

## The Development Strategy of Coconut Sugar Industry

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### ABSTRACT

The long-term goal of this study was to obtain raw format model of industrial development strategy of small coconut sugar in order to increase and improve the industrial production process, as well as the rationale for the contribution of local governments in the implementation of development policy making small business sector in Bone Bolango District. Short-term goal of this study was to develop processing techniques coconut sugar industry.

Method of data analysis used in this study was an analytical approach and SWOT analysis methods Analytical Network Process (ANP). SWOT analysis will obtained some alternative strategies that interconnected between alternatives. Alternative obtained necessary weighted for the importance of each of the different alternatives. Analytical Network Process (ANP) is one method of Multi-Criteria Decision Making (MCDM), which can used to prioritize the interests of the various alternatives. Thus it can be obtained by alternative strategies are most appropriate in the development of small industries coconut sugar Bonedaa Village, Bone Bolango District.

The result of this study showed that 1). Developing market penetration strategies and product development strategy is an alternative strategy to developed and applied in the development of coconut sugar business group Bonedaa Village, Bone Bolango District; 2). The formation of cooperative ties with institutions of industrial development is the priority strategies that can applied in the development of coconut sugar business group Bonedaa Village, Bone Bolango District.

**Keywords:** *Strategy, development of Small Industries, coconut sugar*

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### I. INTRODUCTION

Agro-industry is one sector that has a vital role in the economic development of Indonesia. Proper management in this sector can support an increase in the export of local products, an increase in the number of employment, encouraging equal distribution of labor and increase the income of local farmers. One-crop agro-industries have a significant contribution on Indonesian economy is coconut (*Cocos nusifera L.*).

Oil plants have a prospect with a high level of productivity of 3.2 million tons per year. This supported by the amount of coconut plantations in Indonesia reached 3.88 million hectares. Some products processed from coconut plants which have been developed which are virgin coconut oil (VCO), oleochemicals, dry grated coconut, coconut cream, briquettes shell, coconut fiber and coconut sugar.

Bonedaa Village, District of South Suwawa, is one of the coconut production centers located in Bone Bolango District. However, there are small industrial group that has developed into a refined coconut palm sugar. As in other large cities, coconut sugar has an important role in increasing Communities income. In economic development, small industries coconut sugar industry is one sector that is considered more resilient to the economic crisis in Indonesia compared to large industries (Boediono, 2009 ).

In an effort to improve the competitive edge of the industry, it is necessary to combine the benefits of development to the local and global market opportunities that synergize with the era of regional autonomy and the free market.

Bonedaa villages including areas has potential of coconut sugar industry is very promising in improving communities economic income. The number of people who have coconut in the village Bonedaa occupies almost 75% of all economic activities in rural communities Bonedaa.

By using SWOT analysis will be obtained some alternative strategies that are interconnected between alternatives. Alternative obtained necessary weighted for the importance of each of the different alternatives. Analytical Network Process (ANP) is one method of Multi-Criteria Decision Making (MCDM), which can used to prioritize the interests of the various alternatives. Thus it can be obtained by alternative strategies are most appropriate in the development of small industries coconut sugar Bonedaa village.

## **II. LITERATURE REVIEW**

### **2.1. Small industry**

Small industry has an important role in supporting the national economy through employment, increase the benefit and comparative advantage of local products as well as an influence on the development of the upstream industry and foreign exchange savings (Mulyanto, et al., 2011). Small industries have differences with other industries, both in terms of characteristics and engineering. Because it is more likely to move on their likes and disorganized, the industry has a low bargaining power in the business market (Tambunan, and Mulyanto, 2006).

### **2.2. Coconut sugar**

Coconut sugar is sugar produced from coconut sap evaporation process which is then printed (Issoesetiyo and Wahyuni, 2005). Coconut sugar is good to have the characteristics of which are solid, dry and brownish yellow. Characteristics of a good coconut sugar can be influenced by the quality of the juice is used. In this case, the juice with a pH of 5.6 to 6.5 before the heated conditions will provide results coconut sugar with quality pigments and flavor typical of coconut sugar (Wijaya, 2015).

The composition of sucrose, protein, fat, moisture and ash content in the fluid causes the sap of coconut sugar has a distinctive taste (Christian, 2011). Quality coconut sugar can divided into three types, consist of quality "Super", quality "A" and the quality "B" (Ekowati, 2010).

