Efficient Vol 8 (3) (2025): 325-336 DOI: https://doi.org/10.15294/a94hfd53

EFFICIENT

Indonesian Journal of Development Economics

https://journal.unnes.ac.id/sju/index.php/efficient

Exploring the Economic Potential of The Region: Spatial Analysis of Key Sectors for Food Security in Lampung

Resha Moniyana Putri[1]✉, Thomas Andrian[1], Vitriyani Tri Purwaningsih[1], Ahmad Rowatul Irham[2], Arya Radinsyah Fauzi[1], M. Ikhsan Nur Rozak[1], Nur Lissa[1]

[1]Economic Development Study Program, Faculty of Economic and Business, Universitas Lampung
[2]Urban and Regional Planning Study Program, Faculty of Science and Engineering, Universitas Bangka Belitung

Permalink/DOI: https://doi.org/10.15294/a94hfd53

Submitted: June 2025; Revised: September 2025; Accepted: December 2025

Abstract

Food security is a strategic issue and a priority for national development in Indonesia, particularly in provinces with significant agricultural potential such as Lampung. This study aims to identify leading and potential sectors that contribute to strengthening food security by applying Location Quotient (LQ), Growth Ratio Model (GRM), Overlay Analysis, and Spatial Analysis. The LQ results indicate seven basic sectors, including food crops, agricultural services, livestock, fisheries, plantations, horticulture, and the food and beverage industry. Further analysis through GRM and Overlay shows that livestock and the food and beverage industry are categorized as leading sectors, while food crops, agricultural services, fisheries, plantations, and horticulture are identified as potential sectors. Spatial analysis highlights Central Lampung, East Lampung, South Lampung, Tulang Bawang, and North Lampung as key regions with sectoral specialization, supported by natural resources, infrastructure, and industrial networks. The findings demonstrate that Lampung Province plays a vital role as a national food barn, but challenges remain, including land conversion, productivity disparities, and post-harvest management. Therefore, integrated policies that combine sectoral revitalization, spatial planning, and sustainable management are required. This research provides a comprehensive foundation for formulating regional economic development strategies to enhance food security resilience in Lampung Province.

Keywords: Food Security, Lampung Province, Location Quotient, Growth Ratio Model, Overlay, Spatial Analysis

How to Cite: Exploring the Economic Potential of The Region: Spatial Analysis of Key Sectors for Food Security in Lampung. (2025). Efficient: Indonesian Journal of Development Economics, 8(3), 323-334. https://doi.org/10.15294/a94hfd53

✉ Correspondence Address :
Address: Jl. Soemantri Brojonegoro No.01, Labuhan Ratu, Bandar Lampung
E-mail : Resha.moniyana@feb.unila.ac.id

INTRODUCTION

Food security is a strategic issue that is a national development priority in facing global challenges, such as climate change, population growth, land degradation, and socio-economic dynamics (Suryana, 2024). Food is not only a basic human need, but also a pillar of social, economic, and political stability in a country.

Therefore, efforts to achieve food security need to be carried out systematically through regional development that considers the potential and sectoral characteristics of each region. In this context, identifying leading sectors is an important step to ensure the availability, affordability, and sustainability of food resources (Rumawas et al., 2021), especially in regions with strategic roles such as Lampung Province.

Lampung Province is known as one of the national food barns with a significant contribution to agricultural, plantation, and fishery production (Alghifari, 2022). Its strategic location at the southern tip of Sumatra Island makes Lampung a vital link between Sumatra and Java. However, despite its great potential, Lampung still faces various challenges in optimising its leading sectors to support food security. Development disparities between regions, productivity inequalities, and the lack of spatial data utilisation in sector planning are obstacles that require a comprehensive and region-based analytical approach.

From a regional economic perspective, food security can only be achieved if the productive sectors that support the food system have strong competitiveness and growth. This is in line with the base economy theory, which emphasises the importance of income-generating sectors from outside the region as a trigger for local economic growth through the multiplier effect (Saharuddin, 2005; Suseno, 2017). Leading sectors are usually identified as base sectors that have a relative advantage over other regions and contribute significantly to regional income, employment opportunities, and regional growth dynamics (Saputra et al., 2023).

Therefore, regional development based on local potential must be directed towards leading sectors that are capable of creating added value, expanding employment opportunities, and strengthening the food system. Food security itself is a multidimensional concept that encompasses the aspects of food availability, accessibility, utilisation, and stability (Chung et al., 1997).

A resilient food system must be able to withstand climate change, economic crises, and population pressures. Therefore, regional development and food security are closely related, as the success of a food system is greatly influenced by how a region manages its resources, infrastructure, and public policies in a sustainable manner (Alijca, 2009).

