

**THE STUDY OF LEADING SUBSECTORS AND LEADING
COMMODITIES OF AGRICULTURAL
IN ANAMBAS ISLANDS REGENCY, RIAU ISLANDS PROVINCE**

***Kajian Subsektor dan Komoditas Unggulan Pertanian di Kabupaten Kepulauan
Anambas, Provinsi Kepulauan Riau***

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ABSTRACT

Indonesian government is currently implementing regional development emphasizing on the characteristic and potential strength of each region. This program will be more optimal if conducted based on the introduction of the leading potential along with its use by maintaining the environmental sustainability. This research is aimed to (1) identify the basis/leading and non-basis/non-leading of agricultural sub-sector and its commodities; (2) to classify the pattern of sub-sector growth and agricultural commodities. The data used was time series consisting of secondary data from Anambas Islands Gross Regional Domestic Product (GRDP) in accordance with the basic constant price in 2010 and the production value data of agricultural commodity during 2010-2015. The data analysis by Location Quotient (LQ) and Typology Klassen method. The analysis result shows that the sub-sectors of food crops, plantation, and fishery are the basis sub-sector ($LQ > 1$). The commodities of wetland paddy, sweet potato, mustard, water spinach, spinach, pineapple, banana, coconut, clove, cow (cattle) and kampong chicken are the basic commodities ($LQ > 1$). According to the analysis of Klassen Typology, the sub-sectors of food crops and plantation crops are included in leading and fast-growing classification ($r_{ik} \geq r_i$ and $Y_{ik} \geq Y_i$), while the commodities of wetland paddy, sweet potato, mustard, spinach, and coconut are included in the leading and fast-growing commodities.

Keywords: *Klassen Typology, Leading commodity, Leading Sub-sector, LQ*

INTISARI

Salah satu program pembangunan pemerintah Indonesia adalah pembangunan wilayah yang dititikberatkan pada pembangunan daerah dengan mengkomodir karakteristik dan kemampuan masing-masing wilayah. Pembangunan di suatu daerah akan semakin optimal jika berdasarkan kepada pengenalan akan potensi unggulan serta pemanfaatannya secara tepat dengan tetap menjaga kelestarian lingkungan. Penelitian ini bertujuan untuk (1) mengidentifikasi subsektor dan komoditas pertanian unggulan/basis dan bukan unggulan/nonbasis; (2) mengklasifikasikan subsektor dan komoditas pertanian. Data dianalisis dengan menggunakan metode Location Quotient (LQ) dan

metode Tipologi Klassen. Data yang digunakan adalah runtun waktu (time series) yaitu data sekunder PDRB Kabupaten Kepulauan Anambas atas dasar harga konstan tahun 2010 dan data nilai produksi komoditas pertanian Kabupaten Kepulauan Anambas selama kurun waktu enam tahun (2010-2015). Hasil analisis menunjukkan bahwa subsektor tanaman pangan, perkebunan dan perikanan adalah sub sektor basis ($LQ > 1$). Komoditas padi sawah, ubi jalar, sawi, kangkung, bayam, nanas, pisang, kelapa, cengkeh, sapi, dan ayam kampung adalah komoditas basis ($LQ > 1$). Berdasarkan analisis Tipologi Klassen yang termasuk dalam klasifikasi maju dan berkembang cepat ($r_{ik} \geq r_i$ dan $Y_{ik} \geq Y_i$) adalah subsektor tanaman pangan dan tanaman perkebunan, sedangkan komoditas maju dan berkembang cepat adalah komoditas padi sawah, ubi jalar, sawi, bayam, dan kelapa.

Kata kunci: Komoditas Unggulan, LQ , Subsektor Unggulan, Tipologi Klassen

INTRODUCTION

The development process can be interpreted as a systematic and continuous effort to create a state that can provide a legitimate alternative to the achievement of the aspirations of every most humanistic citizen. Development can be conceptualized as a process of continuous improvement of a society or a social system as a whole towards a better or more humane and developmental life as well as establishing or making or arranging for something that does not yet exist (Rustiadi *et al.*, 2011). Agricultural development in Indonesia is considered important from the national development.

