

Competitiveness Analysis and Development of Agroindustry in Southeast Sulawesi

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ABSTRACT: This paper have two main objectives, firstly it is aimed to present some of the research results of the Master Plan for the Acceleration and Expansion of Indonesian Economic Development (MP3EI) entitled "Grand Strategy Development Model For Effort Optimization Potential Agro Commodity Agricultural and Competitiveness Southeast Sulawesi region", and secondly this paper is intended to become a reference in making MP3E Southeast Sulawesi province from 2014 to 2025. The output of this research include the measurement results of the competitiveness of each district and identifying factors that influence the development of agro-industry based on the profits of agribusiness in Southeast Sulawesi. The analytical tool used to determine the competitiveness ranking in each district/city is Competitiveness Balance Sheet analysis, whereas to determine the dominant factors that affect the profits of agribusiness in Southeast Sulawesi used econometric analysis tool.

KEYWORDS: Agroindustri, Competitiveness, Strategy Development.

I. INTRODUCTION

Based on the physical characteristics, agro-based industries are defined as agriculture broadly, which includes food crops and horticulture, fisheries, and forestry plantations. Therefore, the development of agro-industry would result in: (1) food ingredients and food raw materials for humans and feed for livestock and animals, (2) raw material fiber materials for shelter, housing, paper to cloth the following derivatives, (3) renewable bio-energy in the form of biodiesel (palm oil and palm oil) or ethanol (alcohol) derived from tubers, corn or sugar cane, and (4) medicinal raw materials and ingredients of raw drugs originating from tropical medicinal plants, spices and tropical plants and other native animals. With the diversity of agro products, it will be wide open market agro products, not only in domestic market but also overseas market. Increasingly important role the agro-industrial sector because it has strong linkages with other sectors. The linkage not only to its products, but also through linkages with final demand and primary inputs, namely the relationship of consumption, investment and labor. This implies that by increasing investment in the agro-industrial sector will create employment opportunities and sources of income, so that households are not only the source of their livelihood on their land that is narrowing, but it is widely capable of supporting the growth of productivity. All of it will have a positive impact for poverty reduction is mostly located in the agricultural sector. While on the other hand, despite the structural transformation from agriculture to industry, but the people who work in the agricultural sector is still dominant in comparison to nine other sectors in GDP. Based on the percentage of residents who work in the main field work, showed that the percentage of the population employed in the agricultural sector amounted to 44.47%, while the population working in the industrial sector of 12.16 %. This condition shows that the agricultural sector is still the foundation of a source of income for the majority of the Indonesian people. Thus the collapse of the agricultural sector development will affect the collapse of the average income of most Indonesian people.

Refer to the background of structural problems mentioned above; it is necessary to develop a grand strategy based industrialization agriculture sector in order to create a strong structural transformation. One of the conditions that must be met in order to achieve the structural transformation from agriculture to manufacturing industry is an association of agriculture and industrial sectors. The link is most appropriate processing of agricultural products into the development Agro-Industry.

