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Analysis of Location Quotient, Shift-Share Analysis, and Klassen Typology in Determining Leading Regional Products in Sukabumi Regency

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Abstract: Regional economic development requires the identification of leading sectors as a foundation for formulating effective, inclusive, and sustainable development policies. Sukabumi Regency has a diverse economic structure with a dominance of primary sectors; however, a comprehensive study integrating sectoral base analysis, sectoral competitiveness assessment, and the determination of leading regional products is still required. This study aims to analyze the leading economic sectors of Sukabumi Regency using the Location Quotient (LQ), Shift-Share Analysis (SSA), and Klassen Typology approaches. This study employs a descriptive quantitative approach using secondary data consisting of the Gross Regional Domestic Product (GRDP) of Sukabumi Regency and West Java Province for the period 2021–2025, as well as production data of agricultural, plantation, livestock, forestry, and fisheries commodities published by the Central Statistics Agency. The results of the LQ calculation, sectoral competitiveness analysis based on SSA, integration through Klassen Typology, and the formulation of Leading Regional Products (LRPs) based on regional potential and the criteria stipulated in the Regulation of the Minister of Home Affairs Number 9 of 2014 indicate that the leading sector of Sukabumi Regency is the Agriculture, Forestry, and Fisheries sector. Based on the synthesis of sectoral analysis results, commodity potential, value-added opportunities, regional distribution, downstream processing potential, environmental sustainability, and the provisions of Regulation of the Minister of Home Affairs Number 9 of 2014, ten Leading Regional Products of Sukabumi Regency are recommended: banana, coconut, durian, marine fisheries (tuna–skipjack–mackerel tuna), Sukabumi coffee, cayenne pepper, tomato, mangosteen, papaya, and bamboo crafts. The findings of this study are expected to provide a foundation for developing local economic development policies based on regional potential.

Keywords: Location Quotient, Shift-Share Analysis, Klassen Typology, Leading Regional Products, Sukabumi Regency.

INTRODUCTION

Regional economic development is a process aimed at improving community welfare through the utilization of local resources, strengthening regional competitiveness, creating employment opportunities, and reducing development disparities. Regional economic development strategies need to consider the characteristics, economic structure, and specific advantages of each region to ensure that formulated policies encourage inclusive and sustainable growth. Within the context of regional autonomy, identifying leading sectors has become an important instrument for determining development priorities and optimizing local resources based on regional characteristics and potential (Luckyardi et al., 2022; Ningsih & Prabowo, 2023).

Sukabumi Regency is the largest regency in West Java Province, covering an area of approximately 4,145 km² and possessing highly diverse natural resources. Its geographical conditions, including mountainous areas, lowlands, coastal zones, and marine areas, provide significant potential for the agricultural, plantation, forestry, livestock, and fisheries sectors. On the other hand, service activities, trade, construction, and transportation also contribute significantly to the formation of Gross Regional Domestic Product (GRDP). This diverse economic structure highlights the importance of comprehensive sectoral analysis as a basis for determining development priorities that align with the characteristics and potential of Sukabumi Regency (Badan Pusat Statistik Kabupaten Sukabumi, 2025; Badan Pusat Statistik Provinsi Jawa Barat, 2025).

One of the approaches commonly used in regional economic analysis is the Location Quotient (LQ) method. This method is applied to identify the level of economic specialization of a region and distinguish between basic and non-basic sectors by comparing the relative contribution of a sector in the research area with that of a reference region. An LQ value greater than one indicates that a sector has a relatively higher concentration or specialization compared with the reference region, suggesting comparative advantages and potential as a driver of regional economic growth. Conversely, an LQ value below one indicates that the sector's relative contribution remains lower than that of the reference region (Luckyardi et al., 2022; Manalu et al., 2025; Warlina et al., 2023).

However, identifying basic sectors through LQ alone cannot fully describe the ability of a sector to compete and grow relative to the reference region. Therefore, Shift-Share Analysis (SSA) is required to identify sectoral changes and competitiveness by comparing economic growth in the research area with the reference region. Shift-share analysis can decompose sectoral economic changes and identify the contribution of industrial structure and regional competitiveness factors to regional economic growth (Fachrizal et al., 2024; L. Lv & Zhang, 2025). Through SSA, sectors with relatively faster growth compared with the same sectors at the West Java Province level can be identified, providing a basis for determining regional economic development priorities.

