Developing Local Potency
in Rural Area of Purworejo
to Strengthen Regional Competitiveness

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Abstract—**Gross domestic regional product (GDRP) contribution of Purworejo Regency to Central Java Province was only 1.35% which is the fourth lowest contributor after the City of Pekalongan, Salatiga and Magelang. Besides, in 2016, Purworejo Regency has a level of moderate inequality with the Gini Index and Williamson Index value of 0.36. Also the poverty rate of 13.91% which is higher than the Central Java poverty rate of 13.27%. While on the other hand, Purworejo Regency has some local potencies that have not been developed optimally and could be utilized to promote the economic growth. This study aims to analyze the development of local economic potency in rural area of Purworejo. In addition, it also analyzes the strategy of Purworejo Local Government to develop local potency in order to strengthen regional competitiveness. The approach used was descriptive quantitative, using Klassen Typology and Location Quotient Shift Share (LQ Shift Share) method. The results showed that based on Klassen Typology, Purworejo Regency was included in the category of underdeveloped areas that the development was stagnant. Meanwhile, based on the LQ analysis, the basic sector in Purworejo Regency was agriculture. However, based on Shift Share analysis, the agricultural sector was in the retarded position. One of the reasons was the low technology application to local agriculture activities.**

Keywords— *GDRP; agriculture; local potency; regional competitiveness; Purworejo*

I. INTRODUCTION

Economic development is one of the efforts made by the government in enhancing national development which is focused on improving community welfare. This is in line with the implementation of regional autonomy where regional governments have broader authority in determining policies that are in line with their respective regions so that the welfare of the community can be achieved. Economic development policies taken by local governments should be able to optimize existing potential so that it is more efficient. The success of economic development is seen through economic growth, where economic growth could be measured through Gross Domestic Regional Product – GDRP [1].

In order to meet the target of regional autonomy in local economic development, each region is required to be able to improve its competitiveness [2]. Competitiveness is the ability of the regional economy in achieving a high and sustainable level of welfare growth by remaining open to domestic and international competition [3]. Thus, it could be concluded that regional competitiveness relies heavily on a good business climate, comparative advantage, and regional competitive advantage.

Identification of economic potencies in each region which are used effectively and efficiently needs to be done to create regional competitiveness [4]. The local economic potencies are expected to increase development and create growth for each region. Uneven development between regions causes inequality between regions.

One of the regions which encountered inequality of economic growth is Central Java Province. Central Java, nationally is one of the largest GDRP contributors, but in reality, there was an imbalance within its territory. One of them happened in Purworejo Regency. The average economic growth of Purworejo Regency from 2012 - 2015 was 5%. (Figure 1). The contribution of GDRP of Purworejo Regency to Central Java Province was only 1.35%. In addition, in 2016, Purworejo had a level of "moderate inequality" with a Gini Index and Williamson Index of 0.36 (Figure 2) and a poverty rate of 13.91% which was higher than the poverty rate of Central Java Province, in the amount of 13, 27%. (Figure 3).
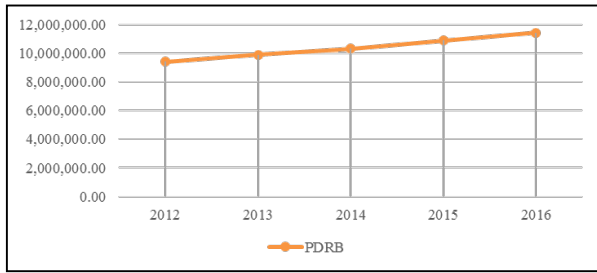
Fig. 1. GDRP of Purworejo in 2012-2016
(Source: Statistic Agency, 2017)