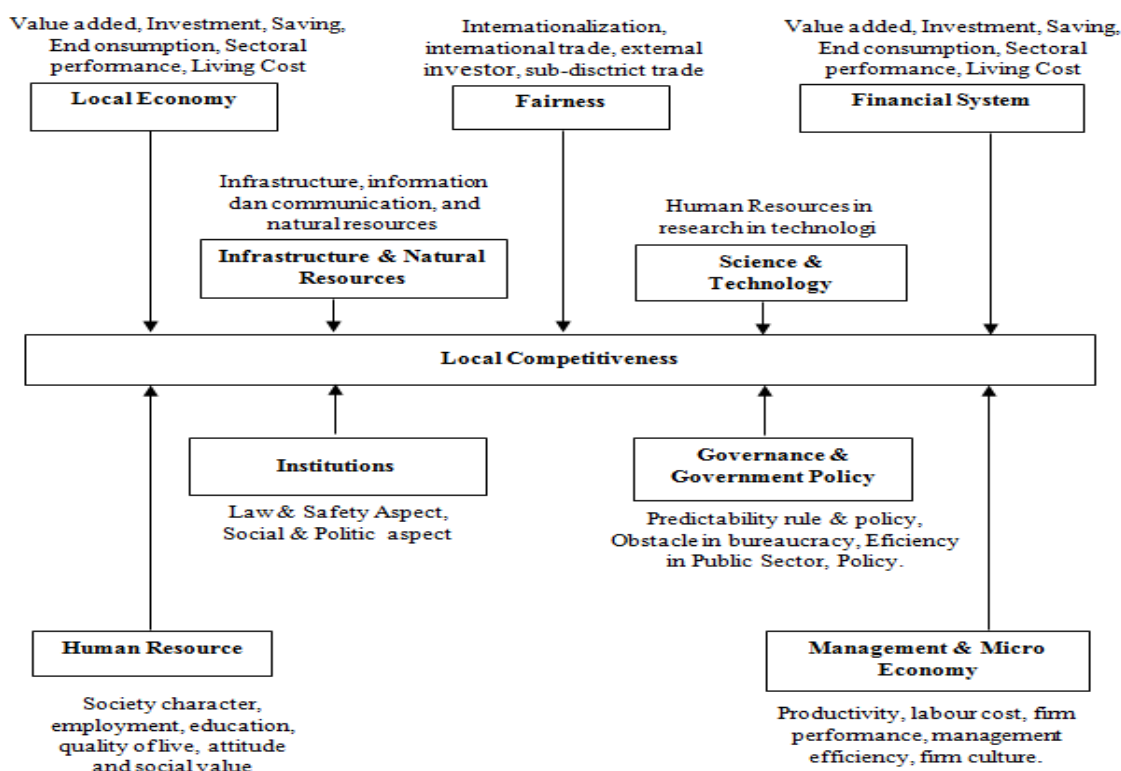
II. LITERATURE REVIEW

Indonesian industrial problem had been researched and reported by United Nations Development Organization (UNIDO) in Maria (2007). That study grouped the problems faced by the manufacturing industry in Indonesia into several categories based on the weaknesses structural and organizational nature. First, the export base and narrow market. Second, dependence on imports is very high. Third, the absence of high tech

industry. Fourth, regional concentration medium scale industries and large highly concentrated in Java and especially in Greater Jakarta. Furthermore, researchers believe that one of the strategies to overcome the above problems is by improving the structure of a strong economy in Eastern Indonesia, particularly in rural areas where agricultural activity is the dominant sector. The goal is that the economic potential of the sector to improve the welfare and independence of the community which in turn will increase competitiveness. Strong economic structure is a process that is intended for the downstream agricultural commodities produced. Or in other words the creation of industries based on agriculture (agro). To achieve this goal required a comprehensive set of policies that can facilitate particularly relevant stakeholders to develop agro-industry, such as the policy implications are offered to formulate a grand strategy of the development of agro-industry in Southeast Sulawesi (Nusantara, 2012) as well as the master plan for the acceleration and expansion of economic development in the District Konawe Southeast Sulawesi (Nusantara, 2013).

III. CONCEPT OF COMPETITIVENESS

Several concepts have emerged competitiveness come from various backgrounds, both representations of scientists and institutions, such as the World Bank (WB), the World Economic Forum (WEF), Institute of Management Development (IMD), United Kingdom-Department of Trade Industry (UK-DTI), Centre for Urban and Regional Studies (CURDS) and many others. We use the concept of competitiveness in this study, it referred to the results of research conducted by Bank of Indonesia (BI) PPSK and Economics Faculty of Padjadjaran University-FE Unpad (2001), which is basically intended to assist the regions in Indonesia in identifying potential and economic prospects of the area that can be used as a measure of competitiveness. Based on some definitions of literature, economic theory, as well as various discussions PPSK BI defines the concept of competitiveness as follows: "the ability to achieve regional economic growth and high levels of well-being sustained by remaining open to domestic and international competition". While the leading indicators are considered to determine the competitiveness of the region are: (1) Regional Economy, (2) openness, (3) Financial Systems, (4) Infrastructure and Natural Resources, (5) Science and Technology, (6) Human Resources, (7) Institutional, (8) governance and Government Policy, and (9) Management and Microeconomics. Indicators and sub- indicators of the competitiveness of the region can be seen in the figure below:



