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	We have reached a decision regarding your submission to The <mark>Winners</mark> , "The Role of Oil Palm and Rubber Industry Towards Regional Economic in West Kalimantan-Indonesia".		
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# The Role of Oil Palm and Rubber Industry towards Regional Economic in West Kalimantan-Indonesia

# ABSTRACT

In 1911-1915 the production of rubber plantation in West Kalimantan has been exported by the Dutch East Indies. Slower than rubber plantations, oil palm plantations began to be cultivated on a massive scale in the 1980s in West Kalimantan. However, the role of oil palm and rubber industry is still very low in improving economic and welfare of the people of West Kalimantan. The study aims to assess the role of palm oil and rubber towards economic in West Kalimantan and develop oil palm and rubber industry in strengthening the economy of West Kalimantan. The method used in this research is the analysis of input-output. The main data is from IO 2011, which consists of 53 sectors. The results show that the industrial output of palm oil and rubber as well as oil palm and rubber is still low. Weak innovation and technology led to the output and the role of these two sectors to the economic of West Kalimantan is low. Another obstacle that led to the economic of rubber and palm oil industries under the standard is due to lack of motivation research, infrastructure and connectivity.

Keywords: economic, industry, oil palm, rubber

## **1** Intdoduction

The potency of plantation and palm oil and rubber industry can not be optimized by the government of West Kalimantan Indonesia because (1) the availability and quality of infrastructure (roads, ports, energy/electricity, water) is not adequate, (2) the industrial added value is very low, (3) the rule of law in developing investment, (4) the function of the port is still a local level, and (5) lack of innovation and technology in the field of oil and rubber industry (**RPJMD**. 2014).

This study aims to assess and understand the role of plantations and oil palm and rubber industry in West Kalimantan. Palm and rubber plantations has lasted over 50 years in West Kalimantan. Industrial processing, connectivity and human resources do not yet support it. The problem of human resource constraints in palm and rubber industry led to low innovations. On the other hand, the problem in connectivity caused transportation costs is inefficient and ineffective. Chiu and Lin (2012) say that the transport industry has a close relationship with other industries to meet the input and output of the industry.

The area of oil palm plantations owned by the people and companies in West Kalimantan is estimated 314.983 ha and 906.486 ha and rubber plantations is estimated 587.262 ha and 4.942 ha. Based on data, the utilization of oil palm and rubber plantations to total farming area ranges from 73.45% (CBS, 2014). In the same year, the amount of foreign direct investment (FDI) and domestic investment (DCI) in the plantation sector are estimated to \$ 40.78 million (62.27% of total investments) and \$ 3.16 million (52.94% of total investment). Indeed with such broad, palm oil and plantation industries can thrive. However,

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the role of oil palm and rubber industry has not been able to improve the economic and alleviate poverty. The poverty in West Kalimantan is estimated to increase by 11.33% which, increase from 1,097,369 to 1,221,779 people (BPS 2014).

On the other hand, the productivity of oil palm and rubber plantations in Indonesia is still less than the ASEAN countries. The Average of productivity of palm plantations in Indonesia ranges from 3.8 tons/ha, lower than Malaysia, which reaches 4.6 tons/ha. The same thing happens on rubber plantations. The productivity is only 993 tons/ha, lower than Thailand, Vietnam and Malaysia. Furthermore, the export of palm oil plantations is higher in CPO.

Hausmann et al. (2011) say that the quality of human resources is a basic fundamental in developing innovations and modern technologies. Skilled human resources and rich in innovation should support a complex economic activity. Resources and modern technological innovation have not supported processing of oil industry and rubber industry. The added value of the industry becomes low and the development of the industry becomes slow that impact the economic significantly.

