

Comparative advantage and competitiveness of agriculture food through agroindustry In Maluku Province

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ABSTRACT : *Agriculture sector of Maluku province provides the highest contribution to RGDP; yet the value-added of that sector is still very low. This research aims to: (1) analyze the type of agroindustry which has comparative advantage, (2) analyze the factors which influence performance and development of agroindustry, and (3) arrange master plan as well as acceleration and expansion plan of agri-food-based agribusiness development in Maluku Province. This research was conducted in 11 regencies/cities of Maluku Province through exploratory quantitative research approach. The results demonstrate that: (1) comparative advantage can be observed as (a) all of the regencies/cities in Maluku have food agroindustry, (b) the number of industry which grows in Maluku Province is not equally distributed, it only develops in one or two districts of each regency, (c) the investment value of each district is relatively low, and (d) there is a gap as there are numerous existing potentials but not yet well-managed and improved through agroindustry. (2) from the factors which influence industry development, competitiveness analysis, supporting capacity analysis, and regression analysis, the result shows that: Central Maluku Regency surpasses the other ten regencies/cities; thus, Central Maluku Regency can be the center of growth for its surrounding regencies/cities. (3) the master plan of acceleration and expansion for agri-food sector development of Maluku Province is described in the vision: Achieving Maluku Province to be productive, advanced, and competitive in food commodity. The missions to achieve the vision are: (a) improve production, (b) develop agribusiness-based economic, (c) develop high value-added infrastructure, (d) improve human resource on science and technology mastery in food sector, and (e) improve the competitiveness of agroindustry sector.*

KEYWORDS: *Food Agriculture, Agroindustry, Master plan of Maluku*

I. INTRODUCTION

1.1. Background

Structural transformation is a common phenomenon in economic development process; even, structural transformation should be encouraged to improve value-added of production and society income. However, we should carefully consider the structural transformation which occurs in Maluku; the structural transformation in this region is a leaping transformation since it is not supported by the contribution of industrial sector. The fact from some developed countries, economic transformation usually started from strong domination of agriculture sector (primary), then shifted to industrial sector domination (secondary), and finally turned to trade sector domination (tertiary). Such linear structural transformation will strengthen the fundamental economic of a region since that phenomenon indicates the linkage among primary, secondary, and tertiary sectors. In other words, agriculture sector will encourage the development of industrial sector; subsequently, the commodities of industrialization will increase trade activities. It is different from the condition in Maluku Province; the development of trade sector in Maluku is 26% which is only supported by 4.60% contribution of processing industry sector. It implies that the trading commodity in Maluku and its surrounding is the commodity which is not processed or produced by the processing industry in Maluku. The consequence of this condition causes the value-added of the commodity in agriculture sector of Maluku is low. Further, it will decrease the real income of the agriculture which then instigates greater poverty. Among 34 provinces in Indonesia, Maluku ranks the fourth from bottom for its RGDP (Regional Gross Domestic Product) per capita after Gorontalo, Nusa Tenggara Barat, and North Maluku provinces. Considering the condition above, it needs an industry development strategy which can improve the linkage of the inter-sectors' potentials in Maluku Province, such as improving employment linkage effect and income generation linkage effect. One of the industrial development strategies which have good potential to create the linkage effect of several sectors is agroindustry activity.

Research Objectives

The aims of this research are:

- [1] Analyzing the type of agroindustry which has comparative advantage for each region that should be prioritized to achieve food sustainability, employment intensive, and income improvement in Maluku Province.
- [2] Analyzing the factors which influence performance and development of agroindustry in Maluku Province.
- [3] Arranging master plan as well as acceleration and expansion plans for agri-foods-based agribusiness development in Maluku.

II. REVIEW OF LITERATURE

The Definition of Industry

Industry means a firm who makes or produces both light and weight goods which is defined more clearly in Law of Indonesia Republic Number 5 of 1984 which mentions that industry is economic activity which processes raw material, basic material, work-in-process, and/or finished products to be products which have greater value to be utilized, including design and reengineering industry activities. Also, based on Law of Indonesia Republic Number 5 of 1984, industry group is the main parts of industry activities consisting of upstream industry or called as primary industry, downstream industry, and small scale industry. In Indonesia, the industry is distinguished into three categories: (1) primary industry consisting of engineering industry and base metal industry, base chemical industry, (2) value industry consisting of several industries, and (3) small scale industry.