Source: Based on PPSK-BI, 2001

Figure 1. Key Indicators in Determine Regional Competitiveness

Each of these indicators above can be explained as follows:

1. Local economy, regional economy is a measure of general performance of the macro economy which includes the creation of value-added, capital accumulation, consumption levels, sectoral performance, as well as the cost of living. Macroeconomic performance indicators affecting the competitiveness of the region through the following principles:
 - 1) Value-added productivity reflects the economy at least in the short term.
 - 2) The accumulation of capital is absolutely necessary to increase competitiveness in the long term.
 - 3) The prosperity of a region reflects the economic performance in the past.
 - 4) Competition-driven market mechanism will improve the economic performance of a region.
 - 5) Increasingly tight competition in a regional economy, the more competitive firms that will compete internationally and domestically.
2. Fairness
3. Financial System
4. Infrastructure and Natural Resources
5. Science and Technology
6. Human Resources
7. Institutional
8. Governance and Government Policy and Economic Management

Agribusiness, Agroindustry Based Industrial and Agricultural Development Strategy

Saragih (1999) looked at it as limitation agribusiness system intact and interrelated economic activities among all the subsystems upstream agribusiness, farm subsystem, subsystems downstream agribusiness, agribusiness support services and subsystems. Each subsystem can be broken down as follows: First, up-stream agribusiness, which include off-farm activities, such as biotechnology, agro-chemical industry (fertilizers, pesticides), agricultural tools and feed livestock. Second, farming Subsystem (on-farm agriculture), such as nursery/ hatchery, fish farming, farms, plantations, agriculture. Third, downstream agribusiness, which include processing production agribusiness and food-related industries such as non food industries. Fourth, Subsystem support services, which includes activities that support the agribusiness sector, such as industrial processing/preservation, agro-tourism, trade/ services, transportation, and financial services/financial. A more complete definition of the agribusiness is given by the originator of the term agribusiness is beginning Davis and Goldberg (1957) in Daryanto (1992) as follows: "Agribusiness is the sum total of all involved operation 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". In short it covers all activities agribusiness agricultural based economy involving all businesses that are subsystems on-farm and off-farm (Daryanto, 1992). Santoso further stated that the characteristics of a good agro industry is growing and growing specialization in the manufacturing business each and diversified agribusiness chain processing. Ultimately expected to lead to an increase in value added industries rich in linkages and expansion of business and employment (Santoso, 1989).

IV. RESEARCH METHODS

In order to formulate a grand strategy of the development of agro-industries in an effort to make Southeast Sulawesi Center For Agricultural Production and Processing of eastern Indonesia, the required information quickly and accurately about the potential of agricultural commodities to agro-industrial development, that its software has been produced the previous year (2012) and the competitiveness of information systems areas with the most potential as a center for the production and processing of agricultural products is the final output of this research. Based on the needs of this paper, the research stages, first, to measure the competitiveness of each country/city in the province of South East Sulawesi through Competitiveness Balance Sheet analysis, generating output region's competitiveness ranking, and second, to analyze the factors that influence the development of agro-based agribusiness value profits (Y) in Southeast Sulawesi econometric through analysis, yield estimation output dominant factors that influence the development of agro-industries, which in this case is estimated business volume (X_1) and the amount of labor (X_2), with the model econometric equation: $\log Y = \beta_0 + \beta_1 \log X_1 + \beta_2 \log X_2 + \epsilon_i$ (Gujarati, 2002).