To obtain a more comprehensive understanding, this study applies Klassen Typology as an approach to classify the position and development of economic sectors based on a combination of comparative advantage indicators and sectoral growth or competitiveness. The integrated use of LQ, SSA, and Klassen Typology enables the classification of sectors into leading sectors, potential sectors, developing sectors, and relatively lagging sectors. The integration of these methods provides a more comprehensive economic mapping compared with the use of a single indicator and offers a stronger foundation for regional development policy formulation (Kia, 2023; Marshelynda et al., 2025; Warlina et al., 2023).

On the other hand, regional economic development is not solely oriented toward the development of economic sectors but is also directed toward the development of Leading Regional Products (LRPs). In accordance with the Regulation of the Minister of Home Affairs of the Republic of Indonesia Number 9 of 2014 concerning Guidelines for the Development of

Leading Regional Products, the development of LRPs should consider local resource potential, value creation, competitiveness, linkages with micro, small, and medium enterprises (MSMEs), market development opportunities, and their contribution to improving community welfare.

Therefore, leading regional products are not determined merely by production volume but also by their ability to generate added value, strengthen local economic linkages, expand employment opportunities, and encourage sustainable regional development (Helmi et al., 2025; Kementerian Dalam Negeri Republik Indonesia, 2014).

Based on data from the Central Statistics Agency of Sukabumi Regency or Badan Pusat Statistik Kabupaten Sukabumi (2025), Sukabumi Regency possesses various commodity potentials in the horticulture, plantation, forestry, livestock, and fisheries sectors distributed across different sub-districts. These potentials need to be systematically identified and analyzed to provide the local government with an empirical basis for determining priorities in Leading Regional Product development.

Furthermore, changes in economic structure and developments in GRDP sectors after 2021 indicate the need to update leading sector analysis using the latest data for the 2021–2025 period. Such updates are essential to produce policy recommendations that are more relevant to current regional economic conditions and capable of accommodating changes in economic structure and local potential development (Amrin & Rineksi, 2025; Badan Pusat Statistik Kabupaten Sukabumi, 2025).

Based on the aforementioned background, this study aims to:

1. Identify the basic economic sectors of Sukabumi Regency using the Location Quotient (LQ) method;
2. Analyze sectoral competitiveness using Shift-Share Analysis (SSA);
3. Classify economic sectors based on Klassen Typology; and
4. Formulate recommendations for Leading Regional Products of Sukabumi Regency based on the synthesis of sectoral analysis results, commodity potential data, and Leading Regional Product development criteria.

METHOD

This study employs a descriptive quantitative approach using secondary data. This approach was selected because it provides an objective description of the regional economic structure, sectoral specialization level, regional competitiveness, and the position of each sector in regional economic development.

A quantitative approach based on secondary data is widely applied in regional economic studies because it enables researchers to systematically identify economic growth patterns, leading sectors, and regional development directions using regional economic indicators (Fachrizal et al., 2024; Kia, 2023; Warlina et al., 2023).

The data used in this study consist of the Gross Regional Domestic Product (GRDP) of Sukabumi Regency by business sector for the period 2021–2025 and the GRDP of West Java Province as the reference region. In addition, this study utilizes statistical data on horticultural crops, plantations, livestock, forestry, and fisheries production published by the Central Statistics Agency of Sukabumi Regency or Badan Pusat Statistik Kabupaten Sukabumi (2025) as the basis for determining Leading Regional Products (LRPs).

The use of GRDP data is a commonly applied approach in regional economic analysis because it reflects economic structure, sectoral growth, and the contribution of each sector to regional economic performance (Amrin & Rineksi, 2025; Marshelynda et al., 2025).

The research object includes all 17 economic sectors classified in the GRDP according to the Central Statistics Agency classification. The analysis was conducted through three main stages as follows:

1. Location Quotient (LQ) Analysis. The Location Quotient (LQ) method was used to identify basic sectors, namely sectors with a higher level of specialization compared with the reference region. An LQ value greater than one **(**LQ > 1**)** indicates that a sector is categorized as a basic sector with comparative advantages, whereas an LQ value below one (LQ < 1) indicates a non-basic sector (Luckyardi et al., 2022; Manalu et al., 2025; Warlina et al., 2023).
2. Shift-Share Analysis (SSA). Shift-Share Analysis (SSA) was used to analyze sectoral competitiveness by comparing the economic growth of Sukabumi Regency with that of West Java Province. A positive SSA value indicates that a sector possesses competitive advantages because it grows faster than the same sector in the reference region. Conversely, a negative SSA value indicates that the sector is relatively less competitive (Fachrizal et al., 2024; D. Lv et al., 2021).
3. Klassen Typology Analysis. Klassen Typology was used to integrate the results of LQ and SSA analyses, enabling economic sectors to be classified into four quadrants: Leading sectors (basic and competitive sectors); Potential sectors (basic but less competitive sectors); Developing sectors (non-basic but competitive sectors); and Lagging sectors (non-basic and less competitive sectors).