Agribusiness, Agroindustry, and Agriculture-Based Industry Development Strategy

Ethimologically, agribusiness is a compound word, which comes from two words, meaning as agriculture-based business. There are several views on the limitation and scope of agribusiness depending on the analysis unit and objective. Traditionally, Biere (1988) in Daryanto (1992, 2000) defined agribusiness as activities beyond the farm gate or off-farm consisting of industrial and trade activities of the agriculture production media, and industrial activity which processes primary agriculture product to be processed product and its trade, as well as activity which provides the needed service such as banking, transportation, insurance, and saving services. The first people who initiated the term of agribusiness are Davis and Goldberg (1957) in Mangunwidjaja and Sailah (2009) who stated that "Agribusiness is the sum total of all operations involved in the manufacture and distribution of farm supplies; production activities on the farm; and storage, processing and distribution of commodities and items made from them."

Agriculture-Based Industrialization Strategy (Agriculture Demand-Led Industrialization Strategy, ADLI) has crucial role to improve agriculture productivity through technology innovation and investment improvement so that there will be an increase on the income of the rural society (Kindangen, 2013). This strategy is suggested since it is productive and institutionally linked to the overall economic sectors. Food agriculture stimulation generates strong food incentive (increasing consumer demand among rural households) and supply incentive (increasing food supply without raising the cost up). As the basis of food industry development, a region should focus on its comparative advantage which describes that the region's commodity is relatively better than the commodity of other regions. Therefore, a region can define which commodity that should be developed in the near future to be able to give greater profit for the local leader (Tarigan, 2006).

III. RESEARCH METHOD

Design

Considering the pre-mentioned problem formulation, the researcher uses exploratory research design which aims to develop knowledge or hypothesis which is relatively new to provide direction or suggestion for further research.

Research Location and Object

The location of this research is in Maluku Province. The research object is agroindustry sector which takes big and medium industries in Maluku ranging from 2005 up to 2010 during research survey.

IV. RESULT AND DISCUSSION

Agroindustry Comparative Advantage Analysis

This analysis aims to know the potential of agroindustry in each regency/city of Maluku Province perceived from investment value, production value, value-added, and employment absorption aspects.

Food Industry in Ambon City

Among five districts (*kecamatan*) in Ambon City, food agroindustry exists only in four districts. In Teluk Ambon district there is no food industry. The most food industry (43 units) is in Sirimau district compared to the other three districts such as: Nusawine district which has 11 food industries, Baguala district which has 7 food industries, and Leitimur district which only has one food industry.

Table 1. District (*Kecamatan*), Investment, Production, Value-Added, and Employment in Ambon City

<i>Kecamatan/</i> District	Investment Value	Production Value	Value-Added	Employment
Sirimau	4,742,075,000	7,567,500,000	2,825,425,000	243
Baguala	1,501,000,000	2,296,500,000	795,500,000	32
South Leitimur	1,000,000,000	1,500,000,000	500,000,000	15
Nusaniwe	788,000,000	1,142,000,000	354,000,000	48

Table 1 describes production value and value-added defined the investment value. However, the employment absorption does not experience equal growth to the investment value. Sirimau district is the only district which has high investment value and employment absorption. Nusaniwe district has the least investment value compared to the other three districts; yet, Nusaniwe makes higher employment absorption than South Leitimur and Baguala districts. It indicates that Nusaniwe is more employment intensive.

Food Industry in Central Maluku

Among fifteen districts of Central Maluku, all have food industry. Food industry is broadly distributed in Central Maluku though the number of industry in each district is different from other districts. The most food industry is in Banda district which has 68 industries. Namasina district has the least industry which is only one industry. The huge number of industry in Banda district does not reflect huge investment value. The highest investment value is in Amahai district which reaches Rp 474,350,000 with seven food industries in this district. The second highest investment value is Salahutu district which is Rp 413,000,000. Whereas, the lowest investment value which is Rp 10,000,000 is in West Leihitu district that has four food industries.

