



## Mapping and Analyzing the Potential for Regional Development in the Kedungsepur Region

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### Abstract

The Kedungsepur area is very good to be used as a priority development area, but the problems faced between regions are not yet optimal in developing potential. The analytical tools used are Dynamic Location Quotient (DLQ), Growth Ratio Model (MRP), overlay analysis for mapping. The software used is Arc Gis and Microsoft Excel. The results of the analysis obtained are that in each Regency / City in the Kedungsepur Region which has a prospective sector and has competitiveness, not only that, based on the mapping results, it shows that in Kendal Regency there are seven leading sectors and are included in areas with rapidly developing regions, Demak Regency has six leading sectors. Semarang Regency (Ungaran) has eight leading sectors. Semarang City has twelve leading and competitive sectors. Salatiga City has three potentially competitive sectors. Grobogan Regency has five sectors that are among the leading sectors.

**Keywords:** Mapping, Potential, Development, Region

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### INTRODUCTION

Economic development is a discussion that never escapes as an effort to develop a region or even a country, development can also be used as an indicator of the success of a region. The development goals are conveyed by where development must be obtained to all people.

Development is certainly desired by every country and it is even regulated in Law No. 25 of 2004 concerning national development. According to economist Arsyad Lincoln (2010) who states that economic growth can be seen from the increase in national income or GDP (Gross Domestic Product) with this not

involving aspects of population or economic structure. When looking at the reality, economic growth is often hampered, one of which is due to gaps between regions or uneven development, while the cause of the unevenness itself is caused by differences in resources owned by one region with other regions (Glasson John, 1990).

The discussion of the differences in resources owned by a region is in line with Law No. 32 of 2004 Article 1 paragraph 4 concerning Regional Autonomy. The implementation of regional autonomy can run well if the utilization of the potential or superior sector owned by the region can be maximized (Manaraja, 2023). According to research conducted by Anita Karunia (2017) which aims to determine the potential of the region by using comparative, competitive and specialized analysis in an area so that these objectives can provide clarity on the direction of better regional development policies.

Based on Presidential Regulation Number 79 of 2019 and Presidential Regulation Number 109 of 2020, it is expected to realize the unity of the region to be planned, implemented and evaluated in several priority areas with supporting areas. One of the cooperation areas integrated as a complementary development area in Central Java Province is Kedungsepur (Kendal Regency, Demak Regency, Semarang Regency (Ungaran), Salatiga City, Semarang City, Grobogan Regency (Purwodadi)).

Based on BPS data regarding the average economic growth in 2017-2021, the Kedungsepur region ranks first with the highest average economic growth of 4.25%, even exceeding the percentage of average economic growth in Central Java Province, namely 3.32%. According to research conducted by Esti Hariyanti (2022) which explains that regional growth centers are

able to provide rapid growth so that they can and are expected to be able to absorb the employment potential of the lower surrounding areas. It takes an economic sector that can support development for other sectors in accelerating growth (Rustiardi, 2011).

The basis sector or can be called the leading sector is the process of sector specialization where the sector becomes the winner among other sectors in a region (Chris Dialogis Manaraja, 2023). The classification of sectors in a region is divided into four, namely the leading sector, prospective sector, mainstay sector and lagging sector.

The Kedungsepur area is very good to be used as a priority development area, but the problems faced between regions are not optimal in developing potential. The regional gap reflected in regional economic growth causes the Regency / City area to still be classified as a disadvantaged area.

In line with research conducted by Chris Dialogis Manaraja (2023) where the development of potential sectors is very necessary, it is even necessary to do mapping for leading sectors to determine the priority scale in development. By determining a more specific leading sector, it will be more in accordance with the capabilities of the region such as natural resources and even human resources as well as from other aspects related to efforts to increase regional economic growth.

The existence of these problems is obtained by the formulation of the problem, namely what sectors are the basis and prospective for the next period in regional development in the Kedungsepur Region, sectors that have competitive advantages and specialization of the sectors that have been determined in the Kedungsepur Region and how

the mapping of potential development areas based on Geographic Information System (GIS) in the Kedungsepur Region.