According to Sattar (2012), in developing countries agriculture sector is the salient prerequisite for sustainable development process. A well-established agriculture sector can enhance food security, generate important economic linkages in development process and diminish the food prices. Enhancing

agriculture contributions continue to encourage the relocation of rural labor, elevate the level of consumption of rural residents, encourage exports and increase farmers income so that national economy develops rapidly and orderly.

Agriculture occupies an important place in the development of an economy and the improvement of agriculture is necessary for a balanced growth of an economy (Sharma, 2014). In reference to the Law no. 22/1999 which mentioned that most of the affairs and responsibilities of the development management and implementation are handed to the local government, thus based on this policy. It is expected that local governments should conceive the ability and capacity to plan and manage their respective regional development independently and creatively based on the promotion/introduction and information of the potential and regional advantages for the welfare of their community.

Regional autonomy since 2001 has a positive impact on the level of economic growth and Gross Regional Domestic Product (GRDP) percapita (Kuncoro and Idris, 2010). Improving budget effectiveness is the key to agricultural development success. Related to autonomy and strategic role of agricultural sector, it is necessary to reexamine the decentralization of this sector especially food security, diversification, and strategic food distribution. Budget effectiveness enhancement could be implemented through a synergy from program planning to its implementation (Sumedi *et al.*, 2013).

Local government policy is needed in determining the correct proportion of Regional Government Budget to sectors / commodities that can improve the economy as a development priority. Regional economic growth was an indicator that used to assess the level of people welfare in the area (Badrudin, 2012). According to (Muslim *et al.*, 2017), the local government must understand the condition and potency of its region including the community economic condition, the potency of natural resources, human resources and the established infrastructure.

Agricultural commodities cultivated in Anambas Islands are the food crops including paddy, sweet potato, cassava; plantation crops such as rubber, cloves, coconuts; and fruit crops such as rambutan, oranges, bananas, and others. The pattern

of regional development and planning system that tend to be homogeneous has transformed with consideration on the potential and the main problems facing the region to achieve more optimal development progress. Economic growth is characterized by an increase of activities in the economy that cause the production of goods and services by the community also increased from the previous as well as the prosperity of a more prosperous society. Economic growth is also marked by the increase in national income as a process of increasing the production capacity of an economy.

The economic growth of a region is one of the main elements in regional economic development, although the development process is not only determined by the economic aspects alone. The high economic growth to date is the main target of development in the regional development plan (Widianingsih *et al.*, 2015). The economic growth is one of the indicators of developmental success. Increased production and quantity of industrial goods, infrastructure development, educational progress, and others are physical economic developments in the economic growth of a country/region.

The superiority of an area is dependent on the accuracy of decision making in formulating the direction of regional development especially those related to sectoral development (Nugroho,

2010). The sectors and sub-sectors growth criteria can be determined by using Klassen Typology method. Klassen Typology method classifies them into the quadrants of leading and fast-growing, fast-growing, leading but suppressed or relatively underdeveloped (Ogari *et al.*, 2014).

In order to produce more appropriate policies on the agricultural sector, it is necessary to understand the sub-sectors and leading commodities of agriculture area of Anambas Islands, therefore the development process can provide a real contribution to the economic growth rate and increase the welfare of farmers. This research aims to determine the sub-sectors and agricultural commodities as well as determining the pattern and structure of the growing sub-sectors and agricultural commodities in Anambas Islands.

METHODS

Data and Location

This research was conducted in Anambas Islands Regency of Riau Islands Province which is a new regency; the division of Natuna Regency with the expectation that this research result can be beneficial for more appropriate planning and policy-making process to increase the regional economic growth. The sector selected as the research object is agriculture sector due to its role as the largest contributor to Anambas Islands GRDP (non-oil and gas). The data used

in this research is time series data during the six years periods (2010-2015), the data of GRDP and data of agricultural commodities are acquired from several government institutions both in Riau Islands Province and Anambas Islands.

Analysis Method

Location Quotient Analysis (LQ)

One of the usual techniques to analyse the economy of a region is (Location Quotient) in short LQ. The LQ can be used to determine the extent of specialization of the basic or superior sectors. In LQ techniques various variables (factors) can be used as an indicator of regional growth, for example employment opportunities and Gross Regional Domestic Product (GRDP) (Pantow *et al.*, 2015).