Currently, the processing of the oil industry in West Kalimantan is only in the form of CPO. The processing of CPO to be the main ingredient for cosmetics and medicine has not been well developed in West Sumatra. There are four things that need to be considered by the government to increase the added value of the oil industry: first, encourage and give priority to investment in the field refined palm oil industry rather than investment in on-fram and CPO. Second, the government should increase the participation of farmers as owners and producer of oil palm plantations and not as labor. Third, the government must have a clear road map to the palm oil industry. Finally, the government needs to promote the procedure to develop oil industry specialization (Amzul, 2011).

The Indonesian government launches a Master Plan for the Acceleration and Expansion of Indonesian Economic Development (MP3EI). Ministry of Economics, (2011) developed six policy: (1) domestic industry security, through a competitive industry in the face of global competition (2) infrastructure development, (3) improving the quality of public service, (3) improve the regulation, (4) fiscal policy (5) human resource development in the field of industry.

Tijaja and Faisal (2014), Indonesia experienced a lack of energy to support industrialization, low labor productivity, bureaucracy and lack of synergy between the ministries and government agencies. Therefore, MP3EI program is expected to help to boost the productivity of industrial oil palm and rubber plantations in Indonesia. Along with the MP3EI program, the Government of President Jokowi and Jusuf Kalla, cut regulatory policies that impede investment and create policy in 13 packages to facilitate investment.

Industrialization needs to be considered by the state to strengthen the competitiveness between countries (particularly with ASEAN countries). In the two decades, the economy of vietnam is getting modern and growing. The standard of living in Vietnam is very rapidly developed and makes the economic transition that integrated with the world economy. That is because the government focuses on the process of industrialization and modernization that aims to make Vietnam as an industrial economy by 2020 (Trinh, et al 2000).

# 2 Materials and Methods

This study uses non-survey techniques. The data used as the unit of analysis is the data in 2011. The data in 2011 is still relevant to be used as the direction of economic policy area with four assumptions: (1) technical coefficients technology does not change, (2) relatively stable prices, (3) the relative economic structure constant and (4) the economic structure of the short-term period has not changed much. The data will be projected as many as 54 sectors of the field of business. The data is sourced from the survey of Central Bureau of Statistics and Planning and Development Agency of West Kalimantan.

IO method develops by Leonatif in 1930. His finding brings him to get the Nobel Prize (Miller and Blair, 2009). Leonatif thinks the input-output analysis as:

"An emprical study of interrelations among different parts of a national economic as revealed through covaration prices, output, investment and income (leontif, 1951)"

Leonatif develops the formulation by observing in detail the flow between commodity and industry. After that, Leonatif makes an input output table that consist of (1) final demand, (2) primary inputs and (3) total output. Final demand consists of (1) household consumption, (2) government spending and (3) investment and (4) export. Primary input consists of (1) the value-added component of wages, (2) value-added profit and (3) imports (Hewings and Jensen, 1986).

In detail, the standard used for balancing the Leonatif flow of goods and the transaction is

 $\sum_{j} x_{ij} + Y_i = X_i (1)$  $\sum_{i} x_{ij} + Z_i = X_j (2)$ 

Assuming a production function is linear and homogeneous along with technological coefficient is relatively unchanged, the formula input coefficient is  $x = -\frac{x_{ij}}{2} = -\frac{x_{ij}}{2}$ 

$$\alpha_{ij} = \frac{3}{X_j} (3)$$

Furthermore, the above equation is substituted into the equation (2) so that it becomes;

 $\sum_{j} \alpha_{ij} X_j + Y_i = X_1(3)$ 

If matrix A (nxn), vector Y (nx1) and X(nx1), becomes:

AX + Y = X(4)

Furthermore, the formula can be written into a matrix of Leontief namely;  $[I - A]^{-1}Y = X$  (5)

Matrix Leonatif key matrix to determine and estimate forecasting models and input output (2) estimate backward and forward Linkage Linkage (Daryanto and Hafizrianda, 2010). Chenery and Watanabe (1958) say that the backward Linkage see the demand side (demand driven) and forward Linkage see the supply side (supply driven). Formula Backward and forward Linkage Linkage presented in the following equation;

$$BL_{j}^{R} = \sum_{j=1}^{n} \alpha_{ij} (6)$$

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 $FL_{j}^{R}=\sum_{j=1}^{n}a_{ij}\left(7\right)$ 