The greatest production value is in Amahai district which reaches Rp 566,500,000; meanwhile, the lowest production value which counts Rp 1,150,000 is in West Leihitu district. The highest value-added is in Masohi district which counts Rp 153,060,000; yet, the lowest value-added score of minus Rp 230,950 is in Salahutu district which at this condition, firm suffers from losses. Employment absorption which is as many as 158 people is the highest number; and, it occurs in Saparua district. Whereas, the lowest score emerges in Namasina district which only has 2 labors. In Namasina district, the number of employment absorption correlates to the number of industry as Namasina district only has one industry.

Food Industry in Seram Bagian Barat (SBB)

Kabupaten Seram Bagian Barat (regency) has sixteen districts which all have food industry.

Table 2. *Kecamatan* (District), Number of Industry, Investment Value, Production Value, Value-Added, and Employment Absorption in *Kabupaten* Seram Bagian Barat

Description	<i>Kecamatan/</i> District	Amount
Number of Food Industry	Many: Eti	17 units
	Less: Kaibobu, Lohiatala, Waesamu, and Kawatu. Each of the district only has one industry	1 unit
Investment Value	Many: Eti Piru Lumoly	Rp. 9,797,000 Rp. 6,778,429 Rp. 3,669,000
	Less: Mata Empat	Rp. 720,000
Production Value	Many: Eti Lumoly Eti	Rp. 68,596,000 Rp. 14,390,000 Rp. 11,778,100
	Less: Kawatu, Nuruwe, Waesamu each is	Rp. 4,000,000
Value-Added	Many: Eti Lumoly Piru	Rp. 58,799,000 Rp. 10,721,000 Rp. 4,999,671
	Less: Waepirit	Rp. - 4,756
Employment Absorption	Many: Eti	32 people
	Less: Lohiatala	1 people

Table 2 above describes that Eti district has greater comparative advantage compared to other districts in SBB as perceived from number of industry, investment value, value-added, and employment absorption. Food industry in Eti district consists of two types of industry: Brown Sugar and Palm Fluor (*Pati Palma*). The district which does not have value-added for food industry is Waepirit district since this region experiences losses. Food industry in Waepirit consists of four industry units which all of them operate in chips (*keripik*) industry. The average investment value is only Rp 200,000. The investment value is very little which then burdens the improvement of value-added; even, there is no value-added contributed by chips industry in Waepirit district due to: (1) the marketing area of chips industry is limited only in the surrounding residences, though some of the industries have tried to market their product at the "Feri Waepirit" harbor area, (2) the chip package is too simple which let the air flow in and cause the product soggy, it affects the selling value of the product (3) lack of processing and packaging skills, (4) unskilled human resource capacity particularly in the existing industry.

Food Industry at Seram Bagian Timur (SBT)

This regency has eight districts; yet, the distribution of food industry is only available in three districts. It implies that food industry is not equally distributed. To make it clearer, it is presented in Table 3.

Table 3. District (*Kecamatan*), Number of Industry, Investment Value, Production Value, Value-added, and Employment Absorption in SBT Regency)

District	Industry	Investment Value	Production Value	Value-added	Employment
Bula	18	97,500,000	172,750,000	75,250,000	66
Werinama	8	10,000,000	17,500,000	7,500,000	22
Seram Timur	4	3,500,000	5,750,000	2,250,000	10

Three districts above have different type of industry. Bula district has *tahu* (soybean curd) and *tempe* industries. Werinama district has more *abon ikan* (shredded fish) industry. East Seram district has *sagu* (sago) industry. Those three districts have some contributions on the economics of Seram Bagian Timur regency. It reflects proportional pattern since the size of industry describes investment value, production value, value-added, and employment absorption.

Food Industry in Buru

Among five districts in Buru Regency, food industry is only available in Namlea and Waeapo districts.

Table 4. *Kecamatan* (District), Number of Industry, Investment Value, Production Value, Value-Added, and Employment Absorption in Buru Regency

District	Industry	Investment Value	Production Value	Value-added	Employment
Namlea	3	1,137,280,000	1,728,775,000	-	20
Waeapo	60	175,000,000	175,000,000	591,495,000	201

Waeapo district attains the biggest contribution for the economics of Buru Regency from rice hulling industry (28 units) and brown sugar industry (27 units). Therefore, the type of industry in Waeapo district is central industry category since the industry unit is small scale but grouped in an industrial area and composed from several small business units which produce similar product (Ashari, 1986). In Namlea district, there are only three business units (bread, refill drinking water, and *tahu-tempe* industry).