## RESEARCH METHODS

This type of research is quantitative research, its use is adjusted to existing phenomena and problems so that the results are in the form of numbers that have meaning (Sudjana Nana, 2004). This research uses secondary data, data that comes from websites described in the form of numbers or data obtained indirectly (Sugiyono, 2018).

This research includes Gross Regional Domestic Product (GRDP) data and other supporting data such as regional administrative boundary data. Efforts to collect this data through certain agencies. Data sourced from agencies related to this research, namely from the Central Statistics Agency (BPS) and the Indonesian Geospatial Portal.

The data used in the study in 2017-2022. This research was carried out DLQ analysis analysis is a modification of the LQ analysis tool which aims to identify potential commodities / sectors in the future. The Growth Ratio Model (MRP) analysis is a modification of the Shift Share analysis tool.

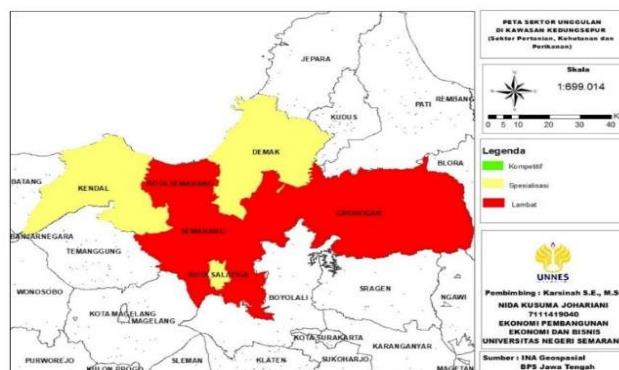
The MRP approach is divided into two (Yusuf, 1999), namely: The Growth Ratio of the Reference Region (RPr) is through the growth of GRDP compared to each sector in Central Java Province and GRDP of several districts in the Kedungsepur Region.

The Study Area Growth Ratio (RPs) is a growth ratio with a smaller scope than RPr. The Study Area Growth Ratio is a comparison of sector-specific growth in the study area (regencies/cities in the Kedungsepur Region) with sectoral growth in Central Java Province.

Mapping and Classification with several stages, namely: 1) Data filtering (Klassen typology); 2) Data adjustment; 3) Polygon or region determination; 4) Determination of Base and Prospective sectors; 5) Identification of Sector Growth; 6) GIS-based regional mapping; 7) Analysis of mapping results.

## RESULTS AND DISCUSSION

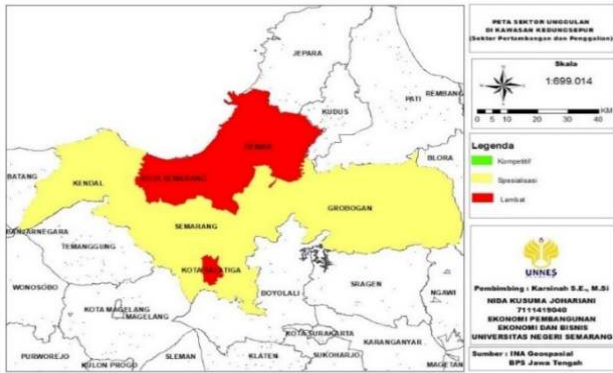
Based on the results of the analysis, it shows that each Regency / City has a different basic sector in the Kedungsepur Region. The Kedungsepur area with several regencies in it with an area range of around 4500 hectares which will be for the Industrial Designation Area (KPI). Kendal Regency with its area, which is the 20th largest area, can be said to support the processing industry sector and the agricultural sector where there is the largest area in Singorojo District.



**Figure 1.** Mapping of regional classifications in the Agriculture, Forestry and Fisheries  
Source: Secondary Data processed, 2023

In addition, the existence of the Kendal Industrial Estate (KIK) further supports this region having a basic and prospective sector in the processing industry sector. Demak Regency, especially with its main sectors, one of which is the agriculture, forestry and fisheries sector,

which shows that this sector is very significant in encouraging economic growth as seen from the data on rice yields which are used as rice, which provides the highest percentage of 677,010 tons with such results that can be managed properly in this sector.



