Analysis of the leading sectors of Berau Regency Based on Location Quotient (LQ) Analysis Approach

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Abstract

The purpose of the study was to determine the leading sub-sectors in Berau Regency. The data used were Gross Regional Domestic Product (PDRB) on the basis of Cash Prices for the 2010 Base Year (ADHK) according to the business field for the period 2017 to 2021 in Berau Regency & East Kalimantan Province as a comparison. Analysis tool used Location Quotient (LQ). The results of the Location Quotient (LQ) analysis in Berau Regency during the period 2017 to 2021 stated that the agriculture, forestry and fisheries sectors were the leading sectors because they had an LQ value >1, the agriculture, livestock, hunting, & agricultural services sub-sectors and the forestry and logging sub-sectors were the sub-sectors. superior because it has an average LQ value > 1, which means that the sector & sub-sector are classified as superior, specialized and sectoral contribution is higher than similar sectors at the provincial level. The fisheries sub-sector during the 2017-2021 period has an average value of LQ < 1, meaning that the sub-sector is classified as not superior, less specialized and the sectoral contribution of Berau Regency is lower than similar sectors in East Kalimantan province.

Keywords: ***Location Quotient Analysis, Leading Sector & Subsector Berau District***

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INTRODUCTION

Each region has different potentials because the Regional Head together with the Government have their own strategies, steps & efforts in managing regional wealth and potential, plus the characteristics of an area both from natural resources (SDA) factors and diverse community livelihoods as well as the advantages of each. each area. Not all business fields have the same growth capability, from here the Berau Regency Government through the Research & Development Planning Agency (BAPLITBANG) and other stakeholders will try to take advantage of sectors that can encourage accelerated economic growth.

Berau Regency has an administrative area of 34,127.47 km2, and has the potential for agricultural land in the form of 60,625 HA dry land and 32,375 HA wet land. Until now, agricultural land used by food crop farmers is 10,485 HA wet land, and 12,230 HA dry land, while the number of farmers recorded in SIMLUHTAN 2018 is 15,004 farmer households. The potential of agricultural land in Berau Regency has not been optimally utilized by food crop farmers and breeders, this is due to the basic problems faced by the agricultural sector including: difficulty in marketing agricultural products; farmers are not yet independent; the stagnation of farmer regeneration, the interest of the younger generation in running a business in agriculture and animal husbandry is very small,

Fishery is a sector that is included in the priority program of the Berau Regency Government. Fishery production in Berau Regency has increased from 2019. Both capture fisheries and aquaculture. Aquaculture production in 2020 reached 2,344 tons, an increase from the previous year's 2,200 tons. This includes the cultivation of ponds, ponds, cages and marine or coastal cultivation. Meanwhile, capture fisheries production in 2020 will reach 18,380 tons. Covers marine fisheries 17,107 tons and river fisheries 1,273 tons. This number increased from 2019 around 18,216 tons. In 2021, the fishery sector in Berau Regency is still trying to rise in the midst of the COVID-19 pandemic, the supply of fish is

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gradually improving even though people's purchasing power is quite low. Before the COVID-19 pandemic, fish sales reached 5 tons per day,

Formulation of the problem

isthe leading sub-sector in Berau Regency in the Agriculture, Forestry and Fisheries sector?

Research purposes

To knowthe leading sub-sector in Berau Regency in the Agriculture, Forestry and Fisheries sector?

Economic Development

According to Adam Smith, economic development is a process of combining population growth and progress technology (Suryana, 2000). b). According to Schumpeter, economic development is not a harmonious or gradual process, but a spontaneous and uninterrupted change.Regional economic development is the application of economic processes and resources available in the region/local area to produce sustainable development (Stimson et al, 2006:6).

Regional Economic Growth Theory

Sukirno (2013:49-50) one of the important uses of national income/gross domestic product data is to determine the level of economic growth achieved by a country/region from year to year. By observing the growth rate achieved from year to year, it can be assessed the achievement and success of the country/region in controlling short-term economic activities and efforts to develop the economy in the long term. The calculation of economic growth is directly calculated from available real national/domestic income data. An economy can be said to experience economic growth if the number of goods and services increases. The amount of goods and services in a country's economy can be interpreted as the value of gross domestic product (GDP). Changes in the value of GDP show changes in the quantity of goods and services produced in a certain period. GDP is the added value generated by various sectors or business fields that carry out their business activities in a domestic or aggregate.

