

THE CONTRIBUTION OF LEADING SECTORS TOWARD THE ECONOMIC PERFORMANCE IN EASTKALIMANTAN PROVINCE

ACHMAD ZAINI¹, I MADE BENYAMIN², ABD. RAHMAN RAZAK³, MUH. SYARKAWI RAUF⁴

¹Departement of Agribusiness, University of Mulawarman, Samarinda. Email: ach.zaini@gmail.com

²Faculty of Economic & Business, University of Hasanuddin, Makasar. HP +628124216270

³Faculty of Economic & Business, University of Hasanuddin, Makasa. Email: aman_2009@yahoo.co.id

⁴Faculty of Economic & Business, University of Hasanuddin, Makasar. HP +62811414192

S

ABSTRACT:

The purpose of this research was to analyze the basis of economic sector and its contribution to it in East Kalimantan Province and analyze the multiplier effect output, income and the development of manpower on economic sectors. The data which were used are the macro-economic data of East Kalimantan province. Beside that, it also developed Social Accounting Matrix (SAM) data of East Kalimantan Province in 2013 (37 x 37 sectors). The data were analyzed through the Location Quotient (LQ) and SAM multiplier analysis. The results showed that the Mining and Quarrying sector was a sector that has greatly contributed to the GDP forming and could become the leading sectors which were being able to fulfil the needs in East Kalimantan province itself and be able to export to other regions, outside of East Kalimantan Province. Through SAM analysis approach showed that the plantation sector (code 11) was a sector that has a multiplier output value and income multiplier value of the highest compared with other economic sectors. While the oil and gas sector (code 15) was the sector which has the highest value of labor income multiplier while compared with other economic sectors in East Kalimantan Province.

Keywords: *Economic Progress, GDP Forming, SAM Analysis approach*

I. Introduction

East Kalimantan Province is one of the province in Indonesia which is endowed with a wealth of natural resources. The abundance of natural resources which are owned by the East Kalimantan are a substantial capital potential to support the acceleration of regional economic development in the context of welfare of its people sustainability. The fulfillment of the people's welfare at this time should not sacrifice the chance of future generations to fulfil their needs. This is a basic principle of sustainable development. A model of sustainable development in the region are also called for a balancing of development between the economic, social and environmental. The principal issues in regional development lie in its emphasis on the development policies that are based on characteristic (unique value) of the area by using the potential of human resources, institutional and local physical resources which is describe on the role of economic sector against the formation of economic structure area.

Identify the crucial issues of regional economic development should be the main reference on the development plan. The emphasis is directed to development policies that are based on Endogenous development by making maximum utilization of the human resources potential, institutional, and local physical resources. This orientation leads to take initiatives from the area in the development process to create new employment opportunities and stimulate the sector of economic activity comprehensively.

Accelerating on the achievement of regional development objectives will be more effective when positioned on development more steady to determine priorities in several economic sectors which is a leading sector and a prime mover in the economic development area. Hirschman in Lincoln Arsyard (2010) states that development strategies should be concentrated on several specific sectors than many spread sectors out. Sector on this case is a key or leading sector where the leading sector was able to encourage other sectors to move better and

give multiplier effect of output, income and labor toward economic sector. Growth of this sector will encourage the growth of another sector so that the economic sector will lead the other sectors. Therefore, in formulating the priorities of the various of economic sectors become dominant sector is not only determined by the magnitude of the economic sector contribution to the GDP formation and the high rate of economic growth itself.

Based on the description above, this research was aimed to;

1. analyze the basis of economic sectors and its contribution to the economic matters in East Kalimantan Province.
2. analyze the multiplier effect of output, income and manpower from the development of economic sectors in East Kalimantan Province.

II. Theory, Empirical Research, and Methodology

Development strategy which was *emphasized* on economic growth assumes that the public welfare can be quickly increased through pacing one or several key economic sectors. The increasing of output on leading sector will also increase output of other sectors through a process of multiplier effect and linkage among the sectors. The increasing of output on various of economic sectors, then, through a process as known as trickle down effect will lead to increase income of various segments of society toward its country. The increasing of earning also reflects an increasing in the welfare of society.

However, based on research which was conducted by experts, in one side the economic growth strategy did impact the increasing of per capita income, but on the other hand, turned to leave other problems such as poverty. Economic growth has been achieved by a country turned out to save a group of people who were getting worse off social and economic condition on relative terms compared with other community groups or parties. Therefore, the achievement of development of a country was not enough to be simply measured by the increasing in per capita income itself but should also know how national income was distributed to the various segments of society.

Therefore, many development policies and needs to be able to give a positive answer to the efforts to improve the society welfare, especially the problem of inequality and poverty. If development policies deviated from these problems, the development which has been

carried out could not be successfully considered, although got double per capita income from the previous achievement. In order to achieve the goal of regional development, all economic sectors need to be optimized the growth and development. It required an investment or development sufficient funds based on the process of development in various sectors. Meanwhile investment or development funds were available in one area which was relatively limited so we need a steady plan and strategic development in various of economic sectors, called by determining priorities in some economic sectors that were flagship or leading sectors as well as the prime mover in the economic development area.

By formulating the priorities on the various economic sectors, not only seen from the ability sector which was contributed to the GDP formation or have a high growth rate, but need to pay attention to the other aspects: (1) the sectors which have multiplier influences toward income and manpower, relatively larger; (2) the sectors which are linked directly or indirectly to the front and larger; or sectors which have a degree of sensitivity and index of degree of spread which relatively larger; and (3) The sectors that create income distribution and sustainable prosperity for the community. Leading sectors that provide value added and a great production, has a huge multiplier effect on the economic sectors (multiplier output, multiplier income, multiplier draft labor), and has a high demand both the local market and the export market (Todaro, 2001). Determination of the dominant sector becomes important as the basis for regional development plan in accordance to regional autonomy era, where the area have the opportunity and the authority to make policies that correspond to the potential area in order to accelerate economic development.

