Empowering Local Economies: A Comprehensive Study on Leading Products in Pemalang Regency

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Abstract

The economic development of Pemalang Regency holds significant potential, given its abundant natural resources and cultural heritage. However, the region faces challenges in optimizing these assets to reduce inequality and foster inclusive growth. Identifying leading sectors and superior products is crucial for promoting sustainable economic transformation. This study employs Location Quotient (LQ), Shift Share (SS), Klassen Typology, and statistic descriptive analysis to assess sectoral performance and prioritize economic development strategies. Data collection involved purposive sampling across all subdistricts, ensuring representativeness and balanced insights. Findings reveal that agriculture, forestry, fisheries, and the financial sector are advanced and fast-growing, while several sectors such as transportation and warehousing are developed but under pressure. Notable products include honey pineaple, coffee, milkfish, textiles, and processed foods, which demonstrate significant growth potential when supported by targeted investments and strategic marketing. It is recommended that policymakers focus on developing infrastructure, fostering innovation, and enhancing human capital to strengthen these key sectors. Furthermore, promoting digital marketing and facilitating partnerships can expand market access and enhance competitiveness, ensuring Pemalang's economic sustainability in the long term

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INTRODUCTION

The rural conditions in Pemalang Regency demonstrate considerable potential for development. In addition to their abundant natural resources, the villages in this region are also rich in cultural and traditional heritage,

which could be developed into tourist attractions. A considerable number of villages have developed distinctive handicrafts and superior products that have yet to be fully introduced to a wider market (Samosir et al., 2024). However, the underutilization of these resources reflects a common challenge in regional development, where disparities in infrastructure and access to markets hinder equitable growth (Azaki, 2024).

It is crucial to prioritize the development of economic potential in order to ensure an equitable distribution of welfare throughout the regency (Puspitowati & Widayati, 2021). The optimization of existing potential in villages will serve to reduce inequality between urban and rural areas, while simultaneously strengthening the local economy as a whole (Silaban, 2023). The initial stage of village economic development is to identify the specific areas of strength in each village. These may include the agricultural sector, the creative industries, tourism, or other sectors. The diversification of agricultural products, the development of village tourism, and the strengthening of creative industries represent tangible strategies for enhancing the income of village communities.

The challenge currently facing Pemalang Regency is that of catching up with other regions in its development area, despite the fact that it is currently undergoing a process of transformation into an industrial area. The majority of the region is still characterised by rural traits and a strong agrarian orientation, which suggests a reliance on the agricultural sector as the primary foundation of the economy (Putra & Pratiwi, 2019). Nevertheless, the potential of the local economy in Pemalang Regency has yet to be fully mapped and optimized. This potential encompasses a multitude of elements, including the diversity of agricultural products, the availability of human resources, and the prospects for the advancement of micro, small, and medium-sized enterprises (MSMEs).

Diversification of regional resources and potential creating a gap and emergence to identifying leading sectors is essential to drive economic transformation (Ulfa et al., 2020). Leading sectors not only contribute to gross regional domestic product (GRDP) but also have multiplier effects on employment and investment, enhancing overall regional resilience(Pangow et al., 2023). Studies suggest that regions maximizing the potential of their leading sectors through targeted policies achieve higher competitiveness and sustained economic progress (Harjanti et al., 2021).

In Pemalang, much like in Blora Regency, the predominantly agrarian economy remains a critical driver of growth, yet diversification into secondary and tertiary sectors is necessary to reduce income inequality and enhance welfare (Mantik et al., 2024). Addressing these challenges requires a comprehensive approach, involving stakeholders across government, private sectors, and local communities to design inclusive economic strategies (Fauzan & Hendrati, 2023). The absence of strategic planning and investment in the innovation sector constitute significant impediments to the process of economic transformation.

Furthermore, a lack of strategic planning and investment in innovative sectors has been identified as a recurring limitation in rural regions (Fadhilah, 2023). By leveraging analytical tools such as Location Quotient (LQ), Shift Share, and Klassen Typology, policymakers can effectively map the economic potential of their regions and align resources for maximum

impact (Khusaini, 2015). It is therefore necessary to implement a coordinated strategy to protect and empower potential economic sectors through a comprehensive approach. It is imperative that measures be taken to enhance human capital, facilitate technological advancement, develop supportive infrastructure, and cultivate a favorable business environment. This will ensure that these sectors are able to sustain innovation, contribute to economic growth, and provide sustainable benefits to the people of Pemalang Regency.

RESEARCH METHODS

This study employs a quantitative research approach, utilising a combination of analytical tools, including Location Quotient, Shift Share, Klassen Typology, and descriptive statistics. Descriptive statistical analysis was employed to map regional superior products at the subdistrict level.

