THE BASE SECTOR OF COMMUNITY PLANTATION PLANT

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ABSTRACT

This study aims to determine the commodity of smallholder plantation which became the basis of each district in Deli Serdang Regency. The data used is secondary data. The data analysis used is Location Quotient analysis. The results showed that the commodities of smallholder plantations which became the basis in Deli Serdang Regency were rubber, coconut, coffee, cocoa, cinnamon, areca nut, candlenut, gambier, palm sugar and sugar cane.

Keywords: Base, Location Quotient, Smallholder Plantation.

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1. INTRODUCTION

The Deli Serdang Regency is a well-known area in the Indonesians archipelago, mainly because the country's foreign exchange is derived from the Deli Serdang Regency's potential agricultural products such as rubber, coconut, and oil palm. Deli Serdang Regency carries out sixteen economic sectors, including agriculture, mining, manufacturing, building and others. Each economic sector in Deli Serdang Regency contributes different in GRDP contributions (BPS, 2017) .

Table 1 shows effect of agriculture, forestry and fisheries on the supply of food and raw materials in Deli Serdang Regency. The Agriculture Sector in Deli Serdang Regency has the fourth-largest Gross Regional Domestic Product (GRDP) distribution in 2016 (10.83%), below the manufacturing sector (32%) trade (16.19%) and buildings (15.33%) (BPS, 2017).

Table 1. Gross Regional Domestic Product of Deli Serdang Regency Based on 2010 Current Price by Business Field (percent), 2012-2016

No	Business field	Year				
		2012	2013	2014	2015	2016
1	Agriculture, forestry and fisheries	13,62	12,82	11,72	11,18	10,83
2	Mining	0,90	0,84	0,77	0,78	0,77
3	Processing industry	36,08	33,79	32,67	32,34	32,00
4	Electricity and gas supply	0,15	0,13	0,12	0,12	0,11
5	Water supply, waste management	0,05	0,05	0,05	0,05	0,05
5	Building	15,30	15,15	14,99	15,16	15,33
6	Wholesale and retail trade	16,51	15,98	15,59	15,90	16,19
7	Warehousing transportation	1,99	5,84	8,96	9,12	9,24
8	Provider of accommodation and eating and drinking	2,59	2,54	2,55	2,60	2,62
9	Information and communication	1,41	1,28	1,17	1,14	1,11
10	Financial and insurance services	2,75	3,02	2,86	2,88	2,90
11	Real estate	3,20	3,33	3,35	3,51	3,66
12	Company services	0,44	0,42	0,42	0,43	0,44
13	Government administration	2,17	2,05	2,04	2,05	2,00
14	Educational services	1,69	1,63	1,60	1,57	1,55
15	Health services	0,88	0,86	0,87	0,90	0,93
16	Other services	0,27	0,27	0,27	0,28	0,28

(Source: GRDP According to Deli Serdang Regency Business Field 2012-2016)

The agriculture sector in Deli Serdang Regency is divided into five sub-sectors namely estate crops, horticultural crops, food, livestock, forestry, and agricultural and hunting services. The distribution of each of these sub-sectors to the economy in Deli Serdang Regency can be seen in Table 2.

Table 2. Contribution of Agriculture Subsector to Deli Serdang Regency GRDP Based on 2010 Current Price by Business Field (percent), 2012-2016

No	Business field	Year				
		2012	2013	2014	2015	2016
1	Agriculture, Animal Husbandry, Plantation and Agricultural Services	88,64	88,30	87,48	86,63	86,55
	a. Crops	24,28	24,26	23,72	24,50	25,16
	b. Horticultural Plants	15,91	15,82	15,31	15,09	14,53
	c. Plantation	30,67	30,51	29,85	28,07	27,78
	d. Animal husbandry	16,93	16,85	17,71	18,08	18,19
	e. Agriculture and Hunting Services	0,84	0,86	0,89	0,90	0,89
2.	Forestry	1,31	1,30	1,37	1,40	1,37
3.	Fisher	10,06	10,40	11,15	11,97	12,08

(Source: GRDP According to Deli Serdang Regency Business Field 2012-2016)

Table 2 shows the first largest distribution of GRDP in the estate crops sub-sector in 2016, which was 27.78 percent while the second contribution was food crops 25.16 percent. This plantation crops are the mainstay subsector compared to other subsectors.

