Tec Empresarial
P-ISSN: 1659-2395; E-ISSN: 1659-3359

SPATIAL ECONOMIC STUDY OF INDUSTRIAL REGIONAL DEVELOPMENT IN SIMALUNGUN DISTRICT

Anggiat Sinurat, Maria S.M. Purba, Tioner Purba, Ira Modifa Tarigan, Lenny M Ambarita, Resna Napitu

[1] Graduate School, University of Simalungun Pematangsiantar (USI) Jl. Sisingamangaraja Barat Pematangsiantar Indonesia - Zip Code 21137

[2] Graduate School, University of Simalungun (USI) Jl. Sisingamangaraja Barat Pematangsiantar Indonesia - Zip Code 21137.

[3] Graduate School, University of Simalungun (USI) Jl. Sisingamangaraja Barat Pematangsiantar Indonesia - Zip Code 21137

[4] Faculty of Engineering, University of Simalungun (USI) Jl. Sisingamangaraja Barat Pematangsiantar Indonesia - Zip Code 21137

[5] Graduate School, University of Simalungun (USI) Jl. Sisingamangaraja Barat Pematangsiantar Indonesia - Zip Code 21137

[6] Faculty of Economics, University of Simalungun (USI) Jl. Sisingamangaraja Barat Pematangsiantar Indonesia - Zip Code 21137

ABSTRACT

This article is part of the project to compile the Simalungun Regency Industrial Development Plan (RPIK). as a form of tridharma activities of Simalungun University lecturers. The research aims to find out and analyze what is the target of industrial regionalization which is realized from the development of the Industrial Growth Center Area (WPPI), the development of Industrial Designation Areas (KPI), the development of Regional Industrial Estates (KI) and the development of Small and Medium Industrial Centers (Sentra SME). The research concluded: (1) Based on the approach of industrial allotment land area in the RTRW, the availability of raw materials, labor and supporting infrastructure that Tapian Dolok Sub-district and Bandar Sub-district have the most potential to immediately become an industrial area as an SME Center in; (2) The types of commodities that are directed to be developed at KI in Tapian Dolok Sub-district include Food / Beverage Processing SME Centers, Agricultural Machinery / Equipment Industry, Rubber Processing Industry; and Plastic Processing Industry. Meanwhile, KI in Bandar Sub-district is directed to develop Food/Beverage Processing SME Centers, the Furniture Industry, the Rubber Processing Industry, and Paving Blocks. Meanwhile, in the other 9 sub-districts, the existing and potential SME centers should continue to be developed. It is recommended that the indicators of the success of Industrial Development in the Simalungun RPIK 2023-2043 and its 7 targets, which are expected to achieve double-digit growth from average growth of 9 percent in 2021 to around 11 percent in 2042 and the contribution of the industrial sector in GRDP to reach 20 percent (from 11.58 percent in 2021 will increase to around 32 percent in 2042), can only be achieved if the industrial regionalization program is immediately implemented.

Keywords: Spatial Economy, Industrial Designation Area, Simalungun Regency

INTRODUCTION

The development of industrial policy in Simalungun Regency as a secondary sector in the economy has become an important planning agenda because the industry will act as an economic

leverage, and has thrust and attraction to the upstream and downstream sectors. The industry is one of the drivers of regional economic growth because it can contribute significantly to adding utility and added value of goods or services to Gross Regional Domestic Revenue (GRDP), employment, utilization of surplus inputs, sources of foreign exchange from exports, and the formation of regional commodity competitiveness in domestic and global markets.

The Government of the Republic of Indonesia has prepared the National Industrial Development Master Plan (RIPIN) 2015-2035 document, which has been stipulated by Government Regulation Number 14 of 2015 and was prepared as the implementation of the mandate of Law Number 3 of 2014 concerning Industry. The document is a reference for the government and local governments as well as industry players in planning and developing their industries. The National Industrial Policy (KIN) outlines that industrial development must consider all potential industrial resources in the region by the direction of the Regional Spatial Plan (RTRW).

Simalungun Regency has the potential for natural and human resources that can be mobilized as regional development capital, a surplus of various superior agricultural commodities that have potential as inputs to the industrial sector, and other climatological potential. The potential of these resources need to be planned for effective, efficient, and appropriate utilization to produce added value products that are enjoyed by the population through the downstream of agricultural production through the development of industrial regions, such as WPPI, KPI, KI, and SME Centers which are specific to local government affairs.

In the policy of planning the development or development of industry in the region must fulfill the economic scale factor of business viewed from various aspects, such as: (a) Ease of obtaining ready-to-build/lease plots as the location for the establishment of factories that have been equipped with various main and supporting infrastructure; (b) Providing legal certainty of the location of the business place, to avoid all forms of disturbance and the emergence of a sense of confidence for the business world with the birth of the Job Creation Law; and (c) Overcoming spatial problems, while maintaining adverse impacts on the environment.

Economic and spatial aspects in industrial zoning are important dimensions that must be adhered to to minimize ecological, economic, and social impacts as well as land use conflicts. If industrial activities can be directed to the location of their designation, it will further improve the use of space and space control, especially in areas that allocate land as the location of industrial centers (industrial lots as clusters). In addition, the provision of industrial zoning will create new growth centers as an agglomeration effect. If the upstream sector develops, it will stimulate several downstream sectors to develop in the future. The growth of downstream sectors is due to the increase in raw materials provided by the upstream sector (Tarigan, 2004).

The formulation of industrial development policies in the Simalungun Regency area as a derivative of the KIN and KIP of North Sumatra is carried out on a planning basis, the mechanism of which begins with the formation of a Regional Regulation (Perda) so that implementation, guidance and evaluation run effectively as a development scenario that is successful and efficient, so it is necessary to prepare 3 documents, namely: Academic Script, Draft Regional Regulation on RPIK Simalungun, and RPIK 2023-2043 document which is then stipulated in the Regional Regulation by the Regent together with the Simalungun Regency DPRD as a planning document so that regional industrial development has a road map, is directed, targeted, appropriate and able to grow into a basic sector in the regional economic structure, contributing to increasing Regional Original Revenue and improving community welfare.