The data was obtained through the distribution of questionnaires in each subdistrict. Descriptive statistical analysis is employed to provide a measure of central tendency, which is useful for the process of mapping the leading sector per region. In this study, the sampling method employs a purposive area sampling technique, which is designed to identify research locations based on specific criteria. The area approach was employed to guarantee the inclusion of all sub-districts within Pemalang Regency in the research process.

This technique enables researchers to select locations that are deemed representative, thereby ensuring that the findings of the research accurately reflect the actual circumstances prevailing in each kecamatan. The villages selected as research locations were chosen based on their homogeneity. This homogeneity encompassed a range of factors, including demographic, social, and economic characteristics, which facilitated the acquisition of a consistent and pertinent sample.

By considering regional homogeneity, researchers can reduce bias and increase the validity of the research results. The selection of villages was conducted with careful consideration to ensure that each subdistrict is represented in a balanced manner within the study. The total number of samples in this study was 50 respondents, distributed in an even manner across each district in Pemalang Regency. This division is intended to guarantee the proportionality and representativeness of the data collected.

The Location Quotient (LQ) analysis is based on Economic Base Theory. The objective of this analysis is to determine the base (export) and non-base economic sectors or usually called as leading sectors. Leading economic sector as a sector that can support and accelerate regional economic development and growth based on the criteria of the sector's ability to contribute to regional GDP revenue, the level of ability to absorb labor, the potential to produce export commodities, and the strong links with other sectors(Izza & Purnomo, 2024). The results of this analysis are employed to ascertain the structure of the economy. The following formula represents the calculation of the LQ adopted from Soepono (1998):

$$\text{Location Quotient (LQ)} = \frac{xij/RVj}{xi/RV}$$

Where, The location quotient (LQ) coefficient of sector i in the regency/city, Xij is the total gross regional product (GRP) of sector i in the regency/city; Xi is the total GRP of sector i

in the province; RVj is the total GRP at the regency/city level; and RV is the total GRP at the province level.

To ensure the representativeness of the data collected, the same number of samples was allocated to each subdistrict, thus enabling the data analysis to reflect balanced conditions throughout the research area. It is anticipated that this methodology will yield an accurate and comprehensive representation of the conditions in Pemalang Regency.

Shift Share analysis is employed to examine and ascertain the shift and role of the economy in the region. This is achieved by focusing on the growth of a given sector within the region in comparison to the same sector at a higher level (province or national), which serves as a reference point. The Shift Share method commences with the measurement of the GRDP value of sector i in region j (Dij) Soepono (1998), with the formulation of:

$$Dij = Nij + Mij + Cij$$

The Klassen Typology Analysis is employed to ascertain the mapping of the research findings pertaining to each sector in Pemalang Regency. The Klassen Typology analysis tool was employed to ascertain the pattern and structure of the economy, along with the contributions of its four distinctive characteristics. These are: fast-developed and fast-growing areas, developed but depressed areas, fast-developing areas, and relatively underdeveloped areas:

Table 1. Klassen Typology Quadrans

Criteria	LQ > 1	LQ < 1
Dij > 0	Quadrant I (Advanced and Fast-Growing Sectors)	Quadrant II (Rapidly Developing Sectors)
Dij < 0	Quadrant III (Advanced but Pressured Sectors)	Quadrant IV (Relatively Underdeveloped Sectors)

Source: Soepono, (1998)

Where yi is average contribution of GRDP sector i in the regency/city; y is average contribution of GRDP sector i in the province; ri is growth rate of GRDP sector i in the regency/city and r is growth rate of the province.

The results of the analysis on Klassen's typology there are 4 quadrants with the division of Quadrant I is a developed and fast-growing sector, Quadrant II is a fast-growing sector, Quadrant III is a developed but depressed sector and Quadrant IV is a relatively underdeveloped sector.

In the context of LQ calculations, a value exceeding 1 indicates that sector i represents a fundamental component of the regional economy. A value of LQ < 1 indicates that the sector is neither a basic sector nor a base sector, but rather an import sector. Furthermore, if LQ = 1, it can be inferred that there is balanced productivity, or alternatively, that this sector is not yet feasible for export. In this case, regional and national production of sector i are equal.

RESULTS AND DISCUSSION

Location Quotient (LQ) analysis is a method used to identify the basic or non-basic sectors in an area by comparing the output share of the Regency/City sector with the output share

of the Provincial sector. The following section presents the results of the LQ analysis of Pemalang Regency during the period spanning 2019 to 2023.

