MediaTrend 19 (2) 2024 p. 263-277

Media Trend

Berkala Kajian Ekonomi dan Studi Pembangunan

http://journal.trunojoyo.ac.id/mediatrend

Local Economic Potential Changes in Sei Mangkei in Simalungun District, North Sumatra

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Article Information

History of article:
Received January 2023
Approved October 2024
Published October 2024

A B S T R A C T

This study aims to evaluate economic growth in the Sei Mangkei Special Economic Zone (SEZ) in Simalungun Regency, Indonesia. The approach used is qualitative with a descriptive method to understand the impact of SEZ on local economic development. The research collected secondary data from various sources such as reports, journals, and relevant scientific literature. The results show that the Sei Mangkei SEZ has a significant but relatively small impact on increasing the Gross Regional Domestic Product (GRDP) of Simalungun Regency. Although Sei Mangkei SEZ has succeeded in attracting investment and creating jobs, its impact on the local economy is still not in line with community expectations. Simalungun's economic growth in 2023 reached 5.07 percent, driven by the transportation and warehousing sector and exports of goods and services. However, challenges such as dependence on the central government, lack of promotion, and suboptimal infrastructure integration still need to be addressed. Policy recommendations include infrastructure improvement, promotion optimization, institutional strengthening, human resource development, and sustainable environmental management. This research is limited to the time of data collection and analysis to 2023, so recent developments may not be included. This research focuses on the Sei Mangkei SEZ in Simalungun Regency, so the results may not be generally applicable to other SEZs in Indonesia due to differences in geographical, economic, and social conditions

Keywords: *Economy, Development, SEZ, Infrastructure*
JEL Classification Code: *E610; H110; O200*

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DOI: http://dx.doi.org/10.21107/mediatrend.v19i2.18668

INTRODUCTION

Economic development essentially aims to improve people's welfare. So far, Indonesia's economic growth has experienced a significant increase, but in reality it has also had an impact on increasing the uneven distribution of people's income both between groups and between regions. Therefore, a new paradigm of economic policy is needed that is more based on local economic capabilities by recognizing the potential, economic, social, and physical characteristics of each region, including its interaction with other regions (Syadzali 2020). In the context of Indonesia, the disparities in economic development across various regions are stark. While urban areas, particularly Jakarta, have flourished with rapid industrialization and investment, rural regions continue to struggle with limited access to resources, infrastructure, and opportunities. This uneven growth not only perpetuates poverty in underdeveloped areas but also fuels social tensions and migration to cities, where people seek better livelihoods. To address these issues, economic policies must prioritize inclusive development strategies that consider the unique needs and potentials of each locality.

One effective approach is the promotion of local entrepreneurship and small-to-medium enterprises (SMEs). By investing in training programs, providing access to credit, and creating supportive regulatory environments, local governments can empower communities to harness their strengths and create jobs. Encouraging innovation and utilizing local resources can lead to sustainable economic growth that benefits a broader segment of the population. Furthermore, fostering partnerships between local governments, businesses, and educational institutions can enhance skills development and ensure that the workforce is equipped to meet the demands of the local economy.

Additionally, regional integration and collaboration can play a crucial role in addressing disparities. By fostering inter-regional partnerships, regions can share resources, knowledge, and best practices. This collaborative approach can enhance economic resilience and ensure that no region is left behind in the pursuit of development. For instance, regions with abundant natural resources can collaborate with those that have a strong industrial base, creating a balanced economic ecosystem that benefits all parties involved. Economic growth is one of the important parts of economic development, so economic growth is one of the main targets that must be achieved. In general, economic development is defined as a multidimensional process that includes various fundamental changes in social structures, societal attitudes, and national institutions, while still pursuing the acceleration of economic growth, handling income inequality, and poverty alleviation (Suryana 2020).

Based on BI data (2024), it is stated that the Indonesian economy remains resilient amid increasing global uncertainty. Data from the Central Statistics Agency (BPS) shows economic growth in the first quarter of 2024 at 5.11% (yoy), an increase compared to growth in the previous quarter of 5.04% (yoy). Looking ahead, economic growth in 2024 is projected to remain strong in the range of 4.7-5.5% (yoy) supported by domestic demand, especially from the continued growth of consumption and building investment in line with the continued development of the National Strategic Project (PSN).