### **2.3. Role of Industry on the Economy Regional**

Processing industry has a role in the economic growth of the region through the fulfillment marketing needs domestically and abroad. Some positive effects appear include increased absorption of the labor force, an increase in the value of the investment area, equalization effort, increase value-added raw materials and an increase in per capita income of a region (Rejekiingsih, et al, 2011).

### **2.4. Management Strategies**

The strategy is going to act that demands top management decisions and a lot of company resources to make it happen. In addition, the strategies also affect the life of the organization in the long term, at least for five years. Therefore, the nature of the strategy is oriented to the future. The strategy has the function of multi-functional or multi-dimensional and formularization needs to consider internal and external factors facing the company (David, 2004).

Strategy is a comprehensive master plan, which describes how the business will achieve all the goals set by the mission that has been predetermined. The process of drafting the strategy more use of the analytical process (Rangkuti, 2001)

The strategy is the formulation of a comprehensive plan on how the company will achieve its mission and objectives. The strategy will maximize competitive advantage and minimize the limitations of competing (Hunger and Wheelen, 2003)

Strategic management is a series of actions that are used to formulate, implement, and evaluate managerial decisions in achieving company goals (Hunger and Wheelen, 2003). The strategy is well aligned relationship with the concept of planning and decision-making, so that in the end the development strategy into management strategies. Strategy management process consists of several stages, including environmental monitoring, strategy formulation, strategy implementation and evaluation of strategies (David, 2004; Hunger & Wheelen, 2007).

Stage environmental monitoring conducted to identify events, developments and changes in the environment that affect the organization. Strategy formulation stage is the stage of the selection decision in the selection of the alternative strategies to use by the organization. The strategy chosen is the result of observations of the environment organization (Hunger & Wheelen, 2007).

The next stage is the stage of implementation of the strategy, namely the implementation phase of the strategy has formulated or planned. Implementation of the strategy is a process that embodies management strategies and policies through the development of programs, budgets and procedures. The last stage is the evaluation and control is to do a comparison of results achieved with the desired result to provide the feedback necessary for the management to evaluate and take corrective action if treated. (David et al. 2009).

## **III. METHODOLOGY**

The research method formulated based on a statement of research, research objectives, literature review and frame of mind. The research method described in this section, namely: a research approach; research sites; data collection techniques; namely data analysis in terms of acquiring the development of strategies with approaches and techniques SWOT ANP to determine the planning of industrial development strategy of small coconut sugar

Location Research

This research conducted in the Bonedaa Village, Bone Bolango District, Gorontalo province. Determination location was done in purposive sampling, (unintentionally) by certain considerations appropriate research purposes.