Table 2. Location Quotient (LQ) Analysis of Pemalang Regerency

No	Sector	LQ Result	Keterangan
1	Agriculture, Forestry, and Fisheries	1,94	Basis
2	Mining and Quarrying	1,74	Basis
3	Manufacturing Industry	1,45	Basis
4	Electricity and Gas Supply	0,90	Non basis
5	Water Supply, Waste Management, and Recycling	0,41	Non basis
6	Construction	0,98	Non basis
7	Wholesale and Retail Trade; Repair of Motor Vehicles	0,72	Non basis
8	Transportation and Warehousing	1,44	Basis
9	Accommodation and Food Service Activities	1,48	Basis
10	Information and Communication	0,38	Non basis
11	Financial and Insurance Services	1,07	Basis
12	Real Estate	0,81	Non basis
13	Business Services	0,86	Non basis
14	Public Administration, Defense, and Mandatory Social Security	1,38	Basis
15	Education Services	1,11	Basis
16	Health Services and Social Activities	1,48	Basis
17	Other Services	1,01	Basis

Source: Data Processed, 2024

The Agriculture, Forestry and Fisheries sector has considerable potential, given the fertile land in Pemalang Regency that is conducive to agricultural and forestry activities. The application of contemporary agricultural technology, including the utilisation of sophisticated farming instruments and effective irrigation techniques, will facilitate the continued expansion of this sector. Furthermore, the availability of experienced agricultural laborers represents a significant supporting factor.

The advancement of the agricultural sector will not only enhance food production but will also have a beneficial effect on other sectors, such as trade and transportation, due to the increased distribution of agricultural products.

Furthermore, the mining and quarrying sector in Pemalang Regency demonstrates considerable potential. The abundance of mineral resources in the region offers a promising opportunity for this sector to make a substantial contribution to the regional economy.

The implementation of efficient and environmentally friendly extraction technology has the potential to enhance mining yields while simultaneously preserving the surrounding environment. The availability of skilled labor in the mining sector represents a valuable asset that can facilitate the growth of this sector. The advancement of the mining sector will stimulate the expansion of the processing industry, which is capable of transforming mining products into value-added products.

Table 3. Shift-share Analysis of Pemalang Regency

Sector/Industry		National Growth Component	Industrial Mix Component	Competitive Advantage Component	GDRP
		(Nij) (000 orang)	(Mij)	(Cij)	(Dij)
1	Agriculture, Forestry, and Fisheries	39228,58033	2095,435598	28.604,27	12.719,74
2	Mining and Quarrying	6293,861253	-68,46779177	-5.675,82	549,58
3	Manufacturing Industry	34687,22029	1848,655797	-26.170,96	10.364,92
4	Electricity and Gas Supply	167,2053366	25,56783052	-229,43	-36,66
5	Water Supply, Waste Management, and Recycling	1041,089831	116,0413702	-2.438,58	-1.281,44
6	Construction	7256,080643	669,7914841	-9.345,60	-1.419,73
7	Wholesale and Retail Trade; Repair of Motor Vehicles	24370,96651	2229,777808	-33.760,75	-7.160,01
8	Transportation and Warehousing	4243,229767	1036,677266	-6.262,57	-982,67
9	Accommodation and Food Service Activities	8202,525944	1755,900794	-16.361,38	-6.402,95
10	Information and Communication	3486,073526	1087,809979	-10.407,34	-5.833,46
11	Financial and Insurance Services	4811,096948	250,8940613	-4.847,64	214,35
12	Real Estate	2642,159799	304,3105978	-4.907,96	-1.961,49
13	Business Services	599,4153575	42,55027098	-1.016,18	-374,21
14	Public Administration, Defense, and Mandatory Social Security	4858,419213	141,0297094	-9.615,33	-4.615,88
15	Education Services	9574,871631	569,4761029	-19.549,12	-9.404,78
16	Health Services and Social Activities	1735,149719	243,1049168	-3.940,90	-1.962,65
17	Other Services	4542,937446	400,2184135	-8.611,98	-3.668,82
Total PDRB		**157740,8835**	**14088**	**-206.740,88**	**-34.912,00**

Source: Data Processed, 2024

The processing industry plays a pivotal role in the economy of Pemalang Regency. With the requisite industrial facilities and access to modern manufacturing technology, this sector

can continue to grow. An increase in investment in production technology and labor training can lead to improvements in efficiency and product quality. This will attract further investment and facilitate export opportunities, which will in turn enhance the regional economy.

