ANALYSIS OF THE POTENTIAL OF LEADING VEGETABLE COMMODITIES IN WONOSOBO REGENCY

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ABSTRACT

Regional economic development is a process in which local governments and their communities manage existing resources and form a pattern of partnerships that can encourage economic growth in the area, such as farmers working with business entities in managing superior commodities into a product. In determining regional economic development strategies, you can find out the potential of each region. Identifying the leading vegetable commodities in Wonosobo Regency can be done by indicating the leading vegetable commodities and regional growth components. This study aims to analyze superior vegetable commodities and determine the classification of superior vegetable commodities in Wonosobo Regency. This research belongs to the type of quantitative descriptive research. The type of research data used is secondary data sourced from the Central Statistics Agency (BPS) Wonosobo Regency and Central Java Province. The methods used in this study are Location Quotient (LQ) analysis, Dynamic Location Quotient (DLQ) analysis, and Overlay LQ and DLQ analysis. The results of this study show that the leading vegetable commodities in Wonosobo Regency are potatoes, cabbage and onions. Where the production of vegetable crops is the most superior among other vegetable commodities. This superior vegetable commodity is able to develop and grow faster than the same commodity in Central Java Province. Potato, cabbage and onion vegetables have a comparative advantage in the present and have the potential to remain superior in the future. The implication of this research is that the Wonosobo Regency Government is expected to be able to maximize the potential of the agricultural sector, especially superior vegetable commodities through increasing production and export, innovation. So that it can improve the regional economy based on agricultural development.

Keywords: Regional Economic Development, Featured Vegetable Commodities, Location Quotient, Dynamic Location Quotient, LQ and DLQ Overlay.

1. Introduction

Kabupaten Wonosobo Regency is one of the regencies located in Central Java Province, Indonesia. Wonosobo Regency has a topography of hills and mountains located at an altitude of 250 – 2,250 meters above sea level which makes the highland characteristic as the face of the district. Wonosobo Regency is an area located around a young volcano causing the soil in Wonosobo to be fertile (Magdalena, 2022). Where these conditions are suitable for agricultural development activities, the majority of which the population make a living as farmers. This can be seen in the contribution of labor absorption which reached 165,497 people.

Table 1. Gross Regional Domestic Product Based on Constant Prices 2010 According to Business Field in Wonosobo Regency in 2017-2021 (billion rupiah)

No	Indystry	2017	2018	2019	2020*	2021**
1	Agriculture, Foresty, and Fishing	3.817,53	3.882,42	3.956,97	4.148,32	4.210,79
2	Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcyles	2.256,32	2.381,58	2.540,52	2.435,27	2.611,71
3	Manufacturing	2.047,52	2.181,51	2.330,46	2.333,75	2.443,79
4	Construction	805,57	860,88	905,51	872,83	931,60
5	Education	679,26	792,29	785,22	783,38	786,71
	Gross Regional Domestic Product	9.606,2	10.098,68	10.518,68	10.573,55	10.984,6

Source: Badan Pusat Statistik, 2022

The agricultural sector of Wonosobo Regency contributed the largest contribution to GDP in Wonosobo Regency of 4,210.79 billion rupiah in 2021. This figure is the highest among previous years even among other GDP sectors. This indicates the huge potential of the agricultural sector in Wonosobo Regency. The utilization of agricultural potential in Wonosobo Regency is a major capital for rural development and economic development in Wonosobo.
With this potential, Wonosobo Regency is still quite lagging behind other districts. Wonosobo Regency is one of the districts with the lowest level of Gross Regional Domestic Product (GRDP) in Central Java. Wonosobo Regency was ranked third in the district with the lowest GRDP in 2016 at 11,941.20 billion rupiah but this figure continued to fluctuate from year to year in 2020 down again to 13,566.18 billion (BPS Kabupaten Wonosobo, 2021).
To overcome these problems, Wonosobo Regency needs to increase the potential of its agricultural sector which is currently the largest source of GDP revenue in Wonosobo Regency. Superior agricultural potential becomes the capital of sustainable regional development so that it is expected to improve the welfare of the people in Wonosobo Regency.