Furthermore, adopting the model Morilla, et al (2006) to estimate the added value of wages, indirect taxes and effort. The formula used is  $M = (1 - A)^{-1}$  (8)

# 3 Result and Discussion

Contributions plantations and industrial rubber and palm oil based on the value of backward linkage and forward linkage is still lower compared to some sectors in West Kalimantan. Value backward linkage rubber and oil palm plantations each - each of 1,271dan 1,389, which ranks 38th and 30th. The value of backward linkage industries rubber and oil palm plantations each - each amounting to 1,611 and 1,180. Both the industrial sector is ranked 17th and 42nd. Values sector forward linkage of rubber and palm oil respectively - amounted to 0.968 and 0.967 to rank 9th and 11th. Rated forward linkage industries of rubber and palm oil respectively, to rank 28th and 22nd.

The estimation results of forward linkage and backward linkage showed plantation and plantation industry is still smaller role on economic compared with other sectors. Based on the value of backward linkage, rubber industry ranked (17th) is much better than the oil industry (42nd), while the value of forward linkage indicating the rank of oil industry (all 22) is better than the rubber industry (all 28). The rubber industry greater influence on the demand side than the oil industry. It shows a lot more rubber industry involving other sectors (in the economy) than the oil industry in driving the region's economic. The rubber industry more cultivated by the people, while oil palm plantations owned by large-scale enterprises. The thing that causes the rubber industry's influence is greater than the demand side. The implication is that the rubber industry multiplication creates greater income to the various sectors and economic activities in West Kalimantan.

Rubber industry is able to push the economy's output amounted to 1.611 if the sector final demand increased by 1. It shows that the rubber industry influence on various sectors. Rubber industry has a linkage with a rubber plantation sector, trade, land transport, river transport and crossings, sea transport, banking, warehousing sector, infrastructure (construction), chemical industry, other industries, and electricity. Rubber industry is strongly influenced by the connectivity between regions. This is reflected in the rubber industry influence on the sea transport, river and land transportation. Therefore, development of road infrastructure must be realized in order to support the flow of commodities.

In contrary to the side of the forward linkage, the oil industry is slightly better than the rubber industry. Most of the oil palm plantations operated by largescale enterprises including industrial processing. It shows that the oil industry a little better on the supply side. Unfortunately, the value of forward linkage palm and rubber industry less than 1. This shows that the majority of processed palm oil industry has not been able to be absorbed domestic outlets. Innovation and technology in West Kalimantan is not enough to be able to process the processed (eg CPO) into value-added products. **Commented [HS6]:** Only result and discussion and no number

This situation can create a capital outflow to other regions or countries. The greater the resources of raw materials exported the greater the added value of regional economic flows to other regions and countries. Its influence on the region is the added value of labor, employment and economic output into a small area. Of course, the role of the oil industry to be small in boosting the economic in the West Kalimantan region. Instead, the role of other industries such as industrial goods, timber industry, the chemical industry has a better than the oil industry.

From the supply side, oil palm and rubber plantations are quite good compared to some other sectors. Position rubber plantations and palm oil respectively - each was ranked 9 and 11. It was not uncommon for large-scale oil palm plantations are always accompanied by the development of processing industry fresh fruit into CPO. Likewise with rubber, rubber-processing industry is already available in a decent amount to meet the supply of plantation sector output

Palm and rubber plantations should have been able to give a major influence on the technology industry, chemical industry, transportation and agriculture. These four sectors considered creating linkages in fostering the development of the demand side. But it did not happen because of the low human development in the field of innovation and technology. The role of governments and employers to improve the resource is not optimal, which is reflected in the low cost of research and human resources to develop innovation and technology. That's why oil palm and rubber plantation sector experienced a mis-linkage with related sectors would be expected for the region and between regions. Furthermore, the plantation sector requires alliances linkage with other sectors in other countries to meet the basic input plantations. Here is the beginning of the stream flowing out the added value and economic inefficiency. In detail the value of backward linkage and forward linkage presented in Table 1.

