

## THE FUNCTION OF COCONUT SUGAR CLUSTER ESTABLISHMENT FOR LOCAL ECONOMIC DEVELOPMENT IN BANYUWANGI REGENCY

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### Abstract

*This research was aimed to analyze and to understand (1) factors influencing local economic development of coconut sugar cluster in Banyuwangi Regency; (2) the function of coconut sugar cluster establishment for local economic development, especially for workers absorption and for increasing people income and product innovation in Banyuwangi Regency. Analysis method was quantitative with AHP analysis. The result of research indicated several findings (1) Natural resource was the most influential factor for local economic development in Banyuwangi Regency if compared to human resource, government role, and output. In natural resource, the most determining sub-factor was raw material. For human resource, the most influential sub-factor was worker skill. For the factor of government role, the most influential sub-factor was capitalization. This sub-factor was more advantageous than training and infrastructure. For output factor, the most influential sub-factor was product quality. (2) It must be useful to increase participation, to improve income, and to produce innovation to local communities of Banyuwangi Regency.*

**Keywords:** Local Economic Development, Clusters, Coconut Sugar

### 1. INTRODUCTION

Local economic development, in essence, is economic development over a regency or city, which consist of cooperation between all economic actors in related areas. Local economic development is an integral part of regional development. Approach for local economic development concept has given the opportunity for a community to take a role and initiative in mobilizing the existed local resources to build the related community. Local economic development has enabled productive with low-income group of the society such as farmers to enter larger economic chain (Dendi et al., 2004).

Encouraging a region to be developed was due to authority that used to be centralized but now has been transferred toward regional government in province and regency/city level through decentralization. After authorized, region was given financial resources (fiscal decentralization), this acts to increase region's revenue in financing regional development. However, in current decentralization there were lots of regions has been independent since they still depend on government 'subsidy' which is General Allocation Fund. With fiscal

decentralization, regency/city would be able to reduce their dependency toward central government, by improving Own Source Revenue (PAD). Improving Own Source Revenue (PAD) is in accordance with economic development of a region which could be seen from its components such as regional taxes, regional retribution and separated natural resources outcome.

Coconut sugar production in Banyuwangi was about 30.500 ton per year. While, non-sulfite coconut sugar (coconut sugar processed without using preservative for sugar – sodium metabisulfite) per year was about 1.344 ton. This was still under proportion since non-sulfite coconut sugar was starting flourishing in the market.

Due to this potential, government of Banyuwangi regency has taken initiative to develop this venture by establishing industrial cluster development model in coconut sugar industrial center in Banyuwangi, since the unique feature of Banyuwangi's coconut sugar without preservatives (non-sulfite) still hasn't existed in other regions thus it is expected that this cluster model would become the effective way to deal with limitations of small and medium enterprise as major business actor in industrial center particularly in venture size and

its existence among ever increase market competition regarding labor structuring, local community's income improvement and product innovation through cooperation between groups.

**2. RESEARCH METHOD**

This research type was descriptive research, whereas analysis method used was mixed methods or mixed/combination research between qualitative and quantitative descriptive.

Respondents for this research was taken by purposive sampling technique and subsequently subjected to snowball method which was looking related information for one who knows much about research object. In this study, respondents were taken based on marketing distribution investigation from, sugar maker until total marketing. Total respondent in this study was 19 people with 4 people of coconut tree tapper, representative from industrial agency with 2 person, 11 people who involved in coconut sugar processes, and 2 people as the mastermind behind non-sulfite coconut program.

Data collection method was using primary and secondary data. Primary data was taken by interview, observation and questionnaire while secondary data was taken from institution's data.

**3. RESULTS AND DISCUSSION**

**3.1. Factor Result Analysis - factors which influence local economic development of coconut sugar cluster**

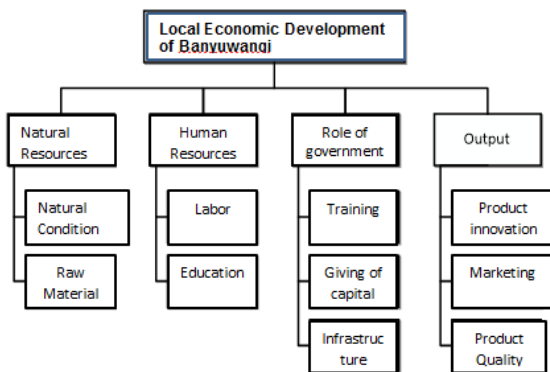


Figure 1. Hierarchy Analysis

After data from questionnaire result was obtained, this data was put into Expert Choice or EC software used to test pair comparison by comparing criteria and sub-criteria for interest in decision making, this software would also automatically synthesize data to determine the best alternative and to conduct validation test also sensitivity analysis toward all existed alternatives.

