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ANALYSIS OF GROWTH PALM OIL PLANTATIONS AND AGROINDUSTRY OF ECONOMIC REGION PROVINCE LAMPUNG

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ABSTRACT

The research was aimed to: (1) analyze the effect of the palm oil plantations and agroindustry growth to the economy of the Province Lampung in terms of value of linkage, and (2) analyze the effect of the of the palm oil plantations and agroindustry growth to the economy of the Province Lampung in terms of multiplier effects. The selection of location was purposively selected, considering that the Province Lampung is one of palm oil producer which is one of the backers in the MP3EI Sumatra Corridor plays an important role for the supply of palm oil in Indonesia and the world. The research was conducted in February 2015 to July 2015. The data was analyzed using input-output analysis. The research shows that : (1) combination of linkages between economic sectors, the palm oil sector and palm oil agroindustry sector have high value of linkages between sectors, and (2) the value of the multiplier output, household income, and employment of the palm oil sector greater than the value of the multiplier output plantation sector.

Keywords: palm oil, growth, input-output, linkage, multiplier

INTRODUCTION

The main economic activities of oil palm in Sumatra plays an important role for the supply of palm oil in Indonesia and the world. Palm oil is one of the commodity crop that has a significant role in economic activities in the province of Lampung. The development of oil palm plantations is done to support the Master Plan for the Acceleration and Expansion of Indonesian Economic Development (MP3EI).Lampung Province is able to become a supplier of palm oil in Sumatra Corridor MP3EI program. This is certainly a great opportunity for Lampung Province to support economic development. The production of palm oil has a rising trend over the last five years amounted to 0,33% per year. Given the number of opening new areas of oil palm trees, and there is potential for palm oil production will continue to rise. Oil palm is ranked first commodity plantations in Lampung. The acreage of oil palm plantations in Lampung Province during the past fourteen years tend to show an increase in the range of 0.25 s.d 22.94 percent per year. In 2000 the oil palm plantations in Lampung recorded area of 97.445 hectares, increasing to 209.288 hectares in 2012. By 2013 the oil palm plantation area increased by 3,88 percent from 2012 to 209.758 hectares. Commodity palm oil is one of the main agricultural commodities Indonesia is growing very fast and has a strategic role in the national economy. One of the results of processed palm oil is Crude Palm Oil (CPO) and Crude Palm Kernel Oil (PKO).

Utilization of crude palm oil as raw material for the industry can provide multiple effects include: (a) growth in sub-sectors of the economy, (b) development of industrial areas, (c) the process of technology transfer, (d) the expansion of employment, (e) foreign exchange, and (f) the increase in tax revenue.

Until now there are about 23 different types of palm oil downstream products that have been manufactured in Indonesia. Given the potential of Indonesian palm oil today and coupled with the CPO production in 2010 reached 20 million tons, then it is proper diversification downstream palm oil products increased. With this crude palm oil processing into a variety of derivative products, it will provide greater added value for the country because the price is relatively expensive and unstable. The use of crude palm oil downstream industry in Indonesia is still relatively low, only about 55% of total production (Minister of Industry, 2010). Some products downstream CPO and PKO derivatives that have produced them for the food categories: cooking oil, salad oil, shortening, margarine, Cocoa Butter Substitute (CBS), vegetable ghee, food emulsifier, fat powder, and ice cream. As for the non-food category are: surfactants, biodiesel and other oleochemical derivatives (Minister of Industry, 2010).

Considering that the palm oil plantation is one of the mainstays that plays a strategic role as the leading sector in the economic development area of Lampung Province, it is important to know the relationship forward and backward as well as the multiplier effect of this palm oil plantation. Where the plantation sector and the agro-industrial palm oil is expected capable dispersive power and high sensitivity in the economy so that the given effect is twofold. In the end, all these things will be useful in determining the policy to improve the economy of the province of Lampung.

This study aims to: (1) analyze the effect of the growth of palm plantations and agro-industry to the economy of the province of Lampung in terms of value linkage, and (2) analyze the effect of the growth of palm plantations and agro-industry to the economy of the province of Lampung in terms of the multiplier effect

RESEARCH METHODS

Location and Data Research

This research was conducted in Lampung Province which covers the whole of Lampung. The data used in this research is secondary data, with Input-Output Lampung Province in 2010 was basic data. The data processing is done with the help of software.