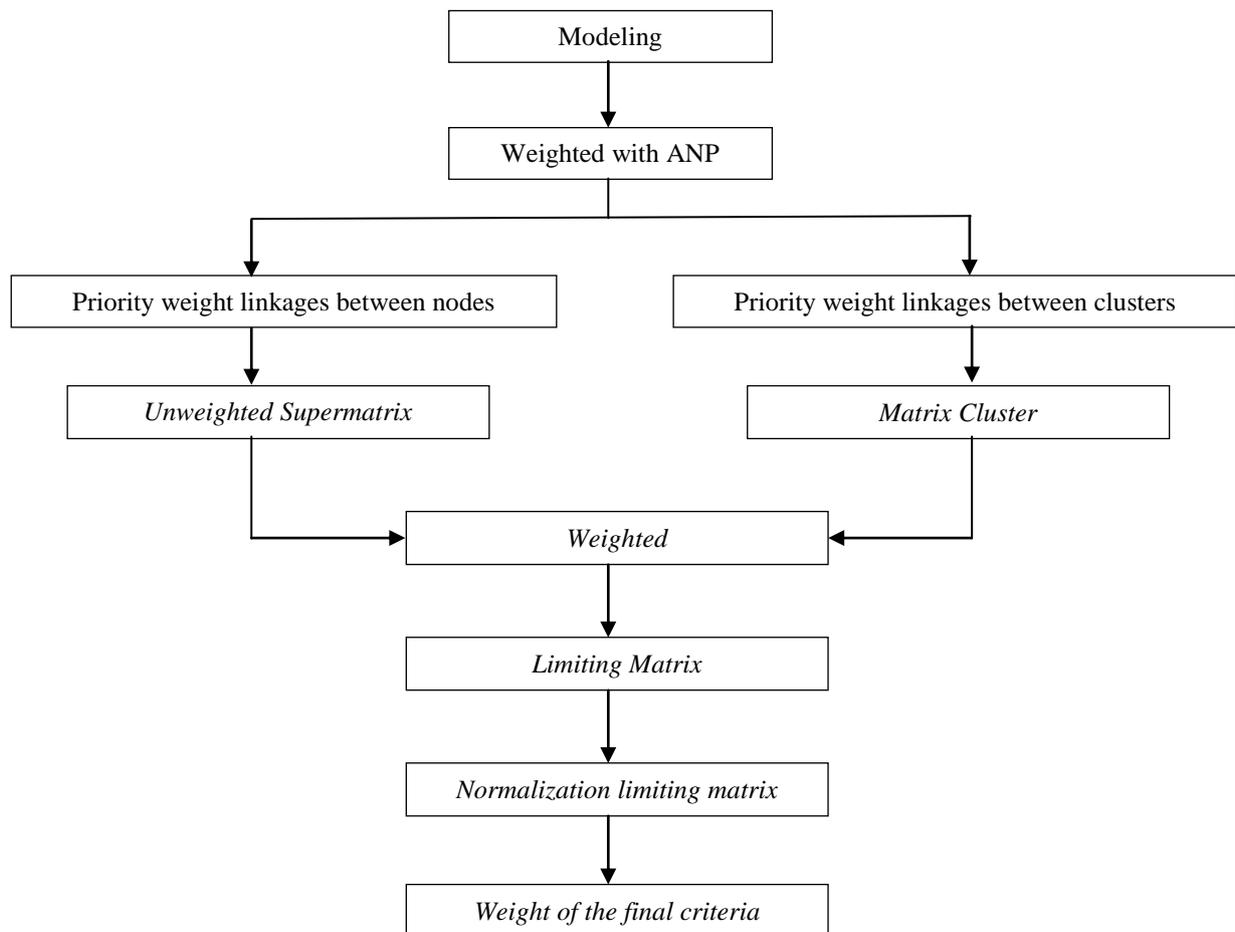
SWOT analysis

SWOT analysis is to identify the various factors systematically to formulate the company's strategy. This analysis based on the logic that maximizes strength and opportunities, but simultaneously can minimize your weaknesses and threats. Strategic decision-making process is always associated with the development of the mission, goals, strategies, and company policies. Thus strategic planners should analyze the company's strategic factors (strengths, weaknesses, opportunities and threats) in the conditions that exist today. It called the Situation Analysis. The most popular models for situation analysis are SWOT analysis (Rangkuti, 2001).

In business, SWOT analysis is central to developing a competitive strategy. SWOT stands for Strengths, Weaknesses, Opportunities, and Threats. SWOT templates that are easily adapted to developing a competitive strategy. SWOT position of internal strengths and weaknesses the same to see the opportunities and threats related to external problems. In this format, resources and capabilities suitable for a environment competitive. The result is a strategic likely to become more apparent.

Analytical Network Process (ANP)

Analytical Network Process is a method used to solve the problems of Multi-Criteria Decision Making (Saaty, 2006; Singgih 2009). This method can used to represent the level of interest various alternative solutions based on consideration of linkages between criteria and sub criteria. At ANP network, referred to as cluster level those have criteria and alternatives. In the cluster, there are nodes that can communicate with other nodes (Ascarya, and Saaty, 2006).



#### IV. ANALYSIS AND RESULT

Most coconut sugar industry in the Bonedaa Village, Bone Bolango District business group managed community fostered by Marhani Centre is one of NGOs engaged in productive economic empowerment. The resulted in an inconsistency in the production process and the small coconut sugar production capacity is generated. The workers who are mostly housewives working in this industry with the purpose of getting additional revenue income. Payroll system is paid per day Rp 25,000, - to Rp 28,000, - depending on the number of coconut sugar produced by each worker.

The industry is a day can produce an average of 20 kg of coconut sugar. Raw materials obtained from the sap of local people who work as sap tappers. Each 5 kg obtained sap tappers valued at Rp 8.000, - up to Rp 10.000, -. With the condition of the coconut tree, that reaches ± 20 meters, the number of the existing sap tappers decreases. However, with the amount of power tappers that exist today, the need for the production of coconut sugar sap felt still fulfilled.