2. Literature Review

2.1 Regional Economic Development

Development is defined as a conscious effort implemented by a country and government to achieve national goals, through planned growth and change. Development efforts are to improve the standard of living of the people of a country related to sustainable growth. To improve the economy of a country implements policies so that economic development can increase and prosper its citizens (Adha & Andiny, 2022).

2.2 Economic Growth

Economic growth is an increase in economic activity that can produce goods and services produced and consumed by the community by improving people's welfare in the long run. Basically, economic growth is the main indicator in carrying out an analysis of economic development (Basmar et al., 2021).

2.3 Sektor Unggulan

The leading sector is a sector that can influence the improvement of other sectors, both sectors that produce production inputs and those that use their outputs as inputs in the production process. Therefore, this leading sector is important in increasing the economic growth of a region because it will have an impact on improving other economic (Rini & Khourudin, 2020).

2.4 Location Quotient (LQ)

One method that can be applied to identify a sector or commodity included in the superior or non-superior category is to use the Location Quotient (LQ) method. According to Arsyad, 2014 regional economic relations with surrounding areas can in principle be used as a sector that supports the economic growth of the region concerned, one of which is by using *Location Quetiont* (LQ) analysis.

2.5 Dynamic Location Quotient (DLQ)

The downside of the LQ method is that this criterion is static because it only gives an idea at one point in time. To overcome the weaknesses of LQ so that sectoral repositioning or changes can be known, a variance analysis of LQ called DLQ (*Dynamic Location Quotient*) is used by introducing the growth rate with the assumption that each sectoral value added or GDP has its own average annual growth rate during the initial year and distance year (Kuncoro, 2018).

3. Research Methodology

3.1 Location Quotient (LQ)

This analysis is an attempt to measure the concentration of economic activity in a region by comparing its role in the regional economy with the role of similar economic activities in the regional or national economy (Tarigan, 2015). The following formula used in this study is:

$$LQ = (X_{ir}/X_r)/(X_{in}/X_n)$$

where:

X_{ir} : Production per vegetable in Wonosobo Regency
X_r : Total vegetable production in Wonosobo Regency
X_{in} : Production per vegetable in Central Java Province
X_n : Total vegetable production in Central Java Province

The calculation of LQ produces two criteria, namely if LQ > 1, then the commodity is superior, if LQ is ≤ 1, then the commodity is non-superior.

3.2 Dynamic Location Quotient (DLQ)

It is an analysis of identifying the role of vegetable commodities in the future. It is calculated by the following formula (Kuncoro, 2018):

$$DLQ = \frac{1+gi/1+gj}{1+Gi/1+Gj}$$

where:

gi : Average growth rate of vegetable commodities in Wonosobo Regency
gj : The average growth rate of all vegetable commodities in Wonosobo Regency
Gi : Average growth rate of agricultural sector of Central Java Province
Gj : Average GDP growth rate of Central Java Province

If the DLQ value > 1, then vegetable commodities can still be expected to become superior commodities in the future, while if DLQ ≤ 1, vegetable commodities cannot be expected to become superior commodities in the future.

3.3 Overlay LQ dan DLQ

LQ and DLQ overlay analysis aims to determine the current and future condition of a commodity, whether the commodity undergoes a shift change or not overlay (Widodo, 2009). The combination of LQ and DLQ values used as criteria in determining whether the sector or commodity is classified as superior, prospective, mainstay, or lagging can be seen in Table 3.3 (Kuncoro, 2018):

Tabel 3.3 Klasifikasi Sektor Menurut SLQ dan DLQ

Criterion	SLQ > 1	SLQ < 1
DLQ > 1	Superior	Mainstay
DLQ < 1	Prospective	Disadvantaged

4. Results

4.1 Analisis Location Quotient (LQ)

The LQ analysis method in this study was used to identify superior vegetable commodities that have comparative advantages in Wonosobo Regency. The complete results of the calculation of LQ for vegetable commodities in Wonosobo Regency for a period of 3 years (2019-2021) can be seen in the following table.