Through the GDP data of East Kalimantan Province in 2012 - 2013 can be specified with a base sector with base theory approach or analysis of location quotient (LQ). Analysis LQ (Location Quotient) is a method which used to determine the level of specialization and indicates the leading sector. Based on Glasson (1977) using of LQ method with the following formula;

$$LQ_i = \frac{(S_{ij} / S_i)}{(\sum S_j / \sum S)}$$

S_{ij} = sector I toward area J

S_i = Total production of sector I

S_j = Total production of sector J

S = Total production of whole area

If $LQ > 1$, so the sector categorized as a basis sector, meaning that the sector is specialized in the area and able to fulfil the needs of the area include of fulfil the outside area needs. Conversely, if $LQ < 1$, so the sector is categorized as non sector basis. This means that the sector has become a specialty for the area and have not been able to fulfil the region needs.

To describe the multiplier effect of the output multiplier, income multiplier and labor multiplier could be used social accounting matrix (SAM) approach. This approach was built on the framework of Input-Output (I-O) that introduced by Leontief. Sadoulet and de Janvry (1995) revealed that has been presented on I-O model was just the flow of economic transactions from the production sector to the other factors, households, governments, companies and overseas. In the matrix I-O transactions were not specified as further types of production factors, household groups, as well as government spending. To obtain complete information on this case, the more precise tools used was the Social Accounting Matrix (SAM). One of the fundamental characteristics of SAM was its ability to present a comprehensive and consistent regarding economic relations at the level of production and its factors, as well as the institution composed of government, household, and private. Thus SAM could describe the entire transaction, sectoral and institutions in a balance sheet completely.

SAM model was used by Wagner (1999) to examine the role of foreign tourist visit to the region's economic in APA de Guaraquecaba, Brazil. Wagner has multiplier which measured by three types, Type I, Type II, and SAM multiplier. Output multiplier Type I was used to estimate the intercellular matrix block activity or economic sector only. Multiplier type II described the impact of intra, inter and extra group. While SAM multiplier in addition to explaining the impact which was shown by the multiplier type II, also illustrated the capital payments toward the households.

Value of multiplier type II produced a greater value than the type I and SAM multiplier. Bautista, Robinson, and Said (1999) conducted a study on alternatives to industrial development in Indonesia with SAM approach and the data that they used was SAM Indonesia in 1995 for analysis. Based on the results of the multiplier analysis showed no link between the relatively strong demand for the agricultural sector to the industrial sector. Industry based manufacturing sector was increased value added significantly to GDP.

Social Accounting Matrix (SAM) is a derivative of Table IO, the data is secondary data such as (i) Table IO of East Kalimantan Province, earlier in 2009 as IO base table, (ii) Regional Income of East Kalimantan Province, (iii) East Kalimantan Province in figures, (iv) the Consumer Price Index (CPI) of East Kalimantan and (v) some secondary data that have been obtained will be used to establish SAM balance of East Kalimantan Province.

The basic framework of SAM consists of four balance sheet, such as; (i) the balance of production factors, (ii) the balance of the institution, (iii) the balance of the production sector, and (iv) other balance sheet (rest of world) (CBS, 1995). Each sheet placed the line and column. The intersection between a balance with other balance sheet gave a special meaning. But not all of the intersections among the balance sheets had meaning. Schemes SAM Table provided a framework in aggregate. Each cell with stuffing TIJ was a sub system that described a transaction that took place between the various balance sheets. For example T13 was a subsystem that described the distribution of income (value added) according to the type of production factors in all sectors of economic activity. That was the process of production of goods and services with the total of y_3 (output total), the production sector required the participation of the factors that were paid remuneration with the total of T13. To balance the production factors value of T13 was a reception, while for the balance of the value of the production sector spending. While the meaning of the relationship between the balance sheet within the framework of SAM could be seen in the following table.

Tabel 1. SAM table schemes in aggregate

Earning Expense		Endogenous Balance			Exogenous Balance	Total	
		Production Factor	Institution	Production Sector			
		1	2	3	4	5	
Endogenous Balance	1	0	0	T ₁₃	T ₁₄	y ₁	
	Institution	2	T ₂₁	T ₂₂	0	T ₂₄	y ₂
	Production Sector	3	0	T ₃₂	T ₃₃	T ₃₄	y ₃
Exogenous Balance		4	I ₁	I ₂	I ₃	I ₄	y ₄
Total		5	y' ₁	y' ₃	y' ₃	y' ₄	

Source: BPS, 1995.

According to the table T_{ij} notation used to denote the matrix of transactions received by the balance of row I of the column J of the balance sheet. While y_i notation balance sheet showed total receipts of all i, and y'_i balance sheet that showed total spending all i. In accordance with the provisions must be equal to y'_i y_i for every i = j.