Within the methodological framework, the identification of leading sectors is carried out using quantitative approaches such as Location Quotient (LQ) and Shift Share Analysis. LQ is used to measure the relative advantage of a sector compared to other regions, while Shift Share provides insight into the dynamics of sector growth within the regional economic framework (Arjuniadi et al., 2025).

The integration of these two methods provides a more holistic analysis of sectoral advantages, both statically and dynamically. To strengthen the results, overlaying with a growth ratio model can add depth to the analysis by looking at sector growth trends compared to regional or national averages. The combination of LQ, Shift Share, and growth ratio results

enables the production of accurate sectoral maps as a basis for development policy interventions based on regional potential.

At the same time, spatial analysis plays an important role in mapping the geographical distribution of leading sectors, revealing patterns of economic activity concentration, and identifying potential regional clusters for food security development (Anggraini et al., 2021). Thus, a quantitative approach combined with a spatial one can provide comprehensive information to support more equitable and sustainable cross-regional development.

In line with recent developments, food security has become a major issue in global development with a multidimensional approach that emphasises not only production but also distribution and access to food. Food system analysis emphasises the importance of interconnections between sectors, including agriculture, infrastructure, and policy, to strengthen efficient food availability (Wang et al., 2025). Meanwhile, various previous studies have shown that identifying leading sectors using the LQ and Shift Share methods are key instruments in determining development priorities (Khusaini, 2015).

In fact, recent studies emphasise the importance of spatial mapping in identifying potential regional clusters that can strengthen food security at the regional level (Li et al., 2024). With the integration of leading sector theory, the concept of food security, and a spatial approach, regional development research in the modern era can produce more adaptive, responsive, and contextual strategies.

Based on this background and theoretical review, the main problem addressed in this study focuses on identifying leading sectors that have the potential to support food security in Lampung Province through Location Quotient (LQ) analysis, Shift Share, and spatial distribution. Furthermore, this study examines how the results of spatial mapping of these sectors can be used to formulate priority areas in efforts to strengthen regional food security.

The objectives of this study are to identify leading sectors in Lampung Province that contribute to food security using the LQ, Shift Share, and spatial analysis approaches, as well as to analyse the spatial distribution of leading sectors to determine priority areas that can be used as a basis for formulating regional economic development policies based on food security.

RESEARCH METHODS

The scope of this study covers regencies/municipalities in Lampung Province, focusing on the identification of leading economic sectors, spatial distribution analysis, and the formulation of strategies to support food security. The research objects are economic sectors that contribute significantly to regional food security, examined through quantitative and spatial approaches.

The first method applied is the Location Quotient (LQ) analysis, which is a common approach to identify the basic economic sectors in a region. This analysis compares the role of a specific economic sector within a region to the role of the same sector at a broader reference level, in this case, Lampung Province (Tarigan, 2015:82). The study employs a value-added or GRDP (Gross Regional Domestic Product) approach with the following formula:

$$LQ_{NT} = \frac{(X_{ij}/X_i)}{(X_{ip}/X_i)}$$

Where Xij represents GRDP of sector i in regency/municipality j; Xj represents total GRDP of regency/municipality j; Xip represents GRDP of sector i in the province; and Xp represents total GRDP of the province. The LQ values are interpreted as: LQ > 1 indicates a basic sector (capable of exporting); LQ = 1 indicates a non-basic sector (sufficient only for local demand); and LQ < 1 indicates a deficit sector (requiring imports from outside).

The study further applies the Growth Ratio Model (GRM) to describe sectoral growth dynamics both externally (reference area) and internally (study area). GRM consists of two ratios: (1) the reference area growth ratio (RPr), which compares sectoral growth within the reference area to the GRDP of the reference area, and (2) the study area growth ratio (RPs), which compares sectoral growth within the study area to that of the reference area. The interpretation follows the criteria where RPr/RPs > 1 is categorized as positive (+), while values < 1 are categorized as negative (–) (Yusuf, 1999). The Study Area Growth Ratio (RPs) mathematical formulation is as follows:

$$RP_s = \frac{(\Delta E_{ij}/E_{ij}(t))}{(\Delta E_{in}/E_{in}(t))}$$

The Reference Area Growth Ratio (RPr) mathematical formulation is as follows:

$$RP_r = \frac{(\Delta E_{in}/E_{in}(t))}{(\Delta E_{n}/E_{n}(t))}$$

The GRM results are classified into four categories: (I) RPr (+) and RPs (+) indicate a leading sector at both the national and provincial levels; (II) RPr (+) and RPs (–) indicate a leading sector at the national level but not yet at the provincial level; (III) RPr (–) and RPs (+) indicate a sector that is weak nationally but leading at the provincial level; and (IV) RPr (–) and RPs (–) indicate a weak sector at both levels.

The outcomes of LQ and GRM analyses are then synthesized through Overlay Analysis, which combines the results to determine the leading and potential sectors in the study area (Adiyatin et al., 2019). Finally, the study employs Spatial Analysis to map the distribution of leading sectors across regencies/municipalities.

