

Analysis of Leading Sector in Rokan Hulu Regency, Riau Province, Indonesia

Indra Juni Putra

Department of Regional and Rural Development Planning,
North Sumatra University,
North Sumatra, Indonesia

Sirojuzilam, Prof. Dr., lic.rer.reg., S.E.

Department of Economic Development, Faculty of Economics and Business
University of Sumatra Utara,
North Sumatra, Indonesia

Dr. Rujiman, MA

Department of Economic Development, Faculty of Economics and Business
University of Sumatra Utara,
North Sumatra, Indonesia



Abstract — This article aims to analyze the leading sectors in Rokan Hulu District as an information and consideration material in economic development planning. This study uses secondary data in the time series of Gross Regional Domestic Product (PDRB) Rokan Hulu Regency and Riau Province in 2011-2015. The analysis tool used in this research is *klassen* typology analysis. The result of *klassen* typology analysis shows the developed and growing sectors are agriculture, forestry and fishery sector, government administration, defense and social security sector. Developing sectors based on analysis are mining, manufacturing, water supply, waste management, waste and recycling. The leading sectors of the analysis, which included in the criteria of the rapidly growing sector, the bases and competitive sectors are the financial services and insurance services, the administrative services, defense and social security sectors, but these sectors have a low contribution to GRDP. So the sectors that are feasible to develop in Rokan Hulu district are agriculture, forestry and fishery sector, processing industry because the sector has the biggest contribution and other advantages.

Keywords — *Leading Sector; Klassen Typology; Regional Planning.*

I. INTRODUCTION

Indonesia as a developing country conducts the development process using a decentralized system. In Act No. 23 of 2014 which still applies residual power or open arrangement pattern, then government affairs are divided into absolute government affairs, concurrent government affairs and general government affairs.

In accordance with data released by the Central Bureau of Statistics in 2014, Riau Province is the province with the 5th largest regional gross domestic product (PDRB) in Indonesia or the highest in Sumatra Island of 679,692,180,000,000 rupiahs.

In 2015, Riau Province GRDP is dominated by 3 sectors, namely mining sector by 30.63%, followed by industrial sector by 23.87% and 22.33% of agricultural sector. Rokan Hulu Regency is the ninth largest contributor of GDP by 2015 of 6,882,765.89 (In million Rupiah) from 12 districts/cities in Riau province.

According to Kuznet, the development strategy basically sees economic growth as a process of transforming the economic structure with the emphasis of the agricultural sector towards the industrial sector. Without industrialization, it is difficult to expect sustainable economic growth, because the agricultural sector has no high added value and low terms of trade [1]

Local governments play an important role in developing regional development strategies and plans with due regard to the shifting sectors of the economy from year to year by analyzing the changes of economic structures in the regions by comparing them with larger regions. This analysis is used to determine the performance or productivity of the regional economy, because in this analysis there are three areas that are interconnected with one another such as economic growth, proportional shift and differential shift. [2]

Territory can be interpreted in general as a part of the surface of the earth whose territory is determined on the basis of geographical, geographical terms, limitations and attributes [3]. According to Kustiawan [3], conceptually, the region can be divided into homogeneous territory, nodal territory, administrative area and planning area.

Sirojuzilam [4] stated that the purpose of planning is essentially to provide information and action in allocating community resources optimally both related to macro planning and sectoral and regional planning to achieve desired goals.

World Economic Expert Todaro [5], defines economic development as a multidimensional process involving all major changes to changes in economic structure, social change, reducing or eliminating poverty, reducing disparities and unemployment.

Economic growth is a growth rate formed from various sectors of the economy that indirectly describes growth rates and as an important indicator for regions to evaluate development success [4].

Economic growth is a growth rate formed from various sectors of the economy that indirectly describes the level of economic growth, for local governments this indicator is important to know the success of development in the future. Basically, regional development is concerned with levels and changes over a period of time such as production, population, labor force, power capital ratio and rewards for factors [6].