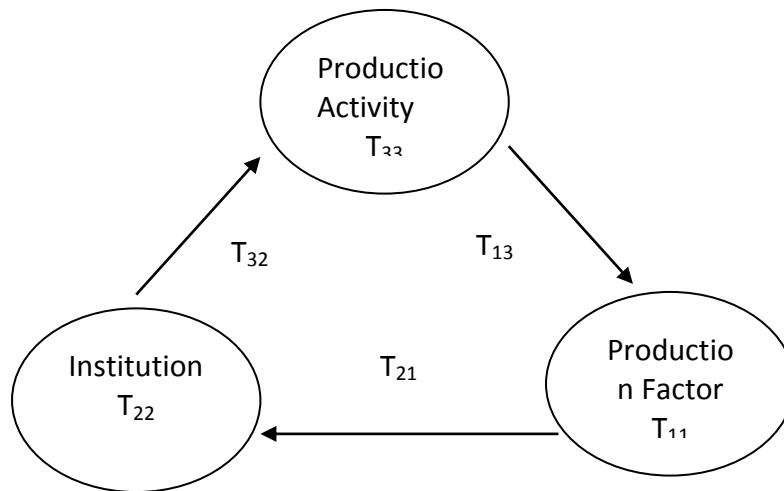
SAM framework described the relationship between the balance of production factor with the balance of the production sector was a sub-system which described the allocation of added value (income distribution) according to the type of production factors in all sectors of economic activity. That is the process of production to produce goods and services, production sector required sectors participation that were paid by the remuneration was acceptance, while the production sector balance sheet to the balance of payments were a production expenses factor. So that was the depiction of the relationship among other cells.

Each sheet on the SAM organized into rows and columns. Vector line showed the details of the earning, while the column vector showed the breakdown of expenditure. For the same activity, the number of rows equals to the number of columns or in other words the same amount of earning and expenses. In the table there were some matrix of SAM. Matrix T is a matrix of intercompany transactions on the balance sheet as endogenous block. Matrix X represented the earning account of the balance of endogenous exogenous. Matrix L showed the expenses balance endogenous to exogenous

balance, also called leakages. Matrix Y was an endogenous total income from the balance sheet. While the matrix Y 'represented the total expenditure of the endogenous balance.

The distribution of earning balance of endogenous SAM tables can be created an equation as follows:

T was the matrix of transactions that showed the transactions between the balance sheet as T₁₃ T₂₁ and T₃₂ and transactions within the same balance of T₂₂ and T₃₃. Relationships or Transactions among the SAM blocks could be described as follows.



Picture 1. Transactions among the SAM block

The matrix T as matrix of transactions among blocks in the endogenous balance can be written also in the form of a matrix as follows.

$$T = \begin{bmatrix} 0 & 0 & T_{13} \\ T_{21} & T_{22} & 0 \\ 0 & T_{32} & T_{33} \end{bmatrix} \dots\dots\dots(2)$$

On the first line, T13 indicates to acceptance of the production factors and production activities. On the second line, T21 indicates to acceptance of the institution factors of production factors and T22 indicates to acceptance of the institution of the institution factors itself. In the third row, T32 indicates to acceptance of the production activities of institutions and T33 indicates to acceptance of the production activities of production itself.

Multiplier Model Balance

Transaction matrix T showed the flow of earning and expenses were expressed in

While matrix A = $\begin{bmatrix} 0 & 0 & A_{13} \\ A_{21} & A_{22} & 0 \\ 0 & A_{32} & A_{33} \end{bmatrix} \dots\dots\dots(4)$

Equation (1) and (3) above could be operate as follows:

$Y = AY + X \dots\dots\dots(5)$

or $A_{ij} = T_{ij} / Y_j \dots\dots\dots(6)$

so $(I-A) Y = X \dots\dots\dots(7)$

or $Y = (I-A)^{-1} X$ (8)

if $M_a = (I-A)^{-1}$ (9)

so $Y = M_a X$ (10)

Matrix A contained the coefficients that showed the direct influence of the changes that occurred in a sector to other sectors. Meanwhile, M_a also called accounting multiplier was a multiplier that showed the effect of changes in a sector to other sectors after going through the whole system of SAM.

In addition to the average approach, also known as marginal approach in decomposition multiplier accounting. Matrix of marginal expenditure propensities, made under the assumption of a fixed price. Format matrix C was equal to the matrix A above, except that the average sense converted into marginal.

$C = dT / dY$ (11)

$C = \begin{pmatrix} 0 & 0 & C_{13} \\ C_{21} & C_{22} & 0 \\ 0 & C_{32} & C_{33} \end{pmatrix}$ (12)

Wherefore $Y = T + X$, then

$dY = dT + dX$ (13)

by inserting equation (11) to equation (12), so:

$dY = CdY + dX$ (14)

or $dY = (I - C)^{-1} dX$ (15)

or $dY = M_c dX$ (16)

M_c was called as *fixed price multiplier*.

Average approach and marginal approach above produces a different multiplier. Multipliers score was generated with the marginal approach incorporating elements of elasticity in its calculations, while the multiplier was generated by the average approach did not incorporate elasticity. The marginal rates of the multiplication of average rate times elasticity.

for each calculation coefficient in the SAM (Bautista, 2000). The calculation of the balance sheet of each sectors consisted of several elements, which is called as the balance sheet value of the multiplier (i) *Activity atau gross output multiplier* (ii) *Household Income Multiplier*, (iii) *Government Income Multiplier*, (iv). *Private Income Multiplier*, and (v) *Factorial Multiplier*

To answer the research issues that have been mentioned earlier in this paper, analysis of the multiplier that was used by the multiplier accounting sheet with the average approach (M_a).