The economic growth of Purworejo was shown by the GDRP growth rate based on the constant price in 2012-2016 which has increased year by year. The percentage increase during 2012-2016 was 21.48%. (Figure 1). The biggest increase occurred in 2015 at 5.37%. However, the GDRP contribution of Purworejo Regency to Central Java Province was only 1.35% which is the fourth lowest contributor after Municipality of Pekalongan, Salatiga and Magelang.
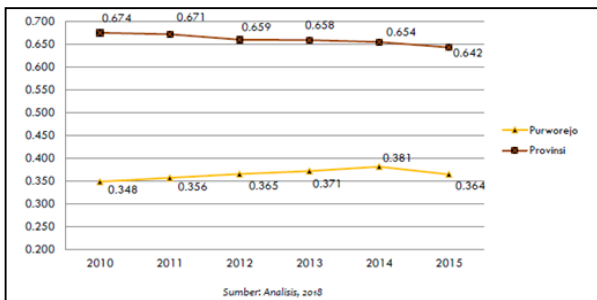

Fig. 2. Trend of Williamson Index of Purworejo in 2010-2015
(Source: Analysis, 2018)

The Williamson Index of Purworejo Regency tended to increase but then get back down. It was classified in the level of moderate inequality, which is equal to 0.364. The inequality was caused by more intensive development in Purworejo District which is the Capital of the Regency. This is in line with the district's GDRP contribution to the Regency's GRDP of 20-21%. The effort that could be done by the Local District is encouraging participatory agricultural development in rural areas. Based on table 1, agriculture is still the largest business field in rural areas.

Table 1. Workforce over 15 years based on the main employment of Purworejo Regency in 2015

No	Work Field	Urban		Rural		Total
		Number	Percentage	Number	Percentage	
1.	Agriculture	18.826	18.29%	123.558	48,24%	142.384
2.	Industry	12.055	11,71%	48.792	19,05%	60.847
3.	Trade	33.665	32,71%	41.724	16,29%	75.389
4.	Service	26.600	25,85%	17.839	6,97%	44.439
5.	Others	11.733	11,44%	24.208	9,45%	35.981
	Total	**102.919**	**100%**	**256.121**	**100%**	**359.040**

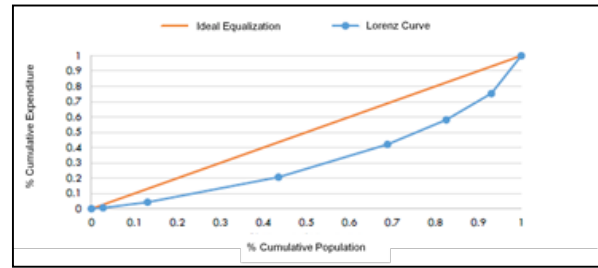(Source: Statistic Agency, 2015)

Fig. 3. Lorenz Curve of Gini Index of Purworejo Regency in 2016

Figure 3 was Lorenz curve that showed the Gini Index of Purworejo in 2016 with a value of 0.361 which is a medium inequality category. There is inequality in the development within Purworejo District where the development is concentrated in the city of Purworejo and Kutoarjo.

In 2016, Statistic Agency's data showed that the percentage of the poor population in Purworejo was 13.91%. It continues to decline every year, as could be seen in Figure 4. The decline showed the positive impact of poverty alleviation programs that have been implemented by the government. Even so, the percentage of poor people in Purworejo Regency was still above the poverty rate of Central Java Province in 2016 which is 13.27%. Purworejo Regency is still included in the poverty red zone, which is the rank 23rd out of 35 Regencies/ Municipalities in Central Java.
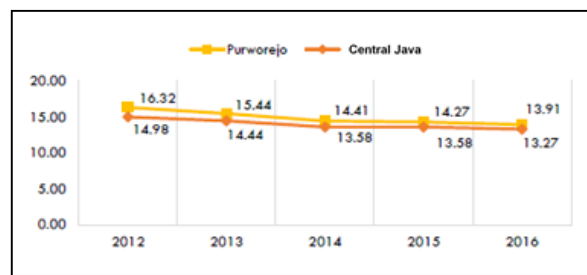

Fig. 4. Percentage of Poor Population of Purworejo in 2012-2016

The remain high level of poverty in Purworejo was indicated by some factors. One of them was because most of the population work in the agricultural sector, which is a sector whose productivity was decreasing every year, so that population income cannot contribute meaningfully to their welfare.