The LQ measures the ratio between the local and national share of productive activities of a particular industry in a region. $LQ > 1$ can be interpreted as indicating that the sector under study is more concentrated in the region than the national average (Tian, 2013). This is important to public policy and local government to identify and determine whether a sector is a sector that should get more proportion of GRDP and which are not too urgent as a priority (Putra, 2011).

The leading sub-sectors/commodities of Anambas Islands are identified by using LQ analysis with description as below (Ogari *et al.*, 2014),

$$LQ = \frac{P_{ij} / P_j}{P_{ir} / P_r}$$

Which:

P_{ij} = the sub-sector/commodity i value in j area (regency)

P_j = the sub-sector/commodity total value in j area (regency)

P_{ir} = the sub-sector/commodity i value in the reference area (province)

P_r = the sub-sector/commodity total value in the reference area (province)

If $LQ > 1$, it means that the specialization rate of certain sub-sector/commodity in regency level is bigger than the sub-sector/commodity in the province level which indicates that sub-sector/commodity as the leading sub-sector/commodity in the regency and highly potential to be developed as a driving force for regency economic development.

On the opposite, if $LQ < 1$ it means that the specialization rate of certain sub-sector/commodity in regency level is smaller than the sub-sector/commodity in the province level which indicates that sub-sector/commodity as non-leading sub-sector/commodity and less potential to be developed as driving force for regional economic development and if $LQ = 1$; it means that the specialization rate of certain sub-sector/commodity in regency level is equal with the sub-sector/commodity in the province level.

Klassen Typology Analysis

Klassen Typology analysis is used to discover the pattern description and growth structure of each sub-sector/commodity. Towards this further analysis, the growth rate of sub-sector/commodity can be classified and in accordance with its development level as shown in the following table:

Tabel 1. Klassen Typology Analysis

r \ Y	$Y_{ik} > Y_i$	$Y_{ik} < Y_i$
$r_{ik} > r_i$	<u>Quadrant I</u> Leading and fast-growing (Prime)	<u>Quadrant II</u> Fast-growing (developing)
$r_{ik} < r_i$	<u>Quadrant III</u> Leading but suppressed (potential)	<u>Quadrant IV</u> Relatively underdeveloped

Source: (Arsyad, 2010)

Note:

r_{ik} = the growth rate of sub-sector/production value of i commodity at regency level

r_i = the growth rate of sub-sector/production value of i commodity at province level

Y_{ik} = the contribution of i sub-sector/commodity towards total production value at regency level

Y_i = the contribution of i sub-sector/commodity towards total production value at province level

$$r_{ikt} = \frac{P_{ikt} - P_{iko}}{P_{iko}} \times 100 \%$$

$$r_i = \frac{P_{it} - P_{io}}{P_{io}} \times 100 \%$$

$$Y_{ik} = \frac{P_{ik}}{P_{tk}} \times 100 \%$$

$$Y_i = \frac{P_i}{P_t} \times 100 \%$$

Which:

P_{ikt} = the sub-sector/commodity i-value at regency level in t-year

P_{iko} = the sub-sector/commodity i-value at regency level in early year

P_{it} = the sub-sector/commodity i-value at province level in t-year

P_{io} = the sub-sector/commodity i-value at province level in early year

P_{ik} = the sub-sector/commodity i-value at regency level in early year

P_{tk} = the sub-sector/commodity total value at regency level

P_i = the sub-sector/commodity i-value at province level

P_t = the sub-sector/commodity total value at province level

Based on Table 2, it is known that food crops, plantation crops and fishery sub-sectors are the leading sectors/basic in Anambas Islands, these are indicated by the average value of $LQ > 1$ analysis during the analysis period, $LQ = 1.042$, $LQ = 1.194$, and $LQ = 1.062$; which means that the rate of specialization in the food crops sub-sector, plantation crops and fishery of Anambas Islands District is greater than the specialization level in the same sub-sector at the Riau Islands provincial level and has considerable potential to be developed.