The combination of these three analytical methods provides a more comprehensive understanding of regional economic sector positions compared with the use of a single method separately (Kia, 2023; Marshelynda et al., 2025).

The next stage involved formulating recommendations for Leading Regional Products (LRPs) through the synthesis of sectoral analysis results by considering the criteria stipulated in the Regulation of the Minister of Home Affairs of the Republic of Indonesia Number 9 of 2014 concerning Guidelines for the Development of Leading Regional Products.

These criteria include: local resource potential; economic value-added creation; regional distribution; employment absorption capacity; downstream processing opportunities; support for micro, small, and medium enterprises (MSMEs); environmental sustainability; export opportunities; and strengthening regional identity (Kementerian Dalam Negeri Republik Indonesia, 2014).

Furthermore, the synthesis results were used to formulate recommendations for the ten Leading Regional Products of Sukabumi Regency that have the greatest potential to support local-resource-based economic development.

RESULTS AND DISCUSSION

Identification of Basic Sectors in Sukabumi Regency Based on Location Quotient (LQ) Analysis

The Location Quotient (LQ) analysis was employed to identify economic sectors that possess relatively higher levels of specialization compared with the reference region, namely West Java Province. The LQ value reflects the ability of a sector to fulfill internal economic needs and its potential to generate economic surplus that can become a driver of regional development.

In regional economic studies, the LQ method remains one of the most widely applied approaches for identifying basic sectors because it provides a simple and easily interpretable measure of regional comparative advantage (Manalu et al., 2025; Warlina et al., 2023).

In this study, a sector is categorized as a basic sector when it has an LQ value greater than one (LQ > 1). This indicates that the contribution of the sector to the economy of Sukabumi Regency is higher than the contribution of the same sector at the West Java Province level. Conversely, sectors with an LQ value below one (LQ < 1) are categorized as non-basic sectors because their level of specialization remains below the average of the reference region (Kia, 2023; Manalu et al., 2025).

The results of the LQ calculation for the 17 GRDP sectors of Sukabumi Regency during the 2021–2025 period indicate that there are nine basic sectors and eight non-basic sectors.

Table 1. Economic Sector Classification Based on LQ Values in Sukabumi Regency, 2021–2025

No.	Sector	LQ Value (2025)	Classification
1	Agriculture, Forestry, and Fisheries	2.83	Basic
2	Mining and Quarrying	4.01	Basic
3	Manufacturing Industry	0.43	Non-basic
4	Electricity and Gas Supply	0.31	Non-basic
5	Water Supply; Waste Management, Waste Treatment, and Recycling	0.44	Non-basic
6	Construction	1.49	Basic
7	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	1.19	Basic
8	Transportation and Warehousing	1.34	Basic
9	Accommodation and Food Service Activities	0.88	Non-basic
10	Information and Communication	0.72	Non-basic
11	Financial and Insurance Activities	0.30	Non-basic
12	Real Estate Activities	1.63	Basic
13	Business Services	0.78	Non-basic
14	Public Administration, Defense, and Compulsory Social Security	1.34	Basic
15	Education Services	1.63	Basic
16	Human Health and Social Work Activities	1.18	Basic
17	Other Services Activities	0.74	Non-basic

Based on these findings, the Agriculture, Forestry, and Fisheries sector demonstrates a very strong position as a basic sector in Sukabumi Regency, with an LQ value increasing from 2.64 in 2021 to 2.83 in 2025. This condition indicates that Sukabumi Regency possesses strong comparative advantages in natural resource-based sectors.

This finding is consistent with Warlina et al. (2023), who stated that the agricultural sector remains a basic sector in many regions of West Java due to the availability of natural resources, extensive agricultural land, and its contribution to community economic activities. This result further confirms that agriculture continues to serve as a foundation for local-resource-based regional economic development.

In addition to agriculture, the Mining and Quarrying sector recorded the highest LQ value, reaching 4.01 in 2025. This value indicates a very high level of specialization compared with West Java Province.

However, the development of the mining sector must consider sustainable development principles because mining activities are closely associated with the utilization of non-renewable resources and potential environmental impacts. Therefore, the development of this sector requires a balance between economic growth and environmental sustainability (D. Lv et al., 2021; Marshelynda et al., 2025).