Build Input-Output Tables

The data obtained will be processed qualitatively and quantitatively using tabulation method and will be presented descriptively. The main data used in the analysis of input-output research is Input-Output (I-O) Lampung province, where 2010 data is the basic data, obtained from the Central Statistics Agency of Lampung Province.

Input-Output in 2010 is used in this study was built by means of aggregating Input-Output Tables 2010 published by the Central Bureau of Statistics, which consists of 53 sectors into 17 sectors. Aggregated 17 sectors consist of food crop sector (TBM); Palm oil (KSWT); Other plantation crops (TPLN); livestock and their products (PTK); forestry (KHTN), fisheries (IKAN), mining and quarrying (TBMNG); Palm Oil Industry (IMKS); other food and beverage industry (IMML); other industries (ILNY);

electricity, gas and water supply (LGA); building / construction (BKST); trade, hotels and restaurants (PHR); transport and communications (TRKM); financial institutions, leasing and business services (LKJP); public administration (PTUM); and other services (JLN).

Analysis method

To analyze the implications of the growth of plantations and agro palm on the economy of the province of Lampung, in particular about the relationship forward and backward from the plantation and agro palm oil, as well as economic multiplier (output, household income, and employment) of plantations and agro palm. In this study used a general equilibrium model (general equilibrium), the model of Input-Output (I-O) Lampung Province 2010. Multiplier (multiplier) describe the impacts that occur on a particular endogenous variable due to changes in the exogenous variables (ex: final demand) in the economy. Multiplier consists of a number of output multiplier, multiplier household income and employment multipliers.

RESULTS AND DISCUSSION

Intersectoral Backward

Intersectoral to back shows how much input is used by a sector of the output of other sectors due to the increase of one unit of final demand in the sector. Based on analysis of backward linkages with the classification of the seventeen sectors show that the oil palm plantation sector in the province of Lampung is linked to the rear is larger than the entire plantation sector, and sectors of the palm oil industry in Lampung Province has backward linkages greater among agro-industry sector more.

The seventeen sectors of the economy in the province of Lampung in 2010 there were 10 economic sectors that have a value of backward linkages is high (more than one), the sector of food crops, oil palm sector, plantation sector other sectors farms and its results, fisheries, mining and quarrying, the palm oil industry, the sector of electricity, gas and water utilities, trade, hotels and restaurants, and the general government sector.

Value backward linkage of the oil palm plantation sector, namely, direct linkage and linkage 0,836191 direct and indirect (total) 1,028250. This value is greater than the average total backward linkages throughout the economy, ie 1. This value can be defined if there is an increase of final demand Rp1.000.000,00 the palm oil sector, then the sector will require an additional input for production processes of other sectors including oil palm sector itself by Rp1.028.250,00. This means that the palm oil sector is the dominant sector in the economy increase output, particularly from the plantation sector.

Value backward linkage of the palm oil industry sector, namely, direct linkage and linkage 1.449489 direct and indirect (total) 1.010421. This value is greater than the average total backward linkages throughout the economy, ie 1. This value can be defined if there is an increase of final demand Rp1.000.000,00 in the palm oil industry sector, then the sector will require an additional input for production processes of other sectors, including sectors of the palm oil industry itself Rp 1.010.421,00. This means

that the sectors of the palm oil industry is the dominant sector in the economy increase output, particularly from the industrial sector.

Intersectoral Forward

Forward linkages to show the role of a sector in providing output to be used as inputs by other sectors due to the increase of one unit of final demand in the sector. Based on the Input-Output Table of Lampung Province in 2010, the results of the analysis antarsektor forward with classification seventeen sectors shows that the economic sector Lampung Province which has a linkage to the next higher (more than one), the sector of food crops, oil palm sector, forestry, fisheries, mining and quarrying, the palm oil industry, construction / construction, and the general government sector.

The results of the analysis antarsektor ahead of Input-Output tables Lampung province in 2010 with seventeen sector classification indicates that the value of forward linkage sectors of oil palm plantations in Lampung Province are of direct relevance to the future of 0,608709 and a direct link and indirect (total) forwards by 1,005577. These values can be interpreted in case of increase in the final demand palm oil sector amounted to 1.000.000,00, there will be an increase in output to other sectors in the palm oil sector itself Rp 1.005.577,00. Furthermore, the value of forward linkage sectors of the palm oil industry in Lampung Province are of direct relevance to the future of 0,108939 and direct and indirect linkages (total) forwards by 1,064777. These values can be interpreted in case of increase in the final demand sectors of the palm oil industry Rp1.000.000,00, there will be an increase in output to other sectors and the sectors of the palm oil industry itself Rp 1.064.777,00.

