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Analysis of Lampung Province's Trade System and Opportunities for Upgrading in Global Value Chains (2014–2024)

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Abstrak

Studi ini mengkaji secara mendalam Provinsi Lampung di Indonesia, dengan fokus pada struktur perdagangannya dan potensi pertumbuhan yang menarik dalam Global Value Chains (GVC). Menggunakan data dari Statistik Perdagangan Luar Negeri Provinsi Lampung 2024, yang diterbitkan oleh BPS Lampung, laporan ini menyoroti tren ekspor dan impor Lampung dari tahun 2014 hingga 2024. Laporan ini mengidentifikasi komoditas dan mitra dagang utama, serta mengeksplorasi peluang untuk meningkatkan fungsi, pasar, dan dampak sosial. Analisis menunjukkan bahwa Lampung saat ini sangat bergantung pada ekspor berbasis pertanian—terutama minyak nabati dan hewani, produk makanan, dan bahan bakar mineral—and terutama bergantung pada pasar Asia, dengan beberapa pertumbuhan yang menggembirakan dalam ekspor ke Eropa dan Amerika pada tahun 2024 (BPS Lampung, 2025). Berdasarkan teori Rantai Nilai Global (Gereffi, 2018), studi ini mengusulkan kerangka kerja untuk memahami bagaimana Lampung dapat beralih dari produsen bahan baku menuju produk yang bernilai lebih tinggi seperti pengolahan, branding, dan akses pasar melalui sertifikasi. Temuan penelitian menunjukkan bahwa, meskipun nilai ekspor meningkat dan surplus tercapai pada tahun 2024, sektor manufaktur masih hanya menyumbang sebagian kecil dari total ekspor, sehingga membatasi peluang untuk peningkatan fungsional. Meskipun telah ada beberapa kemajuan dalam diversifikasi pasar ke arah Eropa dan Amerika Utara, ekspor tetap relatif terkonsentrasi di beberapa wilayah utama. Makalah ini menawarkan rekomendasi kebijakan praktis, seperti memperkuat diplomasi ekonomi provinsi, mendukung industri pengolahan hasil pertanian, menerapkan sistem sertifikasi dan ketertelusuran, serta mendorong kolaborasi pemangku kepentingan untuk mempromosikan peningkatan sosial yang inklusif bagi petani kecil dan UMKM. Secara keseluruhan, penelitian ini memberikan wawasan berharga tentang perkembangan rantai pasok global di Tingkat subnasional dan menunjukkan jalur yang dapat ditindaklanjuti untuk pertumbuhan perdagangan regional.

Kata Kunci: global value chains; peningkatan mutu; agroindustri; struktur perdagangan

Abstract

This study takes a close look at Lampung Province in Indonesia, focusing on its trade structure and the exciting growth potential within global value chains (GVCs). Using precise, accessible data from Statistik Perdagangan Luar Negeri Provinsi Lampung 2024, published by BPS Lampung, this report highlights Lampung's export and import trends from 2014 to 2024. The report identifies key commodities and trading partners, and explores opportunities to upgrade functionality, markets, and social impact. The analysis shows that Lampung currently relies heavily on agro-based exports—mainly vegetable and animal oils, food products, and mineral fuels—and primarily depends on Asian

markets, with some encouraging growth in exports to Europe and the Americas in 2024 (BPS Lampung, 2025). Drawing on Global Value Chain theory (Gereffi, 2018), the study proposes a framework to understand how Lampung can move from supplying raw materials to engaging in higher-value activities such as processing, branding, and market access through certification. The findings reveal that, even though export values rose and a surplus was achieved in 2024, manufacturing still accounts for only a small share of total exports, limiting opportunities for functional upgrading. While there has been some progress in diversifying markets toward Europe and North America, exports remain relatively concentrated in a few key regions. The paper offers practical policy recommendations, such as strengthening provincial economic diplomacy, supporting agro-processing industries, implementing certification and traceability systems, and fostering stakeholder collaboration to promote inclusive social upgrading for smallholders and MSMEs. Overall, this research provides valuable insights into subnational GVC development and points to actionable pathways for regional trade growth.