Since 2010, GRDP is divided into seventeen sectors based on business area, while macroeconomically divided into three main groups of primary, secondary and tertiary sectors. If the output is still a basic level process and is very dependent on nature then it is called primary sector, such as Agriculture sector and Mining sector. For the sectors of the economy whose output comes from the primary sector are grouped into the secondary sector, such as the Processing Industry sector, the Electricity, Gas and Water and Building sectors. While other sectors, such as Trade, Hotel and

Restaurant sector, Transportation and Communications sector, Bank sector and other Financial Institution and Service sectors are grouped into tertiary sector [7]

Arsyad [8] argues that the main issue in regional development lies in the emphasis on development policies based on the specificity of the region (endogenous development) by empowering the potential of local human resources, institutions and physical resources.

The base sector is the sector that is the backbone of the regional economy because it has a high competitive advantage. Non-base sectors are other sectors that are less potential but serve as supporting base sector or service industries [9].

Research question:

How is the classification of economic sectors in the region of Rokan Hulu Regency.

II. RESEARCH METHODS

Analysis of Leading Sector in Rokan Hulu Regency of Riau Province is descriptive research with quantitative approach. The unit of analysis in this study is the gross regional domestic product (GRDP) of Rokan Hulu and Riau Province from 2011 to 2015 at constant prices in 2010. The data used in this research is secondary data of Rokan Hulu Regency and Riau Province during 2011-2015 periods. This data is used to analyze sector growth classification, analyze base and non-base sector and analyze change and shift of economic sector. This data is obtained from the Central Bureau of Statistics (BPS) Rokan Hulu District and Central Bureau of Statistics (BPS) Riau Province.

The analytical method used is Klassen Typology analysis, to obtain the classification of growth of economic sector of Rokan Hulu regency.

VARIABLE MEASUREMENT:

Variable is the object of research or what the point of attention of a study (Arikunto, 2006: 96). The variables in this study are Gross Regional Domestic Product (PDRB) Rokan Hulu and Riau Province in 17 (seventeen) sectors in 2011-2015 at constant prices in 2010.

Klassen Typology Analysis produces four sector classifications with different characteristics (Sjafrizal, 2008: 180) as follows:

1. (Quadrant I) is a developed sector and grows rapidly (developed sector). This quadrant is a quadrant that the growth rate of a particular sector in GRDP (S_i) is greater

- than the reference region's regional GRDP (s) and has a sector contribution value to GRDP ($skis$) greater than the reference regional GRDP (sk). This classification is denoted by $si > s$ and $skis > sk$.
2. Developed but stagnant sector (Quadrant II). Quadrants whose growth rate of certain sectors in GRDP is smaller than the sector's growth rate in the reference PDRB (s), but has a sector contribution value to GRDP (ski) greater than the sector's contribution to the regional GDP be reference (sk). This classification is denoted by $si < s$ and $skis > sk$.
 3. Potential sector or still able to develop (developing sector) (Quadrant III). This quadrant is a quadrant of a sector-specific growth rate in GRDP (si) greater than the sector's growth rate in the reference PDRB (s), but has a sector contribution value to the GRDP (ski) that is smaller than the sector's contribution to PDRB of the reference area (sk). This classification is denoted by $Si > s$ and $SKi < SK$.
 4. Underdeveloped sector (Quadrant IV). This quadrant is a quadrant of a certain sector growth rate in GRDP (si) which is smaller than the sector growth rate in the reference PDRB (s) and also has a sector contribution value to GRDP (ski) that is smaller than the contribution of the sector to PDRB of the reference area (sk). This classification is denoted by $si < s$ and $ski < sk$.

III. RESULT

A. CLASSIFICATION OF ECONOMIC SECTOR GROWTH IN ROKAN HULU DISTRICT

Klassen typology method is used to know the economic sector grouping in Rokan Hulu Regency according to growth sector. Sector grouping can be done by using *klassen* matrix by utilizing growth rate and contribution value (share) of each sector in PDRB structure.

Table 1 presents the results of data processing in appendix 3, which is the average of growth rate and contribution of Gross Regional Domestic Product of Riau Province and Rokan Hulu Regency Year 2011 - 2015. Table 1 show that the sector with the highest average contribution to GRDP of Rokan Hulu Regency is agriculture, forestry and fishery sector followed by manufacturing industry sector. For the average growth, the largest is indicated by financial services and insurance sector followed by the manufacturing sector and other services sectors. While the sectors that have the smallest average growth, although not negative are Water Supply, Waste Management, Waste and Recycling.