Table 2 shows the LQ value of the food crops sub-sector during the analysis period has experienced a decreased until 2012 and experienced a fluctuating from 2013-2015. Plantation crops sub-sector has increased LQ value every year from 2010-2015 as the leading sub-sector and has the largest LQ value in the agricultural sector that was analyzed. Fishery sub-sector experienced a decrease in LQ value

RESULT AND DISCUSSION

Location Quotient (LQ)

Table 2. The LQ Analysis Result of Agricultural sub-sectors in Anambas Islands (2010-2015)

Description	2010	2011	2012	2013	2014	2015	Average LQ	Criteria
Food crops	1.05	1.04	1.01	1.05	1.04	1.05	1.042	Leading
Horticulture crops	0.33	0.33	0.34	0.35	0.34	0.35	0.339	Non-leading
Plantation crops	1.14	1.14	1.17	1.18	1.21	1.31	1.194	Leading
Livestock	0.41	0.43	0.42	0.43	0.45	0.45	0.432	Non-leading
Agricultural and hunting services	0.58	0.60	0.61	0.63	0.65	0.69	0.626	Non-leading
Forestry	0.86	0.86	0.88	0.93	1.02	1.10	0.944	Non-leading
Fishery	1.08	1.08	1.07	1.07	1.05	1.02	1.062	Leading

Source: Secondary data analysis (2017)

during the analysis period, however, the fishery sub-sector remained as the leading sub-sector.

The largest production is in the plantation crops that are able to distribute 16.2% (1.194-1/1.194) of the regional production outside the regency area, while food crops and fishery can distribute each of 4.03% and 5.84%. The basic of productivity of this category caused the

expansion of land and related agency in Anambas Island (the agricultural service of anambas district) programs that distribute plant seeds on plantation and food crops, fisheries are supported by programs from the district fisheries department such as provision of fish floating netcages, fish seeding, and fishing gear for fishermen.

The same result of LQ analysis obtained by Vulina and Rahmi (2013)

Table 3. The LQ Analysis Result of Agricultural Commodities in Anambas Islands (2010-2015)

Commodity	LQ							Criteria
	2010	2011	2012	2013	2014	2015	Average	
Food crops								
Wetland Paddy	0.484	1.708	2.159	1.903	2.794	2.673	1.953	L
Corn	0.425	0.000	0.578	1.348	0.145	2.958	0.909	NL
Cassava	1.401	0.625	0.787	0.497	0.311	0.356	0.663	NL
Sweet Potato	0.718	1.545	0.768	1.283	1.405	1.276	1.166	L
Vegetables								
Mustard	0.392	1.007	1.103	1.111	1.695	1.203	1.085	L
Long beans	0.365	0.059	0.096	0.12	0.687	0.331	0.276	NL
Water spinach	2.63	1.564	1.173	1.146	1.157	1.039	1.452	L
Spinach	0.578	1.624	2.437	2.11	0.609	1.611	1.495	L
Fruit crops								
Durian	0.121	0.414	0.402	1.555	1.166	1.137	0.799	NL
Pineapple	6.827	0.101	4.639	0.009	0.034	0.108	1.953	L
Banana	3.091	3.861	1.684	3.347	1.775	1.511	2.545	L
Plantation crops								
Coconut	1.217	2.161	1.503	1.934	2.253	0.95	1.670	L
Clove	1.742	2.457	0.829	0.898	1.106	1.575	1.435	L
Rubber	0.573	0.477	1.108	0.891	0.684	0.538	0.712	NL
Livestocks (ruminants)								
Cattle (cow)	1.379	1.185	1.188	1.178	1.176	1.119	1.204	L
Goat	0.059	0.092	0.090	0.094	0.048	0.073	0.076	NL
Poultry								
Kampong chicken	1.003	1.031	1.031	1.053	1.066	0.989	1.029	L
Duck	0.959	0.576	0.577	0.479	0.402	1.348	0.724	NL

Source: Secondary data analysis (2017)

Table information: L = Leading,
NL = Non Leading

which uses GRDP data by year 2003-2012 in Indragiri Hilir Regency, compared to Riau Province is the food crops, plantation crops, and fishery category are the base category with an average of each LQ are 1,15 ; 1,19 and 1,52 meaning that these three categories can meet the needs in Indragiri hilir related to these categories and to meet the needs of other districts due to the surplus and to be a priority category in driving the economy for the development of Indragiri Hilir.