Table 4.1 Results of LQ Analysis of Wonosobo Regency Vegetable Commodities 2019 - 2021

No	Vegetable Commodities	LQ Wonosobo Regency			Average LQ	Description
		2019	2020	2021		
1	Chili	0,367	0,466	0,619	0,484	non superior
2	Cayenne Pepper	0,283	0,334	0,319	0,312	non superior
3	Potato	1,165	1,047	1,069	1,094	superior
4	Cabbage	1,425	1,442	1,540	1,469	superior
5	Scallion	1,597	1,757	1,774	1,709	superior
6	Petsai/Mustard	0,665	0,746	0,539	0,650	non superior

Source: Data processed, 2023

Based on Table 4.1, it can be seen from the calculation of the Location Quotient (LQ) of vegetable commodities in Wonosobo Regency in 2019 - 2021, there are 3 commodities that have an average LQ value of more than 1 (LQ > 1), namely potatoes, cabbage and onions. Vegetable commodities included in the non-superior sector are chili, cayenne pepper, and petsai or mustard.

4.2 Analisis Dymanic Location Quotient (DLQ)

Table 4.2 Results of DLQ Analysis of Wonosobo Regency Vegetable Commodities 2019 - 2021

No	Vegetable Commodities	DLQ Wonosobo Regency			Average DLQ	Description
		2019	2020	2021		
1	Chili	0,303	3,018	2,270	1,864	potential
2	Cayenne Pepper	1,569	0,557	1,324	1,150	potential
3	Potato	0,580	23,713	0,405	8,233	potential
4	Cabbage	0,889	1,059	1,067	1,005	potential
5	Scallion	1,313	0,738	1,029	1,027	potential
6	Petsai/Mustard	1,060	0,565	1,605	1,077	potential

Source: Data processed, 2023

Based on the results of the analysis in Table 4.2, it can be seen that from DLQ calculations it is known that all vegetable commodities, namely chili, cayenne pepper, potatoes, cabbage, onions, and mustard greens have an average value of more than 1 (DLQ > 1). This shows that vegetable commodities in Wonosobo Regency are developing and growing faster than the same commodities in Central Java Province, so that these vegetable commodities have the potential to be developed in an effort to improve the economy of Wonosobo Regency.

4.3 Hasil Overlay LQ dan DLQ

Table 4.3 Results of LQ and DLQ Overlay Analysis of Wonosobo Regency Vegetable Commodities 2019 - 2021

No	Vegetable Commodities	LQ (Average)	DLQ (Average)	Commodity Category	Description
1	Chili	0,484	1,864	mainstay	LQ < 1, DLQ >1
2	Cayenne Pepper	0,312	1,150	mainstay	LQ < 1, DLQ >1
3	Potato	1,094	8,233	superior	LQ > 1, DLQ > 1
4	Cabbage	1,469	1,005	superior	LQ > 1, DLQ > 1
5	Scallion	1,709	1,027	superior	LQ > 1, DLQ > 1
6	Petsai/Mustard	0,650	1,077	mainstay	LQ < 1, DLQ >1

Source: Data processed, 2023

Based on the overlay analysis of LQ and DLQ Table 4.3, it can be seen that there are three leading commodities and three mainstay commodities. Potatoes, cabbage and onions can be said to have comparative advantages in the present and have the potential to remain superior in the future. This can be seen from the value of LQ and DLQ which have an average index value of more than one (LQ > 1 and DLQ > 1).

Chili, cayenne pepper, and petsai/mustard greens are referred to as mainstay commodities because these commodities are not superior commodities today (LQ < 1) but have the potential to become superior commodities in the future (DLQ > 1).

5. Discussion

Based on the results of LQ analysis, it shows that the leading vegetable commodities in Wonosobo Regency are potatoes, cabbage and shallots which have an average LQ value of more than 1 (LQ > 1). In 2021, the shallot commodity has the highest average LQ calculation index among other leading commodities, which is 1,709, with the most production in Sapuran District of 19,344.9 tons. This superior vegetable commodity can meet its regional distribution and the rest can be exported outside the region such as markets in the capital city of Jakarta. Cabbage ranked second in the flagship commodity. Based on data from BPS Kabupaten Wonosobo, 2021 total cabbage production reached 55,048.5 tons. The area that contributes the most cabbage production, namely Kejajar District, reached 29,728 tons in 2021 among other districts, this is due to the topographic conditions of the region and the favorable weather in Kejajar District.