According to Mahendrasari and Permata (2016), spatial analysis enables the processing of spatial data into various forms, thereby generating new or additional insights. This is consistent with Law No. 4/2011, which defines spatial aspects as the location, position, and arrangement of a phenomenon. In this research, spatial analysis is conducted by aggregating data from the subsector level to the sector level at the regency/municipality scale, allowing for a comprehensive representation of the spatial distribution of leading sectors in Lampung Province.

RESULTS AND DISCUSSION

Based on the results of the Location Quotient (LQ) analysis, seven sectors were identified as basic sectors that form the focus for determining leading and potential sectors in supporting food security. Food sectors sector consistently shows strong basic characteristics with an average LQ of 3.24 during 2017–2023. Although it experienced slight fluctuations, it remained above 3.00, indicating its dominant role in Lampung's agricultural economy.

With an average LQ of 3.23, Agricultural Services and Hunting sector also demonstrates stable basic characteristics. The values fluctuate

slightly but consistently remain well above 3.00, reflecting its strong supporting role in the agricultural system. The livestock sector records an average LQ of 2.74, showing fluctuations but remaining above 2.60 in most years. In 2023, it reached its peak value of 3.00, reinforcing its importance as a basis sector.

Fisheries sector has an average LQ of 2.35, indicating its position as a strong basis sector despite several downward trends. Its contribution remains significant to Lampung's economy, especially in coastal regions. With an average LQ of 2.04, Food and Beverage Industry sector is consistently categorized as a basis sector. Although values slightly decreased after 2021, the sector remains important in strengthening food processing and agro-industry chains.

Plantation Crops sector shows a declining trend, with an average LQ of 1.65. Despite the downward movement, it is still considered a basis sector, though its role has been weakening over time. Horticulture sector demonstrates a mixed pattern. While some years (2017–2019) show LQ values > 1, from 2020 onward it often falls below 1. Nevertheless, with an average LQ of 1.05, horticulture can still be categorized as a marginal basis sector.

Based on the analysis, the classification of economic sectors in Lampung Province demonstrates varying levels of competitiveness and growth at both the national and regional levels. Two sectors fall into Classification I (RPr > 1; RPs > 1) Livestock with RPr 1.03 and RPs 1.58, and the Food and Beverage Industry with RPr 1.40 and RPs 1.08.

Both sectors exhibit strong growth at the national and provincial levels, positioning them as key drivers of regional economic development. Fisheries falls into Classification II (RPr > 1; RPs < 1), with RPr 1.20 and RPs 0.07. This indicates that the sector demonstrates significant growth at the national level but remains underdeveloped in Lampung Province. Therefore, targeted strategies are needed to enhance its contribution to the regional economy.

Four sectors are categorized under Classification IV (RPr < 1; RPs < 1), namely Food Crops (RPr -0.09; RPs -0.07), Agricultural Services and Hunting (RPr 0.55; RPs 0.52), Plantation Crops (RPr 0.76; RPs 0.22), and Horticultural Crops (RPr 0.98; RPs -0.46).

These sectors show limited growth both nationally and regionally, reflecting their weak contribution to economic development. Strengthening and revitalization strategies are required to enhance their role, particularly in supporting food security in Lampung Province.

Overlay analysis is a method employed to synthesize findings from different analytical techniques applied in a study (Azhima, 2020). In this research, the overlay method was used to identify both leading and potential sectors in Lampung Province by considering their relative contribution and growth performance. This approach integrates the results of the Location Quotient (LQ) and Growth Ratio Model (GRM) analyses.

Within this framework, sectors with LQ values greater than one are denoted with a positive sign (+), while those with LQ values below one are denoted with a negative sign (–). In the case of MRP, sectors that fall under classifications 1 and 3 are assigned a positive sign (+), whereas those categorized under classifications 2 and 4 are given a negative sign (–).

The results of the overlay analysis demonstrate that, out of sixteen basic subsectors

previously identified, two subsectors can be categorized as leading sectors. These are Livestock sector, with both LQ and MRP yielding positive results and Food and Beverage Industry, which similarly shows consistent strength across both indicators.

Their classification as leading sectors indicates not only a strong locational advantage but also robust growth performance, making them central drivers of economic development in Lampung Province. Meanwhile, five subsectors are classified as potential sectors. These include Food Crops, Agricultural Services and Hunting, Fisheries, Plantation Crops and Horticultural Crops.

Each of these sectors registers a positive outcome in the LQ analysis, confirming their role as basic sectors within the province, but they fall short in the MRP assessment, which highlights their weaker growth dynamics. This suggests that while these subsectors already contribute significantly to the regional economy, they require targeted policies and development strategies to enhance their competitiveness and maximize their contribution, particularly in strengthening food security and regional economic resilience.