Food Industry in Tual City

Food industry in Tual City is only in South Dullah district; whereas the other three districts do not have any food industry. The investment value of agroindustry in Tual City is Rp 281,000,000. The production value is Rp 668,218, 000. The value-added is Rp 387,218,000; and the employment absorption is 20 employees.

Food Industry in South-East Maluku

South East Maluku has six districts; yet, the food industry is available only in four districts.

Table 5. *Kecamatan* (District), Number of Industry, Investment Value, Production Value, Value-Added, an Employment Absorption in South East Maluku

District	Industry	Investment Value	Production Value	Value-added	Employment
Kei Kecil	6	31,126,000	63,570,000	32,444,000	68
Kei Kecil Timur	1	7,300,000	5,567,000	2,867,000	10
Kei Kecil Barat	1	6,720,000	14,200,000	6,900,000	16
Kei Besar Utara Timur	1	2,700,000	11,760,000	5,040,000	4

The characteristic of the existing industry in four districts is small scale food industry which reflects subsistent pattern. It consists of several products such as *Embal Lempeng*, *Kacang Botol* (Bottled Peanut), *Sagu* (Sago), *Ikan Asin* (salted fish), Bread, Cookies, Brown Sugar, *Tahu* and *Tempe*, and Mineral Water; this variation implies that the industry in Southeast Maluku does not have similar food product.

4.1.8. Food Industry in Maluku Tenggara Barat

Food industries in Maluku Tenggara Barat regency in Saumlaku district are three industries. The investment value of agroindustry in Maluku Tenggara Barat regency is Rp 198,650,000; the production value is Rp 313,500,000. Further, food industry in Maluku Tenggara Barat Regency is Rp 114,850,000; and, it absorbs employment as many as 8 workers.

4.1.9. Food Industry in Maluku Barat Daya

There are 8 districts in Maluku Barat Daya Regency; however, food industry in this regency is only in Pulau-Pulau Terselatan district.

Table 6. *Kecamatan* (District), Number of Industry, Investment Value, Production Value, Value-Added, an Employment Absorption in Maluku Barat Daya Regency

District	Industry	Investment Value	Production Value	Value-added	Employment
Pulau-Pulau Terselatan	5	71,000,000	160,000,000	89,000,000	54

Food Industry in Aru

Food industry in Aru Regency is in Dobo district.

Table 7. *Kecamatan* (District), Number of Industry, Investment Value, Production Value, Value-Added, an Employment Absorption in Aru Regency

District	Industry	Investment Value	Production Value	Value-added	Employment
Dobo	7	3,360,000	7,220,000	3,860,000	21

The type of food industry in Dobo district mostly is Banana and Cassava Chips as there are four industries on that product; meanwhile, there are three other industries which process food made of *Sagu* (sago).

The Findings of Comparative Analysis

Based on the description related to comparative advantage of food agroindustry's role on the economy condition of each *kabupaten* (regency) in Maluku, there are some findings that can be concluded: *First*, the existing advantage potential is not yet well-optimized through food agroindustry. Among the districts in each regency, the growth is not equally distributed; only on one or two districts the food industry can well develop. *Second*, the several numbers of industries which grow in a particular region do not always reflect high investment value, production value, and value-added. This condition is due to the industry characteristic which mostly consists of local industry since it reflects a subsistent pattern of the industry management. The marketing target is limited since the media used in marketing effort is quite simple both during production process and marketing process – most of those industries still use manual-cart (*pikulan* or *gerobak*).

From the employment aspect, the industry employs only five workers in average; even there is only one worker for one industry unit which implies that one person acts for all (as owner, production staff, and marketing staff). Thus, the local trade industry is not quite developed in Maluku Province; further, there are some districts which experience losses for not being able to create value-added. Low value added is due to low invested capital. Yet, there are some districts which attain positive growth since the number of industry is a lot, investment value is high, production value is positive, the value-added is good, and the employment absorption is high. *Third*, food industry which grows in each district is still in very small scale of investment. For instance, in Kei Kecil district, South-East Maluku regency, the total investment for the nine existing industries is only Rp 31,126,000; it means that in average, each of the industry's investment value is only Rp 3 millions. From the existing condition and considering that the investment value is still in small scale, the industry cannot further develop in business diversification. It also directly affects the farmer since the competitive potential cannot be absorbed by the local industry. Farmers tend to sell their harvest without processing it first (raw material). This phenomenon causes the value-added achieved by the farmers is very low.