III. Result and Discussion

The value of the multiplier SAM showed the intersectoral linkages in the economic sector. Each element in the matrix multiplier could be interpreted as total revenue change (directly or indirectly) in a row induced by exogenous as earning injection unit into account coloumn. Limitations that often appeared in the conventional SAM analysis including the assumption of purely demand, in other words, no restrictions on offers, fixed prices and expenses

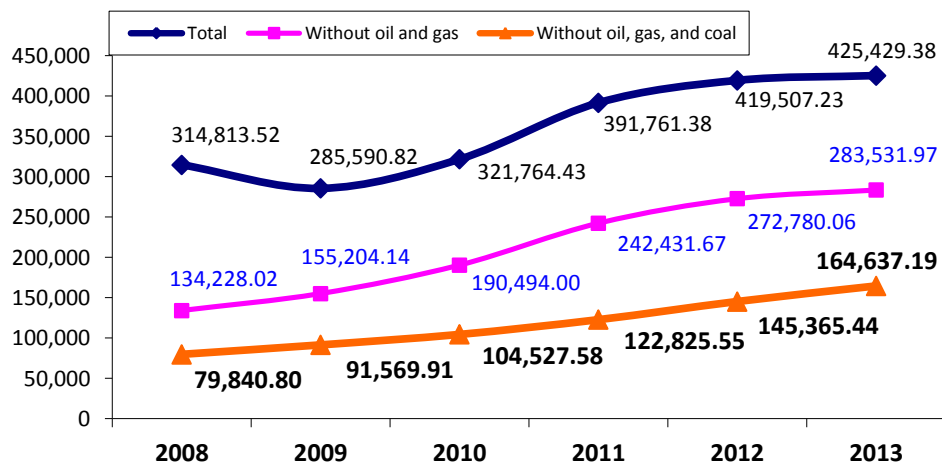
According to Statistic of East Kalimantan province (2014) that in 2012, the GDP of the province reached Rp.419,10 trillion and has increased to 1.41 percent, which amounted to Rp.425,43 trillion in 2013. While the GDP without oil, gas, and coal in 2013, it increased of 13.26 percent compared with the previous year .

By observing from the structure of the economic sector in East Kalimantan Province, the mining and quarrying sector were contributed to gross added value based on current prices with the amount of 182.54 trillion,

or 42.91 percent from the total of GDP of East Kalimantan Province in 2013. Value-added sector in the Processing Industry 2013 was 104.46 trillion rupiah, or 23.52 percent of the total GDP of East Kalimantan Province. The Trade, Hotel, and Restaurant were the gross value added stood at 40.90 trillion rupiah, or 9.61 percent, then the agriculture sector reached 28.66 trillion rupiah or 6.74 percent. While other

sectors generated gross added value below Rp.20 trillion. Based on the calculation on the basis of constant prices, there were four sectors provided the most dominant of gross value added in the economic sectors in East Kalimantan Province in 2013, which was called mining and quarrying, manufacturing, trading, hotels and restaurants and agriculture.

Picture 2. GDP of East Kalimantan Province at Current Market Prices Years 2008-2013 (Billion Rupiah)



During the last decade, the rate of economic growth in East Kalimantan Province always experienced positive growth despite fluctuations in each year. The rate of economic growth in East Kalimantan province turned out to reach 5.17 percent in 2013. Furthermore, if oil and coal issued by the East Kalimantan province's economic growth was much greater, which was 7.47 percent. The rate of growth of each sector of the economic sector in East Kalimantan Province in 2013 turned out there were seven economic sectors experienced positive growth except for the mining, quarrying, and manufacturing sector. In 2013, the mining, quarrying, and manufacturing sector as one of the sectors that contributed substantially on economic movement in East Kalimantan, correction to amounting to negative 0.23 percent and negative 3.93 percent.

To determine the economic sectors were classified as non-sector basis used Location Quotient (LQ) approach. Analysis of the base and non-base were generally based on the value added or manpower. Sector A could be as a base if the sector was able to improve the economic

sector of the region exceeded the natural growth (economic territory). In the regional economy, exports were selling products / services outside the territory well into other regions in the country and abroad. Basically export activity in the regional economy were all activities (products or services) that brought the money from outside the area referred to activities base.

Based on the analysis of location quotient (LQ) in 2013, then the average could be identified sectors as sector basis ($LQ > 1$) was the Mining and Quarrying sector with LQ value of 5.95 with the sub-sector basis Without Oil and Gas Mining LQ value of 1.70. Mining and Quarrying sector were sectors that have been greatly contributed to the GDP forming and could become the leading sectors being able to meet the needs in East Kalimantan Province itself and be able to export to other regions outside of East Kalimantan Province.

International Journal of Research In Social Sciences

© 2013-2016 IJRSS & K.A.J. All rights reserved

www.ijss.org/ijrss**Table 2.** LQ on the GDP of East Kalimantan Province and the National GDP Over 2000 Constant Prices by Industrial Year 2013 (Million Rupiahs)