While other sub-sectors with less than one LQ value ($LQ < 1$) are horticultural crops sub-sector ($LQ = 0.339$), livestock ($LQ = 0.432$), agricultural and hunting services ($LQ = 0.626$), and forestry ($LQ = 0.944$) which means that those sub-sectors contribution towards the GRDP of Anambas Islands is lower than their contributions towards GRDP in Riau Islands Province and those sub-sectors do not have the capability to conduct export outside the region.

Available agricultural commodity data in Anambas Islands consist of food crops, vegetable crops, fruit crops, plantation crops and livestock (ruminants and poultry), while fishery commodity data is not available.

The plants that grow massively in this area are coconut plants and some other plantation crops such as cloves and rubber. These commodities are cultivated in all sub-districts in Anambas Islands.

Geographical conditions with medium hot temperatures due to its coastal area strongly supports the growth of this commodities. The farming areas which categorized as a rainfed paddy field to plant paddy are only found in two sub-districts; East Jemaja which covering 69 (sixty-nine) ha area and Palmatak which covering one ha area.

Based on the calculation result of LQ on agriculture commodity of Anambas Islands during the 2010-2015 period shown in Table 3; the average value of LQ is greater than one which means that the leading commodities in the year of research are the commodity of paddy and sweet potato in food crop category; pineapple and banana in fruit category; coconut and cloves in plantation category; mustard, water spinach, spinach in vegetable crops category; cattle and kampong chicken in the livestock category. These commodities have the capability to provide a bigger contribution towards the GRDP of the region compare to the same commodity contribution towards the GRDP of Riau Islands Province.

The commodities that have $LQ > 1$ are the commodities that have comparative advantages because there has been an above average development, thus Anambas Islands are capable of self-sufficiency of agricultural commodities and conceive potential resources to export the production of these commodities to any other areas.

Wetland paddy is the pre-eminent/ leading commodity from 2011 to the end

of the study/research. In the first year of the establishment of Anambas Regency, production of paddy was low compared to the following year due to new paddy fields were created from 36 ha in the year 2010 become 54 ha in the year 2011 (Anambas Regency in Figures 2013) and government policies through paddy cultivation programs to meet rice needs in the area. Sweet potato commodity in 2010 and 2012 has $LQ < 1$. It is because in general paddy cultivation area and sweet potatoes are the same in rainfed rice fields, when the rainy season land is planted with paddy, when the dry season is planted with sweet potato. In 2010, such as paddy, limited land became the cause of the low production of sweet potato, while in 2012, due to the influence of the long rainy season, the tendency of farmers is to plant paddy so that the production of paddy is increases otherwise the production of sweet potato is decreases.

The corn commodity has $LQ < 1$ averages, thus it categorized as a non-leading commodity. The value of commodity production is very volatile from year to year, in 2013 and 2015 it has $LQ > 1$, which means that this commodity has the potential to be superior/leading commodity because it has been a flagship in several years, especially in the last year of research that reached $LQ = 2.958$. This potency is supported by the government programs of special efforts of rice, corn, soybeans

(*upsuspajale*), and commodities that are suitable to be cultivated in Anambas Islands from the three commodities that are cultivated are only paddy and corn.

The mustard, water spinach, and spinach commodities are excellent commodities with $LQ > 1$ in almost every year during the study/research year. This vegetable plantation is generally conducted by women whose the main family livelihood is fishery that conducted by their men, supported by “the utilization of house yard” program from Agriculture Department of Anambas Islands where the program is addressed towards the housewife by growing vegetables around the housing area.

The pineapple and banana commodities are the leading commodities of fruit crops during the year of study, although the annual LQ value is very volatile, such as pineapple commodities with $LQ = 6.8$ in 2010, which declining and becoming unsuitable in 2011 with $LQ = 0.1$, and later improved and re-excelled in 2012 with value of $LQ = 4.6$ and became non-leading commodity in three consecutive years until 2015 which had an $LQ > 1$ (1.95). The banana commodity has $LQ > 1$ every year which tends to decrease, this happened because of the transition of commodities developed by the farmer that was transforming from fruit crops to plantation crops. Durian commodity categorized as the non-leading commodity

with $LQ = 0.799$ but this commodity has $LQ > 1$ for three consecutive years starting from 2013-2015 which means that an increase in production and the potency of this commodity will result as leading commodity in the future. Durian is a forest crop in this area and the community has not used much of its production, along with the implementation of development especially roads and land expansion, the economic value of durian is increasing, and cultivated farmers, even around 2013 processing durian to dodol and other products already exist in this area.