V. DATA ANALYSIS AND RESULTS

Calculations and ranking is done on the competitiveness of the District/Municipality aims to provide an overview of the relative position of a District/City of the District/other cities. The indicators are used as a measuring tool in this analysis is more non-physical indicators that are attached to a District/City, indicators include: (1) Geographic conditions, which include: the area, the number of districts, population, and population density, (2) Welfare, which include: disability population, the number of blind, deaf and mute number, number of mental defect, the number of pilgrims, and the number of people graduating college, and (3) Economic

Activities, which include: agricultural productivity food: rice, maize, cassava, sweet potatoes, peanuts, soybeans, green beans, livestock: cattle, buffalo, horses, goats, sheep, pigs, aim laying hens, broilers, ducks, production: fish, eggs chicken, duck eggs.

Geographical Condition Indicator

Results of the assessment district/ city in the Province of South East Sulawesi competitiveness analysis can be seen in the table below. District/ city ranks well, will have the potential to serve as a growth center in the province of South East Sulawesi.

Table 1. Competitiveness Indicator value by Geographic Conditions District/town

District/City	Indicator Value of Geographical Condition				Mean	Category
	Regional Area	Number of District	Population	Population Density		
1. Buton	5	8	8	4	6.25	II
2. Muna	6	12	10	5	8.25	III
3. Konawe	11	11	7	9	9.5	IV
4. Kolaka	12	7	12	7	9.5	IV
5. South Konawe	9	10	9	6	8.5	III
6. Bombana	7	9	6	8	7.5	III
7. Wakatobi	3	3	3	3	3	I
8. North Kolaka	8	6	4	10	7	III
9. North Buton	4	1	2	11	4.5	I
10. North Konawe	10	5	1	12	7	III
11. Kendari	1	4	11	1	4.25	I
12. Bau-bau	2	2	5	2	2.75	I

Notes: I = Not Good; II = Good Enough; III = Good; IV = Very Good

Based on the table above, the geographical condition of the indicator shows that the majority of districts/ cities in Southeast Sulawesi are in the Good category, there are 5 Districts. District the highest average value of geography is Kolaka and Konawe.

Welfare Indicator

Results of the assessment district/ city in the Province of South East Sulawesi competitiveness analysis can be seen in the table below. District/ city ranks well, will have the potential to serve as a growth center in the province of South East Sulawesi.

Table 2. Competitiveness Indicator value by Welfare Indicator District/town

District/City	Welfare Indicator Value						Mean	Category
	(1)	(2)	(3)	(4)	(5)	(6)		
1. Buton	3	10	2	4	7	7	5.50	II
2. Muna	9	9	9	5	10	9	8.50	III
3. Konawe	1	5	10	10	4	10	6.67	II
4. Kolaka	6	2	6	3	2	8	4.50	I
5. South Konawe	5	7	5	8	9	6	6.67	II
6. Bombana	8	6	8	9	5	5	6.83	II
7. Wakatobi	10	8	4	7	6	4	6.50	II
8. North Kolaka	7	4	3	6	8	3	5.17	II
9. North Buton	12	12	12	11	12	2	10.17	IV
10. North Konawe	11	11	11	12	11	1	9.50	IV
11. Kendari	2	3	1	2	1	12	3.50	I
12. Bau-bau	4	1	7	1	3	11	4.50	I

Notes: (1) Number of Disability; (2) Number of Blind People; (3) Number of Deaf and Speech; (4) Number of Disability Mental; (5) The number of pilgrims; (6) Number of Residents Graduate from College (Category I: Not Good/ Poorly; II: Good Enough; III: Good; IV: Very Good)

From the table above, with welfare indicators show that the majority of districts/ cities in Southeast Sulawesi in the category Good Enough are as much as 6 District/ City. District the highest average value of welfare is North Buton District and North Konawe.