No	Sektor	Backward	Forward
1	Paddy	1,314	2,083
2	Corn	1,115	0,993
3	Soybeans	1,784	0,992
4	Cassava	1,630	0,985
5	Other Crops	1,824	0,983
6	Agricultural services and hunting	1,787	0,979
7	Orange	1,538	0,973
8	Horticultura	1,566	0,970
0	rubber	1,217	0.068 (0)
9	rubber	(38)	0,908 (9)
10	Coconut	1,119	0,967
11	Dolm oil	1,389	0.067 (11)
11	Palifi off		0,907 (11)
12	Coffee	1,153	0,966
13	Pepper	1,132	0,965
14	Other plantation crops	1,145	0,965
15	Poultry	1,721	0,964
16	Other livestock	1,523	0,844
17	Wood	1,214	0,791
18	Other forest products	1,812	0,769
19	Capture fisheries	1,791	0,762

 Tabel 1. Backward linkage and forward linkage plantation an industrial commodity rubber and palm oil in West Kalimantan.

No	Saktor	Bookword	Forward
20	Aqueculture	1 200	0.750
20	Mining	1,209	0,759
21	winning	1,275	0,750
22	Palm oil industry	(42)	0,740 (22)
23	Food and heverage industry	(+2)	0.739
23	Textiles and apparel industry	1 600	0,737
24	Manufacture of wood articles of wood and matting	1,077	0,240
26	Industry paper an paper products and printing	1,754	0,233
20	Chemical Pharmaceutical and traditional medecine	1,410	0,233
21	Chemical, I harmaceutear and traditional medecine	1,703	0,232
28	Rubber industry, manufacture of rubber and plastics	(17)	0,226 (28)
29	Industrial good excavation	1 403	0.225
30	Manufacture of metal goods, computers and electronics	2 130	0,223
31	Furniture industry	1 464	0,222
32	Other industry	1,744	0,205
33	Electrification	1.218	0.192
34	Water supply	1,097	0.191
35	Infrastructure	1 466	0.191
36	Large retai trade	1.317	0.189
37	Land transportation	1.841	0.186
38	Water transportation	1.566	0.179
39	River transportation	1.580	0.157
40	Air transportation	1.633	0.150
41	Warehousing and transport supporting services	1.245	0.146
42	Provision of acomodation	1,586	0,145
43	Provisiom of food and bevarage	2,152	0,126
44	Information and communication	1,158	0,050
45	Bank	1,219	0,050
46	Insurance	1,081	0,049
47	Other financial service	1,079	0,049
48	Real estate	1,372	0,049
49	Company services	1,190	0,048
50	Govertment administration and defence	1,000	0,047
51	Education services	1,529	0,047
52	Health services and social activities	1,531	0,031
53	Other services	1,039	0,001
Sou	rce ; Badan pusat statistik, 2011		

The added value of the wage sector is quite varied, but the oil palm plantation industry has added value better than the rubber industry or sector of rubber and oil palm plantations. The big sector that produces value-added labor is the administration, warehousing and service companies as well as the rice sector.

Rating wage value-added palm oil and rubber industries respectively each of which are on the 5th and the 37th rank while palm and rubber plantations each - each is in a position to 45th and 21st. Ratings considerable difference between the value added by the oil industry wage rubber industry indicate differences in factor productivity.

Factor productivity differences indicated in (1) human resources, (2) technology, (3) output and (4) market acceptance. Output of oil palm plantations is much larger than the rubber plantations. Differences significant output encouraged the use of more modern technology and the quality of human resources is more skilled to increase productivity output. At the same time, the market acceptance abroad of palm oil products is very large. It became the main

indication why the value-added labor in the palm oil industry is much larger than the rubber industry.