**3.1.1. Criteria Evaluation Results**

In this study there were several factor choices which can be used in local economic development in Banyuwangi regency, such as natural resources, human resources, government role and output.

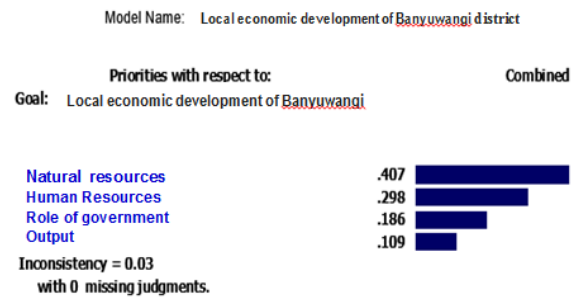


Figure 2. Priority Value of Local Economic Development Factors in Banyuwangi Regency

Based on Figure 2, it was known that priority value obtained from analysis result for natural resources factor was 0.407, human resources factor was 0.298, government role factor was 0.186 and output factor was 0.109. These showed that natural resources factor has become the main priority in developing local economy in Banyuwangi regencies, followed by human resources factor. Inconsistency value obtained was 0.03 or less than 0.1 which means respondent has given consistent answers or response toward those factors.

Based in Figure 2, it was also known that natural resources factor is the most influential factor in local economic development of coconut sugar cluster with priority value 0,407 since the main ingredients for coconut sugar is raw material which came from natural resources, however, if raw material is hard to get then

coconut sugar craftsmen would not be able to make coconut sugar.

### 3.1.2. Sub-Criteria Evaluation Results

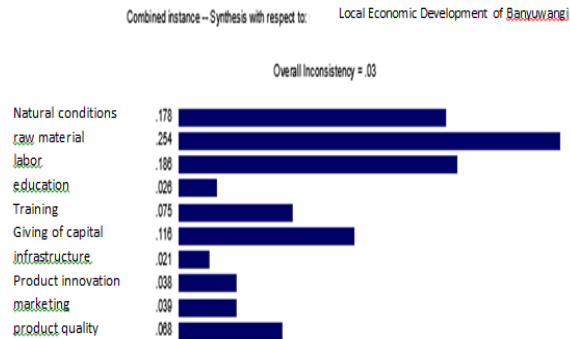


Figure 3. Sub-Criteria Evaluation Results

Based on Figure 3, combination result of criteria and sub-criteria was showing that raw material has become main priority, followed by labor and nature’s condition. Those three was assumed to be main priorities in local economic development business in Banyuwangi regency since raw material is the most important aspect for making coconut sugar.

### 3.1.3. Paired Comparison Results for Natural Resources Criteria

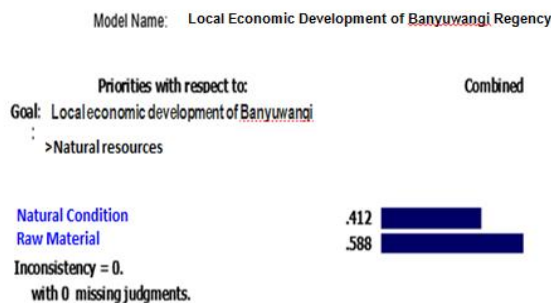


Figure 4. Priority Value of Natural Resources Factor for Local Economic Development in Banyuwangi Regency

Based on Figure 4, it was known that priority value of natural resources obtained from analysis result for nature’s condition sub-factor was 0.412 and raw material sub-factor was 0.588. This showed that raw material sub-factor become the main priority in developing local economic in Banyuwangi regency regarding natural resources factor, and followed by nature’s condition sub-factor as the next priority factor. The difference in priority value between these two sub-factors is quite small and it means

that between nature’s condition and raw material has almost equal priority. Inconsistency value obtained was 0.00 or less than 0.1 which showed that respondents have given consistent answers or responses toward those factors.

Based on Figure 4 above it was also known that raw material is the most influential sub-sector. Availability of raw material is the main component to enable the making of coconut sugar.