One of the problems faced so far in industrial development in Simalungun Regency is the absence of specific policies and regulations regarding the Simalungun RPIK which regulates industrial regionalization as a fulfillment of the spatial economic aspects of industrial business activities to be able to grow and contribute optimally in the regional economic structure as part of the national economic system.

1.2 Research Problem Formulation

What is the industrial regional program plan of Simalungun Regency to increase specific spatial economic growth that needs to be regulated in the Simalungun RPIK 2023-2043?

1.2 Research Objectives

The purpose of the Spatial Economic study of the Industrial Region of Simalungun Regency is to determine and analyze the industrial regional program formulated in the Simalungun RPIK document for 2023-2043.

1.3 Research Benefits

The results of this study will be of practical use to the government of Simalungun Regency in developing priority industrial areas between WPPI, KPI, KI, and SME Centers. For investors in directing their choice of industrial business investment locations in the industrial area determined in the spatial pattern in the 2023-2043 Simalungun Regency RTRW.

1.4 Scope of Research

The scope of discussion in this study is limited to the spatial economic aspects of industrial regionalization, especially those that are the material content of the Simalungun RPIK 2023-2043.

II OVERVIEW

2.1 Concept of Spatial Economy

The definition of spatial economics (regional economics) is almost the same as the definition of economics in general, namely how humans choose various alternative limited resources to meet their needs to get satisfaction or optimal results. The main objective of spatial economics in addition to the objectives of economics in general is to answer the question of which part of the region should an activity to be carried out be selected, and why the choice is determined in that part of the region. The objectives of Spatial Economics are almost the same as the objectives of economics in general. According to Tarigan (2004) who cited Ferguson (1965), the main objectives of economic policy are: (1) full employment; (2) economic growth; and (3) price stability. A more detailed explanation of the 3 objectives is: (1) Creating full employment or high labor force participation; (2) Economic growth; (3) Price stability (stability of prices of goods and services or control of currency exchange rates); (4) Environmental sustainability; (5) Equitable development within the region or control of inequality between regions or sub-regions; (6) Establishing regional leading sectors; (7) Creating more harmonious inter-sectoral linkages within the region; and (8) Meeting sufficient food needs or a surplus of regional food sovereignty.

2.2 Definition and Objectives of Industrial Development

Sumaatmadja (1988), in a broad sense industry is all human activities utilizing natural resources, while in a narrow sense industry is an economic activity that processes raw materials into semi-finished materials or final finished goods, which aims to increase the added value of

natural resources. Furthermore, Dumairy (1996), that industry can mean similar companies that gather, and industry can also be interpreted as the economic sector in which there are productive activities that process raw materials into finished goods semi-finished goods, or final finished goods. The main parts of industrial activity are called industrial groups. There are 3 main industry groups, namely upstream industry groups or basic industry groups, downstream industry groups, and small industry groups. Based on the amount of labor and investment, small, medium, and large industry groups are known.

It is concluded that the manufacturing industry is an economic activity in the secondary sector after the primary sector such as agriculture and quarrying. Activities in the industry are the processing (manufacturing)of raw materials into semi-finished and/or finished goods to increase the added value of products through the transformation of the form of goods including industrial services.

2.3 Regionalization of Industry

The policy of increasing the equity and distribution of industrial development is a challenge to accelerate industrial development which is carried out in an integrated manner with other economic sectors which can be done with 3 approaches. First, building regional growth centers, (industrial clusters as prime movers). Then, improve the ability of the community in the industrial location so that it will have a positive impact on industrial development that is increasingly efficient and effective and provides a multiplier effect to various sectors of the economy. Second, increasing investment in the industrial sector and IP infrastructure by the private sector and the government. Infrastructure development also has an impact on the spatial economic structure due to increased connectivity. Third, increase market control (Law Number 3 of 2014 concerning Industry).

Industrial regionalization can be implemented through the development of (1) WPPI as an area design with an industrial development-based pattern by utilizing the potential of regional resources with an increase in industrial infrastructure index and connectivity that has strong economic linkages; (2) development and development of KPI; (3) development and development of KI, namely the area where the agglomeration of industrial activities is equipped with supporting facilities and infrastructure developed and managed by licensed industrial estate companies; and (4) development and or revitalization of SME Centers.

Presidential Decree No. 41 of 1996, what is meant by industrial estate is an area where industrial activities are concentrated equipped with main and supporting infrastructure and facilities developed and managed by an industrial estate company that has an Industrial Estate Business license. According to Dr. Marsudi Djojodipuro (1994), an industrial estate is a plot of land that has been divided into lots with a certain area according to the needs of entrepreneurs for a place to build a factory. The area has at least a road between lots, drainage for waste disposal, and an electricity substation that is large enough to accommodate the demand of industrial entrepreneurs who will choose to be located in that place.

In conclusion, KPI is a stretch of land consisting of lots accompanied by the main and supporting infrastructure for industrial activities, provided by a manager who has a business license for rent or sale to potential investors where the land is specifically designated for the location of processing industry activities according to the spatial pattern in the Regency / City RTRW stipulated through regional regulations.

SME Center Development is the construction of a new center by a management institution within the KPI or land planned to become a KPI (minimum land area of 5,000m2 on

1 stretch) through integrated planning (by design), separate from the residence of industry players. Scope of SME Center Development, namely physical development of production facilities, coaching facilities, and other supporting facilities; and provision of machinery and equipment to complement production facilities and coaching facilities for SME. Meanwhile, the Revitalization of SME Centers is an activity to improve facilities and infrastructure in SME centers that have been built, including the establishment or physical rehabilitation of production facilities and/or other supporting facilities needed for the smooth running of the center, and the provision and addition of machinery and equipment to complement the coaching facilities and/or production facilities of SME.