However, the added value of wages in the oil palm plantation sector is lower than a rubber plantation. That's because (1) the labor demand of oil palm plantations is greater than rubber, (2) government policies that encourage largescale enterprises of oil companies to provide employment to the maximum around the plantation and (3) the company avoid social unrest if there are people around the gardens are not absorbed as workers. That resulted in the average wage of labor is low because the company is estimated to absorb the labor force exceeds the requirements - average. Naturally, the company measures to reduce operating costs and improve efficiency.

Rubber plantation labor is relatively better than the wages of oil palm plantations. Generally, the rubber plantation in West Kalimantan is owned by small companies and society (not a big company). The added value of high wage is caused of the rubber plantation owner using manpower according to the needs.

In the indirect value-added tax, value-added industry ranked of each rubber and palm oil industries is in a position to 13th and 20th. The value of indirect taxes transport and fisheries sector is still larger than both of the sectors. The contribution of these two sectors could actually be in a better position to increase indirect taxes. However, it is difficult to explain why these two sectors do not provide value-added tax is not directly on economic (especially palm oil industry). The local government needs to verify the low contribution of the indirect value-added tax those industries.

Rating indirect value-added tax of each palm and rubber plantations is in a position to 15th and 47th. The contribution of indirect taxes on the rubber plantation sector is considered reasonable for most of the rubber plantation holdings are farmers. Plantation area owned by each farmer ranged only between 0.5 ha - 2 ha. Oil palm plantations have a value added contribution of indirect taxes is better than a rubber plantation. The added value of large indirect tax of oil palm plantations is caused by a number of companies operating in the oil palm plantations. The oil palm plantation area is already owned by the company in west Kalimantan amounting to 906 486 ha. The vast magnitude will affect the amount of value added tax is not directly produced palm oil plantations.

The value added of industrial enterprises in the each of oil palm and rubber industry was ranked 47th and 25th, while the sector of each oil palm and rubber plantations is ranked 15th and 22nd. Oil palm and rubber industry has not demonstrated gain a better effort than some sectors in West Kalimantan. Added a low effort affected by problems of infrastructure and connectivity between areas in West Kalimantan. Infrastructure development is recommended in West Kalimantan to improve the efficiency and effectiveness of business scale. The greater the transport costs will be smaller the added value of industrial enterprises palm and rubber plantations and palm and rubber plantations. In detail Added value of wages (U), operating surplus (SU) and indirect taxes (PTL) and industrial estates on palm and rubber commodities presented in Table 2.

Tabel 2. Value added wage (U), surplus (SU) and indirect taxes (PTL), plantation and industrial and commodity rubber and palm oil in West Kalimantan

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No	Sektor	U	SU	PTL
1	Paddy	0,551	0,423	0,008
2	Corn	0,430	0,551	0,003