Deli Serdang Regency is one of the plantation centers in North Sumatra. Important commodities produced in Deli Serdang Regency are rubber, oil palm, cocoa and coconut. The development of the estate crops sub-sector is inseparable from the distribution of the estate crops sub-sector at a smaller scope, namely the sub-district area. Deli Serdang Regency is administratively divided into 22 subdistricts namely Gunung Meriah, STM Hulu, Sibolangit, Kutalimbaru, Pancur Batu, Namo Rambe, Biru-Biru, STM Hilir, Bangun Purba, Galang, Tanjung Morawa, Patumbak, Deli Tua, Sunggal, Hamparan Perak, Labuhan Deli, Percut Sei Tuan, Batang Kuis, Pantai Labu, Beringin, Lubuk Pakam, and Pagar Merbau, each of which has different natural resources (BPS, 2017). The Commodities included in the estate crops sub-sector, and the production of each of these plantation crops can be seen in Table 3.

Table 3. Production of Smallholder Crops by Type of Plants in Deli Serdang District (ton) in 2012-2016

No	Type of Plant	Production Year (ton)				
		2012	2013	2014	2015	2016
1	Rubber	5.346,46	5.447,17	6.458,55	6.865,49	6.870,93
2	Coconut	3.214,49	2.809,77	2.955,00	3.044,95	3.045,15
3	Palm oil	179.183,89	187.169,09	203.472,59	210.232,95	210.303,00
4	Coffee	539,56	501,50	660,00	-	307,00
5	Cocoa	4.156,09	3.796,71	4.414,02	4.161,37	4.190,84
6	Sweet skin	73,93	73,93	80,00	73,93	74,67
7	Areca nut	1.272,92	1.276,07	1.297,00	1.392,60	1.395,85
8	Candlenut	474,79	478,36	493,00	510,85	519,01
9	Gambir	12,25	8,23	7,50	15,00	16,80
10	Sugar palm	354,16	357,10	362,00	358,69	364,66
11	Cane	1.448,16	1.130,00	1.103,00	1.703,00	2.242,00

(Source: North Sumatra Plantation Office 2012-2016)

Table 3 shows that rubber production increased from 6,865.49 tons in 2015 to 6,870.93 tons in 2016. Smallholder oil palm plantations were planted in all districts in Deli Serdang Regency. Palm oil production in 2015 amounted to 210,232.95 tons, where in 2016 oil palm production amounted to 210,303.00 tons. Other plantation crops such as coconut, coffee, areca nut, candlenut, gambier and sugar cane in 2016 also experienced an increase in production.

Base activities are all activities that produce products and service providers that bring money from outside the region. While non-base activities are activities to meet local consumption needs. An area is in need of a variety of data that can be used as a basis for reference, both in the preparation of evaluations of economic development in the regions that have been implemented and in the formulation of planning in the future. Therefore every local government must know the basic commodities. Because this is very closely related to the improvement of regional development and mature planning strategies. Therefore, the researcher raised the title "People's Plantation Plant Base Sector in Each District of Deli Serdang District" with the problem being what commodity plantations are the basis in each of the districts of Deli Serdang Regency.

2. METHODOLOGY

2.1. Method of Determination of Research Areas

The research area was chosen purposively, meaning that the study area was determined based on certain considerations adjusted to the research objectives. Considering the agriculture

sector in 2016 is ranked fourth giving a distribution of 10.83 percent of the Deli Serdang Regency's GRDP and the distribution of the estate crops subsector in 2012-2016 ranks first out of the five other agricultural subsectors.

2.2. Sample Determination Method

The method used in this study is the census method. The census method is a method of determining the sample in which all populations are sampled so that 22 Subdistricts in Deli Serdang Regency are sampled (Arikunto, 2005).

2.3. Method of Collecting Data

In this research the data collection technique used is secondary data collection. Secondary data is data obtained indirectly through literature studies in the form of notes / reports or books issued by an agency or company. In collecting secondary data in this study the author uses the method of documentation that is by collecting data by looking for data about the studied variables in the form of records or documentation obtained (Mangkoedihardjo, 2007, 2012; Waremra and Betaubun, 2018; Pratama et al., 2019).

2.4. Data Analysis Method

Calculate base sectors by using Location Quotient (LQ) analysis. (Tarigan, 2003)

$$LQ = \frac{V_{iw}/V_{tw}}{V_{ir}/V_{tr}}$$

Information:

LQ: Location Quotient Index of agricultural commodities in Deli Serdang Regency

Viw: Production of estate crops i in sub-district of Deli Serdang Regency

Vtw: Total Production of plantation commodity in sub-district of Deli Serdang Regency

Vir: Production of estate crops i in Deli Serdang Regency

Vtr: Total Production of plantation commodity in Deli Serdang Regency

If:

LQ > 1: Is a basic commodity and has the potential for export

LQ < 1: Is a non-base commodity (local / import sector) (Widodo, 2006)

3. RESULTS AND DISCUSSION

3.1. Results

Deli Serdang Regency consists of 22 sub-districts with the widest sub-district is Hamparan Perak sub-district which is 230.15 km², while the smallest sub-district is Deli Tua which is 9.36 km²