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Gross Regional Domestic Product

Tarigan (2015:18-26) GRDP is the total gross value added arising from all economic sectors in the region. What is meant by gross value added is production value (output) minus intermediate costs, including income factor components (wages/salaries, interest, rent, land and profits), depreciation and net indirect taxes. GRDP is expressed in two ways, namely (BPS, 2017):

a. GRDP at Current Prices (ADHB) is an assessment carried out on goods and services produced or consumed at current year prices.
b. GRDP on the basis of constant prices (ADHK) is an assessment carried out on goods and services produced or consumed at a fixed price in one base year. The increase in income is due to an increase in the physical amount of production, because prices are considered fixed. Economic growth needs to be calculated from real GDP/GNP data & expressed in percent (Sukirno, 2013:50). Leading Sector & Subsector

Widodo (2006:185) defines a leading sector as a sector that has a high level of forward and backward linkages. Leading sectors encourage the growth or development of other sectors, both sectors that supply inputs and sectors that utilize the outputs of these leading sectors as inputs in the production process.

Location Quotient Analysis Concept

Muljarijadi (2011: 54) Location Quotient analysis is a statistical method that uses output characteristics/value added or employment opportunities to analyze or determine the diversity of the regional/local community's economic base. LQ is a tool to assess regional specialization in an industry. The size of the scale used is income & gross regional product (Stimson et al, 2006: 108).

Hypothess

Expected The leading sub-sector in Berau Regency is the Agriculture, Forestry and Fisheries sector.

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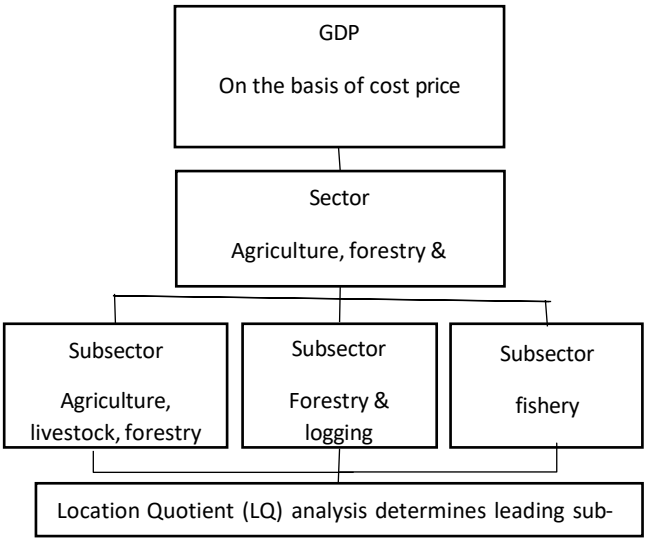
Research Framework



METHODS

Using time series data covering the GRDP of Berau Regency and East Kalimantan Province on the basis of 2010 constant prices for the period 2017 to 2021. Researchers took data from the last 5 years as the data studied by the leading sub-sectors. The non-probability sampling method is a sample that is not selected at random using the purposive sampling technique, which is a sample taken with certain aims and objectives with certain considerations/criteria (Sugiyono, 2013: 125-126).

Location Quotient Analysis

Muljarijadi (2011:56-57) analysis of Location Quotient (LQ) in certain industries/sectors compares the contribution (share) of certain industries/sectors to the total workforce/output at the regional/local level with the contribution of the same sector to total output at the national level . The statement can be formulated as follows:

$$LQ_i = \frac{v_i / v_t}{v_i / v_t}$$

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Where:

LQ_i= The value of Location Quotient

sector i in a region

v_i = Total output/labor ofsector i in a region

v_t = Total amount of output/labor ina region

V_i = Total output/labor ofsector i in the reference region

V_t = Total amount of output/labor inreference area

If the value of LQ>1 then sector i in the region is more specialized than the same sector in the reference area or in other words the sector is a sector capable of exporting its products (base sector). If the LQ value <1 then sector i in the analysis area is less specialized than the same sector in the reference area or in other words the sector is unable to export its products (non-base sector). If the value of LQ = 1, then sector i in the region has the same level of specialization compared to the same sector in the reference region. This means that sector i is able to meet the needs of the region itself.