Coconut Sugar produced by artisans in the Bonedaa village classified as coconut sugar with best quality who has a sale value of around Rp 12,000, - to RpRp 13.000, - per kilogram. The high value of the sale is a potential that can used in lifting the regional economy. Coconut sugar produced by the sugar business group of coconut in the Bonedaa village marketed in retail. The business group only acts as a manufacturer supplier, where the parties subsequent to the end consumer will sell the product.

In this case, the craftsmen do not own the trademark or label on the products. Labeling and packaging processes performed by the Marhani Centre, hereinafter as packaging and product marketers. Marketing of the product has spread across several cities and counties in the province of Gorontalo and some have entered the national market. Marketing done by establishing partnership relations to several merchants and eventually expanded and partnerships have conducted with the PT. Unilever Jakarta as well as a supplier or a company's CSR.

#### Evaluation Internal Environment Industry

Based on the evaluation, the results obtained weights, ranking and weighting the value of which can be seen in Table 4.1

Strategic Factors	Weight	Rating	Score
<b>Strength</b>			
● Local labor reasonably available	0117	4	0466
● resources Land			
● Availability of appropriate technology	0118 0108	3 3	0354 0325
● profitable investment potentials	0108	3	0325
<b>Weaknesses</b>			
● FEA Resource	0100	3	0301
● Institutional support	0,099	3	0.296
● Market Information	0,128	2	0.236
● workers Skills	0,105	2	0.210
● Availability of capital	0,136	1	0.126
<b>TOTAL</b>	<b>1</b>		<b>2,641</b>

Based on Table 4.1 it can be seen that there are four key factors strength of coconut sugar business groups in supporting the development of the industry. The strength factors include the availability of local labor, the availability of appropriate technology, the potential for profitable investment, and land resources. Of these four factors, the availability of local labor force is a key factor that has a highest score of 0.466 with a rating be 4. This suggests that the availability of local labor is a factor most influential force in supporting the development of business groups' coconut sugar.

There are five key elements of weakness factors that influence the development of coconut sugar business groups including the skills of craftsmen, FEA resources, market information, availability of capital, and institutional support. The availability of capital is a major weakness that has the most influence on the development of business group of coconut sugar. This indicated by the value of the score obtained from IFE

matrix of 0.126 to 1. In accordance with the rating value delivered Tambunan (2003) that, the lack of capital owned by craftsmen coconut sugar adverse impact on the sustainability and development of coconut sugar business group. The existence of a limited amount of capital, it would be difficult for an industry to meet the financing needs ranging from financing the production of raw materials, labor finance, production and financing. Thus it takes their capital resources that can support both from private and institutional capital to government institutions capital such as savings and credit cooperatives, rural banks to ensure the sustainability of coconut sugar business group. In doing the business, also needed the support of the local government that regulates the legislation and clear regulations regarding the lending of capital for small industries.

**Evaluation results External Environment Industry**

Identification by the external environment business grouped of coconut sugar Bonedaa Village, revealed a number of factors influence consisting of opportunities and threats. These factors evaluated using External Factor Evaluation Matrix (EFE). With an evaluation of these factors, we can determine the right strategy in developing business groups of coconut sugar in the Bonedaa village. EFE Calculation results can see in Table 4.2.

Table 4.2 Matrix Calculation Results External Factor Evaluation (EFE)

Strategic Factor	Weight	Rating	Score
Opportunities			
● Market Potential	0.130	4	0521
● Availability of local labor	0.127	4	0508
● development science and technology	0116	3	0347
● Culture Indigenous Peoples	0104	3	0312
● Local Government Support	0111		0221
Threat			
● Reduction Land for the construction of	0112	3	0337
● the plant pest	0.069	4	0277
● regulation	0.106	2	0211
● Product Price Fluctuations	125	1	0.125
Total	1		2,860

Based on identification of external factors, it known that there are five factors that influence the development of strategic opportunities coconut sugar business groups, namely the potential market, the development of science and technology, local government support, availability of labor and culture of the locals. Of the five strategic factors such opportunities, market potential are the external factors that have the highest value score of 0.521 with a rating of 4. This indicates that the potential market opportunity is a factor that is very influential and can used very well by the business group coconut sugar. By utilizing their good market potential opportunities, an industry would be able to survive in the global competition and encourage the development of the industry (Wrihatnolo, 2006). Huge market potential possessed by an industry is an opportunity for industry players to be able to do a good management of owned industry. Thus, various efforts to develop and increase the quality and quantity of production will automatically increase.