There is a positive influence of population growth on economic development, where the condition and progress of the population are very closely related to the growth and development of economic businesses. On the one hand, the population can be actors or resources for production factors; on the other hand, it can be a target or consumer for the products produced. Population conditions, population data, and information will be very useful in calculating how much labor will be absorbed, as well as the specific qualifications needed and the types of technologies that will be used to produce goods or services (Siagian et al., 2019).

As the population grows, it creates a larger labor force that can drive economic activities. A larger workforce can enhance productivity, foster innovation, and stimulate demand for goods and services. This, in turn, encourages businesses to expand and invest in new technologies, ultimately leading to economic growth. Furthermore, a diverse population with varying skill sets can contribute to a broader range of industries, promoting specialization and enhancing competitiveness in the global market.

However, the relationship between population growth and economic development is not solely positive. Rapid population growth can strain resources, infrastructure, and public services. If economic development does not keep pace with population growth, it can lead to unemployment, underemployment, and social unrest. Therefore, it is essential for policymakers to create strategies that ensure sustainable development, balancing the needs of a growing population with the capabilities of the economy to absorb this growth.

Investing in education and skills training is crucial for maximizing the benefits of population growth. By equipping the workforce with the necessary skills and knowledge, countries can ensure that their populations are not only labor resources but also active contributors to innovation and productivity. This investment can lead to higher wages, improved living standards, and a more dynamic economy. Additionally, data on population demographics can help guide these educational initiatives, aligning training programs with the specific needs of industries and ensuring that the labor market can adapt to technological advancements.

In order to increase economic growth, economic development also continues to be harmonized. As one of the programs of the Masterplan for the Acceleration and Expansion of Indonesian Economic Development (MP3EI), the development of Special Economic Zones (SEZs). Over the past 44 years, Indonesia has undergone an evolution in the development of strategic areas located in different periods and locations. Briefly, the history of the development of strategic areas in Indonesia began in 1970, with the initiation of the establishment of the Free Trade Zone and Free Port (KPBPB) or also known as the Free Trade Zone (FTZ). Further developments were followed by the establishment of Industrial Estates in 1989, Integrated Economic Development Areas (KAPET) in 1996, and most recently Special Economic Zones (SEZs) in 2009 (Suryana & Febriani 2019).

SEZ is defined as an area with certain boundaries within the jurisdiction of the Republic of Indonesia that is determined to carry out economic functions and obtain certain facilities. SEZs will be the basis for industrial activities, exports, imports, and other activities with high economic value, to support national competitiveness. The development of Special Economic Zones (SEZs) is one of Indonesia's strategies in encouraging investment and increasing Indonesia's competitiveness. For this reason, a policy is needed that includes determining the main criteria for selecting the location of an area that meets the requirements for the development of SEZs.

The Government of Indonesia is committed to accelerating the equitable distribution of economic development in all regions as one of its primary goals. One effective strategy for achieving this is through the development of Special Economic Zones (SEZs) in various regions. SEZs are designated areas that possess specific territorial boundaries and significant geo-economic and geostrategic advantages. These zones are equipped with special facilities and incentives aimed at attracting both domestic and foreign investment (National Council of Special Economic Zones, 2022).

SEZs play a crucial role in fostering regional economic development by creating a conducive environment for businesses to thrive. They offer various incentives, such as tax breaks, simplified regulations, and improved infrastructure, which can significantly lower the barriers to entry for companies. By concentrating resources and support in these areas, the government can stimulate local economies, generate employment opportunities, and enhance the overall investment climate. This targeted approach not only boosts economic activity in the designated zones but also has the potential to uplift surrounding regions through job creation and increased demand for local goods and services.

Moreover, the establishment of SEZs can promote innovation and technological advancement. By attracting a diverse range of industries, from manufacturing to technology, SEZs can facilitate knowledge transfer and collaboration between companies. This can lead to the development of new products, services, and processes, enhancing Indonesia's competitiveness in the global market. Additionally, as businesses flourish within SEZs, they can serve as hubs of economic activity that attract further investment and talent, creating a positive feedback loop of growth and development.