2.4 Industrial Growth Centers and Inter-Industry Linkages

The term industrial growth center is known in the theory of Perroux (1970), this theory is the basis of industrial development policy strategies in the region that are widely applied by countries and regions today. He said that growth occurs in certain places (growth centers) with different levels. The essence of Perroux's (1970) theory is: (1) a leading industry arises which is the main driving industry of the development process due to the interrelationship between industries that are related to other economic sectors; (2) The concentration of industry in a region will give birth to a growth center (agglomeration) which influences each other due to the efficiency of industrial operating expenses; and (3) The economy is a combination of a relatively active industrial system (leading industry) with relatively passive industries. Furthermore, it is said that in terms of location, regional economic development is uneven and there tends to be a process of agglomeration in growth centers. Industrial agglomeration has certain benefits, namely the benefits of economies of scale (a large number of businesses) and the benefits of saving business operating costs.

Some of the benefits of agglomeration in certain locations are explained as follows: (1) Internal Company Advantage, this advantage arises because there are indivisible factors of production that can only be obtained in certain quantities. If used in larger quantities, the production cost per unit will be lower than if used in smaller quantities; (2) Localization advantage, this advantage is related to the source of raw materials. This means that with the concentration of industry, each industry is a source or market for other industries; (3) External advantages, meaning that the agglomeration of several industries in one location will result in a lot of available manpower without the need for special training for a particular job and the easier it is to obtain professional personnel.

In addition, the agglomeration will also encourage the establishment of public service companies that are indispensable to industry, for example: electricity, drinking water, and banking on a larger scale. Because these companies are built on a large scale, costs can be reduced. In addition to these economies of scale, agglomeration has the added advantage of lowering transportation costs. The accumulation of industries in an area will encourage the establishment of transportation service companies with all their facilities. With these facilities, industries do not need to provide or operate their transportation services. Providing their transportation services is very expensive.

A good industrial area has a high attraction for investors to choose that location as a place to invest, so in the area, there will be many factories and warehouses. The positive impact of the agglomeration of industries in one area is that it will encourage the income of the surrounding community, sectoral economic growth in the upstream and downstream sectors, regional economic growth, and the back area of the area concerned, and can also improve the balance of

regional growth and development in a broader sense (Tarigan, 2004). The general theory of Losch (1954) attempts to show how economic activity should be organized in space. According to Dr. Hirschman (1970), the rapid growth of one or more industries encourages the expansion of other industries related to the industrial sector. These linkages can be backward linkages in the upstream industry, or forward linkages if the industry encourages investment in the upstream industry.

It is concluded that the choice of factory location in the industrial area provided by the manager will bring internal benefits to the company, localization benefits, and external benefits, all of which will save the cost of setting up the factory, efficiency of operating expenses, ease of obtaining professional labor and increase demand for goods produced by the industry and increase the attractiveness downstream and the thrust of the sector upstream to create a balance of economic growth in the region and its area of influence which will ultimately increase company income and community income.

2.5 Agro-Industry Development Concept

The economic structure of Simalungun Regency has begun to shift its concept from being dominated by the agricultural sector to around 51% of the total GRDP as a contribution from the agricultural sector. To increase the added value of the surplus of regional superior products, it is necessary to change the development paradigm and move forward to the next stage from the development of the agricultural sector to the industrial processing sector of superior agricultural commodities (downstream). As seen in several meetings and discussions, there is a political will of the local government of Simalungun Regency specifically for the development of the agro-industry which directs a balanced regional economy between the agricultural sector and the industrial sector.

The development of the concept of agro-industrial development, after the surplus of agricultural commodities will result in the agricultural sector and the industrial sector will support each other (Soekartawi, 1991). Arsyad (1985), agribusiness is a unity of business activities from one or all of the agricultural production chain, processing of products, and marketing. If agriculture is defined as a business that produces commodities in the primary sector, then its relationship with industry can be in the form of backward linkage or forward linkage.

It is concluded that the agro-industrial allotment area in Simalungun Regency needs to be developed through an industrial development policy based on superior agricultural products by forming new industrial centers for Small and Medium Industries by investing in the provision of industrial allotment areas equipped with the main and supporting infrastructure that forms interrelationships between agricultural business fields with industrial business fields and other business fields in an integrated manner, to produce high spatial economic growth and influence each other in a regional and national economic system.

III RESEARCH METHODOLOGY

3.1 Research location

The location of this research is Simalungun Regency, North Sumatra Province, Indonesia. The research locus is the Industry and Trade Office of Simalungun Regency in Pamatangraya. The geographical location of Simalungun Regency is at 02°36'05"-03°18'14" LU and 98°32'03"-99°35'03" East. Based on altitude, it is at an altitude of 0-1,400 meters above sea level where 75% of the land is on a slope of 0-15% so that has a strategic location and is in the Lake Toba area, Parapat. This district consists of 32 sub-districts, located at an altitude of 20 - 1,400 m above sea level (average 3,369 m). With topography, weather, and sufficient rainfall, it is famous as a rice-

producing area for national food security with the livelihood of the population dominated by food crop agriculture and plantations. The location of the Simalungun Regency area is in the lowlands to highlands, so the position of Research Methods and Approaches to the land slope also varies. The distribution of slope in the Simalungun Regency consists of flat slope (0-2%), gentle slope (2-15%), hilly (15-40%), and steep (>40%). The distribution of slope in the Simalungun Regency area from a total area of 437,250 ha consists of flat slope (0-2%) covering 236,176 ha (26.80%), gentle (2-15%) covering 92,387 ha (36.61%), undulating/hilly (15-40%) covering 82,252 ha (22.95%) and steep (>40%) covering 27,845 ha (13.63%).