To obtain a spatial representation of the distribution of regional economic potential, mapping was conducted at the regency/municipality level using sectoral GRDP data. However, since the available data at this level only covers major sectors without providing detailed subsector breakdowns, the spatial analysis was carried out using a descriptive approach.

The leading and potential subsectors identified at the provincial level through Location Quotient, Growth Ratio Model, and Overlay analyses were then linked back to their corresponding parent sectors. Subsequently, the basic sectors in each regency/municipality were mapped, and these results served as the basis for establishing their connection with the leading subsectors at the provincial level.

Thus, the spatial mapping does not directly illustrate the distribution of subsectors, but instead highlights the basic sectors of each regency/municipality, which simultaneously represent potential areas for the development of the province's leading subsectors.

The results of the Location Quotient (LQ) analysis show that the Agriculture, Forestry and Fisheries sector, with the livestock sub-sector, is the basis in several regions in Lampung Province. The five regions with the highest average GRDP in this sub-sector are Central Lampung, East Lampung, South Lampung and Tulang Bawang Regencies.

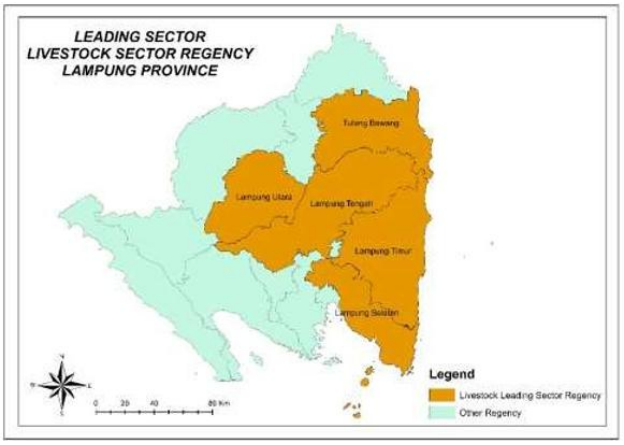

Figure 1. Livestock Sector Regency Distribution
Source: Data processed, 2025

The average GRDP of this sub-sector for the 2017–2024 period places Central Lampung in the leading position with a value of Rp16,013.85 billion, followed by East Lampung with Rp9,879.71 billion, South Lampung with Rp8,503.74 billion, and Tulang Bawang with

Rp5,868.92 billion. This position did not arise by chance, but was influenced by a combination of factors, including the availability of resource reserves, the scale of production activities, contributions to the regional GRDP, and the geographical location of the area. The spatial distribution can be seen in Figure 1.

Figure 2. Food and Beverage Industry Sector Regency Distribution
Source: Data processed, 2025

The results of the Location Quotient (LQ) analysis show that the Manufacturing Industry sector, particularly the food and beverage industry sub-sector, is an important base in several regions in Lampung Province. The five regions with the highest average GRDP in this sub-sector are Central Lampung Regency, Bandar Lampung City, South Lampung Regency, Tulang Bawang Regency, and East Lampung Regency.

The average GRDP of this sub-sector for the 2017–2024 period places Central Lampung in the leading position with a value of Rp11,204.56 billion, followed by Bandar Lampung with Rp7,873.73 billion, South Lampung with Rp7,165.86 billion, Tulang Bawang at IDR 3,832.75 billion, and East Lampung at IDR 2,358.43 billion. This achievement did not happen by chance, but was driven by a combination of factors, including the availability of raw materials, the scale of industrial activity, the role of trade, distribution infrastructure, and the geographical location of the region. The spatial distribution can be seen in Figure 2.

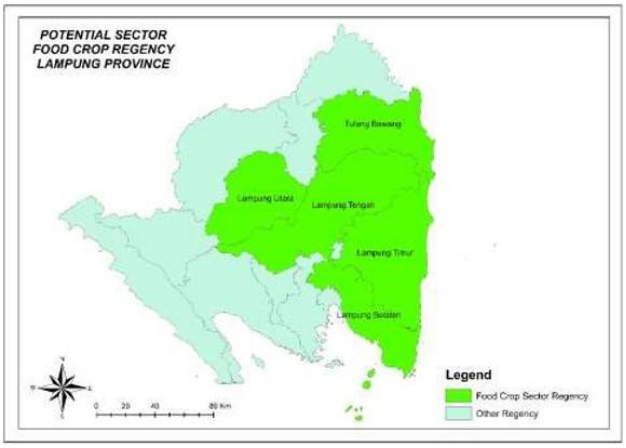

Figure 3. Food Crop Sector Regency Distribution
Source: Data processed, 2025

The results of the food crop sub-sector analysis show that the five districts with the highest rice production in Lampung Province in 2024 are Central Lampung (614,016.70 tonnes), East Lampung (482,716.29 tonnes), Tulang Bawang (375,139.71 tonnes), South Lampung (317,834.20 tonnes), and North Lampung (63,178.90 tonnes) (Lampung Province BPS, 2025).