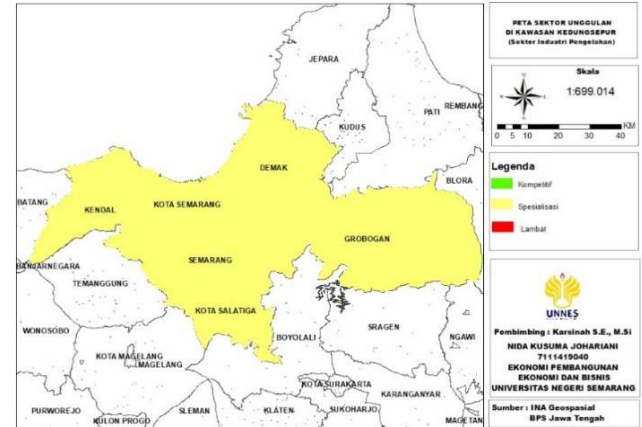
**Figure 2.** Regional classification mapping in the Mining and Quarrying sector  
Source: Secondary Data (processed), 2023

In addition, it is supported by the Wholesale and Retail Trade sector; Car and Motorcycle Repair and the Financial Services and Insurance sector. It can be seen that trade in Demak Regency has increased in 2021, from 154 to 164 scattered shop units. Therefore, with this, the relationship becomes directly proportional and the community can increase the potential of this sector in Demak Regency.

Semarang Regency (Ungaran) shows that it has sectors that have potential or prospects in the future, namely the Manufacturing Industry sector, the Water Supply, Waste Management, Waste and Recycling sector, and the Government Administration, Defense and Compulsory Social Security sector.

With the existence of several sectors, they are mutually sustainable between one sector and another. Semarang Regency has several large industrial companies, mostly located in Bergas,

Tengran, East Ungaran, Bawen and Pringapus sub-districts. Based on these data, in 201 there were 160 industries in Semarang Regency, dominated by the apparel industry, accounting for 26% of the total. With so many industrial sectors in Semarang Regency, there is a correlation with other sectors.

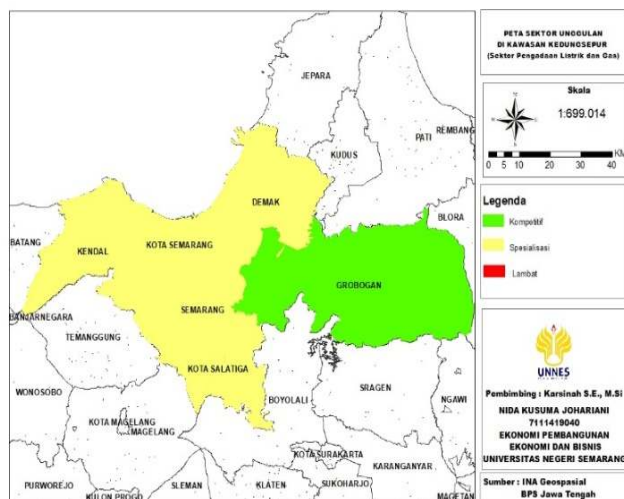


**Figure 3.** Regional classification mapping in the Manufacturing Industry sector  
Source: Secondary Data (processed), 2023

Salatiga City is a small area bounded by many subdistricts and villages. Despite this, Salatiga City has potential in the Government Administration, Defense and Compulsory Social Security sectors. The government and other sectors show that 66.53% of the population has a bachelor's degree or above and many hold positions in the government.

Semarang City is the capital of Central Java Province with an area of 373.78 km<sup>2</sup>. As an area that is the center of government and the majority of community activities are carried out in Semarang City. Therefore, Semarang City has a lot of potential in it, some of these sectors are the Electricity and Gas Procurement sector, the Water Procurement, Waste Management, Waste and Recycling sector, the Transportation and Warehousing sector, the Information and

Communication sector, the Financial and Insurance Services sector, the Real Estate sector, the Company services sector and the Government Administration, Defense and Compulsory Social Security sector.



**Figure 4.** Regional classification mapping in the Electricity and Gas Procurement sector  
Source: Secondary Data (processed), 2023

Several sectors can be developed in Semarang City, all of which are mostly aimed at the community and when linked to the data it can be said that the Human Development Index (HDI) is the second highest with a value of 83.55 which can utilize the skills of its people for better sector development. Kabupaten Grobogan is a region with similar conditions to Kabupaten Demak, where the percentage of poor people is above the provincial and national levels.