This study aims to analyze the development of local economic potency in rural area of Purworejo. Because Purworejo Regency has several strategic potentials that could be utilized to boost its economy. In addition, it also analyzes the strategy of Purworejo Local Government to develop local potency in order to strengthen regional competitiveness.

II. METHOD

This research conducted using quantitative descriptive approach. The method used was Klassen Typology analysis, Location Quotient (LQ) and Shift Share (SS) analysis. Klassen Typology Analysis was used to find out

an overview of the pattern and structure of economic growth of each region. The Klassen typology was used to identify the level of regional economic development with a data base on the level of per capita income and economic growth of the region with areas in higher level [5],[7]. Through this analysis, four characteristics of different economic growth patterns and structures were obtained, namely: fast-forward and fast-growing areas (high growth and high income), developed but depressed regions (high income but low growth), fast growing regions (high growth but low income), and relatively low regions (low growth and low income). Location Quotient Analysis (LQ) was used to find out which sectors of an area are primary sector (main commodities) and which sectors are not (or the growth is negative/deficit) by comparing an area with an area at the top level in a certain period of time [6],[7].

Shift Share Analysis is used to analyze and determine the shift and role of the economy in the region. The method is used to observe the structure of the economy and its shift by emphasizing the growth of the sector in the region, which is compared to the same sector at the higher or national level [5],[9],[12]. SS analysis consists of three components [13]:

a) National Share (N), the results of these calculations will illustrate the role of sector i in Purworejo Regency to grow faster or slower than the provincial average growth based on the top rank.

b) Proportional (Industry-Mix) (P), the calculation results show that if P is worth (+), sector i grows faster in Purworejo District than in Central Java Province. Whereas, if P value (-) means that sector i grows more slowly in Purworejo District compared to the Central Java Province

c) Differential Sift (D) / Competitive Position (Cp), the results of the calculation show that if D is positive (+), sector i is more competitive in Purworejo Regency compared to Central Java, whereas if D is negative (-) means that sector i is more competitive in the Central Java Province compared to Purworejo Regency.

III. RESULTS AND DISCUSSION

A. *Location Quotient and Shift Share Analysis*

A common approach used in developing regional potency is by examining the components of the Gross Domestic Regional Product (GDRP). Table 2 shows the GDRP data of Purworejo Regency during 2010-2014.

Table 2. GDRP of Purworejo Regency in 2010-2014

No	District	2010	2011	2012	2013	2014
1	Grabag	152.163,13	158.374,62	165.833,05	172.998,59	182.697,94
2	Ngombol	133.632,50	139.360,91	145.985,86	152.078,33	157.469,24
3	Purwodadi	162.819,61	170.632,85	179.240,37	188.042,04	196.834,91
4	Bagelen	111.579,60	116.430,50	121.713,24	126.989,72	133.218,02
5	Kaligesing	115.572,77	120.987,44	126.850,64	133.083,67	139.671,35
6	Purworejo	615.614,73	653.514,89	691.262,25	732.796,04	779.069,77
7	Banyuurip	225.526,91	238.616,90	251.468,38	265.548,73	279.117,65
8	Bayan	156.641,34	164.626,54	172.720,39	182.098,38	191.243,70
9	Kutoarjo	347.873,63	369.169,66	389.810,33	412.943,37	438.673,10
10	Butuh	172.193,01	179.319,79	188.109,77	195.892,82	203.063,02
11	Pituruh	198.284,08	206.271,05	215.496,02	224.099,14	231.923,75
12	Kemiri	178.963,31	186.316,19	194.797,11	202.617,24	209.998,92
13	Bruno	103.961,14	107.993,97	112.428,75	116.291,74	121.375,14
14	Gebang	122.437,40	127.481,20	132.981,34	138.621,05	143.604,24
15	Loano	98.262,54	102.868,07	107.438,06	111.870,56	116.162,96
16	Bener	121.072,12	126.088,56	131.539,81	137.629,47	144.129,76
Purworejo		**3.016.597,82**	**3.168.053,14**	**3.327.675,37**	**3.493.600,89**	**3.668.253,47**