Based on data BPS Kabupaten Wonosobo, 2021 total potato production reached 47,370.9 tons, with the largest contribution coming from Kejajar District which is the highest area in Wonosobo Regency with an altitude of 1,378 meters above sea level. These conditions are very suitable for agricultural activities, especially potatoes. Besides being used by the community to be sold as typical souvenirs of Dieng, the potato harvest is sold at the potato market or Wiringinanom located in Binangun Village, Kertek District, which is the center of potato sales from Dieng. In the market, there are various types of potatoes and even super quality potatoes at affordable prices (Atmojo, 2022). The results of this study are in accordance with the research of Mulyono & Munibah, 2016 and Usman, 2017 which shows that food crop commodities are a leading sector that can meet their regional distribution and be exported outside the district. Wonosobo Regency's leading vegetable commodities are able to meet its regional distribution and the rest are exported outside areas such as Pekalongan and markets in the capital city of Jakarta. This indicates that superior commodities can be maximized in their production in order to increase the number of exports so as to increase the GDP of Wonosobo Regency.

Meanwhile, non-leading commodities are cayenne pepper, chili, and mustard greens with an average LQ value of less than 1 (LQ < 1). The government strives to increase the productivity of non-superior commodities through the food estate program in Wonosobo Regency which is spread across five points, namely Kalikajar District, Watumalang District, Kertek District, Garung District, and Kejajar District (Kementrian Pertanian, 2021). With this food estate, the government provides superior seeds, harvesting facilities, and improves the quality of human resources, especially horticultural farmers so as to increase the productivity of chili and petsai, which are expected to become the leading commodities of Wonosobo Regency in the next period (Abay, 2022).

Based on the results of DLQ analysis, it is known that all vegetable commodities, namely chili, cayenne pepper, potatoes, cabbage, onions, and mustard greens, have an average value of more than 1 (DLQ > 1). Where there are fluctuations from year to year, the value of DLQ is edible, namely large chili commodities in 2019 of 0.303 but increased among other commodities, namely in 2021 of 2,270. This also shows that vegetable commodities in Wonosobo Regency are developing and growing faster than the same commodities in Central Java Province, so that these vegetable commodities have the potential to be developed in an effort to improve the economy of Wonosobo Regency. This research is in accordance with Febrianti & Sarfiah, 2022

which shows that the DLQ value > 1 then the growth potential of a commodity in the district is faster than the growth of commodities in the province. This indicates that all vegetable commodities of Wonosobo Regency are able to become base commodities that can be seeded in the future and have high competitiveness that has the potential to develop faster than other commodities against provincial GDP.

The results of LQ and DLQ overlay analysis show that potato, cabbage and onion commodities in Wonosobo Regency can be said to have comparative advantages in the present and have the potential to remain superior in the future and are included in the classification of superior commodities. Meanwhile, large chili, cayenne pepper, and mustard greens in Wonosobo Regency are mainstay commodities because these commodities are not superior commodities today (LQ < 1) but have the potential to become superior commodities in the future (DLQ > 1) which are included in the mainstay commodity classification. Febrianti & Sarfiah, 2022 reasearch explained that the combination of LQ and DLQ values has the aim of determining whether or not there is a shift in commodities both now and in the future. This determines whether a commodity can remain potential and superior. So that local governments can focus on developing commodities that have been analyzed in improving the regional economy based on a superior commodity.

6. Conclusion

Based on the results of research and analysis that have been conducted by researchers, it can be concluded that the leading vegetable commodities in Wonosobo Regency are potatoes, cabbage and onions. Where the three commodities are able to meet distribution in Wonosobo Regency and the rest can be exported outside the district. The results of DLQ Analysis and LQ/SLQ &; DLQ Overlay show that large chili, cayenne pepper, and petsai/mustard greens have the potential to become leading commodities in the future and the development of fast-growing commodities.

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