No	Sektor	U	SU	PTL
3	Sovbeans	0.379	0.567	0.021
4	Cassava	0.371	0.565	0.019
5	Other Crops	0.225	0.706	0.020
6	Agricultural services and hunting	0.372	0.562	0.020
7	Orange	0.467	0.474	0.032
8	Horticultura	0.291	0.639	0.029
9	Rubber	0.346	0.635	0.006
10	Coconut	0.175	0.725	0.020
11	Palm oil	0.174	0.683	0.046
12	Coffee	0.132	0.796	0.050
13	Pepper	0.047	0.931	0.002
14	Other plantation crops	0.093	0.894	0.005
15	Poultry	0.331	0.718	0.013
16	Other livestock	0.368	0.608	0.010
17	Wood	0.277	0.485	0.008
18	Other forest products	0.351	0.505	0.028
19	Capture fisheries	0.244	0.621	0.069
20	Aquaculture	0.252	0.667	0.061
21	Mining	0.127	0.863	0.012
22	Palm oil industry	0.549	0.374	0.041
23	Food and beverage industry	0.444	0.903	0.044
24	Textiles and apparel industry	0.292	0.618	0.022
25	Manufacture of wood, articles of wood and matting	0.352	0.531	0.016
26	Industry paper an paper products and printing	0.261	0.667	0.018
27	Chemical. Pharmaceutical and traditional medecine	0.223	0.677	0.042
28	Rubber industry, manufacture of rubber and plastics	0.234	0.615	0.050
29	Industrial good excavation	0.131	0.800	0.010
30	Manufacture of metal goods, computers and electronics	0.123	0.768	0.071
31	Furniture industry	0.218	0.582	0.037
32	Other industry	0.217	0.528	0.097
33	Electrification	0.205	0.742	0.008
34	Water supply	0.425	0.424	0.020
35	Infrastructure	0,508	0,361	0,045
36	Large retai trade	0.294	0.517	0.055
37	Land transportation	0,173	0,682	0,058
38	Water transportation	0,460	0,486	0.033
39	River transportation	0,274	0,588	0,025
40	Air transportation	0,253	0,537	0,106
41	Warehousing and transport supporting services	0,711	0,242	0,010
42	Provision of acomodation	0,417	0,433	0,047
43	Provisiom of food and bevarage	0,278	0,734	0,023
44	Information and communication	0,411	0,336	0,151
45	Bank	0,252	0,713	0,005
46	Insurance	0,272	0,582	0,091
47	Other financial service	0,234	0,575	0,052
48	Real estate	0,246	0,666	0,030
49	Company services	0,650	0,174	0,096
50	Govertment administration and defence	0,723	0,000	0,000
51	Education services	0,259	0,573	0,045
52	Health services and social activities	0,479	0,250	0,012
53	Other services	0,064	0,920	0,004

Source ; Badan pusat statistik, 2011

The results generally indicate that the industrial sector of oil and rubber in West Kalimantan is not optimal. The industrial sector of oil palm and rubber have not been able to produce optimal output so that its performance is still very slow. Processing chemical industry, food and beverage industry, the palm oil industry, rubber industry and other industries have not been real activities in West Kalimantan region so that its effects on the welfare of the community is still very small. The Government's vision of West Kalimantan in order to improve the welfare still faces major constraints for the utilization of natural and human resources is not optimal. Mission to expand employment and business-based community economy, through the empowerment of the potential and strength of the local economy, innovation and human resources. Mission Regional development of infrastructure in order to facilitate the mobility of people and goods flow and accelerate development in rural areas, border, coastal and island as a source of economic potential must be optimized through the linkage of economic and local resources output.

To improve the industrial oil palm and rubber industry to the economy of West Kalimantan, the necessary cooperation between the government, private sector and communities in developing (1) of road infrastructure, (2) connectivity land, river and sea have not been integrated, (3) quality seeds is low, (4) the provision of quality fertilizer and (5) improvement of regulations, incentives and disincentives in developing the downstream oil industry and rubber industry.

The time needed by farmers to transport fresh fruit harvest to the milling machine can reach 12-48 hours. Unless large-scale enterprise processing industry, the travel time to harvest the oil industry could be faster. It takes longer cause the quality of oil palm fresh fruit to decrease and increase the cost of transporting oil palm farming. Causes of long journey times because there is no connectivity between the waterway towards the port and overland to the river. Furthermore, oil palm and rubber industry activities concentrated on upstream industry. The downstream oil industry just to process CPO and downstream rubber industry only processing raw materials for vehicle tires. An estimated 15 percent of the rubber plantations upstream production is consumed by the downstream industry in Indonesia and 85 percent of export commodity. This indicates that the industrial linkages upstream and downstream oil and rubber commodities have not been going well. On the other hand, the development of high-quality seeds is low in West Kalimantan. Research and development costs are fully seeds have not been going well so it is still difficult to produce quality seeds productive.

In order to develop and optimize the role of the oil industry and the rubber against West Kalimantan region economic is needed planning systems and policies in an integrated region. As a first step, the government needs to improve regulatory and regulations on investment and marketing of oil palm and rubber production. Rubber and palm oil commodity investments managed in balance between investment in upstream and downstream. Every investor must have a plan of development projects between the upstream and downstream oil palm and rubber industry. Results from upstream production to go through downstream processing into new products of high added value. Exports of raw materials palm and rubber commodities gradually be reduced by strengthening the processing industry in West Kalimantan.