Fourth, by observing the competitive potentials that have been discussed previously and the study result related to the number of food industry which grows, it directly provides a description that there exists a gap. Maluku is indeed has competitive potentials; yet, this potentials are not yet well managed to be improved through agroindustry sector. Thus, as the effort to empower the acceleration and expansion of economic development in Maluku Province, the existing potentials should be empowered through agroindustry since it is obvious that the raw material of agroindustry comes from agriculture sector.

Analysis on the Factors which Influence Agroindustry Development

To know the factors that influence agroindustry development in Maluku Province, the author conducts three analyses such as: (a) Region Competitiveness Analysis, (b) Region Supporting Capacity, and (c) Investment Variable Analysis.

Competitiveness Analysis

Calculation and ranking of the competitiveness are applied on each Regency/City aimed to provide a description of the position of a regency/city relatively to other regency/city. The indicators that are used as the measurement items in this analysis tend to be more non-physical indicators embedded to particular regency/city. Those indicators are: 1) geographic condition, 2) health and welfare, 3) education, and 4) economic activity.

Geographic Condition Indicator and Health and Welfare Indicator

The geographic indicators used in this analysis consist of: (1) Region area, (2) Number of District (*Kecamatan*), (3) Number of Population, and (4) Population Density. Health and Welfare indicators include (1) Number of people with disability, (2) Number of disobedient kids, (3) Number of Prostitute, (4) Number of Beggar, (5) Number of Homeless People, and (6) Number of Hajj (*Haji*). The analysis is presented in Table 8.

Table 8. Geographic Indicators, Health and Welfare Indicators among Regencies of Maluku Province

No	Kabupaten (Regencies)	Geographic Condition			Health and Welfare Condition		
		Average	Category	Description	Average	Category	Description
1	Maluku Tenggara Barat	9.50	IV	Very Good	4.50	I	Less Good
2	South-West Maluku	6.75	III	Good	6.33	II	Quite Good
3	South East Maluku	4.75	II	Quite Good	6.17	II	Quite Good
4	Central Maluku	9.25	IV	Very Good	5.33	II	Quite Good
5	Buru	6.50	III	Good	4.00	II	Quite Good
6	South Buru	4.50	II	Quite Good	7.33	III	Good
7	Aru Islands	7.75	III	Good	5.50	II	Quite Good
8	Seram Bagian Barat	4.75	II	Quite Good	7.00	III	Good
9	Seram Bagian Timur	6.00	III	Good	7.00	III	Good
10	Ambon	4.50	II	Quite Good	4.50	I	Quite Good
11	Tual	1.75	I	Less Good	8.33	IV	Very Good

The regency that obtains greater average score on the geographic indicators is Maluku Tenggara Barat regency as its score is 9.50; meanwhile, the lowest score is attained by Tual regency. The lowest average of geographic score of Tual regency is due to the area of Tual region is the narrowest compared to the other ten

regencies. As observed from the number of district, number of population, and population density, Tual regency gets the second lowest rank among 11 regencies in Maluku Province. For health and welfare condition of the eleven regencies/cities in Maluku Province, only Tual City which is categorized as very good since the score of the six indicators on health including number of disobedient kids, number of beggar, and number of homeless people is the least among 11 regencies/cities. Meanwhile, the number of population is on the seventh rank among the regencies of Maluku Province. The number of Hajj (*Haji*) of Tual City is still few compared to the other regencies/cities since it ranks the lowest three among eleven regions.