Indicators of Economic Activity

Results of the assessment district/ city in the Province of South East Sulawesi competitiveness analysis can be seen in the following table.

Table 3. Value Competitiveness Indicators of Economic Activity In the District/City

District/City	Welfare Indicator Value																			Mean	Category
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)		
1. Buton	7	1	1	1	1	1	1	7	3	1	11	1	6	1	5	9	12	3	10	4.32	I
2. Muna	3	2	2	2	2	2	2	11	7	9	8	2	7	8	8	5	11	8	6	5.53	II
3. Konawe	12	3	3	3	3	3	3	10	11	7	10	3	12	9	12	11	7	9	5	7.16	III
4. Kolaka	11	4	4	4	4	4	4	8	10	11	12	4	11	10	10	12	10	10	12	8.16	IV
5. South Konawe	10	5	5	5	5	5	5	12	9	8	7	5	10	11	7	10	8	12	11	7.89	III
6. Bombana	9	6	6	6	6	6	6	9	12	12	9	12	8	2	4	8	5	1	9	7.16	III
7. Wakatobi	1	7	7	7	7	7	7	1	1	2	5	1	1	4	2	3	6	4	3	4	I
8. North Kolaka	8	8	8	8	8	8	8	2	6	10	3	2	2	6	9	7	4	6	8	6.37	II
9. North Buton	2	9	9	9	9	9	9	5	5	3	1	3	3	5	3	1	1	5	1	4.84	I
10. North Konawe	4	10	10	10	10	10	10	6	8	4	6	4	5	3	1	6	2	2	7	6.21	II
11. Kendari	6	11	11	11	11	11	11	4	4	6	4	5	4	12	11	2	9	11	2	7.68	III
12. Bau-bau	5	12	12	12	12	12	12	3	2	5	2	6	9	7	6	4	3	7	4	7.11	III

Notes: (1) Rice Production; (2) Corn Production; (3) Cassava Production (4) Sweet Potato Production; (5) Peanut Production; (6) Soybean Production; (7) Production of Green Peas; (8) Cattle Population; (9) Buffalo Population; (10) Horse Population; (11) Goat Population; (12) Sheep Population; (13) Pig Population; (14) Laying Chicken Population; (15) Population Broiler; (16) population Ducks; (17) Fish Production; (18) chicken Race Egg Production; (19) Duck Egg Production (I: Not Good/Poorly; II: Good Enough; III: Good; IV: Very Good)

From the table above, the indicator of economic activity shows that the majority of districts/ cities in Southeast Sulawesi are in the Good category, there are 5 Districts. District with the average value of economic activity is Kolaka. In measuring the influence of Business Volume (X_1) and Workforce (X_2) on Agribusiness Enterprises Profit (Y) in Southeast Sulawesi was performed with a linear regression, while the results of the analysis can be interpreted in the models as follows: $\text{Log } Y = 9.183 + 0.4697 \log X_1 + 0.3311 \log X_2$.

From the results of multiple regressions can be concluded that the volume of business and the amount of labor (X_2) positive effect on related variables (Profit). Based on the regression results, calculated F value of 36.95 While the F table ($\alpha=0.05$); regression db=2; db residual=24) is equal to 3.40. Since F count > F table is $36.95 > 3.40$, then the regression analysis was significant. Effect of Volume of Business (X_1) and the amount of labor (X_2) to profit (Y) is large. This means that H_0 is rejected and H_1 is accepted so that it can be concluded that the benefits can be affected simultaneously by the independent variables. The t test between LX_1 (business volume) with LY (profit) show t count =3.945. While t table ($\alpha=0.05$; residual db=25) is equal to 2.060. Because t count > t table is $3.945 > 2.060$ the influence LX_1 (business volume) is significant at $\alpha=5\%$ error. This means that H_0 is rejected and H_1 is accepted, so it can be concluded that the benefits can be significantly influenced by the volume of business. t test between the LX_2 (number of workers) with LY (profit) show t count = 2.58. While t table ($\alpha=0.05$; residual db=25) is equal to 2.060. Because t count > t table is $2.58 > 2.060$ the influence LX_2 (number of workers) is significant at $\alpha=5\%$ error. This means that H_0 is rejected and H_1 is accepted, so it can be concluded that the benefits can be significantly affected by the amount of labor. The coefficient of determination is used to see the contribution of the independent variable on the dependent variable. The coefficient of determination (R^2) and the adjusted coefficient of determination show the explanatory variables in explaining variation in the dependent variable. If the R^2 value closer to 1 the better the model can be expressed by assuming no spurious regression. From the analysis of the calculation, the value of R^2 (R-squared) as in the following Table 4.