Table 4. Results of the Klassen Typology for Pemalang Regency for the Period 2019-2023

Criteria	LQ > 1	LQ < 1
Dij > 0	Quadrant I (Advanced and Fast-Growing Sectors) Agriculture, Forestry, and Fisheries Mining and Quarrying Manufacturing Industry Financial and Insurance Services	Quadrant II (Rapidly Developing Sectors)
Dij < 0	Quadrant III (Advanced but Pressured Sectors) Transportation and Warehousing Accommodation and Food Service Activities Public Administration, Defense, and Mandatory Social Security Education Services Health Services and Social Activities Other Services	Quadrant IV (Relatively Underdeveloped Sectors) Electricity and Gas Supply Water Supply, Waste Management, and Recycling Construction Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles Information and Communication Real Estate Business Services

Source: Data Processed, 2024

In total, there are ten basic sectors in Pemalang Regency that have significant potential for development. The advancement of these sectors will not only stimulate economic growth but will also generate a ripple effect for non-base sectors. This will result in robust interconnectivity between disparate economic sectors, enhanced community well-being, and a continued positive trajectory in the future.

By leveraging the region's inherent potential, integrating modern technology, and capitalizing on a skilled workforce, Pemalang Regency can become a dynamic and sustainable hub for economic growth. Shift-share analysis is a technique used to evaluate the performance of individual sectors within a given region's gross regional product (GRP) and to compare it with the GRP value of the region as a whole. The following section presents the results of the shift-share analysis conducted for Pemalang Regency between 2019 and 2023.

The results of the shift-share data processing for the period 2019-2023, as presented in the above table, indicate that the leading

sectors in regional development have a positive effect on the economy of Pemalang Regency. This is evidenced by the positive national growth component (Nij) values observed in a number of economic sectors, including education, food and beverage supply, and construction.

Moreover, the industrial mix component (Mij) indicates that the sector in question has a favorable industrial mix component, suggesting that it possesses considerable sustainability capabilities. The agricultural sector exhibits the highest industrial mix value, thereby warranting its designation as a priority area for government development initiatives. The industrial mix value for each sector is positive, indicating a robust and promising economic interdependence within Pemalang Regency, with the potential to generate a substantial contribution to the GRDP.

The subsequent component of the shift-share analysis is (Cij), which illustrates the competitive advantage of a given sector. The results of the calculations indicate that the agricultural sector is the sole sector to possess a competitive advantage, while the remaining 16 sectors do not exhibit such an advantage.

This insight offers a rationale for future policy making, which should prioritize the development of the agricultural sector. This is due to the sector's competitive advantage and high contribution to GRDP, which makes it a more promising avenue for economic growth than other sectors.

The aggregate of the Nij, Mij, Rij, and RIij values indicates that 17 economic sectors in Kebumen Regency are underperforming. This is due to the fact that the positive Dij value is observed only in the agriculture, mining and quarrying, manufacturing, and financial and insurance services sectors. This indicates that only four of the 17 economic sectors in Pemalang

Regency exhibit positive performance with regard to GRDP growth. It may therefore be posited that this sector plays a pivotal role in driving GRDP.

The results of the Klassen Typology analysis of the GRDP approach of Pemalang Regency indicate that the existing sectors are classified in accordance with the descriptions provided in the aforementioned table. The developed and fast-growing sectors in Pemalang Regency are as follows: The sectors in question are those pertaining to agriculture, forestry, and fisheries; mining and quarrying; manufacturing; and financial and insurance services. In contrast, no fast-growing sectors were identified in Pemalang Regency.

The condition of the GRDP of Pemalang Regency, which is still quite fluctuating, may be primarily attributed to the underdevelopment of several sectors, which are not the basic sectors and exhibit relatively slow growth. The results of the Klassen typology analysis indicate that there are seven sectors within this quadrant, which can be classified as follows: The procurement of electricity and gas, water, waste management and recycled waste, construction, wholesale and retail trade, car and motorcycle repair, information and communication, real estate, and corporate services.

In light of the findings of the LQ, SS, and Klassen typology analysis, researchers can recommend several policy initiatives, including: It would be prudent for the Pemalang Regency Government to maintain this basic sector, or alternatively, to continue its development, given its significant influence on the GRDP of Pemalang Regency.

In addition, for these basic sectors, particularly for business actors, it is recommended that measures be taken to

facilitate lending or investment in the economic sector. For the non-basic sector, which serves a supporting function, it would be beneficial for the Pemalang Regency Government to pursue initiatives aimed at fostering its development.

Doing so would enhance the potential for this sector to contribute to future economic growth and the well-being of the local community. Moreover, in order to enhance the overall performance of Pemalang Regency, particularly in sectors exhibiting a competitive advantage, it is imperative to allocate greater attention and resources.

This will facilitate the generation of additional revenue, which can then be utilized for further development. It is imperative that attention and development planning be allocated to depressed developed sectors, with the objective of transforming them into developing sectors. This will facilitate more optimal development.

Based on the results of the field identification, the leading sectors in Pemalang Regency are as follows: The agriculture, livestock, and forestry sector is one of the most dominant sectors in Pemalang Regency and plays a vital role in the region's economic development. It serves as the backbone of the traditional economy and provides important raw materials for the processing industry.