However, it is essential to ensure that the benefits of SEZs are distributed equitably across regions. While these zones can drive economic growth, there is a risk of exacerbating regional disparities if the surrounding areas do not receive adequate support. Therefore, the government must implement complementary policies that promote infrastructure development, education, and capacity building in adjacent regions. By adopting a holistic approach to economic development, Indonesia can harness the potential of SEZs while ensuring that all communities share in the benefits of economic progress.

SEZ managers can be in the form of state-owned or regional enterprises, cooperative-owned enterprises, private business entities, or joint ventures between the private sector and/or cooperatives with the government, provincial local governments, or district/city local governments. As of March 2022, there are 19 SEZs in Indonesia; one SEZ that has been revoked its status, namely the Tanjung Api-Api SEZ, four new SEZs, and fourteen SEZs that have been operating. SEZs are categorized into two types: Industrial SEZs and Tourism SEZs. (National Council of Special Economic Zones, 2022).

Table 1.1
Categorized Special Economic Zones

No.	SEZ Industry	No	SEZ Tourist
1	Arun Lhokseumawe SEZ	1	Nongsa SEZ*
2	Sei Mangkei SEZ	2	Tanjung Kelayang SEZ
3	Batam Areo Technic SEZ*	3	Tanjung Lesung SEZ
4	Galang Batang SEZ	4	Lido SEZ*
5	Kendal SEZ	5	Singhasari SEZ*
6	Gresik SEZ*	6	Mandalika SEZ
7	MBTK SEZ	7	Likupang SEZ*
8	Palu SEZ	8	Morotai SEZ
9	Bitung SEZ		
10	Sorong SEZ		
11	Tanjung Api-Api SEZ*		

Source: National Council of Special Economic Zones, 2022

Based on the 2021 Special Economic Zone Development Report released by the National Council of Special Economic Zones of the Republic of Indonesia, out of a total of 19 Special Economic Zones (SEZs) in 2021, there are four SEZs that are considered to have optimal performance by the National Council of SEZs. The SEZs are the Galang Batang SEZ, Kendal SEZ, Mandalika SEZ, and Sei Mangkei SEZ. (National Council of Special Economic Zones, 2022).

Various theories posit that other development goals can be achieved through high economic growth, primarily via a trickle-down effect. According to these theories, economic growth influences every aspect of development, suggesting that the pace of economic expansion is indicative of improvements in people's living standards. However, this notion holds true only when all productive members of society are actively engaged in economic activities. In reality, much of the economic growth is often driven by a small elite group, primarily composed of capital owners, leading to significant disparities in wealth distribution.

Moreover, the situation becomes more problematic when economic growth is pursued at the expense of community interests and environmental sustainability. This scenario highlights the limitations of traditional growth models, which may prioritize profit over social equity and ecological health. As economic activities expand, they can lead to environmental degradation, displacement of communities, and a loss of cultural heritage, ultimately undermining the very foundations of sustainable development.

To mitigate these adverse effects, it is crucial to adopt a more holistic approach to economic development, particularly in the context of industrial estates like Sei Mangkei. This necessitates a socioeconomic perspective that considers the needs and rights of local communities, as well as environmental sustainability. Stakeholder engagement is vital in this process, allowing communities to voice their concerns and aspirations, which can lead to more equitable outcomes. By involving local populations in decision-making processes, the development initiatives can be aligned more closely with the interests of those affected.

Furthermore, integrating social and environmental considerations into the planning and implementation of industrial developments can enhance their sustainability. For example, initiatives aimed at promoting local entrepreneurship, creating job opportunities, and investing in education can empower communities and contribute to more inclusive growth. By ensuring that economic development does not come at the cost of community well-being and ecological integrity, Indonesia can pave the way for a more balanced and sustainable future that benefits all its citizens. (Ghifary et al., 2022).

The Sei Mangkei SEZ located in Simalungun Regency began operating on January 27, 2015 with a land area of 2,002.77 hectares (Kiser, 2020). In 2021, this area has attracted investment of IDR 6.22 trillion and absorbed a workforce of 1,889 people. The main goal of the Sei Mangkei SEZ is to become a center for the development of the downstream palm oil and rubber industry, and this area is located around the center of agro-raw materials, close to the Strait of Malacca and has logistics and tourism businesses, with an area of 2,007 hectares with a land use of 295 hectares or 15.27%, thus opening up additional industrial potential. (National Council of Special Economic Zones, 2022).