BUSINESS FIELD	TOTAL		LQ VALUE	CRITERIA
	GDP of East Kalimantan	NATIONAL GDP		
-1	-2	-3		
1. AGRICULTURE	8.664.167	339.890.200	0,5789	Non Basis
a. Food Cropsstuffs	1.459.667	161.969.500	0,3535	Non Basis
b. Plantation crops	1.854.469	54.903.000	3,7480	Basis
c. Livestock and its product	969.778	43.914.000	0,6538	Non Basis
d. Forestry	1.794.891	17.442.500	4,6597	Basis
e. Fishery	2.585.362	61.661.200	0,4075	Non Basis
2. MINING & QUARRYING	51.237.177	195.708.500	5,9454	Basis
a. Oil and Gas	14.906.500	88.741.700	0,6416	Non Basis
b. Non oil and gas	35.411.565	79.470.000	1,7020	Basis
c. Quarrying	919.112	27.496.800	0,1277	Non Basis
3. PROCESSING INDUSTRY	26.232.254	707.457.800	0,8421	Non Basis
a. Oil and Gas Industry	19.223.522	44.627.400	11,6171	Basis
1. Food, Beverages and tobacco	1.215.732	194.063.000	0,1690	Non Basis
2. Textile Goods, Leather, and	36.224	62.076.700	0,0157	Non Basis
3. Woods and other forest	842.135	19.980.800	1,1367	Basis
4. Paper and Printed papers	2.488.676	27.786.100	2,4155	Basis
5. Fertilizers, Chemical, and	2.043.885	85.449.300	0,6451	Non Basis
6. Cement and Minerals	129.414	19.346.500	0,1804	Non Basis
7. Basic Metal Iron & Steel	0	10.091.100	0,0000	Non Basis
8. Transportation equip	166.587	240.031.600	0,0187	Non Basis
9. The other Industries	86.079	4.005.300	0,5796	Non Basis
4. ELECTRICITY, GAS, AND	457.314	21.201.000	0,4899	Non Basis
5. BUILDING	6.053.293	182.117.900	0,7548	Non Basis
6. TRADING, HOTEL,	12.502.437	501.158.400	0,5665	Non Basis
a. Wholesale & Retail	11.150.025	419.458.000	1,0655	Basis
b. Hotel	1.352.412	81.700.400	0,6635	Non Basis
7. TRANSPORTATION &	5.827.089	269.030.400	0,4919	Non Basis
8. FINANCE RENTAL AND	4.135.031	220.266.100	0,4263	Non Basis
9. SERVICES	3.055.685	258.237.900	0,2687	Non Basis
a. General government	2.342.256	101.031.800	1,9592	Basis
b. Other services	713.429	157.206.100	0,3835	Non Basis
GDP	121.990.486	2.770.345.100		

While other sub sectors were classified entered as sub-sector was from plantation base with LQ value of 3.75. This sub-sector was supported by the development of oil palm and rubber commodities were growing rapidly in East Kalimantan Province. Forestry subsector

was also a sub-sector basis LQ value of 4.66. This happened because it was supported by the results of forest in East Kalimantan province had a comparative advantage compared to other regions in Indonesia. Sub sectors of the oil and gas industry was also sub-sector basis LQ value

International Journal of Research In Social Sciences

© 2013-2016 IJRSS & K.A.J. All rights reserved

www.ijss.org/ijss

of 11.62. This sub-sector was supported by East Kalimantan Province superiority which was rich in natural resources including oil and gas. The area had oil refineries in Balikpapan and gas processing industries located in the Badak LNG Bontang. Sub sectors of industrial goods timber and other forest products as well as fertilizer, chemical and rubber products were also commodity base with LQ value respectively of 1.14 and 2.42. Both sub-sectors of the industry had a comparative advantage because the raw material was superior compared to other regions. The paper industry in Berau and PT Pupuk Kalimantan Timur in Bontang encourage these industries form the sub-sector basis. As for the sub-sector trading into sub sector basis LQ value of 1.06 was supported by their trade flows both in and out of goods and services through the city of Samarinda and Balikpapan. Neither the general government sub-sector into sub-sector basis LQ value of 1.96.

Analysis of multiplier with the Social Accounting Matrix (SAM) approach was used to see what happened to specific endogenous

variables in the event of changes in the exogenous variables in the economic sector of East Kalimantan. Multipliers calculated value includes output multiplier (its own output and the output of other sectors), Income multiplier (Household, Private and Government Income multiplier), and the multiplier labor (labor directly and indirectly). The output value of the multiplier output multiplier comprises its own sector and other sectors of output multiplier. Analysis of the SAM multiplier output in East Kalimantan Province in 2013 (37 x 37 sectors) showed that the plantation sector (code 11) was a sector that had a high multiplier output value compared with other sectors, which was called 2.5776. This means that if there was plantation sector development by injection increased output of as much as 1 billion rupiah, it would have an impact on total output increasing amounted to 2.5776 billion rupiah. The same notion could also be delivered to the multiplier output sectors of the economic sector. For more details, could be seen in the following table.

Table 3. Output Multiplier Value of 10 largest sectors By SAM (East Kalimantan Province) in 2013 (37 x 37 sector)

	Sector	MPOO	Rank	MPSO	RANK	MPTO	Rank
11	Plantation crops	1,370436	1	1,207125	2	2,57756	1
17	Quarrying	0,565702	13	1,251454	1	1,817156	4
19	Food, Beverages and tobacco	0,776339	4	1,015525	6	1,791864	5
20	Textile Goods, Leather, and Footwear	0,710122	5	1,010417	9	1,720539	6
22	Paper and Printed papers	0,638789	10	1,080909	3	1,719698	7
23	Fertilizers, Chemical, and Articles of rubbers	0,859826	3	1,034228	4	1,894054	3
24	Cement and Minerals (nonmetallic) goods	0,687409	6	1,004962	10	1,692371	9
26	The other Industries	0,68497	7	1,013689	7	1,698658	8
30	Hotel and Restaurant	0,917898	2	1,012048	8	1,929946	2
32	Water Transportation	0,651166	8	1,018484	5	1,669649	10

Remark MPOO = Multiplier other output
MPSO = Multiplier self output
MPTO = Multiplier Total output

Other sectors of 10 sectors with the output multiplier value were hotel and restaurant sectors (code 30), fertilizer, chemicals and rubber products (code 23), Quarrying (code 17), Food,

Beverages and tobacco (code 19), Textile Goods, Leather, and Footwear (code 20), Paper and Printed papers (code 22), The other Industries

International Journal of Research In Social Sciences

© 2013-2016 IJRSS & K.A.J. All rights reserved

www.ijss.org/ijrss

(code 26), Cement and Minerals (nonmetallic) goods (code 24) and the water transportation.