Other important basic sectors include: Construction; Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles; Transportation and Warehousing; Real Estate Activities; Public Administration, Defense, and Compulsory Social Security; Education Services; and Human Health and Social Work Activities. The existence of these sectors indicates that the economic structure of Sukabumi Regency is not solely dependent on primary sectors but has also begun to diversify toward service sectors and infrastructure development. This condition reflects a gradual economic transformation process that strengthens inter-sectoral linkages in supporting regional economic growth (Amrin & Rineksi, 2025; Fachrizal et al., 2024).

Overall, the LQ analysis demonstrates that Sukabumi Regency possesses a combination of comparative advantages in natural resource-based sectors and the development of supporting service sectors that have the potential to strengthen regional economic growth. These findings indicate that basic sectors should become priorities in regional development policies because they have the capacity to generate economic surplus and stimulate activities in other sectors. The results are also consistent with previous regional economic studies, which emphasize that identifying basic sectors through LQ analysis represents an important initial step in formulating local-resource-based economic development strategies.

Sectoral Competitiveness Analysis Based on Shift-Share Analysis (SSA)

Shift-Share Analysis (SSA) was applied to identify the competitive capacity of economic sectors compared with the reference region. In this study, West Java Province was used as the comparative region. The SSA method enables researchers to determine whether sectoral growth is influenced by general economic growth or by the competitive advantages possessed by the region. Therefore, SSA is widely used in regional economic analysis to evaluate sectoral competitiveness and determine regional development priorities (Fachrizal et al., 2024; D. Lv et al., 2021).

A positive SSA value indicates that a sector experiences faster growth than the same sector at the provincial level, demonstrating competitive advantages. Conversely, a negative SSA value indicates that sectoral growth is relatively slower than the reference region, suggesting the need for policy interventions, productivity improvement, and strengthening of competitiveness (Amrin & Rineksi, 2025; Kia, 2023).

Table 2. Shift-Share Analysis Results of Sukabumi Regency, 2022–2025

No.	Sector	SSA Value	Rank
1	Real Estate Activities	0.16	1
2	Transportation and Warehousing	0.15	2
3	Business Services	0.11	3
4	Information and Communication	0.09	4
5	Water Supply; Waste Management, Waste Treatment, and Recycling	0.08	5
6	Human Health and Social Work Activities	0.07	6
7	Accommodation and Food Service Activities	0.07	7
8	Education Services	0.06	8
9	Agriculture, Forestry, and Fisheries	0.05	9
10	Other Services Activities	0.04	10
11	Financial and Insurance Activities	0.03	11
12	Public Administration, Defense, and Compulsory Social Security	0.02	12
13	Electricity and Gas Supply	0.01	13
14	Construction	0.00	14
15	Manufacturing Industry	-0.01	15
16	Wholesale and Retail Trade	-0.03	16
17	Mining and Quarrying	-0.09	17

Based on the SSA calculation results, several sectors demonstrate relatively high competitiveness. The sector with the highest SSA value is Real Estate Activities, with a value of 0.16, followed by Transportation and Warehousing at 0.15, and Business Services at 0.11.

These positive values indicate that the three sectors have experienced relatively faster growth compared with the same sectors at the West Java Province level, demonstrating their competitive advantages in supporting economic growth in Sukabumi Regency. This finding is consistent with Amrin & Rineksi (2025), who found that service sectors and supporting economic activities have become new sources of growth in various regions of Indonesia, driven by urbanization, investment development, and increasing local economic activities.

The growth of the Real Estate Activities sector indicates increasing economic activities related to residential development, commercial facilities, and supporting infrastructure. The expansion of this sector reflects increasing demand for economic spaces due to population growth, investment activities, and urban area expansion. Marshelynda et al. (2025) also found that the real estate sector plays an increasingly important role in regional economic transformation because it generates multiplier effects by stimulating growth in other economic sectors.

The Transportation and Warehousing sector also demonstrates strong competitiveness with an SSA value of 0.15. The geographical characteristics of Sukabumi Regency, which includes extensive agricultural areas, coastal regions, and access routes to economic centers, have increased the demand for goods distribution systems and community mobility. The improvement of logistics activities strengthens the role of transportation as a strategic sector in supporting regional connectivity and supply chain efficiency. This finding is consistent with Fachrizal et al. (2024), who stated that improvements in transportation infrastructure and logistics systems contribute significantly to regional economic competitiveness.