Conceptually, SEZs are designed to accelerate regional development and become an innovative model in encouraging economic growth. The results of research by Widianto et al., (2021) show that the Sei Mangkei SEZ has a significant impact on increasing the GDP of Simalungun Regency by 2,798.66 billion rupiah.

The development cost of the Sei Mangkei SEZ reached 5,384.4 billion rupiah, with a benefit-to-cost ratio of 0.52. This less-than-optimal impact can be an evaluation material for the Government to increase the effectiveness of SEZ policies.

Then in the study, Customs and Excise Perspective et al., (2023), showed that the Sei Mangkei SEZ had a significant impact on the growth of GDP in the sub-districts in Simalungun Regency, the GDP per capita in the sub-districts in the Sei Mangkei SEZ increased by 0.06 percent higher than the sub-districts in Pematang Siantar City that did not have SEZs, in the period after the SEZ operates. However, the impact of this increase in GDP growth is relatively small. The results of these two studies show that the Sei Mangkei SEZ has a significant impact even though it is relatively small. Based on the description above, there are two studies with different years, so the researcher wants to evaluate the current economic growth of the Sei Mangkei SEZ.

As the results of Silvia's (2015) research show that the Sei Mangke SEZ has a positive impact on the community. With the existence of the Sei Mangke SEZ, it expands employment opportunities so that unemployment is reduced. In the past year, unemployment has decreased by 780 people, in line with the TPT which fell to 5.10% in August 2018. Judging from the level of education, TPT for public high schools (SMA) still dominates the results of the National Socio-Economic Survey (Susenas) conducted in March 2018 showing that the number of poor people in Simalungun Regency is 80,300 people or 9.31% of the total population. This condition shows that the number and percentage of poor people in Simalungun have decreased There is a decrease in the number of poor people by 11,050 people with a decrease in the percentage of poor people by 1.34 points. (Devi S.S 2018). Therefore, this research was carried out as a discussion related to the potential for economic development based on the Sei Mangkei Simalungun SEZ.

Hariyoko & Puspaningtyas (2019) ased on the Location Quotient analysis, it can be seen that the three main potentials of the local economy are the company's service sector (LQ = 3.056); and the sector of providing accommodation and food drink (LQ = 2,818); financial and insurance sector (LQ = 1,937). While the three main sectors that are competitive are large and retail trade (SS = 11,172.2); car and motorcycle repair sector (SS = 8,113,6); and the sector of providing accommodation and fooddrink and processing industries (SS = 7,616,7). It can be concluded that the leading sectors and competitive sectors can be used as the basis for accelerating the economic development of Surabaya City. Economic development essentially aims to improve people's welfare. The analysis of local economic potential is crucial for understanding and fostering regional development. One widely used method for identifying potential economic sectors is the Location Quotient (LQ) analysis. Chiang (2018) said that LQ is a simple ratio used to determine the concentration or dominance of an industry in a region compared to a larger reference area (Morrissey, 2014).

Flegg & Tohmo (2016) said that Several studies have employed LQ analysis to assess regional economic potential. For instance, Crawley et al. (2013) used LQ in combination with shift-share analysis to identify growing regional industries in the United States. Their findings highlighted the importance of understanding local industrial structures for effective economic development strategies.

In the context of Indonesian regional development, Susanto (2020) applied Location Quotient (LQ) analysis to identify leading sectors in East Java Province. This analytical approach allowed for the assessment of economic activities relative to the national average, providing insights into sectors where East Java holds a competitive advantage. The study revealed that the manufacturing industry and trade sectors emerged as the most dominant contributors to the region's economy.

These findings suggest that policymakers should prioritize these sectors in their development strategies. For instance, enhancing support for the manufacturing industry could involve investing in infrastructure improvements, promoting technology adoption, and providing training programs to boost the skills of the workforce. By fostering innovation and efficiency within the manufacturing sector, East Java could increase its production capacity and competitiveness on both national and international stages.

Similarly, the trade sector's prominence highlights the importance of improving logistics and distribution networks. Efficient transportation systems and access to markets are crucial for facilitating trade activities. Policies aimed at reducing trade barriers and improving market access can further stimulate growth in this sector. Additionally, encouraging local entrepreneurship in trade-related businesses can diversify the economy and create more job opportunities for the local population.