At the threat of strategic factors, there are four factors that perceived threat will hamper the process of developing a business group in the village Bonedaa coconut sugar, among others narrowing of land for the construction of fluctuations in product prices, crop pests, and laws and regulations. Of these four factors, fluctuations in product prices are a threat factor that considered very influential in the development business group of coconut sugar. This is consistent with a score on a matrix with a rating of 0.125 EFE 1. product price fluctuations that occur will affect the stability of the coconut sugar business group management performance in terms of both quantity and quality of the products, so that the development will be done will also be hampered.

**Alternative Industry Development Strategy**

From the calculation of IFE and EFE matrix, obtained the proper formulation strategies to applied to a Coconut sugar business group in Bonedaa Village is a product development strategy and market penetration strategy. This based on the mapping of the total matrix IFE and EFE matrix to the matrix total IE. Based on the position can be determined that the position of business group of coconut sugar in Bonedaa village is currently in the cell V (Figure 4.1).

**TOTAL RATA-RATA TERTIMBANG IFE**

	<b>Strong</b>	<b>Average</b>	<b>Weak</b>
<b>High 3.0 to 4.0</b>	<b>I</b>	<b>II</b>	<b>III</b>
<b>Middle 2.0-2.99</b>	<b>IV</b>	<b>V</b>	<b>VI</b>
<b>Low 1.0 to 1.99</b>	<b>VII</b>	<b>VIII</b>	<b>IX</b>

Figure 4.1 Matrix IE (Primary Data Processed, 2015)

With reference to both types of these strategies, then the development of strategies using SWOT analysis and acquired nine alternative strategies that can be used in the development of business groups in the village Bonedaa coconut sugar. Alternative strategies can be seen in Table 4.3.

<b>IFE</b>	<p><b>Strength (Strengths/ S)</b></p> <ul style="list-style-type: none"> <li>Local Workforce please</li> <li>availability of appropriate technology</li> <li>profitable investment potentials of</li> <li>Land Resources</li> </ul>	<p><b>Weakness (Weakness/ W)</b></p> <ul style="list-style-type: none"> <li>Limitations craftsmen skills manpower resources</li> <li>Extension</li> <li>Market Information</li> <li>Availability of capital support</li> </ul>
<b>EFE</b>	<p><b>Strategy SO</b></p> <ul style="list-style-type: none"> <li>Optimizing the performance of the industry</li> <li>with the development of technology (SO1)</li> <li>The establishment of a business partnership with another party (SO2)</li> <li>Establishment of central services</li> <li>information agro-industry (SO3)</li> </ul>	<p><b>WO strategies</b></p> <ul style="list-style-type: none"> <li>Develop and Optimize function information services business (WO1)</li> <li>Development institutions industry financing (WO2)</li> <li>Procurement of resources extension field (WO3)</li> </ul>
	<p><b>Opportunities (Opportunities/ O)</b></p> <ul style="list-style-type: none"> <li>market potential for</li> <li>development of science and technology</li> <li>support of local government</li> <li>Availability of manpower</li> <li>Culture locals</li> </ul>	

<p style="text-align: center;"><b>Threats (Threats/ T)</b></p> <ul style="list-style-type: none"> <li>● Narrowing of land for development</li> <li>● Fluctuations in the price of the product</li> <li>● Hama plant</li> <li>● PERDA and local government regulation</li> </ul>	<p style="text-align: center;"><b>Strategy ST</b></p> <ul style="list-style-type: none"> <li>● of downstream industries development</li> <li>● (ST1)</li> <li>● Association in cooperation with development agency</li> <li>● industrial(ST2)</li> </ul>	<p style="text-align: center;"><b>WT Strategies</b></p> <ul style="list-style-type: none"> <li>● Providing marketing center</li> <li>● integrated for the area of industrial products</li> </ul>
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**Priority Development Strategy Coconut Sugar Business Group**

After determined the linkage relationships between each alternative obtained, then weighted using Analytical Network Process to determine priority values of each alternative strategy. Any alternative weighting strategies have different priorities. Basic selected strategy of development of the coconut sugar business group that based on the value of the weight that was adjusted. Based on the weighting results listed in Table 4.4, it can be seen a sequence of strategic alternatives ranging from highest to lowest weight.