RESULTS AND DISCUSSION

Blair & Carroll (2009:80) Location Quotient (LQ) is a tool to assess regional specialization in an industry. Tiebout (1962:47) mentions the LQ coefficient as specialization or localization. Measuring the performance of the economic base by comparing the real GRDP of sector i of Berau Regency with similar sectors in East Kalimantan Province. LQ coefficient>1, sector i is classified as superior, specialized and sectoral contribution is higher than similar sectors at the national level, it can be said that sector i in Berau Regency has export potential. On the other hand, LQ<1 means that sector i is classified as a non-leading sector, less specialized and the sectoral contribution is smaller than the GRDP of similar sectors in East Kalimantan Province, meaning that sector i in Berau Regency is only able to meet the needs of its region.

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Sector & subsector	Year						Average
	2016	2017	2018	2019	2020	2021	
A. Agriculture forestry and fisheries	1.41	1.40	1.41	1.43	1.39	1.36	1.40
1.farm farming hunting and agricultural services	1.34	1.31	1.32	1.35	1.31	1.25	1.31
2. Forestry and logging	2.39	2.54	2.63	2.65	2.63	2.79	2.60
3. Fishery	0.80	0.80	0.79	0.77	0.77	0.79	0.79

Table 1. Results of Location Quotient (LQ) Analysis for the Period 2016 – 2021 in Berau Regency.

Based on table 1, the results of the Location Quotient (LQ) analysis for the period 2016 to 2021 in the agriculture, forestry and fisheries sectors and their sub-sectors. The agriculture, forestry and fisheries sectors are the leading sectors in Berau Regency because they have an LQ value > 1, in 2016 the LQ value of this sector was 1.41; in 2019 of 1.43 until 2021 it is worth 1.36 so that on average this sector has a Location Quotient value of 1.40.

The sub-sector with the highest Location Quotient value is in the forestry and logging sub-sector, namely 2.39 in 2016; 2018 worth 2.63 until 2021 has a Location Quotient value of 2.79. So that on average the forestry and logging sub-sector has an LQ value > 1 or 2.60, which means that this sub-sector is specialized and classified as superior and has a higher contribution than the forestry and logging sub-sector in East Kalimantan Province.

The second largest sub-sector that has the highest Location Quotient value is in the sub-sector of agriculture, livestock, hunting and agricultural services with an LQ value in 2016 of 1.34; in 2017 worth 1.31; 2018 has an LQ value of 1.32; in 2019 worth 1.35; year 2020

worth 1.31 and in 2021 it is worth 1.31. So that on average the sub-sectors of agriculture, livestock, hunting and agricultural services have a Location Quantity value of 1.31.

While the fisheries sub-sector is in the final position with an average Location Quotient value of 0.79. From 2016 this sub-sector has had an LQ value of 0.80; 2017 is worth 0.80 in 2018 is worth 0.79; the year 2019 is worth 0.77; in

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2020 it is worth 0.77 and in 2021 it has a Location Quotient (LQ) value of < 1, which is 0.79. It can be indicated that the contribution of the fisheries sub-sector in Berau Regency during 2016 to 2021 does not specialize in other words the ratio of the contribution of the fisheries sub-sector to the formation of Gross Regional Domestic Product (GRDP) based on constant prices in Berau Regency is smaller than the contribution of the fisheries sub-sector in Indonesia. East Kalimantan Province to GRDP ADHK East Kalimantan Province.

DISCUSSION

Location quotient (LQ) analysis is an analysis used to determine the degree of specialization of economic sectors in an area that utilizes the base sector or the leading sector.