3.2 Research Methods and Approaches

According to the method, this research is qualitative descriptive research. The unit of analysis of this research is the entire industrial system and subsystem of Simalungun Regency and its stakeholders. The method of this study is the case study method with surveying techniques, reviewing secondary data, in the form of regulations research results, and other references as well as studying related spatial economic aspects, such as the experiences of related industrial stakeholders and concepts relevant to regional industrial development.

3.3 Data and Data Collection Methods

Secondary data collection was carried out through documentation studies at BPS, documentation of the Academic Manuscript / Draft Regional Regulation / RPIK Simalungun Year 2022-2042, Simalungun District RTRW document (The revised Year 2022), the results of website searches of regulations related to the preparation of RPIK and regional superior product data, industrial potential from the Industry and Trade Office of Simalungun District. Primary data was obtained from industry stakeholders and Regional Apparatus apparatus who are members of the Simalungun RPIK Preparation Team Working Group in 2022, and information obtained from discussions and consultations with the Simalungun Regency DPRD and the North Sumatra Provincial Industry and Trade Office in Medan.

3.4 Data Analysis Technique

After secondary data in the form of qualitative data relevant to this study is collected, data analysis is then carried out. Data analysis is carried out by descriptive analysis and juridical and theoretical literature studies to obtain various information needed to formulate conclusions.

IV RESEARCH RESULTS AND DISCUSSION

4.1 Juridical Review

RPIK Simalungun 2023-2043 is one of the main sources in writing this article, its preparation is in line with the National Industrial Development Master Plan and National Industrial Policy, the North Sumatra Provincial Industrial Development Plan, and the North Sumatra Provincial Industrial Policy, taking into account the potential of regional industrial resources, by the RTRW and RPJP of Simalungun Regency, which still need to be discussed in more depth juridically further towards the concept of spatial economy.

This policy is needed to regulate the control of industrial areas productively and efficiently to accelerate industrial growth, both to meet domestic and export needs. In carrying out its industrial development policy in the Simalungun Regency area, it must refer to the provisions of Law Number 3 of 2014 Article 11 Paragraph (3), RPIK at least pays attention to

the district RTRW and harmony and balance with socio-economic activities and environmental carrying capacity.

By Article 62 of Law Number 3 of 2014, to support the realization of industrial development in Simalungun Regency, the regional government must ensure the availability of industrial infrastructure. Paragraph (3), industrial infrastructure at least includes (a) Industrial land in the form of KI and/or KPI; (b) Energy and electricity networks; (c) Telecommunication networks; (d) Water resources networks; (e). Sanitation; and (f) Transportation network facilities.

Article 63 Paragraph (1-2) of Law Number 3 Year 2014, to support efficient and effective industrial activities in the area of industrial growth centers, industrial estates are built as industrial infrastructure, and the industrial estate must be located in the KPI by the RTRW. It is further emphasized through Article 3 Paragraph (1) of the Decree of the Minister of Industry Number 171/M/SK/8/1993 concerning Guidelines for Location Direction for Industrial Activities, that industries that need to be limited and whose impact on the environment and society needs to be strictly monitored, must be located in the KI. Furthermore, the appeal of the Ministry of Industry of the Republic of Indonesia through Letter B/428/KPAII.3/PWI/VII/2022, that industrial activities must be located in Kl or in KPI in spatial planning if there is no KI, as well as Government Regulation Number 142 of 2015 concerning Industrial Estates, Government Regulation Number 5 of 2021 concerning the Implementation of Risk-Based Business Licensing, conveyed the following matters: (1) Based on Article 106 of Law Number 3 of 2014 and Article 36 of Government Regulation Number 142 of 2015 concerning Industrial Estates, and Article 65 of Government Regulation Number 5 of 2021 concerning the Implementation of Risk-Based Business Licensing, that Industrial Companies carrying out Industrial Business activities must be located in KI; (2) The obligation to be located in KI is exempted for large Industrial Companies that will carry out industry and be located in regencies / cities that do not yet have KI and have KI but all industrial lots in the Industrial Estate have been exhausted; and (3) In addition, exceptions to the obligation to be located in KI also apply to: (a) Small industries that do not have the potential to cause environmental pollution with a wide impact; or (b) Medium industries that do not have the potential to cause environmental pollution with a wide impact; or (c) Industries that use special raw materials and / or the production process requires a special location.

4.2 **Determination and Development of Regional Leading Industries;**

The regional industrial development program is carried out referring to the determination of targets and development programs for regional superior industries. The determination of the leading industry of Simalungun Regency was carried out through several stages, taking into account the criteria listed in Government Regulation Number 14 of 2015 concerning RIPIN 2015-2035 and Regulation of the Minister of Home Affairs Number 9 of 2014 concerning Regional Leading Products (PUD), Decree of the Regent of Simalungun Number 188.45-2958/24.4/2019 concerning Determination of PUD, as well as direct observation of industrial potential in the region. Regulation of the Minister of Home Affairs Number 9 of 2014 explains the selection of regional priority industries using 12 criteria. The determination of the leading regional industry of Simalungun Regency uses 4 criteria from 12 criteria, namely: labor absorption, industrial contribution to the regional economy, industrial value-added, and industrial base sector in the region.

The identification of regional potential refers to Simalungun Regency Regional Regulation Number 11 of 2011 concerning the 2011-2031 Simalungun Regency RTRW, the mapping of

regional industrial potential of the Simalungun Regency Priority Industries is presented in Table 6.

The proposed Priority Industries are determined based on the Regional Potential and Provincial Industrial Development Plan as well as consideration of the Strategic Aspects of Industrial Development of Simalungun Regency, then the leading industries or priority industries (KBLI 2020) consist of (1) Food Industry; (2) Beverage Industry; (3) Handicraft Industry; (4) Non-Metal Metal Goods and Equipment Industry; (5) Rubber Processing Industry; (6) Plastic Processing Industry; and (7) Palm Oil. Priority Industries of Simalungun Regency and Types of Industries Based on KBLI 2020 by Location (Subdistrict) are shown in Table 1.