Meanwhile, the Agriculture, Forestry, and Fisheries sector obtained a positive SSA value of 0.05. This result indicates that the sector not only possesses comparative advantages based on LQ analysis but also maintains the ability to grow faster than the same sector at the West Java Province level. This condition demonstrates that agriculture remains one of the main drivers of Sukabumi Regency's economy, supported by natural resource potential, extensive land availability, and high production activities in agriculture, plantations, and fisheries. This finding supports Warlina et al. (2023), who emphasized that agriculture remains a strategic sector in many regions of West Java because it possesses comparative advantages while contributing significantly to regional economic growth.

On the other hand, the Mining and Quarrying sector recorded a negative SSA value of –0.09. Although this sector has a very high LQ value and is categorized as a basic sector, its growth is relatively slower compared with the reference region. This condition indicates that the mining sector has not yet demonstrated sufficient competitive advantages. Therefore, improvement strategies are required, including efficiency enhancement, technology adoption, and strengthening environmental sustainability practices. D. Lv et al. (2021) explained that natural-resource-based sectors often experience slower growth when they are not accompanied by innovation, productivity improvement, and sustainable resource management.

Overall, the SSA analysis demonstrates that Sukabumi Regency's economic structure has gradually shifted toward strengthening service sectors, transportation, and real estate as highly competitive sectors, while maintaining agriculture as a strategic economic foundation. These findings indicate that regional economic development in Sukabumi Regency is not solely dependent on primary sectors but is increasingly supported by sectors that improve distribution efficiency, economic services, and regional investment. Therefore, sectors with positive SSA values should become priorities in regional development policies to achieve more sustainable and competitive economic growth.

Integration of LQ and SSA Analysis through Klassen Typology

Klassen Typology was applied to integrate the results of comparative advantage analysis (LQ) and competitive advantage analysis (SSA).

This approach produces four groups of economic sectors:

1. Quadrant I: Basic and competitive sectors (LQ > 1 and SSA positive);
2. Quadrant II: Basic but less competitive sectors (LQ > 1 and SSA negative);
3. Quadrant III: Non-basic and less competitive sectors (LQ < 1 and SSA negative);
4. Quadrant IV: Non-basic but competitive sectors (LQ < 1 and SSA positive).

Table 3. Klassen Typology Matrix of Sukabumi Regency

QUADRANT	SECTOR
Quadrant I (Basic and Competitive)	Agriculture, Forestry and Fisheries; Construction; Transportation and Warehousing; Real Estate Activities; Public Administration; Education Services; Human Health Services
Quadrant II (Basic but Less Competitive)	Mining and Quarrying; Wholesale and Retail Trade
Quadrant III (Non-basic and Less Competitive)	Manufacturing Industry
Quadrant IV (Competitive but Non-basic)	Electricity and Gas Supply; Water Supply; Accommodation and Food Service Activities; Information and Communication; Financial Services; Business Services; Other Services Activities

The Klassen Typology results show that seven sectors are included in Quadrant I, namely sectors that possess both comparative and competitive advantages. These sectors represent the main priorities for Sukabumi Regency's economic development because they have the capacity to become drivers of regional economic growth. The Agriculture, Forestry, and Fisheries sector is considered a strategic sector because it demonstrates high LQ values and positive growth performance. This condition confirms that local resource-based sectors remain the foundation of Sukabumi Regency's economy.

However, sectors included in Quadrant IV also require attention because they demonstrate rapid growth despite not yet becoming basic sectors. Sectors such as information and communication, business services, and other services have the potential to develop into new leading sectors if supported by investment policies and human resource capacity development.

Determination of Leading Regional Products of Sukabumi Regency

The determination of Leading Regional Products (LRPs) is not solely based on the production volume of commodities but also considers strategic aspects related to regional competitiveness, economic value creation, local community involvement, and sustainable development. Leading regional products are products that possess comparative and competitive advantages, are based on local resources, and are capable of contributing to increased community income and strengthened regional economic development (Helmi et al., 2025; Prasetyo et al., 2022; Yana & Rusmina, 2026).

In accordance with the Regulation of the Minister of Home Affairs of the Republic of Indonesia Number 9 of 2014 concerning Guidelines for the Development of Leading Regional Products, LRP development aims to increase regional product competitiveness through local resource utilization, value-added creation, community business capacity improvement, and strengthening linkages between production sectors and processing industries.

Therefore, a product cannot be categorized as a leading regional product merely based on production quantity; rather, it must demonstrate the ability to develop economically and provide broader benefits to society (Kementerian Dalam Negeri Republik Indonesia, 2014).