This advantage is supported by geographical factors, soil fertility, irrigation systems, and distribution access, although each region faces different challenges such as land conversion, irrigation limitations, soil degradation, and climate variability. With sustainable management through land protection, commodity diversification, and the application of modern agricultural technology, these five regions remain important pillars of

Lampung's food security. The spatial distribution can be seen in Figure 3.

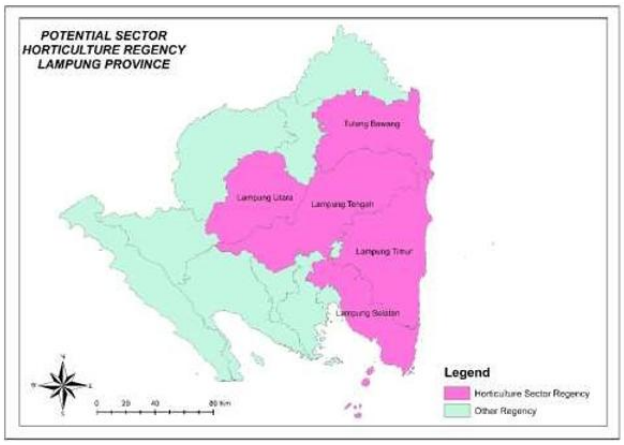

Figure 4. Horticulture Sector Regency Distribution
Source: Data processed, 2025

The results of the horticulture sub-sector analysis show that the five main horticulture-producing districts in Lampung Province in 2024 are Central Lampung, East Lampung, South Lampung, North Lampung, and Tulang Bawang. Central Lampung ranks first with the production of various commodities, such as watermelon (87,443 quintals), curly chilli (39,535 quintals), eggplant (32,122 quintals), ginger (139,004 quintals), kencur (235,576 m^2), and oyster mushrooms (5,202.27 quintals), making it the largest horticultural centre in the province.

East Lampung is in second place with its strength in biopharmaceuticals, particularly ginger (503,663 quintals) and kencur (303,739 quintals), as well as oyster mushrooms (1,176.55 quintals). South Lampung ranks third, excelling in spring onions (10,440 quintals), long beans (25,810 quintals), and ginger (183,573 quintals), supported by fertile volcanic soil. North Lampung is in fourth place as the largest centre for biopharmaceuticals, especially ginger (1,005,890 quintals) and kencur (399,801 quintals), while Tulang Bawang is in fifth place with relatively small production of long beans (6,552.50 quintals) and ginger (43,560 quintals).

This variation indicates that the horticulture sub-sector in Lampung has comparative advantages according to the geographical conditions of each region, although challenges such as price fluctuations, technological limitations, and land use conversion need to be anticipated to maintain production sustainability. The spatial distribution can be seen in Figure 4.

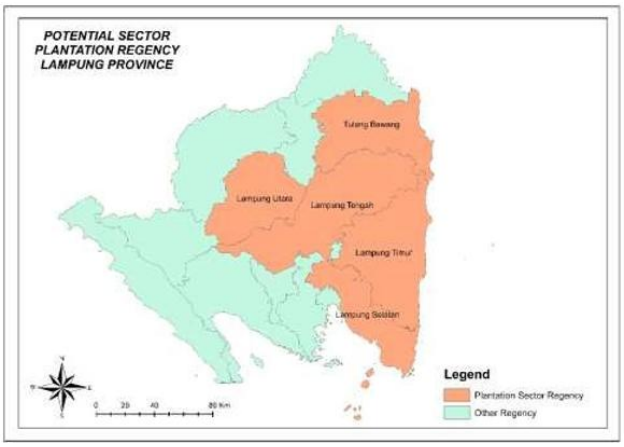

Figure 5. Plantation Sector Regency Distribution
Source: Data processed, 2025

The results of the plantation sub-sector analysis show that the five main plantation-producing districts in Lampung Province in 2024 are Tulang Bawang, Central Lampung, South Lampung, East Lampung, and North Lampung. Tulang Bawang ranks first with palm oil (48,062 tonnes) and rubber (35,400 tonnes) production, making it the largest plantation base in the province.

Central Lampung follows with palm oil (43,427 tonnes) and sugar cane as its leading commodities, supported by sugar factory infrastructure. South Lampung excels in coconut (20,366 tonnes) as the largest producer, while

East Lampung stands out in tobacco (221 tonnes) and coconut (11,832 tonnes). North Lampung, despite its limited palm oil and coconut production, is the largest coffee centre with a production of 18,338 tonnes.

This variety of commodities reflects the specific strengths of each region according to its geographical conditions, although challenges such as land conversion, low post-harvest processing, and global price fluctuations need to be anticipated to maintain the sustainability of Lampung's plantation sub-sector. The spatial distribution can be seen in Figure 5.