In the economy of Berau Regency, the categories of agriculture, forestry and fisheries play an important role in economic development. The success of this category in times of turbulence in the world economy has proven that this category is more resilient and able to recover faster than other categories. In GRDP, this category is grouped into three subcategories, namely agriculture, animal husbandry, hunting and agricultural services, forestry and logging subcategories, and fisheries subcategories. With the availability of land, this category is still an alternative choice when a person is unable to enter a job that requires special abilities or when he has not found a new job after experiencing Termination of Employment (PHK). In 2021, The population of Berau Regency working in this category reached 31.11 percent, an increase compared to 2020 which was 26.02 percent. Berau Regency which has a fairly large area can be used by residents and companies to carry out economic activities. The most common land use in Berau Regency is for forestry activities and oil palm plantations. Forestry activities are carried out by the company after obtaining a permit which can be in the form of a Timber Forest Products Utilization Permit in Natural Forests (IUPHHK-HA), Timber Forest Products Utilization Business Permits in Industrial Plantation Forests (IUPHHK-HTI), Borrow-to-Use Forest

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Area Permits (IPPKH), Timber Utilization Permit (IPK), Hak Guna Usaha (HGU) or other legal permits. Meanwhile, oil palm plantation activities can be carried out by the company after obtaining a Plantation Business Permit (IUP) and a Cultivation Right (HGU). In 2021 the value of GRDP for this category will reach 4,129,463.41 million rupiah. With this figure, the category of agriculture, forestry and fisheries occupies the second position in the formation of the GRDP of Berau Regency with a contribution of 11.64 percent. This contribution figure in 2021 is the highest in the last five years. The contribution is the sum of the sub-categories of agriculture, animal husbandry, hunting and agricultural services by 6.92 percent, forestry and logging sub-categories of 3.62 percent and fisheries sub-categories of 1.10 percent. the category of agriculture, forestry and fisheries occupies the second position in the formation of the GRDP of Berau Regency with a contribution of 11.64 percent. This contribution figure in 2021 is the highest in the last five years. The contribution is the sum of the sub-categories of agriculture, animal husbandry, hunting and agricultural services by 6.92 percent, forestry and logging sub-categories of 3.62 percent and fisheries sub-categories of 1.10 percent. the category of agriculture, forestry and fisheries occupies the second position in the formation of the GRDP of Berau Regency with a contribution of 11.64 percent. This contribution figure in 2021 is the highest in the last five years. The contribution is the sum of the sub-categories of agriculture, animal husbandry, hunting and agricultural services by 6.92 percent, forestry and logging sub-categories of 3.62 percent and fisheries sub-categories of 1.10 percent.

Based on GRDP based on 2010 constant prices, the categories of agriculture, forestry and fisheries will experience negative growth of -3.81 percent in 2021. This condition is the worst in the last five years. The dominance of activities in the sub-categories of agriculture, animal husbandry, hunting and agricultural services as well as sub-categories of forestry and logging have a great influence on the development of the categories of agriculture, forestry and fisheries. The sub-category of agriculture, livestock, hunting and agricultural services was still able to grow positively although it was small at 0.15 percent.

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Although corn production decreased by 35.24 percent in 2021, but in the same year, oil palm Fresh Fruit Bunches (FFB) production still increased by 0.98 percent and rice production also increased by 44.46 percent. Therefore, The negative growth in the agriculture, forestry and fisheries categories in 2021 was more due to the effect of the economic contraction that occurred in the forestry and logging subcategories by 13.59 percent. The declining economic conditions in this subcategory have occurred from the previous year as indicated by the growth value of -3.00 percent in 2020.

Based on the results of the Location Quotient (LQ) analysis, on average the agriculture, forestry and fisheries sectors are included in the leading sectors because they have an LQ value > 1 from 2016 to 2021 with an average LQ value of 1.40. There are 2 leading sub-sectors including agriculture, livestock, hunting and agricultural services with an average Location Quotient value of 1.31 and forestry and logging sub-sectors from 2016 to 2021 have an average Location Quotient value > 1, which is 2 ,60. In line with Prof. Ananda's theory, if the Location Quotient value > 1 then the sector is the basis.

While the fisheries sub-sector is categorized as a non-basic sector because the average value from 2016 to 2021 is LQ <1 this happens because the distribution value comes from sector i at the district level divided by the total GRDP ADHK Berau Regency, the value is lower than the distribution value of sector i which is in East Kalimantan Province, in other words, the fishery sub-sector in Berau Regency is less highly distributed in terms of GRDP formation in Berau Regency, so that the sub-sector with an LQ value <1 is classified as a less specialized sub-sector. as well assectoral contribution is smaller than the GRDP of similar sectors in East Kalimantan Province, means the fisheries sub-sector in the District Berau onlyable to meet the needs of the region.