Criteria for Determining Leading Regional Products

In this study, the criteria used to determine the Leading Regional Products of Sukabumi Regency include:

1. Local resource potential;
2. Economic value added;
3. Employment absorption capacity;
4. Linkages with micro, small, and medium enterprises (MSMEs);

5. Product downstreaming opportunities;
6. Regional distribution;
7. Environmental sustainability; and
8. National and international market opportunities.

This approach is consistent with studies on regional economic development, which argue that the selection of leading commodities should consider not only production aspects but also value chains, processing capacity, market access, and their contribution to local economic development.

Based on the results of the leading sector analysis using Location Quotient (LQ), Shift-Share Analysis (SSA), and Klassen Typology, commodity production data from the Central Statistics Agency of Sukabumi Regency for 2025, and an assessment of product downstreaming potential, ten Leading Regional Products of Sukabumi Regency are recommended.

Table 4. Recommended Leading Regional Products of Sukabumi Regency

Rank	Leading regional product	Rationale
1	Banana	Highest production, widely distributed, and suitable as a raw material for processed industries
2	Coconut	High plantation production and substantial downstreaming potential
3	Durian	Strong regional identity and high economic value
4	Marine Fisheries (Tuna–Eastern Little Tuna–Skipjack Tuna)	Major economic base of the Palabuhanratu coastal area
5	Sukabumi Coffee	High value-added potential and specialty coffee market opportunities
6	Cayenne Pepper	High production volume and involvement of numerous farmers
7	Tomato	Mountainous production centers and opportunities for processed industries
8	Mangosteen	Export-oriented commodity with high market value
9	Papaya	High production volume and wide distribution
10	Bamboo Crafts	MSME-based, environmentally friendly, and part of the creative economy

Note: For consistency with international terminology, "Tuna–Tongkol–Cakalang" is rendered as "Tuna–Eastern Little Tuna–Skipjack Tuna."

The banana is ranked first because it demonstrates the strongest combination of production volume, geographical distribution, employment absorption, and downstream industrial development potential. According to data from Badan Pusat Statistik Kabupaten Sukabumi (2025), banana production in Sukabumi Regency reached approximately 3.07 million quintals in 2024 and was distributed across various sub-districts. In addition to having a large direct-consumption market, bananas offer considerable potential for developing derivative products, including banana sale, banana chips, banana flour, puree, and various other processed food products. The development of processing-based commodities is important because it can generate greater value added than the sale of primary products alone.

The coconut occupies a strategic position because almost every part of the plant can be utilized, thereby supporting the concept of a circular economy. Coconut can be developed into various derivative products, including Virgin Coconut Oil (VCO), coconut sugar, coconut milk, cocopeat, coconut fiber, and coconut shell charcoal. The utilization of various parts of the coconut plant can reduce waste while increasing community income through product diversification. Downstream development of local commodities is an important strategy for strengthening regional economic competitiveness.

Durian and mangosteen possess advantages in terms of regional identity, economic value, and opportunities for premium market development. These commodities have potential not only as agricultural products but also as components of agritourism strategies, regional fruit festivals, local branding, and quality improvement through product certification. This approach demonstrates that leading regional products can serve as instruments for strengthening regional identity while simultaneously increasing the economic value generated by local communities.

Meanwhile, marine fisheries, particularly tuna, eastern little tuna, and skipjack tuna, represent a leading product based on the potential of the coastal area, with Palabuhanratu serving as a major center of economic activity. Sukabumi Regency has substantial marine fisheries potential due to its southern coastal area and active capture fisheries. These fisheries products offer considerable downstreaming opportunities through processing into fish fillets, frozen fish, shredded fish, pindang, and other processed products for both domestic and export markets. Strengthening the fish-processing industry can increase value added while expanding employment opportunities for coastal communities.

In addition to agricultural and fisheries-based products, Sukabumi coffee is recommended as a Leading Regional Product because of its high value-added characteristics. Although its production volume is not as large as that of other major food commodities, coffee has considerable development potential through the specialty coffee concept, geographical branding, coffee-processing industries, and coffee tourism. This demonstrates that a leading regional product is not necessarily determined by production volume alone but also by its capacity to generate higher economic value through innovation and product differentiation.

Bamboo crafts are also recommended as a Leading Regional Product because they possess characteristics that distinguish them from agricultural commodities. This product is rooted in the creative economy, involves MSMEs, utilizes renewable resources, and has broad market potential. The development of creative industries based on local resources can serve as a strategy for regional economic diversification because it can create employment opportunities while supporting environmental sustainability (Kurniawan et al., 2023; Mursidi & Soetopo, 2025).