Analysis of income multiplier in details was to calculate the value of household income multiplier, income multiplier value of private and government income multiplier value. Results of the analysis showed that the income multiplier plantation crops sector (code 11) were the

sectors with the highest rank (number 1) income multiplier value of 1.6538. Value means that the development of plantation sector with injections of 1 (one) unit would give an impact on total revenues of 1.6538 increasing unit consists of increasing household income amounted to 0.91375, to increase the company's revenues amounted to 0.5288 and to increase government revenue amounted to 0.2112 units.

Table 4. Income Multiplier Value of 10 largest sectors By SAM (East Kalimantan Province) in 2013 (37 x 37 sector)

Code	Sector	MPHI	Rank	MPPI	Rank	MPGO	Rank	MPTI	Rank
11	Plantation Crops	0,9138	2	0,5289	7	0,2112	2	1,6539	1
12	Livestock and Outcomes	0,5702	7	0,4622	10	0,1686	10	1,2009	10
13	Forestry	0,5705	6	0,6057	2	0,2083	3	1,3845	4
14	Fishery	0,5513	9	0,6375	1	0,2159	1	1,4046	3
16	Non oil and gas	0,5894	4	0,5652	6	0,1981	7	1,3527	7
17	Quarrying	0,5350	11	0,5789	5	0,1981	6	1,3120	8
29	Trading	0,5832	5	0,5184	8	0,1846	8	1,2862	9
34	Communication	0,5455	10	0,6030	3	0,2056	4	1,3540	6
35	Finance Rental and Service Company	0,5920	3	0,5867	4	0,2043	5	1,3830	5
36	Government and Security	1,0001	1	0,2869	23	0,1491	12	1,4361	2

Remark MPHI = Multiplier Household Income
MPPI = Multiplier Private Income
MPGI = Multiplier Government Income

The other economic sectors of 10 sectors that had income multiplier value of greatest value to smaller value in row were the government and security sectors (code 36), fishery (code 14), forestry (code 13), Finance Rental and Service Company (code 35), communication (code 34), without oil and gas mining (code 16), quarrying (code 17), trading (code 29) and Livestock and Outcomes (code 12).

Labour multiplier analyzes in details was to calculate the multiplier value to the acceptance of the direct labor and indirect labor. The results of the analysis of labor income

multiplier showed that the oil and gas sector (code 15) were the sectors with the highest ranking in total labor income multiplier value of 10.4307. This means that the multiplier value of oil and gas development by injection of 1 (one) unit will give an impact on workers' income by increasing the workers directly or indirectly, of 10,4307,6538 unit. For more details, could be seen in the following table.

Tabel 5. Labour Multiplier Value of 10 largest sectors By SAM (East Kalimantan Province) in 2013 (37 x 37 sector)

Code	Sector	MPDL	RANK	MPIL	RANK	MPTL	RANK
10	Food crops	0,21984	1	0,13382	10	1,13382	10
15	Oil and Gas	0,06484	10	0,43075	4	10,43075	1
18	Crude Oil Refinery	0,08214	9	0,36499	7	9,36499	2
21	Woods and other forest products	0,17899	6	0,43597	2	6,43597	5

International Journal of Research In Social Sciences

© 2013-2016 IJRSS & K.A.J. All rights reserved

www.ijssk.org/ijrss

23	Fertilizers, Chemical, and Articles of rubber	0,21824	2	0,46736	1	2,46736	9
24	Cement and Minerals (nonmetallic) goods	0,21002	4	0,43102	3	4,43102	7
25	Transport Equipment, Machinery	0,18225	5	0,36222	8	5,36222	6
27	Electricity, Gas, and Clean Water	0,17886	7	0,40500	5	7,40500	4
32	Water Transportation	0,21708	3	0,36516	6	3,36516	8
33	Air Transportation	0,13427	8	0,26340	9	8,26340	3

Remark MPDL = Multiplier Direct Labour
 MPIL = Multiplier Indirect Labour Income
 MPTI = Multiplier Total Labour

The other leading of economic sectors of 10 sectors had labor multiplier value of greatest value to smaller value in a row were Crude Oil Refinery sector (code 18), Water Transportation (code 33), Electricity, Gas, and Clean Water (code 27), Woods and other forest products (code 21), Lift Equipment, Machinery Equipment crockery (code 25), Cement and Minerals (nonmetallic) goods (code 24), water transportation (code 32), Fertilizers, Chemical, and Articles of rubber (code 23) and Plant Food stuffs (code 10).

IV. Conclusion

The conclusion of the research as follows;

1. Mining and Quarrying sector was sector that have greatly contributed to the GDP forming and could become the leading sectors being able to fulfil the needs in East Kalimantan Province itself and be able to export to other regions, outside of East Kalimantan.
2. Plantation crops sector (code 11) was sector that had the highest multiplier output value and income multiplier value compared with other economic sectors. While the oil and gas sector (code 15) was a sector which had the highest of labor income multiplier total value compared with other economic sectors in total value East Kalimantan Province.