Based on the results of linkage analysis, both forward and backward indicate that the palm oil sector and the sector of the palm oil industry has a great relationship with other sectors. Value antarsektor to the rear and to the front of the palm oil sector and the sector of the palm oil industry is greater than one. This shows that the palm oil sector and the sector of the palm oil industry in Lampung Province can be used as a key sector in the economy of the region. This is because these sectors can enhance the growth of upstream industry and tend to be able to drive production growth in other sectors that use inputs from these sectors.

Based on a combination of economic intersectoral, the sector of oil palm plantations and palm oil industrial sector has a value of linkages both forward and backward high. This suggests that these sectors could encourage growth in the upstream sector by using another sector output as input material when an increase in final demand from these sectors. In addition, these sectors are sensitive to the needs of the downstream sector are using output as input for the downstream sectors.

Value backward linkages and forward sectors of oil palm plantations and the palm oil industry are high indicates that the relationship is important and mutually beneficial between both sectors. Where the oil palm plantation sector capable to encourage the growth of the production of palm oil industrial sector, while the industrial sector is highly capable of palm oil to encourage the growth of the upstream sectors, especially oil palm plantation sector. It can be used as one of the leaders in the construction sector of economic improvement in the region of Lampung Province, since these sectors are effectively acting as a driving force in regional development on an on going basis.

Output multiplier

Rated output multiplier of a sector showed a big increase in output in the sector due to the increase of one unit of final demand. A sector which has a high output multiplier value will have a considerable influence on improving the welfare of its workers if there is an increase demand on the output produced.

If the terms of the multiplier output classification seventeen economic sectors Lampung Province, the largest output value of the multiplier is owned by electricity, gas and water supply with output multiplier value of 1,65784294. The value of output multiplier of palm oil sectors is greater than the value of plantation sector output multiplier is equal to 1.30237866. This value indicates that if there is an increase demand for the end of the oil palm plantation sector Rp1.000.000,00, there will be an increase in output across all economic sectors amounting to Rp 1.302.378,66. While the multiplier output value of the palm oil industry sector among the sectors most other food and beverage industry and other industrial sectors, that is equal to 1,50433713. This value indicates that if there is an increase final demand from this sector amounted to Rp 1.000.000,00, there will be an increase in output across all economic sectors amounting to Rp 1.504.337,13.

Household Income Multiplier

Household income multiplier value of a sector shows the magnitude of the increase in household income who work in the sector due to the increase of one unit of final demand. A sector which has a high income multiplier value will have a considerable influence on improving the welfare of workers in case of increase in final demand.

The multiplier household income of seventeen economic sectors Lampung Province shows that the greatest value achieved by the sector of electricity, gas and water supply, which is 2,21947019. Palm oil sector generates multiplier household income greater than the plantation sector, that is equal to 1,30094872. This value indicates that if there is an increase demand for the end of this palm oil sector Rp1.000.000,00, there will be an increase in household income of Rp 1.300.948,72.

The multiplier output value of palm oil industrial sector is the largest sector among other food and beverage industry and other industrial sectors that is equal to 1,61443739. This value indicates that if there is an increase demand for the end of the palm oil industry sector is Rp1.000.000,00, there will be an increase in household income of Rp 1.614.437,39 either directly or indirectly.

Multiplier Labor

Labor multiplier value of a sector showed a big increase in employment due to the increase of one unit of final demand. Based on the analysis of input-output tables, then obtained a multiplier value of labor in economic sectors in Lampung in 2010. The analysis shows that the largest labor multiplier value owned by the palm oil industry sector, is equal to 13,38495892. This means that if there is an increase demand for the end of the palm oil industry sector amounted to one million units, there will be an increase in employment of 13.384.959 units. While in the palm oil sector has a multiplier value of labor by 2,21448320. This means that if there is an increase demand for the end of oil palm plantations amounting to one million units, there will be an increase in employment of 2.214.483 units.