In Riau Province, sectors with the highest average contribution are mining, manufacturing and agriculture, forestry and fishery sectors. The sectors that contribute the smallest average contribution are company services. However, the highest growth sector of Riau Province is service sector, followed by company sector and the information and communication sector. While the mining sector has the smallest growth and even negative.

Furthermore, through the data in Table 1 can be classified sector GRDP Rokan Hulu District Year 2011-2015 based on *Klassen Typology* as listed in Table 2.

In accordance with the results of the analysis in Table 2 of Rokan Hulu GRDP, there are developed and emerging sectors such as agriculture, forestry and fisheries, financial services and insurance sector and government administration, defense and social security sectors. Similarly, there are potential sectors such as the mining sector, the manufacturing sector and the water supply, waste management, waste and recycling sectors.

In addition there are developed but stagnant sectors such as electricity and gas services, information and communication sector, corporate services sector, health services sector and social activities and other service sectors. Furthermore, the under developed sector is construction sector, large and retail trade of car and bicycle repairs motorcycles, transportation and warehousing sectors, accommodation and feeding sector, real estate sector and education services sector.

From the results of the above analysis, it can be stated that the sectors that grow and develop in Rokan Hulu District is the forestry, fishery agriculture sector. It is reasonable because Rokan Hulu regency has the widest area of palm plantation in Riau Province covering 423,585 hectares or 17.65% of the total area of oil palm plantation in Riau Province. Furthermore, the government of Rokan Hulu Regency should keep the prices of agricultural commodities stable with programs such as road infrastructure improvements, the use of superior seeds by farmers, proper fertilization and developing the processing industry in order to make the production prices more stable. Then for the financial services and insurance sector, this sector grows and develops because Rokan upstream regency as new area of expansion, so many banks open a new network so that the financial services industry *daan* insurance can develop rapidly. In the sector of government administration, defense and social security, this sector progresses and grows rapidly reflecting the still large role of local government in the structure of GRDP. This should be the concern of local

governments how to make the private sector more dominant to grow and develop so that Rokan Hulu regency can become an independent developed area.

TABLE 1 GROWTH RATE AND CONTRIBUTION OF SECTOR GRDP OF RIAU PROVINCE AND ROKAN HULU REGENCY YEAR 2011 – 2015

No	Business Area	Riau		Rokan Hulu	
		Average	Average	Average	Average
		Growth	Contribution	Contribution	Contribution
		(S)	(SK)	(Si)	(SKi)
1	Agriculture, Forestry, Fisheries	3,65	23,58	4,12	55,26
2	Mining	(2,99)	28,11	7,56	5,06
3	Processing industry	6,30	26,47	8,62	23,69
4	Electrical and Gas Services	6,79	0,05	4,22	0,07
5	Water Supply, Waste Management, Waste and Recycling	1,24	0,014	3,01	0,008
6	Construction	6,34	7,08	3,52	3,02
7	Wholesale and Retail, Car Repair and Motorcycle	5,90	8,29	5,61	4,86
8	Transportation and Warehousing	7,69	0,76	5,60	0,50
9	Business Accommodation and Restaurants	6,90	0,42	3,55	0,28
10	Information and Communication services	9,62	0,73	5,66	1,08
11	Financial Services and Insurance	7,50	0,89	10,59	0,97
12	Real Estate	7,06	0,81	5,92	0,69
13	Company Services	9,86	0,0045	6,25	0,0046
14	Administration of Government, Defense and social security	4,73	1,77	5,19	3,52
15	Educational Services	4,68	0,45	4,12	0,40
16	Health Services And Social Activities	8,92	0,16	6,09	0,18
17	Other Services	9,88	0,39	7,60	0,41