Education Indicator and Economic Activities Indicator

The education indicators used in this analysis are: (1) the number of population who accomplished elementary level, (2) number of population who accomplished junior high school, and (3) number of population who accomplished senior high school. The economics activities indicator consist of 19 competitiveness: (1) Rice Field Production, (2) Corn Production, (3) Cassava Production, (4) Sweet Potato Production, (5) Nut Production, (6) Soya Bean Production, (7) Mung Bean Production, (8) Cow Population, (9) Buffalo Population, (10) Horse Population, (11) Goat Population, (12) Sheep Population, (13) Pig Population, (14) Chicken Population, (15) Laying Hens Population, (16) Broiler Population, (17) Ducks Population, (18) *Ayam Buras*' Egg Production, and (19) Ducks' Egg Production. In Table 9, it is described that Central Maluku Regency has the highest average score on education indicator. The second rank for education indicator is achieved by Ambon City. Meanwhile, the lowest rank is attained by Tual City. Tual City has the lowest number of society who accomplished elementary and junior high school graduates among 11 Regencies/Cities in Maluku Province. The number senior high school graduates in Tual City are the second lowest number among those Regencies/Cities; the first lowest number of senior high school graduates is in South Buru Regency.

From the economic activity indicator, there are four regencies which obtain very good rank. The highest among those four regencies is Maluku Tenggara Barat Regency, followed by Central Maluku Regency. Maluku Tenggara Barat Regency attains the first rank for cassava, peanut, mung bean, buffalo, goat, and sheep production; also, Maluku Tenggara Barat Regency obtains the second rank for corn production. The first rank of corn production is achieved by Maluku Barat Daya. Yet, Maluku Tenggara Barat is not competitive for laying hens' product as it places the lowest rank among 11 Regencies/Cities in Maluku Province.

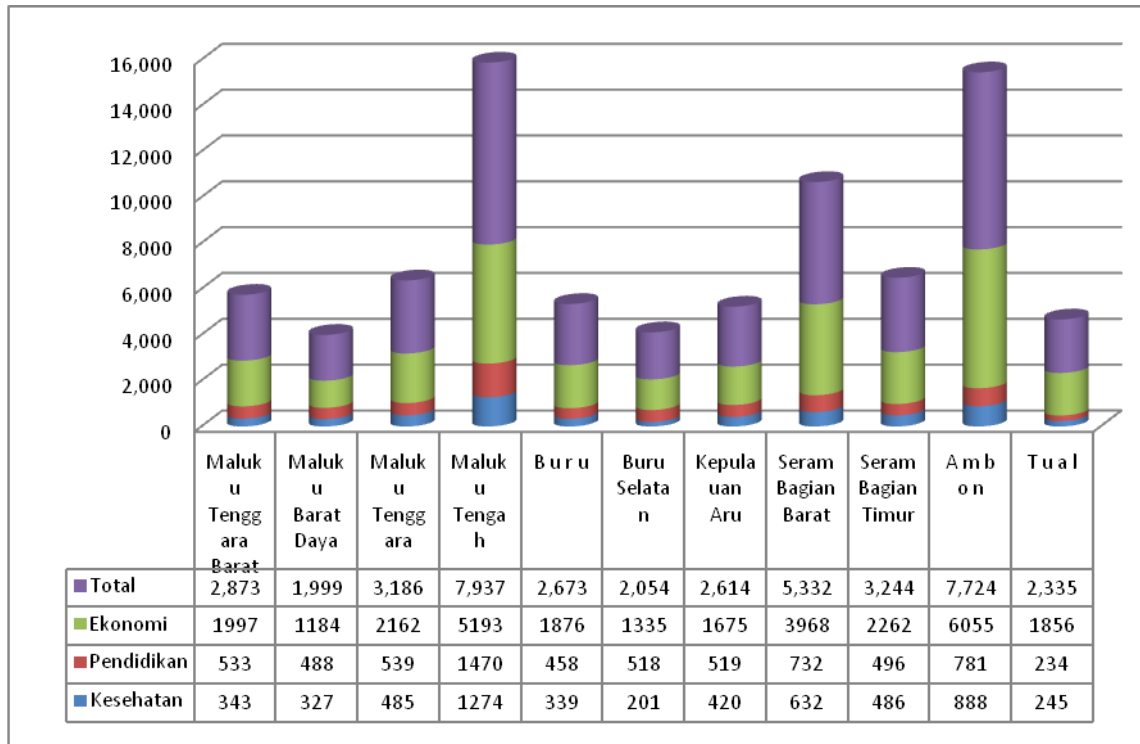
Table 9. Education Indicator and Economic Activity Indicator in the Regencies/Cities at Maluku Province