Table 1. Simalungun Regency Priority Industries and Industry Types
Based on KBLI 2020 By Location (District)

Priority Industries	**Type of Industry**	**Location (District)**
Food Industry	Corn Mill, Elephant Ear Bread, Crackers, Pastries, Buns, Lapis Legit, Hun Noodles, Tofu, Tempeh, Opak, Chicken Claw, Yam Chips, Terasi, Ketawa Bread, Coconut Bread, Rondang/ Tipang, Emping, Meatballs	Siantar, Tapian Dolok, Tanah Jawa, Bandar Huluan, Dolok Batu Nanggar, Gunung Malela, Bandar, Hutabayu Raja, Pematang Bandar, Ujung Padang, Raya, Raya Kahean, Purba, Silimakuta, Panei, Girsang Sipangan Bolon, Dolok Panribuan
Beverage Industry	Coffee Powder, Bandrek Powder, Tea Powder	Siantar, Sidamanik, Raya, Raya Kahean, Parapat, Dolok Panribuan
Handicraft	Ulos, Vegetable/fruit baskets, Tampi baskets, Fern Trunk Crafts, Leather Bags, Wallets, Traditional Musical Instruments, Wood Carvings, Photo Frames, Sappu	Siantar, Jorlang Hataran, Purba, Dolok Pardamean, Raya, Dolog Masagal, Dolok Batu Nanggar, Dolok Panribuan
Non-metal Metal Goods and Equipment Industry	Agricultural Tools, Scales, Lathe Workshop, Car Boss Packing, Truck Body Shop, Car Tubs	Siantar, Tanah Jawa, Hutabayu Raja, Pematang Bandar, Panei, Dolok Silau, Tapian Dolok
Furniture Industry	Furniture, Gold Jewelry, Coffin	Siantar, Gunung Malela, Bandar, Bandar Marsilam, Dolok Batu Nanggar, Silimakuta, Tanah Jawa
Rubber Processing Industry	Rubber Sheet, Cumb Rubber	Tapian Dolok, Bosar Maligas, Dolok Batu Nanggar, Gunung Malela, Bandar
Plastic Processing Industry	Plastic Packaging, Plastic Rope	Siantar, Tapian Dolok.
Paving Block	*Paving Block*	Siantar, Tapian Dolok
Honey Measuring	Honey	Sidamanik
Palm Oil	*Crude Palm Oil (CPO)*	Bandar

Source: Office of Industry and Trade of Simalungun Regency, 2022.

4.3 Empowerment of Small and Medium Industries (SME)

The empowerment of SMEs in Simalungun Regency is carried out through strengthening SME centers and SME business actors, strengthening supporting facilities and infrastructure, providing promotion centers, and increasing the number and quality of field extension workers (TPL). The development of existing (facilitated by supporting facilities and infrastructure) and potential (has prospects for future development) SME centers. In addition to the development of existing and potential SME centers presented in Table 2, in the future, it is still necessary to identify other potential SME centers so that all can be empowered to grow, develop, and have strong competitiveness. In addition to strengthening industrial centers, coaching in the form of product diversification training, improving product quality and competitiveness, as well as facilitation of licensing so that SMEs can produce typical products from each sub-district or nagor (village) towards the creation of the concept of one village one product. Until now, the SME product promotion center has operated the SME Gallery in Siantar District, but it has not yet met the requirements of the SME center.

Table 2. Data on Existing and Potential SME Centers of Simalungun Regency, 2021

No.	SME Center	Sub-district Designation of Industrial Location	Description
1	Food/Beverage Processing	Siantar, Tapian Dolok, Tanah Jawa, Bandar Huluan, Dolok Batu Nanggar, Gunung Malela, Bandar, Hutabayu Raja, Pematang Bandar, Ujung Padang, Raya, Raya Kahean, Purba, Silimakuta, Panei, Girsang Sipangan Bolon, Dolok Panribuan.	Existing and Potential
2	Crafts	Siantar, Jorlang Hataran, Purba, Dolok Pardamean, Raya, Dolog Masagal, Dolok Batu Nanggar, Dolok Panribuan,	Existing
3	Agricultural Machinery/Tools Industry	Siantar, Tanah Jawa, Hutabayu Raja, Pematang Bandar, Panei, Dolok Silau, Tapian Dolok	Existing
4	Furniture Industry	Siantar, Gunung Malela, Bandar, Bandar Marsilam, Dolok Batu Nanggar, Silimakuta, Tanah Jawa	Existing
5	Rubber Processing Industry	Tapian Dolok, Bosar Maligas, Dolok Batu Nanggar, Gunung Malela, Bandar.	Existing
6	Plastic Processing Industry	Siantar, Tapian Dolok.	Existing
7	*Paving Block*	Panombean Panei, Tanah Jawa, Bandar, Bandar Marsilam, Siantar.	Existing
8	Honey Breeding	Sidamanik	Potential

Source: Simalungun District Trade Office, 2022.

4.4 Regional Economy and Industrial Potential of Simalungun Regency

According to BPS data, 56 types of industries can be developed in Simalungun Regency. In 2021, with a total of 612 business units, the industry absorbed a workforce of 5,210 people. The food and beverage industry dominates the types of industry, namely 341 business units (59.51%)

with a workforce of 1,665 people. The CPO industry is the type of industry that absorbs the most labor, namely 850 people with a fixed capital of IDR 218 billion.