Weight Calculation Results Table 4.4: Alternative Strategies

No.	Alternative Strategies	The weight of
1.	The Association in Cooperation with Industrial Development Agency (ST2)	0227
2.	Establishment Agro-Industry Information Service Center (SO3)	0191
3.	Procurement Resources Airy Extension (WO3)	0167
4.	Develop and Optimize Business Information Service Functions (WO1)	0148
5.	Provision of Integrated Marketing Center for Local Industrial Products (WT1)	0088
6.	Establishment Business Partnership with Another Party (SO2)	0078
7.	Industrial Development Finance Institutions (WO2)	0.062
8.	Optimizing The Performance of the Industry with The Development of Technology (SO1)	0022
9.	The Development of Downstream Industries (ST1)	0.017
<b>TOTAL</b>		1

Sources: Primary data processed (2015)

From Table 4.4 it can see that the strategy formation of cooperative ties with industrial development agencies is a strategy with the highest weight value of 0227. Conduct cooperative ties with industrial development agencies would provide strong support for the performance of the business group through various aspects of coconut sugar. Collaborated with industrial development agency had a significant impact in terms of improved quality and product quality produced coconut sugar (Assauri, 2004). By using this strategy, the craftsmen coconut sugar will support and guidance in developing the industry both from the aspect of funding, technology development and improvement of production systems. Improved quality and quality of coconut sugar products will increase the prospects for products in the market that will ease the coconut sugar business group in obtaining opportunity factors owned (Nurmianto, 2004).

To execute these strategies needed in an integrated movement between communities, industry and government realized in the form of partnerships. Activities that can be done is to optimize the function of the central and local entrepreneurship to support the efforts resource potential of plantations. With the development of regional industrial activity, it will facilitate the efforts to establish cooperation with the institutions of industrial development. Besides, the local government has a major role in ensuring the passage of various

strategic alternatives that exist to address threats and weaknesses that owned by business groups' coconut sugar. The formulation of rules and regulations that covers all aspects of small business development, organizational management support and business capital is one of the great efforts that can done within simplify and expedite the development by business group of coconut sugar.

Another alternative strategy that can apply in the development of coconut sugar business group Village Bonedaa is to establish agro-industry information service center and the provision of resources airy extension. Provision of agro-industry information service centers and the provision of extension field have the same function in providing a variety of information to the coconut sugar industry. Both of these strategies will be profitable for industry players' coconut sugar as it can be the media in providing information needed by the craftsmen.

Resource extension field role to give information directly to the craftsmen in accordance with the conditions that existed in the field. With the agro-industry information, service center expected to provide information that is precise, accurate and up-to-date in accordance with the conditions of the business group Village Bonedaa coconut sugar. Information can provided through both media including repair coconut sugar production system, renewal of the technology, market information and product pricing information. The development efforts of business groups carried coconut sugar can be conceptualized and well manageable.

Optimizing the performance of the industry with the development of technology is an alternative strategy that has the lowest weight rating. The development of technology is not an appropriate strategy to implemented in industry conditions that lack capital. This is because the technology development effort is necessary to have sufficient funding. On the other side of the business groups of coconut sugar, desperately need enough capital in an effort to quality improvement and quantity of production. By diverting funding for the development of technologies considered will slow the performance of a business group of coconut sugar in the development of the industry. Therefore, strategy used in coconut sugar business groups that have a good performance from the aspect of funding / capital (Tambunan, 2003). Thus, the development efforts of business groups' coconut sugar can run optimally.

## V. CONCLUSION

Development of market penetration strategies and product development strategy is an alternative strategy to developed and applied in the development of coconut sugar business group Bonedaa Village Bone Bolango District. The establishment of cooperative ties with institutions of industrial development is the priority strategies that can applied in the development of coconut sugar business group Bonedaa Village Bone Bolango District.

## VI. SUGGESTION

Some suggestions may be submitted from the results of discussions at the writing of this include it takes a deeper exploration of the internal and external factors coconut sugar business groups, in order to obtain alternative development strategies coconut sugar business groups more systematic, accurate and applicable to apply. It takes the support of the local government of systemic support and facilitates the implementation of alternative development strategies coconut sugar business group

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