References

1. Allen, H.H. 1998. Social Accounting Matrix. A Paper Prepared for Course on National Accounts, London.
2. Arsyad, Lincolin. 2010. Ekonomi Pembangunan. Edisi Kelima. UPP STIE YKPN, Yogyakarta.
3. Austin, I.E. 1981. Agroindustry Project Analysis. The John Hopkins University Press, London.
4. Bautista,R., M. Robinson, dan M. Said. 1999. Alternative Industrial Development Paths for Indonesia : SAM and CGE Analysis. Jurnal International "Food Policy Research Institute", Washington, D.C.
5. Bautista,R. 2000. Agriculture-Based Development : A SAM Perspective on Central Vietnam. Jurnal "International Food Policy Research Institute", Washington, D.C.and The Developing Economies, 34(1): 112-32.
6. Blair, J.P. 1991. Urban and Regional Economics. Wright State University, Homewood. Richard D. Irwin Inc., Boston.
7. Burfisher, M.E. and S. Robinson. 2002. Developing Countries and The Gains from Regionalism: Links Between Trade and Farm Policy Reforms in Mexico. American Journal of Agricultural Economics, 84(3): 736-748.
8. BPS Kalimantan Timur, 2011. Tabel I-O Kalimantan Timur.Samarinda
9. BPS Kalimantan Timur, 2014. Kalimantan Timur Dalam Angka 2014. Samarinda
10. BPS Kalimantan Timur, 2014. Produk domestik bruto Kalimantan Timur. Samarinda
11. Budiharsono, S. 1989. Perencanaan Pembangunan Wilayah : Teori Model Perencanaan dan

International Journal of Research In Social Sciences

© 2013-2016 IJRSS & K.A.J. All rights reserved

www.ijss.org/ijrss

- Penerapannya. Institut Pertanian Bogor, Bogor.
12. Camron, L.A. 2001. The Impact of The Indonesian Financial Crisis on Children : An Analysis Using The 100 Villages Data. *Bulletin of Indonesian Economic Studies*, 37 (1): 43-64.
 13. Chenery, H.B. and T. Watanabe. 1958. International Comparasions of the Structure of Production. *Econometrica*, 26(4): 487-521
 14. Daryanto, A. 1995. Application of Input Output Analysis. Department of Socio-Economics Sciences, Faculty of Agricultural, Bogor Agricultural University, Bogor.
 15. Daryanto, A. 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.
 16. Dietzenbacher, E. and J. van der Linden. 1997. Sectoral and Spatial Linkages in the EC Production Structure. *Journal of Regional Science*, 37(2): 235-57.
 17. Ghatak, S.I dan K. Ongersent. 1984. *Agricultural and Economic Development*. The John Hopkins University Press, Maryland.
 18. Glasson, J. 1977. *Pengantar Perencanaan Regional* (Terjemahan). Kerjasama Fakultas Ekonomi Universitas Indonesia dan Badan Perencanaan Pembangunan Nasional, Jakarta.
 19. Hafizrianda, Y. 2007. Dampak Pembangunan Sektor Pertanian Terhadap Distribusi Pendapatan dan Perekonomian Regional Provinsi Papu; Pendekatan SNSE. Desertasi. IPB Bogor.
 20. Hajnovicova, V. and J. Lapisakova. 2002. Input-Output and SAM Multipliers Analysis : The Slovak Case. *International Conference on Input-Output Techniques*, Montreal.
 21. Hayami, Y. 2001. *Development Economics: from the Poverty to the Wealth of Nation*. Second Edition. Oxford University Press Inc., New York.
 22. Hill, M. 1992. *Economics of Development*. W.W. Norton and Company. New York.
 23. Hirschman, A.O. 1958. *The Strategy of Economic Development*. Yale University Press, New York.
 24. Ina, D. 2002. *Input-Output Based Measures of Interindustry Linkages Revisited: A Survey and Discussion*. Centre for Economic and Business Research, Ministry of Economic and Business Affairs, Copenhagen.
 25. Isard, W. dan E. Thorbecke. 1998. *Methods of Interregional and Regional Analysis*. Ashgate Publishing Limited.
 26. James, J. and H. Khan. 1993. The Employment Effects of an Income Redistribution in Developing Countries. *World Development*, 21(5): 817-827.
 27. Jones, L.P. 1976. The Measurement of Hirschmanian Linkages. *Quarterly Journal of Economics*, (40): 323-333.
 28. Keuning, S. 1990. Estimating the Distribution of Socio-Economic Welfare in Indonesia. Avebury Aldershot, Brookfield.
 29. Kim, K.S dan M. Roemer. 1979. *Growth and Structure Transformation*. Harvard College, Harvard.
 30. Mangiri, K. 2000. *Perencanaan Terpadu Pembangunan Ekonomi Daerah Otonom*. Badan Pusat Statistik, Jakarta.
 31. Mankiw, G. 2000. *Macroeconomics*. Fourth Edition. Worth Publishers, New York.
 32. Miller, R. E. and P. D. Blair. 1985. *Input-Output Analysis: Foundations and Extensions*. Prentice-Hall, Inc., New Jersey.
 33. Okuyama, Y., M. Sonis and G.J.D. Hewings. 2002. Structural Change of the Chicago Economy: A Temporal Inverse Analysis. Paper Presented at the Fourteenth International Conference on Input-Output Techniques, Montreal.
 34. Nielsen, C.P. 2002. *Social Accounting Matrix for Vietnam 1996 and 1997*. *Jurnal International Food Policy Research Institute*, Washington D.C