During 2017-2021, Simalungun Regency's economic growth averaged 8.65% per year. The lowest growth occurred in 2020 at 7.37%, while the highest growth occurred in 2017 at 10.96%. Simalungun Regency's GRDP (ADHB) increased by 7.95% from IDR 39,441.27 billion in 2020 to IDR 42,576.87 billion in 2021. The economic growth rate of Simalungun Regency is higher than that of North Sumatra Province (5.24%). The economic structure of this region until 2021 is still dominated by 3 main sectors, namely: the agricultural sector, the trade sector, and the processing industry sector. The agricultural sector as the leading sector contributed 51.34% to GRDP, followed by the wholesale and retail trade sector at 15.85%, and the industrial sector was in third place contributing 11.58%. The amount of ADHB per capita regional income has also increased significantly from IDR 38.15 million in 2020 to IDR 41.19 million in 2021.

4.5 Simalungun Regency Industrial Development Space Planning

Industrial regional development is a development that includes 3 types of regional development, including WPPI development, KPI development, Regional KI Development, and SME Center development. KPI is a stretch of land designated for industrial activities based on the RTRW which is determined by Regional Regulations. The direction of industrial development in Simalungun Regency is determined only in 12 sub-districts. For more details, the KPI plan in Simalungun Regency can be seen in Table 3.

Table 3. Industrial Designated Area (KPI) in Simalungun Regency

Sub-district Industry Location	Industrial Designation Area (Hectare)	% Against Total
Bandar	145,32	5,90
Bandar Huluan	12,85	0,52
Bandar Masilam	68,70	2,79
Bosar Maligas	1.830,38	74,25
Dolok Batu Nanggar	37,89	1,54
Gunung Malela	11,51	0,47
Gunung Maligas	10,56	0,43
Huta Bayu Raja	46,11	1,87
Jawa Maraja Bah Jambi	24,48	0,99
Siantar	25,52	1,04
Tapian Dolok	238,54	9,68
Ujung Padang	13,19	0,53
Grand Total	2.465,05	100,00

Source: Simalungun Regency RTRW (Revised 2022).

From the data in Table 3, the highest allocation of space designated as an industrial designation area is in the Bosar Maligas Sub-district of 1,830.38 ha (74.25%) of the total KPI area. Followed by Tapian Dolok Sub-district and Bandar Sub-district with an area allocation of 238.54 ha (9.68%) and 145.32 ha (5.90%) respectively of the total KPI area.

Figure 1 Map of Simalungun Regency Industrial Designation Area Plan (Source: RTRW Simalungun Regency 2011-2031 (Revised 2022).

However, for exempted large industrial business activities and SME business activities, it is still mandatory to be located in the KPI in the spatial plan. Regional industrial development must prioritize the development of SMEs. The process of industrial regional development must be supported by the formulation of programs that can realize the objectives of regional regional development, which are presented in Table 4.

Table 4. Simalungun Regency Industrial Regional Development Program 2022-2042

No	Simalungun Regency Industrial Regional	Year (Percentage of Estimated		
		2022-	2028-	2033-
1	Development of Industrial Development Designation Areas (WPPI)	10	30	60
2	Development of Industrial Designation Areas (KPI)			
	a. Conduct*reviews* and evaluations of previous KPI determinations together with relevant Regional Apparatus.	20	40	40
	b. Development of industrial allotment area road infrastructure together with relevant OPDs	10	20	50
	c. Development of energy and telecommunication facilities and infrastructure of industrial allotment	20	25	50
3	Development of Regional Industrial Estate in Simalungun Regency	10	25	70
4.	Development of SME Centers			
	a. Data collection on the number of	100	100	100
	b. Construction of SME centers for	10	20	40
	c. Development and assistance to the management of regional SME centers	30	40	50
	d. Facilitate the provision of information related to market and	50	60	80

Source: RPIK Simalungun 2023-2043 (processed), 2024.

4.5. Discussion

The direction of the Regional Industrial Development Plan is in line with the Indonesian Long-Term Development Plan (RPJP) 2005-2025, where the Simalungun RPIK has accommodated spatial aspects by referring to the Simalungun Regency RTRW 2011-2031 (revised in 2022) as a spatial policy reference for industrial sector development, cross-sectors, and regions so that space utilization can be synergistic, harmonious, and sustainable.

Industrial regional development aims to build new industrial centers in the context of the spread and equitable distribution of industrial development with the development of WPPI, KPI, KI, and Industrial Centers. The development of WPPI is directed at (a) Preparation of WPPI development guidelines; (b) Dissemination of WPPI policies and programs to relevant Ministries/Institutions and Local Governments; (c) Review of WPPI; (d) Redesign of WPPI-based industrial zones; (e) Infrastructure development to support WPPI; (f) Technical cooperation and strengthening connectivity between WPPI. KPI development is carried out following the direction of the Minister of Industry Regulation. KPI criteria in Article 3 of the Minister of Industry Regulation No. 30 of 2020 concerning Technical Criteria for Industrial Designation Areas, among others: (a) in the form of an area that can be utilized for Industrial activities; (b) does not interfere with the preservation of environmental functions; and/or (c) does not change productive land.

KPI development is directed at (a) Coordination of KPI stipulation in the RTRW; (b) Review of KPI Development; (c) Guarantee of KPI utilization; and (d) Fulfillment of infrastructure that supports KPI. The development and construction of Industrial Estates are directed at (a) the Preparation of regulations and policies related to KI; (b) Structuring KI; (c) the Development of basic KI infrastructure; and (d) the Development of thematic KI (Decree of the Director of Industrial Territory Number 05/2020 concerning the Strategic Plan of the Directorate of Industrial Territory 2020-2024).

Chapter 3 of the Simalungun RPIK 2023-2043 stipulates the targets in the industrial development planning of Simalungun Regency which are the development of spatial economic aspects, namely: (1) Increased industrial growth in Simalungun Regency which is expected to reach 2 (two) digit growth in 2042 (from an average growth of 8.65% to around 10.65% rounded up to 11% in 2042) so that the contribution of industry in GRDP reaches 20% (from 11.58% in 2021 to around 32% in 2042); (2) Strengthening the industrial structure with the growth of downstream industries based on regional superior commodities; (3) Increased strengthening of local raw material sources; (4) Increased contribution of SMEs to industrial growth; (5) Achievement of accelerated industrial distribution and equity throughout the region; (6) Increased institutional development, innovation and mastery of technology; and (7) Increased absorption of competent labor in the industrial sector.