Source: data processed

TABLE 2 CLASSIFICATION SECTOR OF GRDP ROKAN HULU REGENCY YEAR 2011-2015 BASED ON KLASSEN TYPOLOGY

Kuadran I	Kuadran II
Sektor yang Maju tumbuh dengan Pesat (Developed sektor)	Sektor Maju tapi Tertekan (Stagnan Sektor)
$Si > S$ dan $SK_i > SK$	$Si < S$ dan $SK_i > SK$
- Pertanian, Kehutanan, Perikanan	- Pengadaan Listrik dan Gas
- Jasa Keuangan dan Asuransi	- Informasi dan Komunikasi
- Administrasi Pemerintahan, Pertahanan dan jaminan sosial	- Jasa Perusahaan
	- Jasa Kesehatan Dan Kegiatan Sosial
	- Jasa Lainnya
Kuadran III	Kuadran IV
Sektor Potensial Atau Masih dapat Berkenbang (Developing sektor) $Si > S$ dan $SK_i < SK$	Sektor Relatif tertinggal (Under developed Sektor)
	$Si < S$ dan $SK_i < SK$
- Pertambangan dan Penggalian	- Konstruksi
- Industri Pengolahan	- Perdagangan Besar dan eceran, Rep mobil dan Sp. motor
- Pengadaan Air, Pengelolaan sampah, Limbah dan Daur ulang	- Transportasi dan Pergudangan
	- Penyediaan Akomodasi dan Makan Minum
	- Real Estate
	- Jasa Pendidikan

Source: Data is processed from reference 3

Specifically for the manufacturing sector, although it is included in quadrant III (developing sector) which has a second contribution in PDRB structure of 23.69%, this sector still has the opportunity to continue to grow and has a big contribution by doing the downstream of agricultural products, forestry and fisheries, by making policies to encourage the creation of industrial areas so that Rokan Hulu regency can be separated from the dominance of the agricultural sector, forestry, and fisheries.

IV. DISCUSSION

This analysis is only done to GRDP of Rokan Hulu Regency with GRDP of Riau Province as reference government, and also to see comparative advantage (local advantage) from Rokan Hulu Regency.

A. ANALYSIS OF AGRICULTURAL SECTOR, FORESTRY, FISHERIES

Agricultural, forestry, fisheries have an important role to GRDP Rokan upstream regency, which on average give the highest contribution of GRDP at 55.26% per year. Average rate of agricultural sector 4.12% exceeds the growth rate in Riau Province which is only 3.65% so that this sector is classified as a developed sector that grows rapidly.

B. ANALYSIS OF MINING SECTOR

The contribution of the mining sector to the GRDP of Rokan Hulu Regency is 5.06% per year and ranked third compared to other sectors. The growth rate of this sector of 7, 56% per year, so it can be categorized as a sector that has significant growth, besides the growth of this sector is much higher than the growth rate of less developed sector in Riau Province (-2.99 %) so that the sector is classified as a potential sector or can still develop (developing sector).

C. ANALYSIS OF THE PROCESSING INDUSTRY SECTOR

The contribution of the manufacturing sector to the GRDP of Rokan Hulu Regency averaged only 23.69% per year and ranked second compared to other sectors. The growth rate of this sector averaged 8.62% per year, so it can be categorized as a sector that has significant growth, besides the growth of this sector is much higher than the level of growth sector at the level of Riau Province which grew on average only 6, 30% so that the sector is classified as a potential sector or can still develop (developing sector).

D. ANALYSIS OF ELECTRICITY AND GAS SERVICE SECTOR

The contribution of electricity and gas service sector to Rokan Hulu Regency GRDP is small on average only 0.07%

per year and fifteenth compared to other sectors. The growth rate of this sector is 4.22% per year, so it can be categorized as a sector that has a fairly low growth compared to other sectors, and the growth of this sector is also lower than the sector growth rate at Riau Province level which grew by 6.79% this is classified as an developed but stagnant sector.

E. ANALYSIS OF WATER SUPPLY, WASTE MANAGEMENT, WASTE AND RECYCLING SECTOR

The contribution of the water service sector, waste management, waste and recycling to the GRDP of Rokan Hulu Regency is relatively small at 0.01% per year and is in the sixteenth grade compared to other sectors. The growth rate of this sector is 3.01% per year, so it can be categorized as a sector that has a fairly low growth compared to other sectors, but the growth of this sector is higher than the growth rate of sector in Riau Province which grew by 1.24% and this is classified as a potential sector and can still develop (developing sector).