Table 4. Area of Deli Serdang Regency by District in 2016

No	Districts	Large (km ²)	Percentage
1	Gunung Meriah	76,65	3,07
2	S.T.M Hulu	223,38	8,94
3	Sibolangit	179,96	7,20
4	Kutalimbaru	174,92	7,00
5	Pancur Batu	122,53	4,91
6	Namo Rambe	62,30	2,49

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7	Biru-Biru	89,69	3,59
8	S.T.M.Hilir	190,50	7,63
9	Bangun Purba	129,95	5,20
10	Galang	150,29	6,02
11	Tanjung Morawa	131,75	5,27
12	Patumbak	46,79	1,87
13	Deli Tua	9,36	0,37
14	Sunggal	92,52	3,70
15	Hamperan Perak	230,15	9,21
16	Labuhan Deli	127,23	5,09
17	Percut Sei Tuan	190,79	7,64
18	Batang Kuis	40,34	1,62
19	Pantai Labu	81,85	3,28
20	Beringin	52,69	2,11
21	Lubuk Pakam	31,19	1,25
22	Pagar Merbau	62,89	2,52
	Deli Serdang	2.497,72	100

(Source: BPS, 2017)

3.1.1.1. Population and Labor

3.1.1.1.1. Population

The total population of Deli Serdang in June 2016 is estimated to be 2,072,521 people consisting of 1,043,114 men and 1,029,407 women spread in 22 districts where the largest population is in Percut Sei Tuan District 445,223 people, while the number the smallest population in Gunung Meriah District is 2,949 inhabitants.

Table 5. Population by Sub-District and Gender Deli Serdang Regency in 2016

No	Districts	Men	Woman	Total
1	Gunung Meriah	1.477	1.472	2.949
2	S.T.M Hilir	7.202	7.125	14.327
3	Sibolangit	11.469	11.539	23.008
4	Kutalimbaru	20.673	20.876	41.549
5	Pancur Batu	49.243	49.124	98.367
6	Namo Rambe	20.940	21.406	42.346
7	Biru-Biru	19.833	19.665	39.498
8	S.T.M.Hilir	18.055	17.498	35.553
9	Bangun Purba	12.353	12.551	25.086
10	Galang	35.928	35.592	71.520
11	Tanjung Morawa	112.281	110.353	222.634
12	Patumbak	51.952	50.518	102.470
13	Deli Tua	34.524	35.573	70.097
14	Sunggal	142.031	139.978	282.009
15	Hamperan Perak	88.310	85.398	173.708
16	Labuhan Deli	35.430	34.225	69.655
17	Percut Sei Tuan	223.927	221.296	445.223
18	Batang Kuis	33.019	32.071	65.090
19	Pantai Labu	25.744	24.194	49.938

20	Beringin	30.851	29.989	60.840
21	Lubuk Pakam	46.598	47.435	94.033
22	Pagar Merbau	21.092	21.529	42.621
	Districts Deli Serdang	1.043.114	1.029.407	2.072.521

(Source: BPS Deli Serdang 2017)

3.1.1.2. Labor

In 2015 in Deli Serdang District there were 865,897 workforce residents consisting of 810,620 people (93.6 percent) categorized as working and 55,277 people (6.4 percent) categorized as looking for work and not working.

The location quotient (LQ) approach is used to calculate the LQ value of each community plantation commodity produced in Deli Serdang District. Criteria for estate crop commodities which are the basis are commodities that have a value of $LQ > 1$, while the commodities of community estate crops that are non-base are estate crop commodities with a value of $LQ < 1$.

Base plantation commodities in each of Deli Serdang Districts in 2012-2016 based on the results of the average LQ analysis can be seen in the following Table 6.

Table 6. Smallholder Plantations Commodity in Each District of Deli Serdang District in 2012-2016

N O	Districts	Base Plantation Commodity										Number of Base Plantation Plants
		Rubber	Coconut	Coffee	Kakao	Sweet Skin	Areca Nut	candle nut	Gambir	Sugar Palm	Cane	
1	Bangun Purba	7,19	-	-	2,52	-	-	1,5	-	1,72	-	4
2	Batang Kuis	-	12,33	-	8,72	-	-	-	-	-	-	2
3	Beringin	1,36	69,26	-	11,77	-	27,48	-	-	-	-	4
4	Biru-Biru	4,04	2,45	-	17,3	-	1,3	2,9	-	-	-	5
5	Deli Tua	-	70,45	-	26,29	-	-	-	-	-	-	2
6	Galang	4,82	6,01	-	2,14	-	-	-	-	-	-	3
7	Gunung Meriah	6,66	1,08	39,87	4,74	27,85	-	6,92	-	-	-	6
8	Hampan Perak	-	6,92	-	1,3	-	-	-	-	-	16,53	3
9	Kutalimbaru	3,52	3,23	1,14	4,99	-	14,68	10,08	-	6,99	7,94	8
10	Labuhan Deli	-	4,36	-	-	-	1,09	-	-	1,11	-	3
11	Lubuk Pakam	-	29,61	-	6,3	-	69,27	-	-	-	-	3
12	Namorambe	1,28	8,71	2,27	10,85	-	7,84	20,9	-	36,73	-	7
13	Pagar Merbau	2,81	10,02	-	5,28	-	9,33	-	-	11,37	-	5
14	Pancur Batu	1,59	11,73	-	6,74	-	7,58	3,03	-	6,02	-	6
15	Pantai Labu	-	2,99	-	4,1	-	1,28	-	-	-	-	3
16	Patumbak	2,14	2,41	-	10,58	-	-	-	-	-	-	3
17	Percut Sei Tuan	-	4,88	-	-	-	1,4	-	-	-	-	2
18	Sibolangit	6,29	2,41	43,94	18,38	56,54	21,66	31,99	126,1	51,74	-	9