Table 4. Estimation results of Equation

Dependent Variable: LLABA

Method: Least Squares

Date: 11/09/13 Time: 04:45

Sample: 1 27

Included observations: 27

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.182626	1.392050	6.596476	0.0000
LVOL	0.469787	0.119078	3.945215	0.0006
LANGGT	0.331110	0.128321	2.580330	0.0164
R-squared	0.754845	Mean dependent var		20.02000
Adjusted R-squared	0.734416	S.D. dependent var		1.511743
S.E. of regression	0.779075	Akaike info criterion		2.443019
Sum squared resid	14.56698	Schwarz criterion		2.587001
Log likelihood	-29.98076	F-statistic		36.94869
Durbin-Watson stat	1.961975	Prob (F-statistic)		0.000000

Based on the table above are obtained coefficient of determination R^2 of 0.7548 means that 75.48% variable profit is explained by the independent variables, the volume of business (X1), and the amount of labor (X2). While the remaining 24.52% variable profit will be explained by other variables that are not addressed in this study.

VI. DISCUSSION AND IMPLICATIONS

The findings of this research have implications for the explanation that the relative position of a region's competitiveness will be the size of the area concerned with other areas. Based on geography, there are two (2) regions, namely Kolaka and Konawe which better than other regions. Then based on the condition of well-being, as seen from the number of disabled population, the number of blind, deaf and speech impaired amount, the amount of mental disability, the number of pilgrims, and the number of people graduating college, there are also two (2) distinct areas, namely Regency North Buton and North Konawe relatively better than other regions. Finally, based on economic activities, which include: the productivity of agricultural products for food, animal populations, and the results of production, Kolaka region has the highest position and superior to other regions. Based on these findings, it refers to the primary indicators of region competitiveness determinants by PPSK BI (2001), it can be concluded that Kolaka is indicated meet three (3) areas of competitiveness indicators, i.e. indicators: 1) regional economy, 2) Human resource (HR), and 3) Institutional. While other areas such Konawe meet two (2) indicators of human resources and institutional, as well as North and North Buton Konawe each only meet one (1) indicator that is only human resources. While based on econometric analysis, the volume of business and number of workers is the determinant of the profits of agribusiness in Southeast Sulawesi. By increasing the amount of effort and manpower to employ then greater the younger agribusiness will evolve, both located in the subsystem on-farm and off-farm. Through an increase in value-added industry in the second subsystem will provide opportunities for expansion of business scale and agro-industry sector employment in Southeast Sulawesi. These findings reinforce the opinion of Davis and Goldberg (1957) in Daryanti (1992) on agribusiness that:

"Agribusiness is the sum total of all operations involve 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"

As well as statements Santoso (1989) and in Daryanti (1992) that it covers all activities agribusiness agricultural based economy which involves all business actors who are in the subsystem of on-farm and off-farm, and that the characteristics of the industry good agro is growing and growing specialization in the manufacturing business each and diversified agribusiness chain processing. Ultimately expected output is to lead to an increase in value-added industries with mutualism linkages and the expansion of business and employment.