F. ANALYSIS OF CONSTRUCTION SECTOR

The contribution of the construction sector to Rokan Hulu Regency GRDP is relatively small at only 3.02% per annum and is sixth in comparison with other sectors. The growth rate of this sector is 3.52% per year, so it can be categorized as a sector that has a fairly low growth compared to other sectors, and the growth of this sector is lower than the growth rate of sector in Riau Province which grew by 6.34% classified as the under developed sector.

G. ANALYSIS OF WHOLESALE AND RETAIL TRADE SECTOR, CAR REPAIR AND MOTORCYCLES.

The contribution of wholesale and retail trade sector, car and motorcycle reparation to PDRB of Rokan Hulu Regency is low at 4.86% per year and is in fourth rank compared to other sectors. The growth rate of this sector is 5.61% per year, so it can be categorized as a sector with high growth compared to other sectors, but the growth of this sector is lower than the growth rate of sector in Riau Province which grew by 5.90% classified as the under developed sector.

H. ANALYSIS OF TRANSPORT AND WAREHOUSING SECTOR

The contribution of Transportation and Warehousing sector to the GRDP of Rokan Hulu Regency is low at 0.50% per year and is tenth in comparison with other sectors. However, the growth rate of this sector is quite high at 5.60% per year, so it can be categorized as the sector has a high growth rate compared to other sectors, but the growth of this sector is lower than the sector growth rate at the Riau

Province level of 7.69% so that this sector is classified as the under developed sector.

I. ANALYSIS OF INFORMATION AND COMMUNICATION SERVICE SECTOR

The contribution of the Information and Communication sector to Rokan Hulu Regency GRDP is relatively low at 1.08% per year and is seventh compared to other sectors. The growth rate of this sector is 5.66% per annum, therefore it can be categorized as sectors that have high growth compared to other sectors, but the growth of this sector is lower than the growth rate of the sector at the level of Riau Province which grew by 9.62% so that this sector is classified as advanced but stagnant sector.

J. REAL ESTATE SECTOR ANALYSIS

Real sector contribution to GRDP Rokan Hulu Regency is low 0.69% per year and ninth in comparison to other sectors. The growth rate of this sector is 5.92% per year, so it can be categorized as sector which has a high growth rate compared to other sectors. However, the growth of this sector is lower than the growth rate of the sector at the Riau Province level which grew by 7.06% so that the sector is classified as the Under developed sector.

K. COMPANY SERVICE SECTOR ANALYSIS

The contribution of the Company's service sector to the GRDP of Rokan Hulu Regency is low at only 0.005% per year and is at the lowest level. The growth rate of this sector is 6.25% per year, so it can be categorized as a sector with high growth compared to other sectors. However, the growth level of this sector is lower than the growth rate of the sector at the Riau Province which grew by 9.86% with a slightly higher contribution from the province of 0.0045% so that this sector is classified as developed but stagnant sector.

L. GOVERNMENT ADMINISTRATION, DEFENSE AND SOCIAL SECURITY SECTOR ANALYSIS

The contribution of Government Administration, Defense and Social Security to Rokan Hulu GRDP is relatively low at 3.52% per year and fifth in comparison to other sectors. The growth rate of this sector is 5.19% per year, so it can be categorized as a sector that has a high growth. Furthermore, the growth of this sector is higher than the growth rate of sector in Riau Province which grew by 4.73% with a slightly higher contribution from the province of 1.77% so that this sector is classified as sector developed that grows rapidly (Developed sector).

M. ANALYSIS OF EDUCATION SERVICES SECTOR

The contribution of the education service sector to the GRDP of Rokan Hulu Regency is low by 0.40% per year and is in the twelfth place compared to other sectors. Then the growth rate of this sector is not too high at 4.12% per year, so it can be categorized as sectors that have low growth compared to other sectors. Furthermore, the growth of this sector is also lower than the growth rate of the sector at the level of Riau Province which grew by 4.68% with a contribution that is also smaller than the province of 0.45% so that this sector is classified as sector the relatively underdeveloped (Under Developed sector).