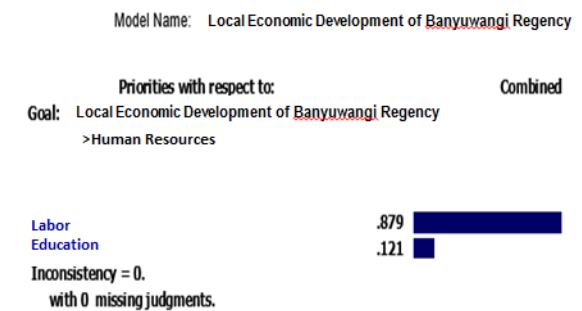


Figure 5. Priority Value of Human Resources Factor for Local Economic Development in Banyuwangi Regency

Based on Figure 5, it was known that priority value of human resources factor obtained from analysis result for labor sub-factor was 0.879 and education sub-factor was 0.121. This results indicated that labor sub-factor has become the main priority in local economic development in Banyuwangi regency regarding human resources factor, and followed by education sub-factor as the next priority factor. Large difference between these two sub-factors indicated that labor is the main priority. Inconsistency value obtained was 0.00 or less than 0.1 which showed that respondents have given consistent answers or responses toward those factors.

Based on Figure 5, labor factor has become the main priority also the constraint factor in the making of coconut sugar.

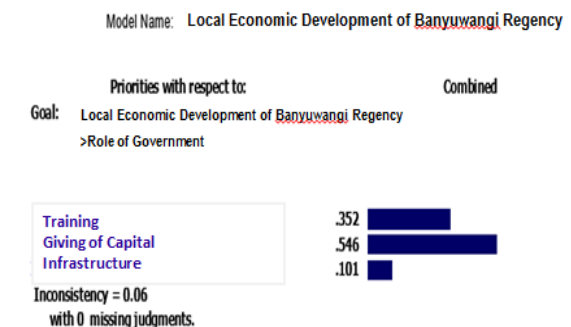


Figure 6. Priority Value of Government Role Factor for Local Economic Development in Banyuwangi Regency

Based on Figure 6, we could see that priority value of government role factor which obtained from analysis result for training sub-factor was 0.352, capital provision sub-factor was 0.546 and infrastructure sub-factor was 0.101. These values showed that capital provision sub-factor was the main priority in local economic development in Banyuwangi Regency regarding government role factor, and training sub-factor become the next priority factor. Small difference between capital provision sub-factor and training sub-factor indicated that between capital provision and training it has almost equal priority. Inconsistency value obtained was 0.06 or less than 0.1 which showed that respondents have given consistent answers or responses concerning these factors.

Based on Figure 6 above, capital provision sub-factor was the most influential factor in coconut sugar economic development since according to local people, if there was capital loan or capital aid without interest it would be very helpful in reducing business's burden and thus local people could be more innovated in packages and processes.

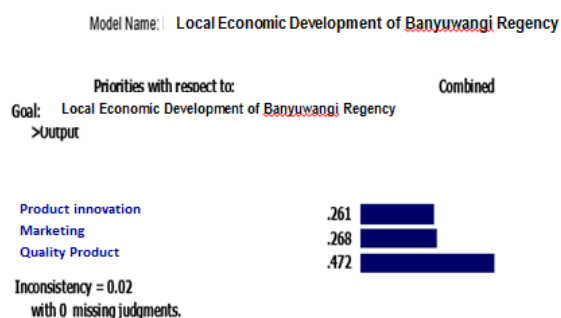


Figure 7. Priority Value of Output Factor for Local Economic Development in Banyuwangi Regency

Based on Figure 7, we could see that priority value of output factor which obtained from analysis results of product innovation sub-factor was 0.261, marketing sub-factor was 0.268 and product quality sub-factor was 0.472. This showed that product quality sub-factor was the main priority for local economic development in Banyuwangi regency regarding output factor, and followed by marketing sub-factor as the subsequent priority factor. Quite

small differences between product quality and marketing sub-factors showed that product quality and marketing has almost equal priority. Inconsistency value obtained was 0.02 or less than 0.1 and indicated that respondents have given consistent answers or responses regarding those factors.

Based on Figure 7, product quality sub-factor was the most influential factor in coconut sugar economic development due to according to local people if goods has high quality it means that it has high selling value.

### 3.2. Analysis of Cluster Establishment Function in Labor Absorption

Labor absorption in industrial sector would be affected by external and internal factors. Externally, it would be affected by economy growth rate, inflation rate, unemployment and interest rate (Abdullah, 2010). However, in business world it was not possible to influence those conditions, only government could handle and influence external factors. Internally, it would be affected by wage level, labor productivity and capital (Simanjuntak, 1985).

Table 1. Amount of Labor in Coconut Sugar in Banyuwangi Regency

No	Sub-District	Year of Establishment	Amount of Labor (people)			
			2012	2013	2014	2015
1	Kabat	2008	260	393	481	509
2	Rogojampi	2011	384	572	686	793
3	Glenmore	2000	821	1246	1673	2105
4	Pesanggaran	2006	513	890	928	1230

Amount of labor absorption for the making of coconut sugar is increasing annually. This was probably due to increasing production, increasing demands also increasing price of coconut sugar in the market which made people would like to participate in the making of coconut sugar.