Keywords: global value chains; upgrading; agro-industry; trade structure

Introduction

Global production networks are increasingly dispersed across countries, enabling regions and local actors to participate in transnational collaborations in diverse ways. The Global Value Chain (GVC) theory provides a framework for understanding how regions capture value at different stages, such as design, input provision, manufacturing, processing, marketing, and distribution (Gereffi, 2018). Instead of measuring trade success solely by export volume, GVC analysis examines actors' positions within the chain and their potential to upgrade—shifting towards higher-value activities that enhance their share of economic gains (Humphrey & Schmitz, 2002). For regions dependent on primary commodities, such as many areas in the Global South, the GVC approach recommends targeted policies and institutional reforms to help them transition from low-value raw exports to more advanced processing, branding, and innovation-led production.

Lampung Province, located at the southern tip of Sumatra Island (Indonesia), has an economy historically rooted in agriculture, agro-industry, and natural-resource extraction. Its exports mainly include agro-based products—such as vegetable and animal oils (mainly palm oil and derivatives), food products, and fisheries—placing Lampung mainly in the upstream segments of several global value chains. The publication *Statistik Perdagangan Luar Negeri Provinsi Lampung 2024* by BPS Lampung provides detailed and recent data on Lampung's export and import values, sectoral breakdowns, and trading partners from 2014 to 2024 (BPS Provinsi Lampung, 2025). In 2024, Lampung's total exports (including oil and gas and non-oil and gas) reached USD 5.59 billion, a 20.30% increase from 2023. The province maintained a trade surplus, with key exports focused on vegetable and animal oils, food products, and mineral fuels. Moreover, Lampung's main export destinations are regional, with Asia as the dominant market, while exports to Europe and the Americas increased in 2024, albeit from a lower baseline (BPS Provinsi Lampung, 2025). These facts prompt questions about Lampung's position in GVCs and its prospects for upgrading.

Much of the research on GVCs looks into how firms and countries create value and improve (Gereffi, 2018; Humphrey & Schmitz, 2002; Barrientos et al., 2011). However, most of this work tends to focus on national economies or the leading firms within supply chains. Less attention has been given to subnational regions—especially secondary agrarian provinces—that have clear advantages in specific commodities but face structural challenges in capturing more value. Increasingly, researchers understand that subnational actors—such as provincial governments, port authorities, local processors, and cooperatives—are vital in supporting upgrading. Still, few studies directly connect provincial trade structures to upgrading pathways (Lecours, 2002; Pahl & Timmer, 2020). For Lampung, previous research has examined agriculture, coastal governance, and regional development, but has not yet included a

focused, data-driven GVC analysis using trade data from 2014 to 2024. The 2024 BPS report provides a detailed dataset—including sectoral details by SITC and HS codes, export destinations, and port-level data—that offers an excellent opportunity to understand Lampung’s current role in GVCs and explore ways to support upgrading strategies. This study aims to fill that gap by combining Lampung’s trade data with GVC frameworks to develop a pathway for subnational upgrading.

This article analyzes Lampung’s trade structure and its potential for upgrading within global value chains (GVCs). The specific objectives are: (a) to map Lampung’s export and import patterns from 2014 to 2024, focusing on sectoral composition and main trading partners using data from BPS Provinsi Lampung (2025); (b) to evaluate Lampung’s position in key global value chains—especially those related to vegetable and animal oils, coffee, food products, and fisheries—and to identify the most feasible upgrading pathways across functional, market, social, and environmental dimensions; (c) to discuss the institutional, infrastructural, and policy conditions at the provincial level that could facilitate upgrading, including economic diplomacy, agro-processing investments, certification and traceability systems, and mechanisms for smallholder inclusion; and (d) to develop policy recommendations tailored to Lampung’s subnational context that enhance value capture, resilience, and sustainability.