Overall, Susanto's analysis underscores the need for a targeted approach in regional development initiatives. By focusing on the identified leading sectors, East Java Province can leverage its strengths, address challenges, and promote sustainable economic growth that benefits all segments of society. This strategic alignment can contribute to a more equitable distribution of economic gains across the region, ultimately supporting broader national development goals.

Similarly, Puspa et al. (2018) utilized LQ and shift-share analysis to examine the economic base and competitiveness of sectors in Banyumas Regency. Their research provided valuable insights into sector-specific growth patterns and regional specializations. Isserman (2017) in the application of LQ analysis in Special Economic Zones (SEZs) like Sei Mangkei can provide crucial information about the concentration of industries and potential areas for development. As Zheng et al. (2016) demonstrated in their study of Chinese SEZs, understanding the industrial composition and specialization within these zones is key to maximizing their economic impact.

Arsyad & Violin (2021) and Agarwal & Datta (2017) The focus of this research is to analyze the potential of the economic sectors in Maros Regency by looking at the role of the sector/industry in the parent region/upper region in this case South Sulawesi Province and to find out changes or shifts in certain sectors in the regional and local economy compared to the economy of the parent region/overlying region in the 2015-2019 period. By using the Location Quotient (LQ) approach and shift-share analysis, the objectives of this study are to find potential economic sectors in Maros Regency and determine the basic economic sector and non-basic economic sector also to determine changes and shifts in certain sectors in the economy. The regional economy of Maros Regency is compared with the wider economy in this case South Sulawesi Province in order to map the focus of sectoral economic development in Maros Regency. The stages in this research include preparation and preparation of proposals, preparation of research instruments, implementation of research, collecting data, then preparing reports and discussing research results.

METHODOLOGY

The approach used in this research is a qualitative approach in which a qualitative approach is a research process and understanding based on a methodology that investigates a social phenomenon Qualitative research is an approach in conducting research that is oriented towards natural phenomena or symptoms. Qualitative research is basic and naturalistic or naturalistic in nature. (Batubara, 2017).

According to Sugiyono, (2017), Descriptive research aims to determine the value of independent variables, either one or more (independent) variables, without making comparisons or connecting with other variables. Sugiyono also stated that qualitative research methods are used to examine the conditions of natural objects, where the researcher acts as the main instrument.

Data collection procedures are a strategic step in research, as the primary objective is to obtain relevant and reliable data. In qualitative research, data collection occurs under natural conditions, allowing for a deeper understanding of the social context. In this study, the data source is secondary data, and the collection is primarily based on literature review. According to Sugiyono (2018), literature study encompasses theoretical studies, references, and various scientific literature that relate to the culture, values, and norms prevalent in the social situation being examined. The introductory phase of this research involves gathering written data through extensive reading of literature that supports the research, including related journals and academic articles.

Ensuring data validity is crucial for the credibility of research findings. In this study, data validity was achieved using the Source Triangulation method. This method involves collecting data from a variety of different sources and employing the same technique to verify the credibility of the data. As noted by Ule et al. (2023), triangulation helps to confirm the accuracy of the information gathered by cross-referencing it against multiple sources.

Source triangulation allows researchers to explore the truthfulness of specific information through diverse methods and sources of data acquisition. For instance, besides relying on interviews and observations, researchers can incorporate participant observation, written documents, archival data, historical records, official documents, personal notes, and visual materials such as photographs. Each method yields unique evidence or data, contributing distinct insights into the phenomenon being studied. This multifaceted approach enhances the overall validity and reliability of the research findings, allowing for a richer and more nuanced understanding of the cultural and social dynamics at play.

By combining various data sources, researchers can build a comprehensive picture of the subject matter, addressing potential biases that may arise from relying on a single source. This thorough approach not only strengthens the research outcomes but also ensures that the findings reflect a broader range of perspectives and experiences. Ultimately, robust data collection procedures, coupled with effective triangulation strategies, play a vital role in achieving credible and insightful research results.