The industrial regional development area in the Simalungun Regency RTRW is determined in 12 sub-districts out of 32 existing sub-districts, with an area of each: Bandar 145.32 ha (5.90%); Bandar Huluan 12.85 ha (0.52%); Bandar Masilam 68.70 ha (2.79%); Bosar Maligas 1. 830.38 ha (74.25%); Dolok Batu Nanggar 37.89 ha (1.54%); Gunung Malela 11.51 ha (0.47%); Gunung Maligas 10.56 ha (0.43%); Huta Bayu Raja 46.11 ha (1.87%); Jawa Maraja Bah Jambi 24.48 ha (0.99%); Siantar 25.52 ha (1.04%); Tapian Dolok 238.54 ha (9.68%); and Ujung Padang sub-district 13.19 ha (0.53%) out of a total area of 2. 465.05 ha.

Based on the land area approach for industrial regional designation, Bosar Maligas sub-district 1. 830.38 ha (74.25%); Tapian Dolok 238.54 ha (9.68%); and Bandar Sub-district 145.32 ha (5.90%) are the most potential and existing WPPIs in Simalungun Regency, because the space provided in the RTRW will provide opportunities for more business units that can be built by

investors or that can be realized to be accommodated to enter building industries on the lots provided at that location, by the Simalungun Regency government as the area manager. Meanwhile, the 9 sub-districts that have land allocations for other KI, will have the opportunity to grow into SME centers for industries that use raw materials from the superior products of the region itself and the nearest surrounding sub-districts. In addition to the land availability factor, Tapian Dolok Sub-district is supported by an infrastructure that is already available as seen from the survey results, such as the primary arterial road, close to the Pematangsiantar-Parapat-Medan-Belawan-Kuala Tanjung toll road, electricity, water and energy installations, gas stations, banks, warehousing, and other infrastructure including various types of supporting industries that have been built around the location planned as the Simalungun KI in Purbasari Village, Tapian Dolok Sub-district (Beringin Small Town bordering Pematangsiantar City). Likewise, the readiness of Bandar Sub-district as a KI has been supported by existing infrastructure, such as being close to the Trans-Sumatra primary arterial road, close to the Sei Mangkei-Kuala Tanjung KEK toll road, close to the Sei Mangkei Kuala Tanjung Railway, electricity and gas installations, water, gas stations, banks, warehousing, and other infrastructure including various types of supporting industries that have developed around the location planned as Simalungun KI in Bandar Sub-district (Small Town of Trade).

Bosar Maligas Sub-district has been established as one of the 22 WPPIs set by the Indonesian government. In 2011, the operation of Sei Mangkei SEZ as a national economic corridor in North Sumatra Province, which is a mega project of the Indonesian government, began. Sei Mangkei SEZ as a CPO industrial area is under the management of PT Kawasan Industri Nusantara (PT KINRA) as a subsidiary of PT PN III. Therefore, the Simalungun Regency Government should focus on the development of the area in the form of KPIs as SME centers in Tapian Dolok and Bandar sub-districts.

The approach to the types of commodities developed in the KPI in the Tapian Dolok sub-district includes Food/Beverage Processing SME Center; Agricultural Machinery/Tools Industry; Rubber Processing Industry; and Plastic Processing Industry SME Center. Meanwhile, KPIs in Kecamatan Bandar are directed to develop commodities: Food/Beverage Processing SME Center; Furniture Industry; Rubber Processing Industry; and Paving Block SME Center. Meanwhile, the 9 KPIs in other sub-districts are to continue to develop their industrial centers based on their Existing and Potential SME Centers.

In Chapter 4 of the Simalungun RPIK 2022-2042, an Industrial Regional Development Program is prepared which is detailed in 4 types with estimated achievements for each year 2022-2027, 2028-2032, and 2033-2042 as shown in Table 5, namely: (1) WPPI Development; (2) KPI Development with 3 activities, namely: (a) Conduct reviews and evaluations of previous KPI stipulations together with relevant Regional Apparatus; (b) Development of industrial allotment area road infrastructure together with relevant agencies; (c) Development of KPI energy and telecommunications facilities and infrastructure together with relevant agencies; (3) Regional KI Development; and (4) SME Center Development, with activities: (a) Data collection on the number of regional SME centers; (b) Development of SME centers for new industries; (c) Development and assistance for the management of regional SME centers; (d) Facilitating the provision of market-related information and promotion for SME centers.

Measuring the success of industrial development performance over the next 20-year planning period is determined through the existence of performance indicators. Industrial Development of Simalungun Regency in 2023-2043 with its indicators as shown in table 5.

Table 5. Indicators of Industrial Development in Simalungun Regency for 2023-2043

No.	Development Indicators Industry	Year/Achievement*		
		2022-2027	2028-2032	2033-2042
1	Industry sector growth (%)	9	10	11
2	Industry contribution to GRDP (%)	15	20	32
3	Number of workers in the industrial sector	7.000	15.00	30.00
4	Increase in the number of small and medium scale industries (accumulative number of	800	1.500	3.000
5	Development of space utilization of regional industrial designation locations (%)	15	50	80
6	Value of industrial production by type and class of regional industry (%)	15	25	35
7	Target and realization of industrial sector investment by type and class of regional	15	25	35
8	Development of export volume and value of industrial products by type and class of	25	50	80
9	Development of small industry cooperation with regional leading industries and or with large industries in the region and other	20	35	80

Source: RPIK Simalungun 2023-2043 (modified), 2024. * Approximate Figures.