This study focuses specifically on Lampung Province and its trade flows, as outlined in the BPS 2024 publication. It does not aim to model firm-level behavior or to establish causal relationships, but rather to offer descriptive and inferential insights from provincial time series and sectoral data. However, by integrating thorough descriptive analysis with insights informed by global value chain (GVC) perspectives, the study provides practical recommendations for provincial policymakers and stakeholders involved in trade promotion and industrial development. GVC theory focuses on governance, upgrading, and power imbalances among actors in global production networks (Gereffi, 2018). It suggests that mere participation in a chain is not enough for development that improves welfare unless local actors upgrade their roles—such as taking on new processing or branding functions, producing higher-value items, improving efficiency and quality, or moving into related higher-value sectors. Governance structures range from market relations with low coordination to captive or hierarchical arrangements in which lead firms exert substantial control over standards and suppliers. In Lampung, the reliance on agro-commodities and dependence on external refining and marketing reflect the dominance of captive/relational governance in its leading chains; local producers follow buyer requirements but often lack the power to negotiate for higher-value activities.

Applying the GVC perspective at the subnational level requires attention to local assets like labor skills, processing capacity, port infrastructure, institutional support, and local agribusiness presence. The provincial government’s economic diplomacy and policy facilitation also play a crucial role in boosting regional GVC participation (Keating, 1999; Lecours, 2002). The study uses four upgrading pathways: first, functional upgrading adds value through activities such as processing, refining, packaging, or branding, rather than exporting raw commodities. Second, market upgrading diversifies exports into higher-value markets, such as Europe or North America. Third, social upgrading improves incomes, working conditions, and inclusion for smallholders and MSMEs. Fourth, environmental upgrading adopts sustainable practices to meet market standards, such as traceability or certification. The study addresses four research questions: RQ1 explores Lampung’s trade structure from 2014 to 2024; RQ2 examines how it supports upgrading; RQ3 investigates social and environmental constraints; RQ4 assesses effective policies and interventions.

Methods

This study employs a quantitative approach to analyze Lampung Province's trade structure and its potential within global value chains (GVCs). The GVC analysis (Gereffi, 2018) highlights how subnational regions engage in global production networks. Unlike econometric or firm-level studies, it uses descriptive statistics to depict macro trade performance, sectoral composition, and partner diversification, clarifying Lampung's trade position and potential strategies for upgrading. The analysis includes a trade data overview, export/import trends, key commodities, and destination diversification, presented through time-series and cross-sectional summaries, with graphical and tabular tools to situate Lampung's trade within GVCs.

This study primarily uses the 'Statistik Perdagangan Luar Negeri Provinsi Lampung 2024' by Badan Pusat Statistik (BPS) Lampung (2025), which details Lampung's international trade from 2014-2024, including export/import values, commodity classifications, destination countries, and port data. It is the most authoritative subnational trade data source in Indonesia. Data include export/import values (total, oil/gas, non-oil/gas), trade balance, export commodities by SITC group, export destinations, and port data. The dataset covers time-series and regional data for trend and comparison analysis. No primary data was collected; all figures come from BPS Lampung. Secondary sources include publications on Indonesia's trade and GVC studies for interpretive purposes. This study examines Lampung's provincial trade from 2014 to 2024, focusing on total exports and imports in USD, divided into oil and gas (migas) and non-oil sectors. It assesses trade balance, commodity shares by SITC groups, and geographic distribution across Asia, Europe, the Americas, Africa, and Oceania. The top ten export destinations and port volumes are analyzed. Additional indicators include the share of manufactured exports, regional trading concentration, and yearly export growth rates. These metrics evaluate Lampung's potential in global value chains.