(Source: Statistic Agency, 2015)

Table 3. Results of Klassen Typology Analysis 2011-2014

Economic Growth Rate (r)	GDRP per capita (Y) 2011		GDRP per capita (Y) 2012		GDRP per capita (Y) 2013		GDRP per capita (Y) 2014	
	Yi > Y	Yi < Y	Yi > Y	Yi < Y	Yi > Y	Yi < Y	Yi > Y	Yi < Y
	high growth and high income	high growth but low income	high growth and high income	high growth but low income	high growth and high income	high growth but low income	high growth and high income	high growth but low income
r i > r	Purwodadi, Purworejo, Banyuurip, Kutoarjo	Kaligesing, Bayan, Loano	Ngombol, Purwodadi, Purworejo, Banyuurip, Kutoarjo, Butuh	Kaligesing, Bayan	Purwodadi, Purworejo, Banyuurip, Kutoarjo	Kaligesing, Bayan, Bener	Purwodadi, Purworejo, Banyuurip, Kutoarjo	Grabag, Bagelen, Kaligesing, Bayan
	high income but low growth	low growth and low income	high income but low growth	low growth and low income	high income but low growth	low growth and low income	high income but low growth	low growth and low income
r i < r	Ngombol, Butuh, Pituruh	Grabag, Bagelen, Kemiri, Bruno, Gebang, Bener	Pituruh	Grabag, Bagelen, Kemiri, Bruno, Gebang, Loano, Bener	Ngombol, Butuh, Pituruh	Grabag, Bagelen, Kemiri, Bruno, Gebang, Loano	Ngombol, Butuh, Pituruh	Kemiri, Bruno, Gebang, Loano, Bener

(Source: Analysis, 2018)

Based on the data in tables 2 and 3, the districts in Purworejo Regency can be divided into 4 classifications according to the Klassen Typology (Table 4). Based on the results of the klassen typology development, Districts in Purworejo whose economic growth was categorized as **stagnant** or **fixed** were Purwodadi, Purworejo, Banyuurip, Kutoarjo, Kaligesing, Bayan, Pituruh, Bruno, Gebang, Kemiri Districts. While, districts included in the **developing** category were Grabag and Bagelen District. The district which experienced a **slowdown growth** was Loano District, and the other three districts were included in the **fluctuating** category, namely Butuh, Bener and Ngombol District.

Table 4. Regional Growth Classification Based on Klassen Typology

No	Category	Districts
1	Fixed (Stagnant/Stable)	Purwodadi, Purworejo, Banyuurip, Kutoarjo, Kaligesing, Bayan, Pituruh, Bruno, Gebang, Kemiri
2	Developing	Grabag, Bagelen
3	Slowdown	Loano,
4	Fluctuate	Butuh, Bener, Ngombol

(Source: Analysis, 2018)

In order to determine the basic and non-basic sectors, the location quotient (LQ) and shift share analysis were used. The results of LQ analysis in Purworejo Regency in 2010-2014 were shown in tables 5 and 6. Based on the results of LQ analysis (Table 5), it was known that the three sectors that have the highest potency to be developed from year to year were Agriculture, Trade, also Electricity and Drinking Water sectors. If these sectors are developed by local governments through policy support and prioritized programs, these sectors will increase profits for Purworejo Regency in the future.