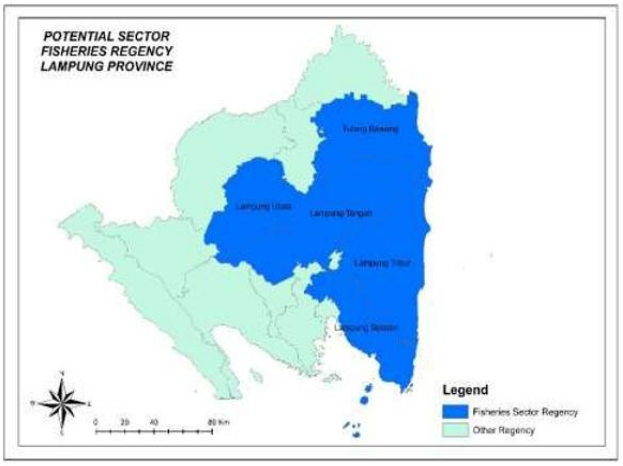

Figure 6. Fisheries Sector Regency Distribution
Source: Data processed, 2025

The results of the fisheries sub-sector analysis show that the five main districts producing capture fisheries in Lampung Province in 2023 are East Lampung, South Lampung, Tulang Bawang, Central Lampung, and North Lampung. East Lampung ranks first with a total production of 57,194.25 tonnes, almost all of which comes from the sea, making it the largest fisheries centre in the province. South Lampung follows with a production of 30,965.42 tonnes from marine fisheries, supported by its strategic location in Lampung Bay and the Sunda Strait. Tulang Bawang has a combination of marine (25,179.86 tonnes) and inland (1,069.76 tonnes) production, strengthened by the potential of the Dipasena shrimp ponds.

Central Lampung stands out in inland fisheries (2,316.76 tonnes) sourced from rivers and reservoirs, while North Lampung recorded the smallest production, 157.78 tonnes, all from inland waters. This distribution pattern shows the dominance of marine fisheries in coastal areas, while inland waters are the mainstay in inland areas. Challenges such as overfishing, ecosystem degradation, and low post-harvest processing need to be anticipated to make the fisheries sub-sector in Lampung more sustainable. The spatial distribution can be seen in Figure 6.

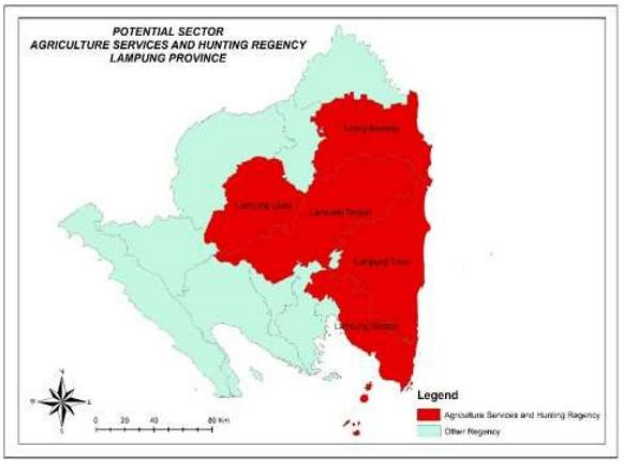

Figure 7. Agriculture Services and Hunting Sector Regency Distribution
Source: Data processed, 2025

The results of the analysis of the agricultural and hunting services sub-sector show that the five main districts in Lampung Province in 2024 are Central Lampung, East Lampung, South Lampung, Tulang Bawang, and North Lampung. Central Lampung ranks first

thanks to its status as the province's food barn with the largest rice production and the support of large companies such as PT Great Giant Pineapple and Sugar Group Companies, which increase the demand for modern agricultural services. East Lampung ranks second with significant contributions from rice and corn production and the role of smallholder plantations that encourage the widespread use of agricultural machinery.

South Lampung ranks third with its advantage in agricultural product distribution through the Port of Bakauheni and the demand for agricultural services in the food and plantation sectors. Tulang Bawang ranks fourth with its rice, sugar cane, and palm oil production base, which strengthens the demand for large-scale agricultural services, especially in tidal swamp areas.

Meanwhile, North Lampung ranks fifth with agricultural services that are more oriented towards rubber and coffee plantations and dryland farming patterns. The variation in each region's contribution shows the strategic role of the agricultural and hunting services sub-sector in supporting food and plantation production, although challenges in mechanisation, specific land management, and declining productivity still need to be anticipated. The spatial distribution can be seen in Figure 7.

CONCLUSION

The findings of this study emphasize that the structure of Lampung Province's economy is strongly anchored in agricultural-based sectors, which directly and indirectly support food security. Livestock and the food and beverage industry emerge as leading sectors, demonstrating both locational advantages and consistent growth performance.