The agricultural sector in Pemalang Regency has undergone significant diversification, with a notable increase in the production of various commodities, including rice, cloves, tobacco, and coffee, particularly robusta and arabica varieties. In terms of horticulture, the leading commodities of Pemalang Regency include shallots, chilies, and a variety of fruits such as pineapple, durian, and mango.

Additionally, the region produces a range of high-quality, market-competitive vegetables. In the livestock sector, Pemalang Regency exhibits a similar profile to other regencies in Central Java, with a predominant focus on goat, cow, buffalo, and poultry farming. These enterprises play a pivotal role in supplying animal protein sources to the community and serve as the primary raw materials for the food processing industry.

Furthermore, the processing industry represents a pivotal sector in Pemalang Regency, with a notable impact on the regional Gross Regional Domestic Product (GRDP). The processing industry in Pemalang encompasses a diverse range of products, including food and beverages, textiles, and other items with high added value.

The presence of numerous factories and processing facilities enables this sector to provide employment opportunities for a considerable number of individuals and to make a significant contribution to the regional economy. As indicated by data from the BPS, the processing industry sector contributes approximately 30% to the GRDP in Pemalang Regency.

Furthermore, the trade sector is also a leading industry in Pemalang Regency, contributing significantly to the regional economy. A plethora of traditional and modern markets are dispersed throughout all kecamatan, facilitating convenient access for the community to procure goods and services.

Dynamic trade facilitates the increased flow of goods and services, thereby stimulating economic growth through augmented consumption and investment. Furthermore, the trade sector plays a pivotal role in the distribution of local products to broader

markets, including domestic and international ones. According to data from the Central Statistics Agency (BPS), the trade sector plays a pivotal role in the gross regional domestic product (GRDP) of Pemalang Regency.

The identification of leading sectors in the nine districts of Pemalang Regency provides a clear picture of the region's economic potential. By concentrating on the advancement of these sectors, Pemalang Regency can continue to promote inclusive and sustainable economic growth, enhance community well-being, and reinforce its status as a region with a robust economy within Central Java Province. Appendix 1 illustrates the leading sectors per sub-district in Kabupaten Pemalang based on the findings of the field identification.

The results of the questionnaires conducted indicated that the primary sectors in Pemalang Regency, when examined from a spatial perspective, are those related to agriculture, livestock, and fisheries. Furthermore, the horticulture subsector also emerges as a prominent subsector within this region.

This indicates that Pemalang Regency has considerable potential in these sectors, which not only contribute significantly to the local economy but also present opportunities for further development. Given its abundance of natural resources, Pemalang Regency has the potential to further optimize the potential of its agriculture, livestock, fisheries, and horticulture sectors, thereby enhancing community welfare and creating additional employment opportunities.

The Moga subdistrict has identified the food and beverage processing industry and tourism as its primary sectors, with durian and coffee products representing the district's main economic activities. The durian from Moga is renowned for its superior quality, and the various processed products derived from it, including *dodol durian* and durian ice cream, have garnered considerable attention.

Additionally, the Robusta coffee produced in the Moga subdistrict possesses distinctive qualities, while the tourism potential of Kampoeng Teh Semugih represents a further attraction. The Bantarbolang subdistrict is distinguished by its prominence in the food processing industry, with coconut sugar and brown sugar representing its principal products. The long tradition of producing high-quality coconut sugar has resulted in a high demand for brown sugar from Bantarbolang as a traditional product.

The Belik subdistrict is renowned for its horticulture and tourism sectors, with honey pineapple representing the primary product. The honey pineapple from the Belik region, particularly from Beluk village, is renowned for its exceptionally sweet flavor, which has earned it a reputation across various regions.

Furthermore, the Belik subdistrict has the potential to develop a tourism industry centered on honey pineapple and other natural attractions, such as Curug Bengkawah and Sidok. Furthermore, the livestock sector is undergoing expansion, with the establishment of ruminant and poultry farms. The Ulujami subdistrict demonstrates particular strengths in the domains of horticulture, fisheries, trade, and the creative economy.

The local economy is bolstered by distinctive bamboo crafts and horticultural products, including chili peppers. The fisheries sector is also a notable contributor to the local economy, with milkfish and vaname shrimp products being widely cultivated in this area as

brackish water fisheries. Ampelgading subdistrict has considerable potential for the production of food crops, particularly rice and rice products.

This is attributable to the extensive acreage devoted to agricultural production and the availability of requisite resources. As in Kecamatamn Comal, the food crops and food processing industries are the primary sectors, with rice as the principal product. Additionally, Kecamatan Comal is renowned for its textile industry, particularly batik with its distinctive motifs, which are a source of regional pride.