The results of LQ analysis showed that the agricultural sector is the **basic sector** in Purworejo Regency. This means that **the agricultural sector was the strongest sector** while **the weakest was the industrial sector**. However, based on the Shift Share analysis, the agricultural sector was a basic sector but classified as a **backward sector**. This showed that the primary sector experienced a decline, while actually there was an increase in labor of the agricultural sector. This condition is indicated because there is no technological support in the agricultural sector [14],[15].

Table 5. Result of LQ Analysis in 2011-2014

No	Sector	LQ 2010	LQ 2011	LQ 2012	LQ 2013	LQ 2014	Average	Explanation
1.	Agriculture, Farming, Forestry and Fishing	1.58050	1.60340	1.61538	1.62649	1.67097	1.619347	Basic
2.	Mining and Exploration	0.90900	0.90798	0.90559	0.90605	0.89550	0.904823	Non-Basic
3.	Industry	0.67666	0.66391	0.66671	0.67180	0.66875	0.669564	Non-Basic
4.	Electricity and Drinking Water	1.07556	1.08616	1.08995	1.10346	1.10360	1.091746	Basic
5.	Building	0.54037	0.54028	0.53787	0.53741	0.53044	0.537273	Non-Basic
6.	Trade	1.03970	1.04591	1.04373	1.04471	1.03559	1.041928	Basic
7.	Transportation	0.37878	0.38875	0.40322	0.40939	0.40662	0.397352	Non-Basic
8.	Finance and Leasing	0.58277	0.57743	0.56527	0.56833	0.56450	0.57166	Non-Basic
9.	Services	0.56702	0.56940	0.57105	0.57457	0.57109	0.570625	Non-Basic

(Source: Analysis, 2018)

Table 6. Result of Shift Share Analysis in 2011-2014

No	Sector	National Share (N)	Proportional Shift (P)	Differential Shift (D)	Correction		Nett Shift (%)	Growth Condition
		Yt/Yo-1	Yit/Yot-Yt/Yo	yit/yio-Yit/Yio	TOTAL (%)	Economic Growth(%)		
A	Agriculture, Farming and Fishing	22.86	-13.74	-2.45	6.66	6.66	-16.20	Backward
B	Mining and Exploraton	22.86	15.69	-21.97	16.58	16.58	-6.28	Backward
C	Industry	22.86	-0.21	4.10	26.74	26.74	3.88	Progressive
D	Provision of Electricity and Gas	22.86	4.25	-7.58	19.53	19.53	-3.33	Backward
E	Provision of drinking water and waste management	22.86	-15.19	-1.85	5.82	5.82	-17.04	Backward
F	Construction	22.86	1.19	-2.47	21.57	21.57	-1.29	Backward
G	Trade	22.86	-2.95	0.68	20.59	20.59	-2.27	Backward
H	Transportation and Storage	22.86	14.48	-5.80	31.54	31.54	8.68	Progressive
I	Accomodation	22.86	4.92	-5.31	22.46	22.46	-0.40	Backward
J	Information and Communication	22.86	21.90	-0.26	44.51	44.51	21.65	Progressive
K	Financial Services and Insurance	22.86	5.28	-5.81	22.33	22.33	-0.53	Backward
L	Real Estate	22.86	9.78	-3.02	29.61	29.61	6.75	Progressive
M, N	Company Services	22.86	22.43	-2.82	42.46	42.46	19.60	Progressive
O	Government Administration, Defense and Mandatory Social Security	22.86	-11.34	-0.61	10.91	10.91	-11.95	Backward
P	Education Service	22.86	15.81	0.17	38.84	38.84	15.98	Progressive
Q	Health and Social Action Service	22.86	16.87	0.62	40.35	40.35	17.49	Progressive
R, S, T, U	Other Services	22.86	10.01	0.83	33.71	33.71	10.85	Progressive

(Source: Analysis, 2018)

B. Local Potency of Purworejo Regency and the Problems

Agriculture sector in Purworejo Regency was the largest contributor to GDRP and its activities almost spread evenly in the Purworejo Regency. Therefore, agriculture is the basic sector in Purworejo. Agricultural base areas were spread in the area around Purworejo, Kutoarjo, Bayan and Banyuurip (Figure 5).