No	Regency	Education			Economic Activity		
		Average	Category	Description	Average	Category	Description
1	Maluku Tenggara Barat	6.00	II	Quite Good	8.00	IV	Very Good
2	Maluku Barat Daya	4.33	II	Quite Good	3.95	I	Less Good
3	Maluku Tenggara	7.33	III	Good	6.00	III	Good
4	Maluku Tengah	11.00	IV	Very Good	7.95	IV	Very Good
5	Buru	5.33	II	Quite Good	7.74	IV	Very Good
6	Buru Selatan	3.67	I	Less Good	6.95	III	Good
7	Aru Islands	3.00	I	Less Good	5.32	II	Quite Good
8	Seram Bagian Barat	9.00	IV	Very Good	7.21	IV	Very Good
9	Seram Bagian Timur	5.00	II	Quite Good	5.84	III	Good
10	Ambon	10.00	IV	Very Good	3.89	I	Less Good
11	Tual	1.33	I	Less Good	3.16	I	Less Good

Supporting Capacity Analysis

The analysis is utilized to identify the role of regency based on the capacity of the regency to provide service for public and economic doers (business sector). Better service demonstrates that the regency has greater supporting capacity level. Based on the calculation result, it reveals the regency which can be the center of growth of Maluku Province. The regency which the most complete facilities based on the Scalogram is Central Maluku Regency. In overall, the facility of Central Maluku Regency attains the first rank. It means that Central Maluku Regency becomes the center of growth for its surrounding regencies. The second rank regency is Ambon City.

Figure: Scalogram Analysis Result on the Regencies in Maluku Province



The Analysis of the Role of Industry Number and Employment on Investment in Maluku Province

To measure the role of industry number (X₁) and employment (X₂) on Investment (Y), it utilizes multiple regressions tool by using log; furthermore, the analysis result of the model can be interpreted as following:

$$LY = \beta_0 + \beta_1 LX_1 + \beta_2 LX_2 + \varepsilon_t$$

$$LY = 4.09 + 0.76 LX_1 + 0.90LX_2$$

β_0 = It means that investment (Y) will be 4.09 point when the number of industry (X₁) and employment (X₂) are equal to or assumed as zero (constant).

β_1 = regression coefficient of the number of industry (X₁) variable is 0.76. It means that there is a positive effect of number of industry on investment as much as 0.76. If the number of industry (X₁) increases one point, the investment (Y) will raise up 0.76 point. On the contrary, if the number of industry (X₁) decreases one point, the investment (Y) declines 0.76 point as well.

β_2 = Regression coefficient of employment (X₂) is 0.90. It indicates positive effect of employment on investment as much as 0.90. If the employment increases (X₂) one point, the investment (Y) will raises 0.90 point up. On the contrary, if employment (X₂) decreases one point, the investment declines 0.90 point.

From the multiple regression result above, it concludes that number of industry (X₁) and employment (X₂) positively influence investment as the dependent variable (Y).

Table 10. Equation Estimation Result

Dependent Variable: LINVEST
 Method: Least Squares
 Date: 09/28/13 Time: 05:19
 Sample: 1 16
 Included observations: 16

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.095984	1.225060	3.343496	0.0053
LPERUSH	0.755765	0.194443	3.886816	0.0019
LTK	0.896581	0.180095	4.978381	0.0003

R-squared	0.938974	Mean dependent var	14.09164
Adjusted R-squared	0.929586	S.D. dependent var	1.508785
S.E. of regression	0.400367	Akaike info criterion	1.174491
Sum squared resid	2.083819	Schwarz criterion	1.319351
Log likelihood	-6.395927	Hannan-Quinn criter.	1.181909
F-statistic	100.0122	Durbin-Watson stat	2.276041
Prob(F-statistic)	0.000000		

Based on the table above, the determination coefficient (R^2) is 0.9289. It indicates that 93.89% of investment variable can be explained by its independent variables consisting of number of industry (X_1) and employment (X_2); whereas, the rest 6.11% of the investment variable is explained by other variables which are not discussed in this research

Findings on Comparative Analysis

First: From the competitiveness analysis result, Central Maluku achieves very good category on the three indicators: geographic, education, and economic activity. Yet, for health and welfare indicator, Central Maluku Regency only achieve quite good category. However, based on supporting capacity analysis, Central Maluku attains very good category. Tual City, conversely, is a city which achieves less-good category based on the competitiveness analysis for geographic, education, and economic activity indicators. However, for health and welfare indicator, Tual City achieves very good category.