Therefore, the determination of the ten Leading Regional Products of Sukabumi Regency is not based solely on production volume. Rather, it represents a synthesis of economic sector advantages, local commodity potential, downstreaming capacity, regional distribution, environmental sustainability, MSME involvement, and opportunities to improve community welfare.

This multidimensional approach is consistent with the concept of modern regional economic development, which positions leading products as instruments for enhancing competitiveness and promoting local-potential-based regional development.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the results of the Location Quotient (LQ), Shift-Share Analysis (SSA), and Klassen Typology analyses, as well as the assessment of local commodity potential for determining the Leading Regional Products (LRPs) of Sukabumi Regency, the following conclusions can be drawn:

1. The results of the Location Quotient (LQ) analysis indicate that Sukabumi Regency has nine basic sectors with comparative advantages relative to West Java Province. These sectors are Agriculture, Forestry and Fisheries; Mining and Quarrying; Construction; Wholesale and Retail Trade; Transportation and Warehousing; Real Estate Activities; Public Administration, Defense and Compulsory Social Security; Education Services; and Human Health and Social Work Activities. The Agriculture, Forestry and Fisheries sector is particularly strategic because it consistently recorded a high LQ value during the 2021–

2025 period, indicating the strength of Sukabumi Regency's local-resource-based economic foundation.

2. The results of the Shift-Share Analysis (SSA) indicate that several sectors have relatively higher competitiveness compared with West Java Province. The sectors with the highest SSA values are Real Estate Activities, Transportation and Warehousing, and Business Services. In addition, the Agriculture, Forestry and Fisheries sector also recorded a positive SSA value, indicating that it possesses not only comparative advantages but also the capacity to grow competitively.
3. The integration of LQ and SSA analyses through Klassen Typology identified seven sectors in Quadrant I, which represents the leading sector category. These sectors are Agriculture, Forestry and Fisheries; Construction; Transportation and Warehousing; Real Estate Activities; Public Administration, Defense and Compulsory Social Security; Education Services; and Human Health and Social Work Activities. These sectors combine comparative and competitive advantages and therefore merit priority in the economic development strategy of Sukabumi Regency.
4. Based on the synthesis of economic sector analysis, local commodity potential, value-added aspects, downstreaming opportunities, regional distribution, environmental sustainability, and the criteria stipulated in the Regulation of the Minister of Home Affairs of the Republic of Indonesia Number 9 of 2014, the Agriculture, Forestry and Fisheries sector serves as the primary sectoral basis for the development of leading regional products. Accordingly, ten Leading Regional Products of Sukabumi Regency are recommended: (1) banana, (2) coconut, (3) durian, (4) marine fisheries, particularly tuna–eastern little tuna–skipjack tuna, (5) Sukabumi coffee, (6) cayenne pepper, (7) tomato, (8) mangosteen, (9) papaya, and (10) bamboo crafts.
5. The determination of Leading Regional Products in Sukabumi Regency should not be based solely on production aspects but also on the ability of products to generate economic value added, absorb labor, strengthen MSMEs, support the creative economy, enhance regional competitiveness, and maintain environmental sustainability. Therefore, LRP development should be directed not only toward increasing primary production but also toward strengthening value chains through processing, marketing, regional branding, and broader market development.

Recommendations

Based on the findings of this study, the following recommendations are proposed:

1. The Sukabumi Regency Government should prioritize the sectors classified in Quadrant I of the Klassen Typology in its regional economic development policies. The Agriculture, Forestry and Fisheries sector should be positioned as a strategic sector because it possesses both comparative advantages and competitiveness. Development policies should focus on improving productivity, modernizing production technologies, strengthening farmer institutions, and developing processing industries based on local resources.
2. The development of Leading Regional Products should be pursued through downstreaming and value-added enhancement. Commodities such as bananas, coconuts, durians, coffee, mangosteens, chilies, and tomatoes should not be developed merely as raw materials but should be transformed into higher-value processed products, including processed foods, beverages, export-oriented products, and creative products based on local potential.
3. The local government should establish an integrated ecosystem for Leading Regional Product development involving multiple stakeholders. Synergy among local government institutions, higher education institutions, MSMEs, farmer groups, cooperatives, processing industries, and marketing institutions is essential to ensure the sustainable development of leading regional products.