RESULTS AND DISCUSSION

Suparmoko (2002) defines regional economic potential as the inherent economic capacity of a region that is both possible and feasible to develop. This potential serves as a foundation for creating sustainable livelihoods for the local community while fostering overall regional economic growth. By tapping into these resources and capabilities, regions can enhance their economic independence, allowing for self-sustained development that aligns with the needs and aspirations of their inhabitants.

The identification of regional economic potential involves assessing various factors, including natural resources, labor availability, infrastructure, and existing industries. By recognizing and leveraging these assets, local governments and stakeholders can formulate targeted development strategies that capitalize on the unique characteristics of the region. This strategic approach not only boosts economic activities but also ensures that growth is inclusive, benefiting a broader segment of the population.

Moreover, the development of regional economic potential can lead to the creation of jobs, improved quality of life, and increased competitiveness in the global market. It encourages innovation and entrepreneurship by fostering an environment where local businesses can thrive. Ultimately, a well-defined understanding of regional economic potential is crucial for implementing policies that promote sustainable economic growth while addressing local needs and challenges.

Development not only focuses on economic aspects, but also non-economic aspects. The interrelated relationships between so-called economic factors and non-economic factors are called social systems. Included in non-economic factors are the attitudes of people and individuals in viewing life (cultural norms), work, and authority: administrative, legal, and bureaucratic structures in the government sector, the level of people's participation in the formulation of decisions and development activities; as well as flexibility or rigidity of economic and social stratification (Todaro, 2006).

According to Rachbini (2001), systematic social change is also very necessary so that human and non-human factors can be integrated towards the expected self-sustained growth. Social change is also an effort to aggregate all the potential of the existing community.

Several previous studies have discussed the potential for economic development in various regions. Research conducted by Suhana (2012) entitled The Impact of Medan Star Industrial Estate on the Social and Economic Development of the Surrounding Community (Tanjung District) which stated that this development has an impact on the welfare of the community from the increase in living standards both in terms of health, education and per capita expenditure has shown a significant influence on the social and economic development of the community near the Medan Star area.

Another research, S. Enny Niatta S.L (2010) conducted a study with the same topic entitled Analysis of the Role of Oil Palm Plantations in Regional Development, stating that PTP Nusantara II contributed to increasing the country's foreign exchange, reducing the unemployment rate in the regions by providing jobs, as well as increasing community income and being able to encourage changes in other sectors besides regional development. Such as socio-cultural and economic changes in the community, both positive and negative changes.

Sei Mangkei is one of the villages (nagori) located in Bosar Maligas District, Simalungun Regency, North Sumatra Province. Nagori Sei Mangkei is located right on the border between Bosar Maligas District and Bandar District. This area is located about 165 kilometers to the southeast of Medan City. The Sei Mangkei Special Economic Zone has an area of 2,002.77 Ha, with the following boundaries:

a) The North is bordered by the Sacred Village of Cuba,

b) The South is adjacent to PTPN IV (Persero) Kebun Mayan

c) The East is bordered by PTPN IV (Persero) Gunung Bayu Plantation

d) The West is bordered by the Bah Bolon River

The Special Economic Zone (SEZ) that has been determined by the government is the Sei Mangkei SEZ, through Government Regulation Number 29 of 2012, which is located in Bosar Maligas District, Simalungun Regency, North Sumatra Province, with an area of 2,002.77 hectares. The Sei Mangkei SEZ is planned to consist of three zones, namely industry, logistics, and tourism. Suryana 92 The determination of the Sei Mangkei SEZ is in accordance with the government's policy in developing new industrial estates that are directed at natural resources- and mineral-based industries and take advantage of strategic geographical locations.

According to the Directorate General of Industrial Regional Development of the Ministry of Industry, the Sei Mangkei Industrial Estate (KISM), which is part of the Sei Mangkei SEZ, is part of the development of industrial estates in the Sumatra economic corridor (Director General of Industrial Regional Development 2013).

Economic development in the Sei Mangkei Special Economic Zone (SEZ) in Simalungun Regency is a clear example of regional efforts in increasing its economic potential. The Sei Mangkei SEZ, which focuses on downstream industries such as palm oil and rubber, plays an important role in regional economic development. The development of infrastructure and industrial facilities in the Sei Mangkei SEZ aims to attract investment, increase production, and create new jobs.