The Pemalang subdistrict, which serves as the administrative center of the regency, demonstrates a notable proficiency in the wood and paper processing industry, in addition to exhibiting a robust presence in the domains of trade and tourism. The primary products are wood handicrafts, such as furniture, and paper products, such as cartons.

In Kecamatan Petarukan, the tourism, trade, and processing and textile industries are considered to be the most prominent sectors, with Batik Petarukan's distinctive motif and tenun ikat products being regarded as the most superior. Furthermore, the food processing industry, which is based on local potential, is also experiencing rapid growth.

The Bodeh subdistrict is distinguished by its prominence in the horticulture, food crops, and livestock sectors. Its vegetable products, including chilies and tomatoes, are renowned for their quality, while its beef cattle farming sector is experiencing rapid growth.

The focus of the Taman subdistrict is on food crops, such as corn and cassava, which are processed into superior food products, including cassava chips and chips. Textile products, such as batik with distinctive motifs, are also

beginning to gain a foothold in the local market. The Randudongkal subdistrict is renowned for its prominence in the food crop sector and food processing industry, with superior products such as roasted peanuts and tofu.

Furthermore, the subdistrict of Randudongkal also exhibits considerable potential in the convection sector, with an increasing number of production centres. Kecamatan Pulosari is distinguished in the horticulture and tourism sectors, with coffee, durian, and vegetables representing the primary products.

Additionally, the region offers opportunities for village tourism. Meanwhile, Warungpring District has a dominant sector in horticulture and food crops, with durian and rice as the primary products. In contrast, the Watukumpul Subdistrict is primarily engaged in the cultivation of food crops, with rice and secondary crops representing the most significant commodities in the local agricultural sector.

In summary, Pemalang Regency has a number of leading sectors, including honey pineapple, coffee, milkfish, textiles, and processed food products. Honey pineapple from Belik represents a primary product in the horticulture sector, with a reputation that extends beyond the local area.

Additionally, coffee from Moga and Pulosari is a significant commodity, with its quality being recognized both within the local market and beyond. The fisheries sector in Ulujami, which produces milkfish products, also makes a significant contribution to the regional economy.

Furthermore, the textile sector, which produces batik and ikat weaving products from Petarukan and Comal, constitutes a significant

component of the expanding local industry. The food processing industry, particularly those based on locally superior commodities, represents a further area of focus for development in Pemalang Regency.

Table 5. Priority Products Mapping of Pemalang Regency

No	Sectors	Leading Products	Product Type	Development Area
1.	Agriculture and Plantations	Honey pineapple	Honey pineapple	Belik
		Coffee	Coffee	Pulosari
2.	Fisheries	Milkfish	Milkfish	Ulujami
3.	Processing Industry	Textiles and Textile Products	*Sarung gloyor*	Taman
			Batik tulis	Comal, Petarukan, Taman
			Textiles	Ulujami, Randudongkal
			Tenun	Petarukan
		Food Processing	Processed crops (cassava crackers, tempeh, riaasted beans)	Ampelgading, Comal, Petarukan, Taman, Randudongkal
			Beverages (Tea, Ginger)	Pulosari
			Processed milkfish and seafood	Comal, Taman
			Processed fruits (*processed pineapple, candied papaya, candied cermai, jenang soursop*)	Belik, Moga
			Coconut Sugar and Brown Sugar.	Bantarbolang

Source: Primary data processed, 2024

The primary objective of the product development strategy in Pemalang Regency should be to implement effective marketing and promotional techniques that leverage digital platforms as the primary means of expanding market reach. It is anticipated that the government will adopt a technology-based approach to enhance the visibility of featured products, including through the implementation of comprehensive digital marketing campaigns. These measures entail the utilisation of social media, e-commerce, and official government websites as platforms for the promotion of local products to a broader audience, both nationally and internationally.

Furthermore, the government has also encouraged businesses to participate in virtual exhibitions and online marketplaces, thereby enabling Pemalang's superior products to compete in the global market. The utilisation of digital platforms enables Pemalang to enhance the competitiveness of its products while

simultaneously facilitating the growth and development of local MSMEs in the digital economy era.

In order to guarantee that superior products in Pemalang Regency are not only acknowledged in the local market but also capable of penetrating a broader market while enhancing their competitiveness, a structured approach is essential, necessitating comprehensive assistance from a range of stakeholders.

Such assistance must be provided by parties at the regency, district, and village levels. At the district level, relevant agencies and economic development institutions must provide training programs and technical guidance for agricultural business actors, with the objective of improving managerial, technical, and marketing skills.