In line with Bustan & Riza Rahmadi's research examining the economic structure & leading sectors of Berau Regency for the period 2001 - 2017 explaining the results of the Shift-Share analysis the role of the agricultural, forestry & fisheries sectors in Berau Regency actively contributed to an increase

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in GRDP in East Kalimantan Province, classified as a fast growing sector and highly competitive and support structural changes dominated by the primary sector through: the mining & quarrying sector and the agriculture, forestry & fishery sectors. Meanwhile, based on the results of the Location Quotient analysis, the agricultural sector is also included in the leading sector in Berau Regency during the period 2001 – 2017.

Central government programs in the agricultural sector, special efforts to increase rice, corn and soybean production (UPSUS PAJALE) and special efforts for pregnant cows (UPSUS SIWAB), the Department of Agriculture and Livestock as the OPD responsible for agricultural development in Berau Regency needs to create policy innovation so that the agricultural sector is more advanced and can become a source of livelihood for farmers and agricultural entrepreneurs, while one of the innovations that can be applied is Regional-Based and Agribusiness Oriented Agricultural Development which is named: "Pusaka Agung" which stands for cattle business development, goat and corn agribusiness. This program is an integration of the three commodities where this combination provides a mutually beneficial effect in terms of increasing production. The name "Pusaka Agung" was chosen so that the ranks of technical officers and farmers as the main actors in agricultural businesses are easy to remember and it is hoped that in the future they can become an icon of Berau Regency. The main commodity of Pusaka Agung is corn and as supporting commodities are cattle and goats. The existence of livestock as a producer of manure compost is needed to restore soil fertility after planting corn, while corn crop waste can be processed into very good quality feed and is needed for livestock development, while other benefits that can be obtained are increased farmer income. The regional base for the Pusaka Agung flagship program was initially selected in Batu Putih District,

In order to strengthen the competitiveness of farmers, it is necessary to strengthen groups in terms of quantity, quality of personnel, and organizational management. At this time the group was formed with the aim of being a forum for receiving assistance from both the private sector and the government. Technical

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and institutional training is a priority to prepare the main actors in agricultural businesses who are independent, skilled and increase competitiveness. Pusaka Agung can be successful if the farmers / ranchers as the main agricultural business actors are independent and do not depend on their business from government assistance or other parties.

The source of financing currently available and much in demand by chicken farmers is the soft credit scheme from Bankaltimtara, namely the Prosperous Animal Credit (KTS) where up to now in Berau Regency has absorbed around 6 billion rupiah, and for the PUSAKA AGUNG program, it can be facilitated to get credit. Prosperous Livestock or Prosperous Food Crops Credit for business capital. Marketing of agricultural products is a determinant of whether the agricultural business will be sustainable or stop, and until now marketing has not been managed properly so that the problem of stability and price certainty has not yet been agreed between farmers and agricultural business actors.

CONCLUSIONS

The results of the Location Quotient (LQ) analysis in Berau Regency during the period 2016 to 2021 stated that the agriculture, forestry and fisheries sectors are the leading sectors because they have an LQ value > 1, as well as the agriculture, livestock, hunting, & agricultural services sub-sectors and the forestry and logging sub-sectors. Timber is a leading sub-sector because it has an average LQ value > 1, meaning that the sector & sub-sector are classified as superior, specialized and the sectoral contribution is higher than similar sectors at the provincial level. The fisheries sub-sector during the period 2016 to 2017 has an average Location Quotient (LQ) < 1, meaning that the sub-sector is classified as not superior, less specialized and the sectoral contribution is lower than similar sectors in the province.

The Berau Regency Government focuses on development policies by prioritizing leading sectors & sub-sectors sourced from the agriculture, forestry

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and fisheries sectors through food strengthening assistance to farmers, technical guidance and increasing purchasing power of Berau Regency agricultural products. In order to increase the growth of the agricultural sector, it is necessary to innovate policies that can change the paradigm of agricultural development which has been production-oriented to become agribusiness-oriented and area-based and is expected to provide a stimulus to the agriculture, livestock, hunting & agricultural services sub-sectors and the forestry and logging sub-sectors. As well as supporting the fisheries sub-sector where the Berau Regency Government makes the fisheries sector as part of the main focus of regional development by working on &

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