In addition, Grobogan Regency is a region that relies heavily on nature in its efforts to develop the region. Some of these sectors are the Mining and Quarrying sector and the Financial and Insurance Services sector. Some of these sectors are expected to develop sectors that come from nature and are correlated with the financial services and insurance sectors so that

all can be guaranteed and able to encourage the rate of economic growth.

Not only that, it is expected to be in the export and import sectors for sectors of natural origin. Able to employ local people as an effort to provide employment. Determination of the area with a polygon symbol which uses a data distribution approach contained in each district in the Kedungsepur Region. The calculation of the existing polygons in the region is divided into several classes.

The polygon will later determine the grouping of areas in each Regency / City in the Kedungsepur Region. Based on the results of the regional classification mapping analysis, there are several regional divisions in the Kedungsepur Region where the yellow color indicates that Demak Regency, Grobogan Regency, Semarang City and Salatiga City are areas that are specialized areas. The green color indicates that Semarang Regency and Kendal Regency are regions with competitive regions. These results suggest that there is a need for mapping of potential areas for development in order to explore economic components.

Sector mapping is important, to assist the development of certain sectors in responding to the needs of the growing capabilities of the workforce in the Kedungsepur Region (Achsa et al., 20). (Achsa et al., 2022). Thus, it will be divided into several classifications symbolized by various colors. Tourism development requires a leading sector that has a multiplier effect in order to realize a more comprehensive development, especially in the tourism sector (Septeri, 2023).

Therefore, other supporting sectors such as the provision of accommodation and drinking water are prospective leading sectors in the future in all districts / cities in the Kedungsepur

Region. this sector has the potential for competitiveness both in the Regency / City area itself and in the realm of Central Java Province.

The Information and Communication sector is also a leading sector in Semarang City. This sector has high competitiveness opportunities in several districts / cities in the Kedungsepur Region, namely in Semarang City. This sector can grow competitively in some of these areas. When it is able to complement between sectors, it will lead to a competitive process both between sectors and between regions so that it is more competitive and able to increase added value for the people in the region.

In accordance with Kotler's (2000) disclosure of the theory of competitive advantage among several other sectors in a region. Some of these sectors are supporting a region to prosper its people personally. When people are able to get guarantees for some of these sectors, regional development efforts will be more optimal.

## CONCLUSION

Regency / City in the Kedungsepur Region has several sectors that have opportunities in the future even though the sector is not a basic sector in the region, namely Kendal Regency which is identical to the KIK area (Kendal Industrial Estate). Demak Regency Sectors that have competitive and specialized advantages in Demak Regency, which are more focused on agriculture and trade, are very synonymous with the Demak Regency area.

Therefore, this region is able to create jobs and as a regional development effort by exploring several of these sectors. Semarang Regency (Ungaran) with the Manufacturing Industry sector, the Water Supply, Waste

Management, Waste and Recycling sector, and the Government Administration, Defense and Compulsory Social Security sector. Salatiga City is a small area but has the potential to become a well-organized urban area, which can be seen from the sectors that have very supportive future prospects.

Semarang City with 12 sectors that can support the prospects for development in the region. Exploring the potential for regional development is needed to increase the desire of the community to further improve skills and be able to take opportunities in stealing the first steps to develop their respective regions to become more competitive and specialized.

Mapping the regional classification, there are several regional divisions in the Kedungsepur Region where the competitive sectors are the Electricity and Gas Procurement, Water Procurement, Waste Management and Recycling, Wholesale and Retail Trade; Repair of Cars and Motorcycles, Transportation and Warehousing sector, Information and Communication sector, Real Estate, Corporate Services, Education Services, Health Services and Social Activities sector, Other Services, areas with specialized sectors are almost all areas in Kedungsepur and areas with slow growth sectors are Agriculture, Forestry and Fisheries sector, Mining and Quarrying sector, Construction sector, Financial Services and Insurance sector, Government Administration, Defense and Compulsory Social Security sector.

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