VII. CONCLUSIONS AND RECOMMENDATIONS

Districts/cities that have high competitiveness based on three indicators above, is Kolaka and Konawe for geographical indicators; North Buton and North Konawe for indicators of well-being, as well as Kolaka to indicators of economic activity. The findings concluded that the region has the potential to serve as a center for

the production and processing of agricultural products (agro) is Kolaka, Konawe and North Konawe for each land region in the surrounding areas, as well as for the North Buton regency areas that are in the islands. However, the bullet is still carrying the identification and attraction of each region to support the decision of the zoning potential as a center of production and agro-industry in Southeast Sulawesi, via the scalogram analysis and analysis of gravity. Then the prediction of the development of agro-industries, found that the volume of business and labor are all dominant factors positive effect on profits of agribusiness in Southeast Sulawesi. This has implications for the development to increase agro-industry as a result of the magnitude of the public interest to enter into the employment sector because profits can be maximized simply by increasing the volume of business and number of labor alone. If this can be run and managed properly organized then the problem of unemployment in South-East Sulawesi rapid and widespread will be resolved soon. However, it is still necessary to check the level of performance and important from the role of government as well as the identification of strengths-weaknesses of the agro-industry and sectors closely related to its development, such as: agriculture, plantation, poultry, fisheries, and trade, through the *performance-Important Analysis* and *SWOT analysis* in order to become a factor in the agro-industry development strategy in Southeast Sulawesi.

REFERENCES

- [1] Adelman, I. 1984. *Beyond Export-Led Growth*. *World Development*. 12 (9): 937-949.
- [2] Daryanto, A. 2000. *Growth and Structural Change in the Indonesian Economy: An Input-Output Perspective*. *Mimbar Sosek*, 13(3): 1-22.
- [3] Daryanto and J. Morison. 1992. *Structural Interdependence in the Indonesian Economy, with Emphasis on the Agricultural Sector, 1971-1985: An Input-Output Analysis*. *Mimbar Sosek*, 6(12): 74-99.
- [4] De Janvry, A. and E. Sadoulet. 1986. *Agricultural Growth in Developing Countries and Agricultural Imports: Econometric and General Equilibrium Analysis*. Working Paper No. 424. Departement of Agricultural and Resource Economics, University of California, California.
- [5] Gujarati, Damodar. 2002. *Ekonometrika Dasar*. Erlangga, Jakarta.
- [6] Kalecki, M. 1960. *Essays on Developing Countries*. Harvester Press, Sussex.
- [7] Maria Enjelina T., 2007. Peranan Sector Industri Terhadap Pertumbuhan Ekonomi Di Provinsi Jawa Timur. Tesis Program Sarjana Universitas Brawijaya Malang.
- [8] Nusantara, Ambo Wonua (2012). *Grand Strategi Sulawesi Tenggara Sebagai Pusat Produksi Dan Pengolahan (Agroindustri) Hasil Pertanian Pangan*. Laporan Hasil Penelitian MP3EI Tahun I, Publikasi Prosiding Seminar Nasional. 30 Oktober 2012. Universitas Negeri Semarang.
- [9] Nusantara, Ambo Wonua (2013). Masterplan Percepatan dan Perluasan Pembangunan Ekonomi (MP3E) Kabupaten Konawe. Laporan Hasil Kegiatan Penyusunan MP3E Konawe, *Unpublished*.
- [10] Saragih, Bungaran (1999) Reformasi Strategi Pembangunan Indonesia. Dalam buku *Menggugat Masa Lalu, Menggagas Masa Depan Ekonomi Indonesia*, editor: S. Sularto. PT. Penebar Swadaya, Jakarta.
- [11] Saragih, Bungaran & Hadibroto, H.S (1998). *Mengembangkan Strategi Ekonomi*. Seri: Membangun Bangsa. Buku 2. PT. Penebar Swadaya, Jakarta.