The largest area of agricultural land was in Bener District covering 8,531 ha in 2016 and the smallest was Kutoarjo District covering 3,615 ha. Agricultural potency in Purworejo Regency are rice and corn. Agricultural production was divided into three sub-sectors, namely agricultural products, plantation products and livestock/farming products.

Plantation commodities which are quite prominent in Purworejo Regency were Coconut, Cardamom and Clove. Coconut plants in Kaligesing District which have obtained organic certificates, could be processed into Coconut Sugar (Red Sugar), VCO and Export-oriented Coconut Oil. Whereas Cardamom which is cultivated in Pituruh, Kemiri, Bruno and Kaligesing Districts, is the raw material for herbal medicine (*Jamu*) having a selling price of Rp.65,000-67,000/kg. Clove commodities planted in Pituruh, Kemiri and Bruno District also have high economic value, with a price of Rp.110,000/kg. It is a raw material for cigarette factories. Unfortunately, these potencies cannot be optimally developed yet by Purworejo Government.

The Coconut Sugar Industry in Purworejo Subdistrict has produced export-oriented products sent to Colombo and Sydney. However, the export value of these products is still low due to the Bulk form shipments which will then be repacked and rebranded. In addition, the coconut processing industry into coconut oil in Purworejo and VCO Districts in Bener District also have the potential to be further developed as export products. However, due to technological limitations in the processing, the products have not been able to meet the quality standards of the destination country. Coconut oil and VCO products are only marketed in the regional markets including Semarang, Kebumen, and Yogyakarta.

Meanwhile, the most dominant livestock commodities in Purworejo Regency were cow, buffalo, goat, horse and sheep. There are two types of goat, namely ordinary goat and Etawa breeds (PE) goat. Etawa breeds goat from Kaligesing Village was the typical commodities of Purworejo. PE goat produces milk which has the potential to be developed because it has many health benefits. However, it was constrained by several things including simple method (non-technological method) to transformed the goat milk into milk powder. Besides, there is still a limitation of product marketing.

C. Developing Local Potency to Strengthen Regional Competitiveness

The development of local potencies needs to be conducted by the Purworejo government to strengthen competitiveness. This is intended to catch up and minimize the gap and inequality between the south and north part of Purworejo region. It also means to improve the regional economy as a unified economic system. In an effort to develop local potential, it is necessary to prioritize local governments in various forms of policy. Regional competitiveness is closely related to regional economic capabilities, in this case, related to the utilization of regional potential to produce and market products or services needed by the market on an ongoing basis [16]. Some policies that could be implemented are [5],[14],[17],[18]:

1) Improve product quality to meet international standard.
2) Improve clean government and good governance to guarantee business permits services and create a healthy business climate.
3) Improve regional branding and competitiveness.
4) Strengthen intensive promotion.
5) Collaboration between government and private sector.
6) Intergovernmental collaboration.

IV. CONCLUSION

Based on LQ & Shift Share Analysis, agriculture is the basic sector of economy in Purworejo but the productivity decreases. The decline in agricultural productivity is caused by low technology and a legacy system that has been occurring in Indonesian society such as the legacy of paddy fields originally only owned by one person into several people which affected the increase in labor and decrease in agricultural yields. In addition, decreased agricultural productivity is also influenced by a lack of commitment in the implementation of agricultural development policies. Meanwhile, small-scale industries / IKM processing agricultural products tend not to be able to contribute meaningfully in Purworejo's GDRP because of low-tech, limited marketing, not standard quality (does not meet international standards), scarcity of raw materials, capital constraints and permits, unsustainable SMI assistance, and government assistance which does not suit the needs of the industrial community.

ACKNOWLEDGMENT

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