According to the Deputy Minister of Trade, the Sei Mangkei SEZ is projected to absorb 84,000 workers by 2025 (Ministry of Trade, March 2012). Based on the latest information, seven investors will soon invest their capital in the Sei Mangkei SEZ. The investors include PT Unilever Oleochemical Indonesia (investment in oleochemicals), PT Sinergi Oleo Nusantara (investment in edible oil plant and methyl ether/biodiesel plant), PT Cipta Buana Utama Mandiri (biomicronutrient NPK fertilizer factory), PT JVL Varanasi Nusantara Pertama (for refinery construction), PT Energy Uni Resources Pte Ltd (for refinery construction), PTPN III-PTPN IV (CPO-Crude Palm Oil Processing Plant). The total land demand for all these investments is 140.35 hectares.

Advantages of Agglomeration and Spread Effects The development of the Sei Mangkei SEZ can produce agglomeration benefits that provide three forms of benefits:

1. Economies of Scale: Occurs due to the availability of raw materials in the Sei Mangkei SEZ and the creation of markets in related locations
2. Localization Economy: Transportation costs that were initially borne by themselves in the surrounding area became cheaper because they were borne together.
3. Advantages of Using Shared Facilities (Urbanization Economy): Facilities such as electricity, warehouses, transportation fleets, and water become agglomeration centers, increasing efficiency and reducing costs.

Local governments, including the North Sumatra Provincial Government and the Simalungun Regency Government, have largely depended on the Central Government for the management and development of the Sei Mangkei Special Economic Zone (SEZ). This dependency has resulted in promotional and marketing activities not being executed optimally. As a consequence, awareness of the SEZ's potential among investors remains limited, hindering its growth and development.

Moreover, the involvement of the private sector, particularly through PT KINRA as a subsidiary of PTPN III, has not proven effective in promoting investment opportunities within the Sei Mangkei SEZ. The lack of proactive strategies and marketing efforts from PT KINRA has led to a missed opportunity in attracting potential investors who could contribute to the region's economic development. Without a robust promotional campaign, the SEZ risks underutilization of its facilities and resources, which could otherwise serve as a catalyst for regional economic growth.

To enhance the effectiveness of the SEZ, it is crucial for local governments and PT KINRA to adopt a more collaborative and proactive approach. This could involve developing targeted marketing strategies that highlight the unique advantages of the Sei Mangkei SEZ, such as its strategic location, available infrastructure, and incentives for investors. Additionally, fostering partnerships with local businesses and community stakeholders can help create a more inclusive environment that encourages investment and supports local economic development initiatives.

Ultimately, addressing these challenges requires a shift in strategy from reliance on central government support to a more autonomous, localized approach that prioritizes effective promotion and stakeholder engagement. By doing so, the Sei Mangkei SEZ can realize its full potential as a driving force for economic growth in the region, benefiting both local communities and investors alike.

The development of the Sei Mangkei SEZ is also constrained by the lack of integration of the area with other industrial estates such as the Kuala Tanjung Industrial Estate, especially in terms of accelerating the development of the Kuala Tanjung Port. In addition, the Sei Mangkei SEZ is quite close to international shipping lanes, but it still needs better integration to maximize its logistical potential.

The production process in the Sei Mangkei SEZ needs to pay attention to the negative impacts that may arise on society and the environment, such as production waste, environmental pollution, noise, and other disturbances. The concept of Environmental Impact Analysis (EIA) must be applied to manage chemicals such as Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), and Social Benefit Ratio (SBR) so that the Sei Mangkei SEZ can become an environmentally friendly industrial area.

Economic activities that are extraction, fabrication and consumption will affect the ability of nature in natural resource providers (Gupito, 2012). This means that the carrying capacity of the environment does not only lie in the ability of the environment to meet human needs, but also in the ability to accept the burden of pollution in the development process and production activities (Ministry of Environment, 2010). The process of economic growth that occurs in Indonesia leads to public awareness about understanding how important the quality of a good environment is. At this time, there is an increase in income accompanied by the use of high natural resources, this will certainly lead to environmental damage and the demand for the rate of reducing environmental damage is very slow.