4. Stronger branding of Sukabumi Regency's Leading Regional Products is needed. Products such as Sukabumi Coffee, Sukabumi Durian, Sukabumi Mangosteen, and bamboo crafts should be developed as regional identities through product certification, digital promotion, improved packaging, and marketing strategies based on the creative economy and tourism.
5. The development of Leading Regional Products should take into account spatial equity across northern, central, and southern Sukabumi. Leading products should not be concentrated in particular areas but should be developed in ways that create new centers of economic growth involving various sub-districts, thereby ensuring a more equitable distribution of development benefits.
6. Future studies are recommended to adopt a more comprehensive approach by incorporating weighting methods such as the Analytical Hierarchy Process (AHP), SWOT analysis, value chain analysis, and market competitiveness analysis. These approaches can facilitate a more measurable determination of Leading Regional Product priorities. Further research could also examine implementation strategies for the development of each Leading Regional Product through business models, institutional arrangements, and supply chain governance.

Limitations

This study has several limitations that should be considered when interpreting its findings.

First, the study employs a quantitative approach based on secondary data, particularly Gross Regional Domestic Product (GRDP) data, commodity production data, and official statistical publications. Although this approach provides a macro-level description of the economic structure and potential leading sectors, it does not fully capture micro-level aspects such as the conditions of business actors, MSME capacity, local economic institutions, and market behavior.

Second, the identification of leading sectors in this study integrates the Location Quotient (LQ), Shift-Share Analysis (SSA), and Klassen Typology methods. Although these methods are effective for identifying basic sectors and sectoral competitiveness, they have limitations because they do not comprehensively incorporate aspects such as value chains, product competitiveness, consumer preferences, and technological readiness in the development of Leading Regional Products (LRPs).

Third, the determination of the ten Leading Regional Products of Sukabumi Regency was conducted through a synthesis of regional economic analysis, commodity potential data, and the criteria stipulated in the Regulation of the Minister of Home Affairs of the Republic of Indonesia Number 9 of 2014. However, this study did not employ quantitative weighting methods such as the Analytical Hierarchy Process (AHP) or other multi-criteria decision-making methods. Consequently, the prioritization among products remains primarily analytical and descriptive.

Fourth, limitations in data availability prevented a more in-depth analysis of several aspects, including regional product export values, processing industry capacity, the number of MSME actors by commodity, and the contribution of the creative economy. Therefore, the findings of this study should be viewed as an initial basis for determining the direction of Leading Regional Product development in Sukabumi Regency.

Recommendations For Future Research

In light of these limitations, future research is recommended to develop a more comprehensive approach to the identification and development of Leading Regional Products.

First, future studies could integrate regional economic methods with qualitative approaches through in-depth interviews with local government officials, MSME actors, farmer groups, cooperatives, processing industries, and market participants. Such an approach could provide a more comprehensive understanding of the constraints and opportunities associated with Leading Regional Product development.

Second, subsequent research could employ the Analytical Hierarchy Process (AHP), Multi-Criteria Decision Making (MCDM), SWOT Analysis, or Value Chain Analysis to establish more measurable priorities for Leading Regional Products based on various indicators, including economic value, competitiveness, sustainability, technological readiness, and market opportunities.

Third, the Sukabumi Regency Government is encouraged to develop a roadmap for Leading Regional Product development that links leading sectors identified through regional economic analysis with the development of priority commodities. The roadmap should encompass strategies for production, processing, marketing, business digitalization, institutional strengthening, and the expansion of access to national and international markets.

Fourth, further research is needed on downstreaming models for leading regional products, particularly for priority commodities such as bananas, coconuts, durians, Sukabumi coffee, mangosteens, and marine fisheries. Such research is expected to facilitate the transformation of local resource potential into greater economic value for the people of Sukabumi Regency.

Author Contributions

The contributions of each author to this study are as follows:

Author 1: Contributed to the conceptualization of the study, research design, methodology development, regional economic data analysis, interpretation of the research findings, and preparation of the main manuscript.

Author 2: Contributed to the collection and processing of secondary data, validation of GRDP and regional commodity potential data, and assisted in the analysis of Location Quotient (LQ), Shift-Share Analysis (SSA), and Klassen Typology.

Author 3: Contributed to the analysis of Leading Regional Products (LRPs), examination of regulations related to the Regulation of the Minister of Home Affairs of the Republic of Indonesia Number 9 of 2014, analysis of product downstreaming potential, and provided input on the discussion and policy implications of the study.

Author 4: Contributed to the methodological review, refinement of the analysis, manuscript quality assessment, interpretation of findings, and finalization of the article for publication.

All authors contributed to the scientific discussion and manuscript revision and approved the final version of the article for publication.

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