The plantation crops are the leading commodities in Anambas Islands reviewed from their contribution to GRDP at current prices of 25.13% in agriculture, forestry, and fishery categories. The main/leading commodities are coconut and clove.

The leading commodity in the livestock sub-sector are cattle and kampong chicken, supported by the department of agriculture with programs that conducted almost in year during the year of research to procure the calves and chicks to the farmer. The interest and knowledge to farm in the Anambas Islands community are still lacking.

The other commodities such as corn, cassava, long beans, durian, rubber, goats, and ducks are non-leading commodities with value of $LQ < 1$, these commodities indicate has lower contribution towards the

GRDP of the Anambas Islands compared to the same commodity contribution to GRDP in Riau Islands Province.

Klassen Typology Analysis

Klassen Typology analysis is used to discover the pattern and structure of sub-sector growth and agricultural commodity of Anambas Island.

Base on Arsyad (2010), the results of Klassen Typology analysis can provide information which can be used subsequently as a guideline in the planning of economic development and the determination of priority sectors in the development programs, especially in the sub-sector and agricultural commodities in Anambas Islands.

According to Arsyad (2010), the results of the analysis can classify each sub-sector in the prime, growing/developing, potential, and underdeveloped categories. The characteristics of different growth rates are;

- a. Quadrant I, the leading and fast-growing (prime) sub-sectors and commodities.
- b. Quadrant II, the growing/developing sub-sectors and commodities.
- c. Quadrant III, the leading but suppressed sub-sectors and commodities (potensial)
- d. Quadrant IV, the underdeveloped sub-sectors and commodities.

Table 4. The Klassen Typology Analysis Result of Agricultural Sub-sectors in Anambas Islands (2010-2015)

		Big Contribution $Y_{ik} \geq Y_i$	Small Contribution $Y_{ik} < Y_i$
		<u>Prime (I)</u>	<u>Developing (II)</u>
Fast Growth $r_{ik} > \bar{r}_i$	Consists of:		Consists of:
	1. Food crops 2. Plantation crops		1. Horticulture crops 2. Livestock 3. Agricultural and hunting services 4. Forestry
Slow Growth $r_{ik} < \bar{r}_i$	Consists of:	<u>Potential (III)</u>	<u>Relatively Underdeveloped (IV)</u>
	1. Fishery		-

Source: Secondary data analysis (2017)

Based on Table 4, the categorization of agriculture sub-sector based on relative growth pattern and relative contribution of each sub-sector of agriculture in Anambas Islands shows that food crops and palntation crops were included in the qualification of leading and fast-growing agricultural sub-sector (prime), which means that these sub-sectors are relatively conceived fast growth rate (r) and these sub-sectors also have higher (y) contributions compare to the same average sub-sectors in Riau Islands Province.

Most of the agricultural sub-sectors in Anambas Islands are classified in the growing agricultural sub-sector; including horticultural crops, livestock, agricultural services and hunting and forestry sub-sectors, which means that these sub-sectors have higher economic growth (r) but lower per capita income/contribution than the provincial average, while the sub-sectors

included in the leading but suppressed classification (potential) is the fishery sub-sector, which means that this sub-sector has lower economic growth (r) but conceive higher per capita/contribution (y) than the average value of Riau Islands Province. During the observation period, there were no agricultural sub-sectors included in the qualification of underdeveloped sub-sector.

According to the Table 5, the categorization of agricultural commodities based on the relative growth pattern and relative contribution value of each agricultural commodity in Anambas Islands shows that wetland paddy, sweet potato commodities from food crops; mustard and spinach commodities from vegetable crops; and coconut commodities from plantation crops are included in the classification of leading and fast-growing agricultural commodities (prime), which means that these commodities are relatively conceived

Table 5. The Klassen Typology Analysis Result of Agricultural Commodities in Anambas Islands (2010-2015)