MASTERPLAN OF ACCELERATION AND EXPANSION FOR FOOD SECTOR IN MALUKU PROVINCE

Vision

Considering the condition of Maluku Province's society, challenges faced by this province until 2025, and the food potentials (agri-food, plantation, fishery, and husbandry) owned by Maluku Province, the MP3E vision of Maluku Province for food commodity is: **ACHIEVING MALUKU PROVINCE TO BE PRODUCTIVE, ADVANCED, AND COMPETITIVE IN FOOD COMMODITY.**

Based on the vision above, the MP3E of Maluku Province for food commodity focuses on three objectives: productive, advanced, and competitive. **Productive** implies better quality and performance of the Maluku Province's society that mostly take agriculture economic sectors (agriculture, plantation, fishery, and husbandry) as the main pillar to improve regional economic development. The main sector is expected to be able to encourage the growth and development of agriculture-based industry (agroindustry) of Maluku Province.

Advanced, which means as the economic advancement of a society which is measured from the welfare level reflected on the income level and its distribution. Greater average income and more equal income distribution are the indicators of the wealthier society and advanced society. The role of manufacture industry, particularly agroindustry, as the main factor which encourages greater growth is perceived from the contribution to create better regional income and employment absorption.

Competitive, is interpreted as a condition of a society that is able to produce food industry which meets national and international quality standard, market the local products, and attract investor both domestic and foreign in order to improve the development acceleration and development improvement on the economic sector of Maluku Province to aim for sustainable welfare.

The Mission of MP3E of Maluku Province

In order to achieve the vision of MP3E of Maluku Province in food sector, the government governance of Maluku Province copes with the following development missions:

- [1] Improving the production of agriculture, fishery, and husbandry sectors as well as farmers and fishermen welfare;
- [2] Developing Agribusiness-Based Economic;
- [3] Developing High Value-Added Infrastructure;
- [4] Improving the Availability of Competitive Human Resource in Science and Technology Mastery on Food Sector.
- [5] Improving the Competitiveness of Agroindustry Sector

V. CONCLUSION AND SUGGESTION

Conclusion

This research takes the conclusions as follow:

Comparative Advantage of Agroindustry

- [1] Industry growth in each regency/city is not equally distributed among the existing districts; only Central Maluku and Seram Bagian Barat regencies which have food industry in all of the districts.
- [2] The average investment value of the regency/city is still low so that it results in lesser value-added. Moreover, there is a region which suffers from losses or experiences no value-added.
- [3] The number of industry does not always reflect the size of investment value, production value, value-added, and employment absorption.

Factors That Influence Agroindustry Growth

- [1] From the calculation of competitiveness and supporting capacity, Central Maluku Regency is better than the other ten regencies; therefore, Central Maluku Regency can be the center of growth for its surrounding regencies/cities.
- [2] Tual City is the regency/city which has poor average score of competitiveness and supporting capacity. Tual's competitiveness is better only for its health and welfare indicators.
- [3] From the result of multiple regression analysis, number of industry (X_1) and employment (X_2) positively influence investment (Y) as the dependent variable.

Master plan of Development Acceleration for Agri-food-Based Agroindustry in Maluku Province

- [1] By considering the food potentials (agri-food, plantation, fishery, and husbandry) owned by Maluku Province, the MP3E vision of Maluku Province for food commodity is: Achieving Maluku Province to be productive, advanced, and competitive in food commodity.
- [2] To achieve MP3E vision in food sector of Maluku Province, the governance of the Maluku Province government develops five missions.

Suggestion

Potential advantage and number of food industry which grow in each regency/city of Maluku province directly provide a description that there exists a "gap." Maluku Province has potential advantage; but, the potential is not yet improved through the management of its agroindustry sector. Thus, as an empowerment effort to advance and expand economic development of Maluku, the existing potentials should be empowered by local government and other development agents such as non-government organization (LSM/*Lembaga Swadaya Masyarakat*) through agroindustry since it is obvious that the material of agroindustry comes from agriculture sector.

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