These sectors not only contribute significantly to regional income but also create added value, generate employment, and strengthen the agro-industrial chain in Lampung. Meanwhile, food crops, agricultural services, fisheries, plantations, and horticulture serve as potential sectors whose contributions remain important but require revitalization to enhance competitiveness. Their development is essential to ensure that Lampung maintains its role as one of Indonesia's primary food barns in the future.

The spatial analysis further reveals that sectoral specialization in Lampung Province is unevenly distributed across districts, reflecting both opportunities and disparities in development. Central Lampung, East Lampung, South Lampung, Tulang Bawang, and North Lampung are identified as strategic regions where sectoral contributions are concentrated.

These areas benefit from favorable geographical conditions, resource availability, and infrastructure support, which position them as growth centers. However, challenges such as land conversion, environmental degradation, technological limitations, and global price fluctuations threaten the long-term sustainability of these sectors. Addressing these challenges requires place-based strategies tailored to the specific potentials and constraints of each district.

In conclusion, strengthening food security in Lampung Province demands integrated policies that combine sectoral development, spatial planning, and sustainable management. Policymakers need to prioritize revitalizing potential sectors through modern agricultural technology, diversification, and value-added processing, while simultaneously supporting leading sectors to maintain their

competitiveness. A balanced approach between economic growth and environmental sustainability will ensure that Lampung not only continues to serve as a vital national food producer but also builds resilience against global challenges such as climate change and economic shocks. This research provides an evidence-based foundation for designing adaptive, inclusive, and sustainable regional development strategies aimed at achieving long-term food security.

REFERENCES

Adiyatin, D., Satyahadewi, N., & Perdana, H. (2019). Analisis Overlay Untuk Menentukan Potensi Sektor Ekonomi Unggulan Dalam Pembangunan Daerah (Studi Kasus Dengan PDRB Kota Pontianak). Bimaster: Buletin Ilmiah Matematika, Statistika Dan Terapannya, 8(4).

Alicja, Szajnowska-Wysocka. (2009). Theories of Regional and Local Development - Abridged Review. Bulletin of Geography. Socio- economic Series. 12. 75-90. 10.2478/v10089-009-0005-2.

Anggraini, Eva & Rustiadi, Ernan & Syuaib, M. Faiz & Mulyati, Heti & Widyastutik, Widyastutik & Indrawan, Dikky & Juanda, Bambang & Tonny, Fredian & Sjaf, Sofyan & Faqih, Ahmad & Purwawangsa, Handian & Slamet, Alim & Pravitasari, Andrea & Siwi, Mahmudi & amaliyah, syarifah & Hakim, Lukman & Rahman, Arief. (2021). Membangkitkan Pertumbuhan Ekonomi Indonesia dari Perdesaan.

Arjuniadi, A., Nur, M., Zukifli, Z., & Herizal, H. (2025). Analisis Struktur Ekonomi Daerah dengan Pendekatan Location Quotient, Shift Share Klasik, Dynamic LQ dan Esteban-Marquillas Shift Share. Ekonomi, Keuangan, Investasi Dan Syariah (EKUITAS), 6(3), 292–302. https://doi.org/10.47065/ekuitas.v6i3.6894

Badan Pusat Statistik Kabupaten Lampung Selatan. (2020). Produk Domestik Regional Bruto Kabupaten Lampung Selatan Menurut Lapangan Usaha 2015–2019. Bandar Lampung: BPS.

Badan Pusat Statistik Kabupaten Lampung Selatan. (2024). Kabupaten Lampung Selatan Dalam Angka 2024. Bandar Lampung: BPS.

Badan Pusat Statistik Kabupaten Lampung Selatan. (2024). Produk Domestik Regional Bruto Kabupaten Lampung Selatan Menurut Lapangan Usaha 2019–2023. Bandar Lampung: BPS.

Badan Pusat Statistik Kabupaten Lampung Tengah. (2021). Produk Domestik Regional Bruto Kabupaten Lampung Tengah Menurut Lapangan Usaha 2016–2019. Bandar Lampung: BPS.

Badan Pusat Statistik Kabupaten Lampung Tengah. (2025). Kabupaten Lampung Tengah Dalam Angka 2025. Bandar Lampung: BPS.

Badan Pusat Statistik Kabupaten Lampung Tengah. (2025). Produk Domestik Regional Bruto Kabupaten Lampung Tengah Menurut Lapangan Usaha 2020–2024. Bandar Lampung: BPS.

Badan Pusat Statistik Kabupaten Lampung Timur. (2020). Produk Domestik Regional Bruto Kabupaten Lampung Timur Menurut Lapangan Usaha 2015–2019. Bandar Lampung: BPS.

Badan Pusat Statistik Kabupaten Lampung Timur. (2024). Kabupaten Lampung Timur Dalam Angka 2024. Bandar Lampung: BPS.