At the subdistrict level, the establishment of robust partnership networks is essential, as is the facilitation of market access and resource acquisition for businesses. At the village level, assistance should be directed towards the enhancement of production capacity and the dissemination of guidance on optimal practices in agriculture and small business management.

Training and education are of paramount importance in equipping the workforce with the requisite skills to drive the development of leading sectors. Training should encompass a range of topics to enable the workforce to respond effectively to technological advancements and evolving best practices.

In the context of production, training should prioritize the acquisition of the most recent techniques in agriculture. This encompasses the utilization of contemporary equipment, the implementation of effective cultivation methodologies, and the development

of sustainable resource management practices. With regard to the administrative aspect, training must encompass managerial competencies such as business planning, financial management, and effective operational administration.

Furthermore, quality control represents a crucial domain that necessitates comprehensive training to guarantee that the products manufactured adhere to elevated and uniform quality benchmarks. Furthermore, the workforce should be trained in marketing and promotion, with skills encompassing effective marketing strategies, the development of appealing promotional campaigns, and an understanding of how to leverage social media to reach a broader audience.

In regard to packaging, training should encompass techniques that safeguard the product while also ensuring visual appeal and compliance with pertinent regulations. Furthermore, social media should not be overlooked as a potential avenue for promotion. Training in the use of social media platforms such as Instagram, Facebook, and TikTok is crucial for developing a robust online presence, thereby facilitating the reach of products to potential consumers across the globe.

One of the principal policies implemented is the organization of technology-based training programs designed to enhance individuals' digital competencies, encompassing instruction in the utilization of e-commerce platforms, digital marketing, and social media management.

Such training programs frequently collaborate with academic institutions, including universities, as well as technology industry partners, with the objective of ensuring that the materials delivered are aligned with market

needs. Moreover, the government has established vocational training centers that offer specialized programs in information and communication technology (ICT).

These centers are furnished with contemporary facilities that permit trainees to learn and practice with the most recent devices and software essential to digital business. The educational programs are designed to benefit not only the younger generation, but also small and medium-sized enterprises (MSMEs), with the objective of enabling them to leverage digital technology to enhance the competitiveness of their products in the market. The government also plays a pivotal role, particularly in regard to regulations and licensing, which frequently present challenges for nascent businesses.

By designating the advancement of principal industries as a national objective, the government can provide enhanced visibility to pioneering products and offer them a framework of policies that foster their expansion. Furthermore, collaboration with other businesses in the form of business partnerships or industry associations can facilitate the expansion of distribution networks and access to wider markets.

Such collaboration allows businesses to share resources, such as distribution infrastructure and marketing strategies, which can result in cost savings and increased efficiency. The development of small and medium-sized industries in Pemalang Regency can be encouraged through the establishment of a partnership and plasma system, whereby larger industries can provide support for the growth of smaller industries.

Such a collaboration mechanism can be realized in the form of corporate social responsibility (CSR) programs, plasma system partnerships, and so forth, thereby creating a mutually beneficial and sustainable business ecosystem.

CONCLUSION

An analysis of location quotient, shift share, and Klassen typology indicates that Pemalang Regency has developed and is experiencing rapid growth in a number of sectors, including agriculture, forestry, fisheries, mining, the processing industry, and financial and insurance services. No sectors were identified as experiencing rapid growth. However, sectors that have developed but are currently experiencing a decline include transportation, accommodation, government administration, education services, health services, and other services. A total of seven sectors were identified as exhibiting a lack of growth, including electricity, gas, water, construction, trade, information, real estate, and corporate services.

Each subdistrict has specific superior products based on local potential, including processed durian, coffee, honey pineapple, batik, weaving, and horticultural products. The five priority products are honey pineapple (Belik), coffee (Pulosari and Moga), milkfish (Ulujami), textiles (Petarukan and Comal), and processed food (Bantarbolang, Taman, Randudongkal, and Moga).

The advancement of leading sectors necessitates a concentration on adaptive marketing, training, partnerships, innovation, and investment, despite the presence of obstacles such as constrained access to capital, technology, labor skills, infrastructure, market access, and bureaucratic regulations. It is crucial to optimize the financial sector in order to provide adequate support for this development.