Table 5 shows that the Industrial Development Indicators of Simalungun Regency for 2022-2042 are available to measure the success of its performance. So that planning programs and activities in the Work Plan of the relevant Service in the ranks of the Simalungun Regency Government will be directed and can be evaluated through the level of achievement of its success based on Regional Regulation by applicable laws and regulations. The success indicators of Industrial Development are closely related to the achievement of the 7 industrial development targets of Simalungun Regency. Estimated achievements Growth of the industrial sector (2%) from 9% in 2022 rose to 11% in 2042. The number of workers in the industrial sector (7,000 people in 2022 increased to 30,000 people in 2042), and the addition of the number of small and medium scale industries (800 units in 2022 increased to 3,000 units in 2042). Development of space utilization of regional industrial designation locations (15% in 2022 rising to 80% in 2042). Value of industrial production by type and class of regional industry (15% in 2022 rising to 35% in 2042). Target and realization of industrial sector investment by type and class of regional industry (15% in 2022 rising to 35% in 2042). Development of the volume and value of exports of industrial products by type and class of regional industry (25% in 2022 rising to 80% in 2042). The development of small industry cooperation with regional leading industries and or with large industries in the region and other regions (20% in 2022 rising to 80% in 2042).

It is concluded that all indicators of the success of Industrial Development and its 7 targets, can only be achieved if the industrial regionalization program of Simalungun Regency, namely: the role of local government in the development of WPPI, KPI, Regional KI, and SME centers contained in the RPIK can immediately be implemented in an industrial regional development action since the plan was written into a regional regulation in the regional gazette of Simalungun Regency in 2023..

V CONCLUSIONS AND RECOMMENDATIONS

Based on the description in the previous chapters, the following conclusions can be drawn: (1) Based on the approach of land area for industrial regional designation, Tapian Dolok and Bandar sub-districts have the most potential to immediately become industrial centers, because the land area provided in the RTRW will provide opportunities for more business units that can be accommodated to build industries on the lots provided at that location. Meanwhile, the 9 sub-districts that have land allocations for other KI will have the opportunity to grow into SME centers for industries that use raw materials mainly from the region's superior products and from the nearest surrounding sub-districts. (3) The types of commodities developed in KPIs in the Tapian Dolok Sub-district include the food/Beverage Processing SME Center; the Agricultural Machinery/Tools Industry; the Rubber Processing Industry; and the Plastic Processing Industry SME Center. Meanwhile, KPIs in Kecamatan Bandar are directed to develop the following commodities: Food/Beverage Processing SME Center; Furniture/Furniture Industry; Rubber Processing Industry; and Paving Block SME Center. Meanwhile, the 9 KPIs in other sub-districts should continue to develop their industrial centers based on their existing and potential SME centers.

Starting from this conclusion, it is recommended that the indicators of the success of Industrial Development can only be achieved if the Simalungun Regency industrial regional program is immediately implemented in the development of WPPI, KPI, Regional KI, and SMI centers contained in the RPIK in an industrial regional development action since the plan was promulgated.

VI BIBLIOGRAFI

Arsyad, Lincolin, (1999). Pengantar Perencanaan dan Pembangunan Ekonomi Daerah, BPFE-UGM, Yogyakarta.

Dumairi, (1996). Perekonomian Indonesia, UI Press, Jakarta.

Hirschman, Albert O., (1970). Strategi Pembangunan Ekonomi, Djakarta, PT Dia Rakjat, Yayasan Dana Buku Indonesia.

Losch, August (1954), The Economics of Location, New Haven: Yale University Press.

Marsudi Djojodipuro, (1994).Pengantar Ekonomi Unturk Perencanaan, UI Press, Jakarta.

Perroux, (1970). Note on the Concept of Growth Poles. Dalam: McKee, D., Dean, R. And Leahy, W. Eds, Regional Economics: Theory and Practice, The Free Press, New York, 93-104.

Rustiadi, Ernan, et. al, (2011). Perencanaan dan Pengembangan Wilayah, Yayasan Pustaka Obor Indonesia, Jakarta.

Soekartawi, (1995). Pengantar Agroindustri, Edisi I, Cetakan ke-2. PT. Rajagrafindo Persada. Jakarta.

Sumaatmadja, Nursid (1997), Studi Geografi: Suatu Pendekatan dan Analisa Keruangan. Alumni, Bandung.

Tarigan, Robinson, (2004). Ekonomi Regional. PT. Bumi Aksara, Jakarta.

Legislation:

Law Number 3 of 2014 concerning Industry.

Central Statistics Agency (BPS), 2017-2021, Simalungun Regency in Figures, Central Statistics Agency, Pematangsiantar.

Government Regulation Number 142 of 2015 concerning Industrial Areas.

Government Regulation Number 5 of 2021 concerning the Implementation of Risk-Based Business Licensing.
Presidential Regulation No. 41 of 1996, concerning Industrial Area Business Permits.
Law Number 23 of 2014 concerning Regional Government.
Government Regulation Number 14 of 2015 concerning the National Industrial Development Master Plan for 2015-2035.
Presidential Regulation of the Republic of Indonesia Number 74 of 2022 concerning the National Industrial Policy 2020-2024.
Regulation of the Minister of Industry Number 110/M-IND/PER/12/2015 concerning Guidelines for the Preparation of Provincial Industrial Development Plans and Regency/City Industrial Development Plans;
Regulation of the Minister of Industry Number 30 of 2020 concerning Technical Criteria for Industrial Designation Areas
Decree of the Director of Industrial Zoning Number 05/2020 concerning the Strategic Plan of the Directorate of Industrial Zoning for 2020-2024).
Regional Regulation of North Sumatra Province Number 4 of 2018 concerning the Industrial Development Plan of North Sumatra Province for 2018-2038.
Regional Regulation of Simalungun Regency Number 10 of 2012 concerning the Regional Spatial Plan 2011-2031 (Revised in 2020).
Regional Regulation of Simalungun Regency Number 5 of 2007 concerning the Long-Term Development Plan of Simalungun Regency 2005-2025.