Badan Pusat Statistik Kabupaten Lampung Utara. (2020). Produk Domestik Regional Bruto Kabupaten Lampung Utara Menurut Lapangan Usaha 2015–2019. Bandar Lampung: BPS.

Badan Pusat Statistik Kabupaten Lampung Utara. (2024). Kabupaten Lampung Utara Dalam Angka 2024. Bandar Lampung: BPS.

Badan Pusat Statistik Kabupaten Tulang Bawang. (2020). Produk Domestik Regional Bruto Kabupaten Tulang Bawang Menurut Lapangan Usaha 2015–2019. Bandar Lampung: BPS.

Badan Pusat Statistik Kabupaten Tulang Bawang. (2024). Produk Domestik Regional Bruto Kabupaten Tulang Bawang Menurut Lapangan Usaha 2019–2023. Bandar Lampung: BPS.

Badan Pusat Statistik Kabupaten Tulang Bawang. (2025). Kabupaten Tulang Bawang Dalam Angka 2025. Bandar Lampung: BPS.

Badan Pusat Statistik Provinsi Lampung. (2025). Provinsi Lampung Dalam Angka 2025. Bandar Lampung: BPS.

Chung, K., Haddad, L., Ramakrishna, J. & Riely, F. 1997. Identifying the Food Insecure: the application of mixed-method approaches in India. Institute of Food Policy Research Institute, Washington, DC. https://epublikasi.pertanian.go.id/berkala/index.php/fae/article/view/1123

Kembauw, Esther & Sahusilawane, Maria & Sinay, Lexy. (2015). Sektor Pertanian Merupakan Sektor Unggulan Terhadap Pembangunan Ekonomi Provinsi Maluku. Agriekonomika. 4. 212-222.

Khusaini, Moh. (2015). A Shift-share Analysis on Regional Competitiveness - A Case of Banyuwangi District, East Java, Indonesia. Procedia - Social and Behavioral Sciences. 211. 738-744. 10.1016/j.sbspro.2015.11.097.

Latif Alghifari, A., Darsono, D., & Khairiyah, R. (2022). Analisis Peranan Sektor Pertanian, Kehutanan, Dan Perikanan Terhadap Pembangunan Kabupaten Lampung Tengah. JALOW | Journal of Agribusiness and Local Wisdom, 5(2), 54–68. https://doi.org/10.22437/jalow.v5i2.23107

Li, Xin & Xu, Xin & Yin, Rumeng. (2024). Spatial optimization of agricultural production from the perspective of "Greater Food Concept" in Yangzhou, China. Ecological Indicators. 169. 10.1016/j.ecolind.2024.112805.

Rangraeni, N. P. (2021). Analisis Sektor Unggulan Dalam Perekonomian Kabupaten Tangerang 2015-2019. Universitas Islam Negeri Syarif Hidayatullah Jakarta.

Rumawas, V. v., Nayoan, H., & Kumawas, N. (2021). Peran Pemerintah Dalam Mewujudkan Ketahanan Pangan di Kabupaten Minahasa Selatan (Studi Dinas Ketahanan Pangan Minahasa Selatan). JURNAL GOVERNANCE, 1(1), 1–12.

Saharuddin, S. 2005. Pengaruh perkembangan Ekonomi Terhadap Penerimaan APBD Dan kesejahteraan Rakyat di Wilayah Sulawesi Selatan. Di sertai tidak di terbitkan. Makassar: Program Pasacasarjana-UNHAS.

Saputra, R. A., Irsan, L. O. M., Surdin, Karantina, W. O. Y., & Atniza, S. W. (2023). Analisis Sektor Unggulan Perekonomian Menggunakan Pendekatan Location Quotient. Jurnal Penelitian Pendidikan Geografi, 8(3), 114–122. https://doi.org/10.36709/jppg.v8i3.12

Suryana, Achmad. Menuju Ketahanan Pangan Indonesia Berkelanjutan 2025: Tantangan Dan Penanganannya. (2024). Forum Penelitian Agro Ekonomi, 32(2), 123-135.

Suseno, Deky. (2017). Multiplier Effect Sektor Basis Terhadap Perekonomian Daerah Provinsi Jawa Tengah. Jurnal REP (Riset Ekonomi Pembangunan). 2.113-126. 10.31002/rep.v2i2.227.

Tarigan, R. (2015). Ekonomi Regional Teori dan Aplikasi. Bumi Aksara.

Wang, Yizhe & Wu, Linxiu & Wei, Ziyi & Tan, Tang & Yu, Yajuan & Wang, Zhen & Huang, Kai. (2025). Coordinating food security and environmental performance in Belt and Road agri-food systems. Resources Conservation and Recycling. 219. 108304. 10.1016/j.resconrec.2025.108304.

Yusuf, M. (1999). Model Rasio Pertumbuhan (MRP) sebagai. Ekonomi Dan Keuangan Indonesia, XLVII(2), 2019–2233.