Wang & Hofe (2018) In overcoming this problem, there needs to be good cooperation between government agencies and the surrounding community to keep each other safe so that economic development runs safely so that it does not interfere with community activities around the Sei Mangkei SEZ area. This is because the potential for the development of the Sei Mangkei SEZ in the community tends to have a positive impact in the future. In public perception, Sei Mangkei has the potential to become a growth center area by making the area a SEZ, where the existence of the Sei Mangkei SEZ will stimulate the growth and development of areas around the Sei Mangkei SEZ. In relation to the social and economic development of the community, the existence of the Sei Mangkei SEZ will improve the standard of living of the community.

To further analyze the economic potential of the Sei Mangkei Special Economic Zone, we can apply the Location Quotient (LQ) method. This technique allows us to identify which sectors are potentially leading in the region compared to the larger reference area (in this case, North Sumatra Province).

Ismail (2018) utilized Location Quotient (LQ) analysis to examine the economic base of Medan City, revealing that the financial services and information-communication sectors were the most concentrated. This analytical approach is valuable not only for urban contexts but can also be effectively applied to rural areas, such as Simalungun Regency, to gain insights into its economic structure, especially in relation to the Sei Mangkei Special Economic Zone (SEZ).

By conducting an LQ analysis in Simalungun Regency, researchers can identify key sectors that exhibit a comparative advantage and are crucial for local economic development. This involves comparing the share of each sector's employment or output in Simalungun with the corresponding share at a broader regional or national level. Such an analysis can highlight which sectors are thriving, potentially indicating areas for investment and growth, as well as informing policy decisions aimed at enhancing local economic resilience.

Understanding the economic structure of Simalungun in the context of the Sei Mangkei SEZ can help stakeholders leverage the SEZ's advantages—such as infrastructure improvements, investment incentives, and enhanced market access. This strategic alignment can stimulate economic activities in Simalungun, facilitating job creation and contributing to overall regional development. Additionally, it provides a basis for designing tailored interventions that support the growth of key sectors while ensuring that the benefits of development reach local communities.

In a study of industrial clusters in Java, Maryunani and Mirzanti (2015) used LQ to identify potential sectors for cluster development. Their findings emphasized the importance of understanding regional specializations for targeted economic policies.

Tian (2021) goes with that he LQ method, when combined with other analytical tools, can provide a more comprehensive picture of regional economic potential. For instance, Stimson et al. (2006) propose integrating LQ with shift-share analysis and input-output models for a more robust regional economic analysis framework.

In the context of SEZs, Zeng (2019) highlights the importance of understanding local industrial structures and potential linkages. An LQ analysis of Simalungun Regency, focusing on the industries present in Sei Mangkei SEZ, could reveal potential synergies and areas for further development.

Moreover, as Morrissey (2016) points out, LQ analysis can be particularly useful in identifying potential export industries. This could be crucial for Sei Mangkei SEZ, given its focus on palm oil and rubber industries, which are significant export commodities for Indonesia.

However, it's important to note the limitations of LQ analysis. As Billings and Johnson (2012) argue, LQ should be used in conjunction with other methods for a more accurate picture of regional economic dynamics. They suggest complementing LQ with measures of absolute size and growth of industries.

CONCLUSIONS

The conclusion in this article is that urbanization presents challenges such as overcrowding and infrastructure deficiencies, which require infrastructure development solutions. The establishment of Sei Mangkei SEZ in Simalungun aims to attract investment, increase foreign exchange and create jobs. Despite these positive contributions, the impact has not fully met the expectations of the community. In 2023, Simalungun's economy grew by 5.07 percent, dominated by the agriculture, forestry and fisheries sectors. Challenges to SEZ development include promotion, integration with other industrial areas, labor issues, and land issues.

The implementation of AMDAL is important to ensure environmentally friendly industries. Agglomeration advantages of the Sei Mangkei SEZ include large scale, localization, and use of shared facilities. Simalungun's economic potential can continue to grow through the development strategies in the RPJPD and RPJMD, encouraging sustainable and self-sustaining economic growth, and providing benefits to local communities.

The focus on economic development in Sei Mangkei is relevant to increase the added value of local agricultural products through downstream palm oil and rubber industries. The development of Sei Mangkei SEZ can generate key agglomeration benefits such as large scale from the availability of raw materials, cheaper transportation costs, and the use of shared facilities that increase efficiency. This development strategy will strengthen Simalungun's leading sectors, promoting sustainable and self-sustaining economic growth.

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