		Big Contribution $Y_{ik} \geq Y_i$	Small Contribution $Y_{ik} < Y_i$
		<u>Prime (I)</u>	<u>Developing (II)</u>
Fast Growth $r_{ik} > \bar{r}_i$	Consists of:		Consists of:
	<ol style="list-style-type: none"> 1. Wetland paddy, sweet potato 2. Mustard, spinach 3. Coconut 		<ol style="list-style-type: none"> 1. Long beans 2. Goat, kampong chicken duck
Slow Growth $r_{ik} < \bar{r}_i$		<u>Potential (III)</u>	<u>Relatively Underdeveloped (IV)</u>
	Consists of:	Consists of:	Consists of:
	<ol style="list-style-type: none"> 1. Water spinach 2. Banana 3. Clove 4. Cattle (cow) 	<ol style="list-style-type: none"> 1. Corn 2. Cassava 3. Durian, pineapple 4. Rubber 	

Source: Secondary data analysis (2017)

fast growth rate (r) and have a higher (y) contribution than the average of the same commodity in Riau Islands Province.

The agricultural commodities in Anambas Islands are classified in growing/developing agricultural commodities, including long bean commodities from vegetable crops; goats, chicken, ducks, from livestock and poultry; which means that these commodities have a higher economic growth (r) but lower per capita income/contribution (y) than the average Riau Islands Province, while the commodities included in the leading but suppressed classification (potential) are the commodities of water spinach from vegetables; bananas from fruit plants; cloves from plantation crops; cattle from livestock; which means that these elements have lower economic growth (r) but higher

per capita/contribution (y) than the average of Riau Islands Province.

The commodities that included in the underdeveloped commodity classification are corn and cassava from food crops; durian and pineapple from fruit crop; rubber from plantation crops; which means that these commodities have lower economic growth (r) and per capita/contribution (y) than the average Riau Islands Province.

CONCLUSION

The sub-sectors of food crops, plantation crops, and fishery are the leading/basic sectors in Anambas Islands.

The leading commodities are wetland paddy and sweet potato (food crops); mustard, water spinach, and spinach (vegetable plants); pineapple and banana (fruit crops); coconut and clove (plantation

crops), cattle (livestock) and chicken (poultry).

The Klassen Typology analysis describes the pattern and structure of economic growth which in this context the values of agricultural sub-sectors and commodities of KKA can be classified into four groups as below:

a. The leading and fast-growing (prime) sub-sectors and commodities, such as:

- Food crops and plantation crops sub-sectors.
- The commodities of wetland paddy and sweet potato from food crops; coconut from plantation crops; mustard and spinach from vegetable crops.

In accordance with the results of the LQ analysis which placed food crops and plantations crops as a leading sub-sector, and also for commodity, paddy, sweet potato, mustard, spinach, pineapple, banana, coconut, clove, cattle and chicken as a leading commodities.

b. The developing/growing sub-sectors and commodities, such as:

- The sub-sectors of horticulture crops; agricultural and hunting services; forestry; and livestock.
- The commodities of long beans from vegetable crops; goat, kampong chicken, duck, from livestock and poultry.

c. The leading but suppressed (potential) sub-sectors and commodities, such as:

- Fishery sub-sector
- The commodities of water spinach from vegetable crops; banana from fruit crops; clove from plantation crops; cattle from livestock.

d. The relatively underdeveloped sub-sectors and commodities, such as:

- No agricultural sub-sectors in Anambas Islands included in this category.
- The commodities of corn and cassava from food crops; durian and pineapple from fruit crops; rubber from plantation crops.

The regional government should prioritize the development of the leading subsectors and commodities and is a fast growing and emerging sub sector, to increase the GRDP of Anambas Islands Regency through efforts to increase the value of agricultural production, as reflected in the Regional Development Program (Strategic Plan), Strategic Plan (Renstra), Work Plan (Renja) Department of Fisheries, Agriculture and Food District Anambas Islands.

RECOMMENDATIONS

Local Government should prioritize the development of superior sub-sectors, that are sub-sectors of food crops (wetland paddy and sweet potato), plantation crops (coconut and clove), and fishery to increase the GRDP of Anambas Islands Regency which

is pursued through increasing the value of agricultural production which is reflected in the Regional Development Program, Strategic Plan, and Work Plan of related agency, using intensive farming systems due to limited availability of land and human resources by counseling farmers and preparing production marketing strategies.

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