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Appendix 1. Leading Sectors per Sub-district Based on Field Identification

Subdistrict	Leading Sector	Spesific Leading Products
Moga	Food and beverage processing industry, tourism	Natural tourism potential such as Kampoeng Teh Semugih, *Pemandian Moga*, Curug Sibedil, rafting tourism. Processed products: candied papaya, cermai, jenang sirsak..
Bantarbolang	Food and beverage	Coconut Sugar and Brown Sugar. Bantarbolang has a long

Subdistrict	Leading Sector	Spesific Leading Products
	processing industry	tradition of high-quality gula kelapa production, often marketed as traditional gula merah. Processed food products
Belik	Horticulture, tourism, livestock, food processing	Honey pineapple, livestock (ruminants, poultry), vegetables, and horticultural products. Honey pineapple tourism village, Curug Bengkawah and Sidok, Bukit Mendelem, Candi Batur..
Ulujami	Fisheries, trade, creative economy,	Leading fisheries products: milkfish and vannamei shrimp. Textiles (konveksi) and textile products, fashion products
Ampelgading	Food crops	Paddy and processed rice products. Ampelgading has significant potential in paddy production.
Comal	Food crops, food processing industry, textiles, tourism	Rice and Textile. Known for batik with distinctive motifs as a leading textile product. Processed food products: tofu, tempeh, crackers. Traditional art: brendung.
Pemalang	Wood and paper processing industry, trade, tourism	Woodcraft and paper products such as cartons. Pemalang's wood processing industry produces unique furniture products, as well as paper for various industrial needs. Beach tourism and Desa Wisata Gatra Kencana, religious tourism.
Petarukan	Agriculture, tourism, trade, food processing industry, textiles	Batik Petarukan and tenun ikat, Textile products. Village-based tourism. Local potential-based food processing industry. Products: smoked eggs, salted eggs, tempeh terompah. Food crops: paddy.
Bodeh	Horticulture, food crops, livestock	Commodities of vegetables and fruits (Caverndish banana), especially cabai and tomat known for their quality. Food crops: corn and paddy. Livestock: beef cattle farming.
Taman	Food crops, horticulture, food and beverage processing industry, textiles, trade, tourism	Leading commodities: corn and cassava. Mango arumanis. Food industry potential includes keripik singkong, ikan asap. Textile products include batik with Taman's unique motifs, sarung goyor, batik tulis. Desa Wisata Asemdoyong, Desa Wisata Penggarit (Benowo Park tourism)
Randudongkal	Food crops, food processing industry, textiles, tourism	Food processing products: roasted beans, tofu. Convection center, corn. Bukit Gunung Gajah tourism, rafting.
Pulosari	Horticulture and tourism, food processing industry	Coffee production, horticulture (vegetables), tourism through Tourism and agrotourism villages, processed foods (jahe, cimplung, processed tea).
Warungpring	Horticulture, food crops	Durian, food crops such as paddy and vegetables.
Watukumpul	Food crops, industry	Paddy and corn, crafts such as sapu glagah.

Source: Data Processed, 2024

Appendix 2. Staging of Leading Product Development

Featured Products	Development Areas	Stage 1: Investment and Production	Phase 2: increased productivity and the market	Stage 3: Industrialization and Services	Stage 4: Network Development and Partnerships

Featured Products	Development Areas	Stage 1: Investment and Production	Phase 2: increased productivity and the market	Stage 3: Industrialization and Services	Stage 4: Network Development and Partnerships
Honey Pineapple	Belik	Focus on increasing investment and access to aquaculture technology	Increased Productivity Expansion of planting area Market expansion and processed products Downstream industry integration	Promotion of products to local and national markets Cluster system briefing and industrialization Agro-tourism development	Cooperation with agricultural business actors
Coffee	Pulosari, Moga	Focus on increasing investment and access to aquaculture technology	Innovations in fermentation and roasting processes Increased productivity Development of specific varieties and production technologies	Branding of Pulosari and Moga coffee products Strengthening farmer institutions	Expansion of Pemalang coffee exports and innovation in product variety
Milkfish	Ulujami	Investment in ponds and supporting facilities Expansion of locations for the industrialization of processed seafood	Research on nutrition improvement and enlargement techniques Pond area acceleration Institutional development for the acceleration of integrated agribusiness systems (upstream-downstream)	Encouraging innovation of processed milkfish products Market expansion Industrialization of milkfish products	Expansion of marketing of milkfish products Minatourism development Strengthening export networks
Textiles	Petarukan, Comal	Investments in machinery and technology	Research on design and innovation of	Marketing through online and offline	Expansion of textile products outside the

Featured Products	Development Areas	Stage 1: Investment and Production	Phase 2: increased productivity and the market	Stage 3: Industrialization and Services	Stage 4: Network Development and Partnerships
		rejuvenation Increased labor productivity	eco-friendly textiles Involvement of local resources in the production system	platforms Development of the fashion creative economy	region
Food processed	Bantarbolang, Taman, Randudongkal, Moga	Investment in processing equipment Encouraging licensing and hygiene Encouraging access to capital	Innovations in food processing and packaging Involvement of local resources	Production acceleration Production mechanization	Marketing expansion outside the region MSME-based tourism development

Source: Data Processed, 2024