Table 4. QSPM *Enbal* Agribusiness Development in Southeast Maluku Regency

Key Factors	Weight	Strategy Alternatives							
		Strategy 1		Strategy 2		Strategy 3		Strategy 4	
		AS	TAS	AS	TAS	AS	TAS	AS	TAS
Strength									
1.	0.097	4	0.388	4	0.388	4	0.388	4	0.388
2.	0.080	3	0.240	3	0.240	3	0.240	3	0.240
3.	0.088	3	0.264	3	0.264	3	0.264	3	0.264
4.	0.111	3	0.333	2	0.222	3	0.333	3	0.333
5.	0.088	3	0.264	2	0.176	3	0.264	3	0.264
6.	0.084	3	0.252	2	0.168	3	0.252	2	0.168
Weakness									
1.	0.084	2	0.168	2	0.168	2	0.168	2	0.168
2.	0.062	2	0.124	3	0.186	2	0.124	2	0.124
3.	0.071	3	0.213	3	0.213	2	0.142	2	0.142
4.	0.071	2	0.142	2	0.142	2	0.142	2	0.142
5.	0.080	1	0.08	1	0.080	2	0.160	2	0.160
6.	0.080	2	0.160	2	0.160	1	0.080	1	0.080
Opportunity									
1.	0.086	4	0.344	3	0.258	3	0.258	3	0.258
2.	0.114	3	0.342	3	0.342	3	0.342	3	0.342
3.	0.068	4	0.272	3	0.204	3	0.204	3	0.204
4.	0.063	3	0.189	3	0.189	3	0.189	3	0.189
5.	0.100	3	0.300	2	0.200	3	0.300	3	0.300
6.	0.091	3	0.273	3	0.273	3	0.273	3	0.273
Threat									
1.	0.091	2	0.182	3	0.273	3	0.273	3	0.273
2.	0.073	2	0.146	1	0.073	2	0.146	1	0.073
3.	0.073	2	0.146	3	0.219	1	0.073	3	0.219
4.	0.077	2	0.154	2	0.154	2	0.154	1	0.077
5.	0.082	3	0.246	3	0.246	2	0.164	1	0.082
6.	0.077	2	0.154	3	0.231	1	0.077	2	0.154
Total TAS			5.376		5.069		5.010		4.917

5. Conclusion

Factors that are a strength for the development of cassava *enbal* agribusiness are locally processed products and positive responses to product quality. Cassava *enbal* products are part of local wisdom. The weakness factor is the inability of farmers and processors to access credit. On external factors, the most significant opportunity is the diversification of local food products and potential natural conditions. Meanwhile, the most important threat is the development of technology in the form of production facilities, production processes, harvest and post-harvest, processing, and information.

The strategic analysis through the SWOT matrix resulted in seven alternative strategies, namely increasing the productivity of *enbal* plants through intensification and extensification based on organic farming, developing management for forest business actors through training and mentoring by stakeholders, increasing market distribution areas through sales agents in the regions, seeking access and easy sources of financing for oil palm business actors, development of *enbal* processing center villages, training and development of processor creativity to try to diversify new *enbal* products with adequate facilities and improve the partnership system that has been implemented both among farmers, farmer groups, and extension worker.

The strategic priority based on the QSPM is the development of *enbal* processing center villages by increasing facilities both in terms of production and marketing to increase visitor engagement.

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