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19	STM Hilir	2,57	1,13	-	2,07	-	1,79	2,02	-	2,97	-	6
20	STM Hulu	8,69		1,39	-	6,54	-	3,46	5,79	-	-	5
21	Sunggal	-	19,62	-	15,11	-	7,47	-	-	-	33,2	4
22	Tanjung Merawa	4,22	7,55	-	2,87	-	3,49	-	-	2,18	-	5
	Total	14	20	5	19	3	14	9	2	9	3	98

3.2. Discussion

Data of smallholder plantations in each district in Deli Serdang Regency in 2012-2016 based on the results of the average LQ analysis in Table 6 shows that based on the identification of smallholder plantations which are the basis in each sub-district of Deli Serdang Regency, namely: rubber, coconut, coffee, cocoa, cinnamon, areca nut, hazelnut, gambier, sugar palm and sugar cane.

Rubber commodities are found in Bangun Purba, Beringin, Biru-Biru, Galang, Gunung Meriah, Kutalimbaru, Namorambe, Pagar Merbau, Pancur Batu, Patumbak, Sibolangit, STM Hilir, STM Hulu and Tanjung Merawa Districts. Coconut commodities are found in Batang Kuis District, Beringin, Biru-Biru, Deli Tua, Galang, Gunung Meriah, Hamparan Perak, Kutalimbaru, Labuhan Deli, Lubuk Pakam, Namorambe, Pagar Merbau, Pancur Batu, Pantai Labu, Patumbak, Percut Sei Tuan, Sibolangit, STM Hilir, Sunggal and Tanjung Merawa District. Coffee commodities are found in the districts of Gunung Meriah, Kutalimbaru, Namorambe, Sibolangit, and STM Hulu. Cacao commodities are found in the Bangun Purba District, Batang Kuis, Beringin, Biru-Biru, Deli Tua, Galang, Gunung Meriah, Hamparan Perak, Kutalimbaru, Lubuk Pakam, Namorambe, Pagar Merbau, Pancur Batu, Pantai Labu, Patumbak, Sibolangit, STM Hilir, Sunggal and Tanjung Merawa Districts. The cinnamon commodity is located in Gunung Meriah, Sibolangit and STM Hulu Districts. Betel commodities are found in Beringin, Biru-Biru, Labuhan Deli, Lubuk Pakam, Namorambe, Pagar Merbau, Pancur Batu, Pantai Labu, Percut Sei Tuan, Sibolangit, STM Hilir, Sunggal and Tanjung Merawa District. Candlenut commodities are found in Bangun Purba District, Biru-Biru, Gunung Meriah, Kutalimbaru, Namorambe, Pancur Batu, Sibolangit, STM Hilir and STM Hulu District. Gambier commodities are in Sibolangit District and STM Hulu District. Sugar palm commodities are found in Bangun Purba District, Kutalimbaru, Labuhan Deli, Namorambe, Pagar Merbau, Pancur Batu, Sibolangit, STM Hilir and Tanjung Merawa District. Sugar cane commodities are found in Hamparan Perak, Kutalimbaru and Sunggal Districts.

The sub-district which has the most commodity base plantations is Sibolangit District, which is nine estate crop commodities. Whereas the least possessed of estate crop plantation commodities are Batang Kuis District, Deli Tua and Percut Sei Tuan.

4. CONCLUSION

Commodities of smallholder plantations which are the basis of each district in Deli Serdang Regency, namely rubber commodities, are found in fourteen districts. Coconut commodities are found in twenty sub-districts. Coffee commodity is available in five districts. Cacao is available in nineteen districts. The cinnamon commodity is found in three districts. Betel commodity is found in fourteen districts. Candlenut commodity is found in nine districts. Gambier commodity is found in two sub-districts. Sugar palm commodities are in nine districts. Sugar cane commodity is found in three districts.

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