N. ANALYSIS OF OTHER SERVICES SECTOR

The contribution of other services sector to Rokan Hulu Regency GRDP is low by 0.41% per year and is in eleventh order. The growth rate of the sector is high at 7.60% per year, so it can be categorized as a high growth sector. Furthermore, the growth of this sector is lower than the growth rate of the sector in Riau Province which grew by 9.88% with the contribution also higher of the province of only 0.39% so that the sector is classified as developed but stagnant sector.

O. POTENTIAL SECTOR

The results of analysis using *klassen* typology, sectors included in quadrant III are potential sector or which can still develop, mining sector, processing industry sector and water supply sector, waste management, waste and recycling. However, the most feasible is the manufacturing sector because it gives the highest contribution of GRDP among other sectors by 23.69%.

P. REGIONAL PLANNING AND DEVELOPMENT POLICY IN ROKAN HULU DISTRICT

Currently, there are two sectors that give dominant contribution to GRDP, agriculture, forestry and fishery sector, then the processing industry sector is 78.94 percent contributed by both sectors. The results of the *Klassen* Typology analysis also show that the agriculture, forestry and fishery sectors included in Quadrant I, which are developed and rapidly growing sectors.

V. CONCLUSIONS AND SUGGESTIONS

A. CONCLUSION

The classification of growth in the economic sector of Rokan Hulu Regency using *Klassen* Typology analysis

method shows that the developed and growing sectors (quadrant I) are agriculture, forestry and fishery sector, financial services and insurance sector, and government administration, defense and social security sectors. Potential sector or still developing (quadrant III) is mining sector, manufacturing industry sector and water supply sector, waste management, waste and recycling.

B. SUGGESTION

The Local Government of Rokan Hulu Regency should increase the GRDP to prioritize the development of leading sectors in planning, budgeting and implementation of development. Steps that can be undertaken by the Government of Rokan Hulu Regency are building infrastructures, roads, bridges, irrigation systems, providing facilities in the form of incentives and disincentives to increase the growth rate of each sector, creating a conducive investment climate.

REFERENCES

- [1] Ahmad Erani Yustika, 2002, Development and Crisis: Mapping the Indonesian Economy (Pembangunan dan Krisis: Memetakan Perekonomian Indonesia), PT. Grasindo, Jakarta.
- [2] Kustiawan, Iwan. (2009). Introduction to Urban Planning (Pengantar Perencanaan Perkotaan), Penerbit ITB, Bandung.
- [3] Arsyad, L. 1999. Introduction to Regional Economic Planning and Development . (Pengantar Perencanaan dan Pembangunan Ekonomi Daerah). Badan Penerbit Fakultas Ekonomi Universitas Gajah Mada, Yogyakarta.
- [4] Sirojuzilam. 2008. Economic Disparity and Regional Planning, Economic Inequality of Western Region and East Region of North Sumatera Province (Disparitas Ekonomi dan Perencanaan Regional, Ketimpangan Ekonomi Wilayah Barat dan Wilayah timur Provinsi Sumatera Utara), Pustaka bangsa Press, Medan.
- [5] Todaro M.P. 2003. Economic development, seventh edition, Reading: Addison-Wesley
- [6] Sirojuzilam dan Kasyful Mahali. 2010. Regional, Development of Economic Planning. (Regional, Pembangunan Perencanaan ekonomi). USU Press, Medan.
- [7] Sitorus, S.R.P., S.P. Mulya, A. Iswati, D.R. Panuju, dan L.O.S. Iman. 2014. Technics of determining the leading commodities of agriculture based on the potential of the region in the framework of regional development. (Teknik

penentuan komoditas unggulan pertanian berdasarkan potensi wilayah dalam rangka pengembangan wilayah). Prosiding seminar nasional ASPI. Pekanbaru. 17-18 Oktober 2014. UIR Press. Pekanbaru, Riau. Hal 369

[8] Arsyad, L. 1999. Introduction to Regional Economic Planning and Development. (Pengantar Perencanaan dan Pembangunan Ekonomi Daerah). Badan Penerbit Fakultas Ekonomi Universitas Gajah Mada, Yogyakarta.

[9] Sjafrizal. 2014. Regional Development Planning In an Autonomous Era (Perencanaan Pembangunan Daerah Dalam Era Otonomi). Raja Grafindo Perkasa, Jakarta.