This is in line with research conducted by Damanik (2000) on the analysis of the development impact of commodities on the economy in the region of North Sumatra province, revealed that in the regional context, the role of plantation subsector, especially coconut, rubber, and palm oil is quite dominant. Share in the activities of the regional economy in the amount of 6,71% or the second largest after food crops.

In another study conducted by Sukiyono, Romdhon and Nabiu (2007) also revealed the same thing about coconut oil, that the economic structure of Bengkulu province is still dominated by the agricultural sector in the broad sense. The three sectors namely agriculture, oil palm sector, other agricultural sectors, as well as livestock and its products is the main sector in the province of Bengkulu, which is indicated by the high index beakang linkage and forward. The third sector is a fundamental sector in economic development in this province. It is also in line with research conducted by Sinaga and Susilowati (2008), which revealed that the province has associated total backward and interconnectedness of total to high front intersectoral processing industry and agriculture are Lampung, South Sulawesi, South Kalimantan and North Sumatra.

If seen from the performance of the economic sector in Lampung Province intersectoral linkages and multiplier values , the sectors of the palm oil industry into two major sectors including leaders (leading sector) after the power sector gas and water utilities in the economic development of the province of Lampung. As for the palm oil sector occupies a position ranking of the five economic sectors Lampung Province. Therefore it can be concluded that the plantation sector and oil palm agro-industry has an important role in providing a multiplier effect on the economic performance of Lampung Province. To improve the effectiveness and efisiensi, local governments need to pay attention to these phenomena in determining policy direction, so that the government's focus in developing superior commodities such as palm plantations and agro-industry provides an optimal impact on the economy as a whole Lampung Province.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

1. Based on a combination of economic intersectoral, sector oil palm plantations and oil palm agro-industry sector has a high value intarsektoral.
2. The value multiplier output, household income, and employment of palm oil sectors is greater than the value of output multipliers plantation sector. While the value of the multiplier output, household income, and employment of the oil palm agro-industry sector among the sectors most other food and beverage industry and other industrial sectors.

Suggestion

1. The Government needs to make oil-palm development with environmental sustainability and building infrastructure in the form of adequate transport facilities as a link farm production centers with markets, and so on. It is necessary to remember their MP3EI Sumatra Corridor program which can be used as a means to support economic development in Lampung through plantation development, particularly palm oil.

2. Development of oil palm plantations and agro-industry must be accompanied by the creation of a favorable investment climate of Lampung provincial government, to improve the balance between the role of oil palm plantations and agro-industry as upstream and downstream sectors for increasing the role of farmers, businesses, and private agro-industrial sector in order to increase output and incomes.

BIBLIOGRAPHY

- The Central Statistics Agency of Lampung Province. (2014). Lampung in 2013. Bandar Lampung: Statistics Agency of Lampung Province (BPS).
- The Central Statistics Agency of Lampung Province. (2012). Input Output Lampung 2010. Bandar Lampung : BPS
- Damanik, S. (2000). Analysis of Impacts on the Economy of Plantation Commodity Development Region in the province of North Sumatra. Journal of Social Economics.<http://repository.usu.ac.id/bitstream/123456789/26134/2/Reference.pdf>. Accessed on December 21, 2014.
- Plantation Office of Lampung Province. (2014). Statistik 2013. Bandar Lampung : Plantation Office of Lampung Province.
- Coordinating Ministry for Economic Affairs. (2011). The Master Plan for the Acceleration and Expansion of Indonesian Economic Development 2011 - 2025. Jakarta : The Coordinating Ministry of Economic Affairs. Jakarta.
- Minister of Industry of the Republic of Indonesia. (2010). Regulation of the Minister of Industry of the Republic of Indonesia on the Map Development Guide Downstream Palm Oil Industrial Cluster No. 13 / M-IND / PER / 1/2010. www.google.co.id. Accessed on December 30, 2012
- Sinaga, B. M. and Susilowati, S.H. (2008). Impact of Economic Policy in the Agroindustrial Sector Income Distribution Sector, Labour and Household in

Indonesia: Analysis of the Social Accounting Matrix. E-journal Universitas Udayana. Udayana University. Denpasar.
Sukiyono, K, Romdhon, M.M and Nabiu N.. 2007. Linkage Sector and Top Sectors in Bengkulu Provincial Economy: Analysis Input-Output. Journal of Agricultural Sciences Indonesia. Volume 9 (2): 77-84.