International Journal of Research In Social Sciences

© 2013-2016 IJRSS & K.A.J. All rights reserved

www.ijssk.org/ijrss

-
35. Parikh, A. and E. Thorbecke. 1996. Impact of Rural Industrialization on Village Life and Economy: A Social Accounting Matrix Approach. *Economic Development and Cultural Change*, 44(2): 351-377.
36. Pyatt dan Round. 1985. *Social Accounting Matrix : A Basis for Planning*. The World Bank, Washington D.C.
37. Santong, L., G. Ying and H. Jianwu, 2004. SAM Based Multiplier Analysis for China's Economy. Development Research Center the State Council, PRC. Paper Prepared for the Thirteenth Forum World Conference in Marina, Macareta.
38. Sonis, M. and G.J.D. Hewing, 2000. On The Sraffa-Leontief Model. The Regional Economics Applications Laboratory, Chicago.
39. Sinha, A., Siddiqui, dan Sangeeta. 2000. SAM Multiplier Analysis of Informal Household : Application to an Indian Archetype Economic. *Jurnal International Food Policy Research Institute*, Washington, D.C.
40. Sutomo, S. 1995. *Kemiskinan dan Pembangunan Ekonomi Wilayah*. Disertasi Doktor, Program Pascasarjana, Institut Pertanian Bogor, Bogor.
41. Townsend, R.F. and S. McDonald. 1997. Biased Policies, Agriculture and Income Distribution in South Africa: A Social Accounting Matrix Approach. Paper Prepared for the ESRC Development Economics Study Group Conference on the Role of the Public Sector, University of Reading, Cape Town.
42. Van den Berg, H. 2001. *Economic Growth and Development. (An Analysis of our Greatest Economic Achievements and our Most Exciting Challenges)*. International Edition. McGraw Hill, Singapore.
43. Vogel, S.J. 1994. *Structural Changes in Agriculture : Production Linkages and Agricultural Demand-Led Industrialization*. Oxford Economic Paper (46): 136-156.
44. Wagner, J.E. 1999. Developing a Social Accounting Matrix to Examine Tourism in the APA de Guaraquecaba Brazil. *Jurnal International Food Policy Research Institute*, Washington, D.C.

Annex Table- Sectoral multiplier SAM East Kalimantan (37 x 37 sectors)

Code	Sectors	MPDL	MPIL	MPTL	MPHI	MPPI	MPGI	MPDL	MPPIL	MPTL
10	Food crops	0,2198	0,1338	0,2744	0,1162	0,0517	1,2616	1,0475	0,2141	2,0576
11	Estate Crops	0,6578	0,6495	0,9138	0,5289	0,2112	2,5776	1,2071	1,3704	5,5387
12	Livestock and its product	0,3423	0,5898	0,5702	0,4622	0,1686	1,5468	1,0309	0,5160	3,6797
13	Forestry	0,2683	0,7921	0,5705	0,6057	0,2083	1,4322	1,0177	0,4145	3,8771
14	Fishery	0,2323	0,8380	0,5513	0,6375	0,2159	1,3953	1,0392	0,3561	3,8702
15	Oil & Gas Mining	0,0648	0,4308	0,2275	0,3228	0,1056	1,1417	1,0474	0,0944	2,2932
16	Non oil and gas mining	0,3077	0,7383	0,5894	0,5652	0,1981	1,5402	1,1341	0,4062	3,9390
17	Quarrying	0,2453	0,7619	0,5350	0,5789	0,1981	1,8172	1,2515	0,5657	4,1363
18	Oil & Gas Manufacturing Industries	0,0821	0,3650	0,2204	0,2752	0,0918	1,2768	1,0254	0,2514	2,3114
19	Food, beverages industries	0,2297	0,4229	0,3923	0,3284	0,1187	1,7919	1,0155	0,7763	3,2838
20	Textil, leather product & Footweater industries	0,2555	0,5209	0,4549	0,4013	0,1432	1,7205	1,0104	0,7101	3,4964
21	Wood & other product industries	0,1790	0,4360	0,3455	0,3341	0,1170	1,6005	1,0495	0,5511	3,0120
22	Paper & Printing industries	0,2520	0,5636	0,4675	0,4330	0,1529	1,7197	1,0809	0,6388	3,5888
23	Fertilizer, chemical & rubber product industries	0,2182	0,4674	0,3969	0,3592	0,1275	1,8941	1,0342	0,8598	3,4633
24	Cement & non-metallic quarr product industries	0,2100	0,4310	0,3750	0,3318	0,1183	1,6924	1,0050	0,6874	3,1585
25	Transport equip, machinery & apparatus ind.	0,1822	0,3622	0,3210	0,2793	0,0999	1,3758	1,0030	0,3728	2,6204
26	other manufacturing product	0,2777	0,4650	0,4566	0,3618	0,1324	1,6987	1,0137	0,6850	3,3922
27	Electricity, gas & water supply	0,1789	0,4050	0,3336	0,3107	0,1096	1,6474	1,0791	0,5683	2,9850
28	Construction	0,2524	0,4721	0,4334	0,3649	0,1316	1,6625	1,0186	0,6439	3,3167
29	Trade	0,3255	0,6735	0,5832	0,5184	0,1846	1,6166	1,0538	0,5628	3,9018
30	Hotel dan Restaurant	0,3238	0,6083	0,5573	0,4713	0,1699	1,9299	1,0120	0,9179	4,0605
31	Land Transport	0,2997	0,3825	0,4478	0,3013	0,1149	1,5887	1,0196	0,5691	3,1348
32	Water Transport	0,2171	0,3652	0,3574	0,2836	0,1037	1,6696	1,0185	0,6512	2,9965
33	Air Transport	0,1343	0,2634	0,2352	0,2031	0,0728	1,4471	1,0766	0,3704	2,3559

International Journal of Research In Social Sciences

© 2013-2016 IJRSS & K.A.J. All rights reserved

www.ijssk.org/ijrss

34	Communication	0,2435	0,7946	0,5455	0,6030	0,2056	1,4835	1,0480	0,4355	3,8757
35	Finance, real rstate & business services	0,2992	0,7681	0,5920	0,5867	0,2043	1,5502	1,1359	0,4143	4,0005
36	Goverment and defense	0,8685	0,3163	1,0001	0,2869	0,1491	1,3313	1,0346	0,2967	3,9523
37	Other services	0,2983	0,3827	0,4464	0,3015	0,1148	1,4564	1,0198	0,4366	3,0002