One of local people argued that since there was coconut sugar cluster program, it gives impact which was shown by increase in demand for coconut sugar and distinct market segment.

This showed that cluster establishment was able to give informational access concerning

performance thus it would increase the quality and demands of coconut sugar, whereas amount of demands would depend on product quality if it is better, thus demand would increase and labor absorption is larger. The ever increasing selling price of coconut sugar has assumed to be the pulling factor for local people to participate, also government in Banyuwangi regency has always given their support through looking for more market segment so that coconut sugar cluster would continuously exist and able to absorb more and more labor and thus reduce unemployment in Banyuwangi regency.

### **3.3. Analysis of Cluster Establishment Function in Increasing Revenue**

Along with cluster system establishment, there was improvement concerning production facilities thus coconut sugar's sales turnover in Banyuwangi regency was also increasing, this improvement in production value and turnover would automatically increase local people's income due to better management and distinct market segment.

Based on facts on the field, cluster system has given large opportunity in facilitating market access, since there were information access and market access obtained from government and private party thus community's income would increase due to good sales and distinct market segment.

### **3.4. Analysis of Cluster Establishment Function in Product Innovation Improvement**

Coconut sugar innovation in Banyuwangi regency lies in its processing phase which no longer uses preservatives (non-sulfite) and there were several regions who produce palm sugar non sulfite for out-of-region marketing and some would for export. Price for coconut sugar nonsulfite is higher than coconut sugar with sulfite. Coconut sugar nonsulfite was easier to be sold compared to coconut sugar with sulfite since coconut sugar nonsulfite would usually used by major companies. Other than coconut sugar non sulfite in solid state, local people also made palm sugar nonsulfite from coconut's sap which has advantage by its crystal form and lower water content thus it would last longer in

storages, also palm sugar could acts as substitute for (white) sugar.

## **4. CONCLUSIONS AND SUGGESTIONS**

### **4.1. Conclusions**

1. For factors influencing local economic development of coconut sugar cluster were:
  - a. Natural resources factor is the main priority or factor that most influential in local economic development in Banyuwangi regency compared to human resources, government role and output factors. This was because in the making of coconut sugar it would highly depend on raw material availability from nature.
  - b. For natural resources factor, the most influential sub-factor was raw material since the making of coconut sugar was highly depends on raw material availability, fewer raw materials from nature would resulting small amount of coconut sugar.
  - c. For human resources factor, the most influential sub-factor was labor's skill compared to education, since the making of coconut sugar lies in informal sector that would need people who already accustomed in processing coconut sugar and thus education was not assumed as important.
  - d. For government role factor, the most influential sub-factor was capital provision, since this sub-factor would be more superior than training or infrastructure, since according to local people, with the help of capital aid they would be more capable of developing their business and enabling them to do more innovation.
  - e. For output factor, the most influential sub-factor was product quality, since according to results of this study local people assumed that with high quality product, they would tag higher price, and the contrary with low quality product,

coconut sugar won't be sold and thus producers experience loss.

2. While for establishment function of coconut sugar cluster toward labor absorption, people's income and innovation were as follows:
  - a. Since there was coconut sugar nonsulfite program, there was increasing labor absorption and it was proved in more participation by local people in coconut sugar cluster which increasing every year.
  - b. People's income was increasing since there was coconut sugar non sulfite production. From pricing point of view, coconut sugar non sulfite has higher price (more expensive) than coconut sugar with sulfite. Viewed from its market segment, it has distinct market segment concerning where would local people sold their coconut sugar thus it would directly give impact toward local people's revenue.
  - c. Innovation from coconut sugar cluster were coconut sugar non sulfite and palm sugar non sulfite that use no preservatives thus it was good for human health.

#### 4.2. Suggestions

1. Suggestions for Government and Community
  - a. It would be better if government and local community conduct conservation by planting more coconut trees, this was meant to substitute old and fragile coconut tree with newer ones that could produce abundant sap to meet the need of raw material for production.
  - b. Regeneration preparation should be done by teaching how to do the correct process in making coconut sugar, and collaborate it with the existing advancement thus creating better result for business survival of coconut sugar non sulfite.
2. Suggestions for Future Researchers
  - a. Similar research could be developed from this research's results, such as conducting research on other objects related with decision making of

complex problems and involving many alternative options.

- b. Author could use other criteria in accordance with their firm's or institution's policies.

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