To support the success of downstream products, the government should provide skilled human resources and innovative. *Hilirisasi* program implemented by the government, private and community with emphasis on research, development and innovation of products processed palm oil and rubber commodities. Innovation research has synergy from upstream to downstream, namely (1) the availability of quality seeds and friendly to the environment and (2) innovation in technology and industry to produce a variety of output.

The government should give full opportunity to the local farmers to be able to access the land and cultivate plantations. It aims to increase the participation of local communities in developing local economies and regions. Local farmers must be provided with the skills and ability of innovation in the processing of oil palm plantations and rubber plantations in order to be more productive.

The pattern of upstream and downstream industry should be reflected in the regulation of the spatial structure and pattern. The plantations and industrial estates have connectivity with a wide range of industrial areas, ports and airports. The region should be connected by land, river and sea in order to achieve economies of scale. Industrial economies of scale could have been better if the input-output industrial linkages can be realized. Gradually, the input-output relationship and economies of scale will create economic agglomeration West Kalimantan region. Therefore, government regulation factor, human resources and innovation have an important role in improving the economic of oil and rubber industries in West Kalimantan.

Palm and rubber industry development in West Kalimantan are becoming more strategic as the region's position lies in the sea lanes Islands 1 (ALKI-1) Indonesia and faced directly onto the sea waters of the South China Sea. Development of industrial estates in West Kalimantan will optimize the economic of the region in promoting economic growth and welfare. Industrial Estate will put West Kalimantan as a liaison cooperation among countries, namely Indonesia-Malaysia-Singapore-Growth Triangle (IMS-GT) and the Brunei-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP EAGA). The flow of goods by road between Brunei Darussalam and Malaysia will be more intense if the industrialization of the region are growing rapidly.

# 4 Concluding Remark

The analysis shows that industrial oil palm and rubber plantations as well as commodities palm oil and rubber are still low relative to the West Kalimantan region. Compared with other sectors, the role of industrial plantations and oil palm and rubber against West Kalimantan is lower. The low performance of industrial and agricultural commodities caused by low technological innovation, and regional connectivity region, economic linkages and support human resources and obstacles to regulatory policies. Central and local governments need to build upstream and downstream industries are integrated in West Kalimantan with certainty and comfort in the regulation of investment, expansion and development of research, innovation and industrial electronic technology, human resource development and cooperation.

Industrial palm and rubber plantations are very likely to thrive in West Kalimantan because it is supported by the breadth of plantation land use for both commodities. Therefore, the government should build and strengthen the industrial area of palm and rubber in order to be able to become national and Commented [HS7]: Conclusion and no number

international economic hub. It is supported for the position of West Kalimantan borders several countries so as to facilitate trade and economic interaction.

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Very Good Good Ave	rage	Poor				

	Very Good	Good	Average	Poor
Contribution to science				
Originality				
Systematics				
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**Result** Accepted Accepted with Minor Revision Rejected

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# **Overall Comments**

Jakarta, 8 November 2017

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Abstract \*  $\odot$ Yes O No Introduction \*  $\odot$ Yes 0 No Method \*  $\odot$ Yes ۲ No Result and Discussion \*  $\odot$ Yes 0 No Conclussion \*  $\odot$ Yes  $\odot$ No References \*  $\odot$ Yes 0 No Writer's name corresponds to e-mail address \* ۲ Yes  $\bigcirc$ No 3500 - 5000 words \*  $\odot$ Yes 0 No Tables and figures format \* ۲ Yes O No Figures are Clear and not blur \*  $\odot$ Yes O <sub>No</sub> Tables are not printscreen \*  $\odot$ Yes 0 No Citations in the body of the article corresponds to those in the references \* 0 Yes

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