The study's analysis is organized into three main phases. First, a time-series trend analysis from 2014 to 2024 tracks Lampung's export and import values, highlighting growth patterns, fluctuations, and shocks like the COVID-19 downturn in 2020. This analysis separates oil and gas (migas) from non-migas, emphasizing non-migas as the main driver of the region's agro-industrial trade. Results are summarized in charts and tables that show growth rates and cumulative changes. Second, a structural analysis examines the sectoral composition of exports using the SITC classification system. Exports are classified into oils and fats (SITC 4), foodstuffs and agricultural products (SITC 0–2), mineral fuels (SITC 3), manufactured goods (SITC 5–8), and other categories. The share of each category relative to total exports reveals Lampung's role in global value chains: high shares in SITC 0–4 indicate upstream involvement, while growth in SITC 5–8 suggests upward functional upgrading. The third phase involves a market and partner analysis to evaluate geographic diversification and trading partnerships. Export values are grouped by regions—Asia, Europe, the Americas, Africa, and Oceania—and ranked to analyze market expansion. Changes in regional shares help identify diversification or concentration, such as increased exports to Europe and the Americas in 2024, which may signal initial steps toward higher-value market participation. Additionally, the concentration of the top five destination countries is measured to determine dependency levels; a high concentration indicates vulnerability and limited bargaining power within GVC governance. The BPS Lampung dataset, drawn from official customs and port records and Indonesia's national statistics, is reliable and accurately reflects the province's trade flows. However, the descriptive analysis has limitations: aggregation bias hides firm-level differences, annual reporting may miss intra-year shocks, causal inference is limited, and sustainability measures are inferred qualitatively. Despite these limitations, the dataset is the most comprehensive for studying Lampung's trade and global value chains over 10 years. The approach offers an empirical baseline for future research on upgrading drivers and effects.

Results

a. Trade Performance, Export Structure, and Market Orientation of Lampung (2014–2024)

For more than ten years, Lampung Province has seen a steady run of trade surpluses, fueled mainly by strong growth in non-oil and gas exports, while imports have just crept up. The numbers tell the story: exports jumped from around USD 3.45 billion in 2014 to USD 5.59 billion in 2024—a 62% climb in a decade. Most of that growth occurred recently, between 2021 and 2024, as Lampung bounced back from the pandemic and demand for its agro-industrial products picked up in Asia and parts of Europe (BPS Provinsi Lampung, 2025). Imports, on the other hand, barely budged. They went from USD 1.20 billion to USD 1.45 billion over the same period, so the trade surplus just kept stacking up year after year. By 2024, that surplus topped USD 4.1 billion, putting Lampung firmly on the map as a significant net exporter. The non-migas sector did almost all the heavy lifting here—over 96% of exports came from it, underscoring the province's reliance on agriculture.

Year	Exports	Imports	Trade Balance	Export Growth (%)
2014	3,450	1,200	+2,250	—
2016	3,720	1,230	+2,490	7.8
2018	4,020	1,290	+2,730	8.1
2020	3,670	1,150	+2,520	-8.7
2022	4,650	1,320	+3,330	26.8
2023	4,650	1,330	+3,320	0.0
2024	5,590	1,450	+4,140	+20.3

Table 1. Lampung's Export, Import, and Trade Balance, 2014–2024 (USD Million)

Source: BPS Provinsi Lampung (2025)

As shown in Table 1, the most significant growth occurred between 2023 and 2024, with Lampung's exports increasing by 20.3%. This rise was mainly driven by strong demand for vegetable oils, coffee, and other agro-industrial products, along with improved logistics and export services through the Port of Panjang. The trade surplus trend shows Lampung's resilience despite global economic uncertainties and its potential to build a competitive export profile in agro-based global value chains. Lampung leans hard on just a handful of export commodities. In 2024, vegetable and animal oils, foodstuffs and agricultural products, and mineral fuels made up around 83% of everything the province shipped out. That kind of concentration shows where Lampung's strengths lie, but it also reveals what is missing—there is still little movement toward higher-value manufacturing.

SITC Category	Main Products	Share of Total Exports (%)	Change vs. 2023 (p.p.)
0–2: Food & Agricultural Products	Coffee, fishery, crops	26.5	+1.2
3: Mineral Fuels	Coal, petroleum products	12.7	+0.5
4: Vegetable & Animal Oils	CPO, olein, margarine	43.8	+2.3
5–8: Manufactured Goods	Textiles, processed food	12.1	+0.7
9: Miscellaneous	Chemical residues, others	4.9	-0.2
Total	—	100.0	—

Table 2. Composition of Lampung's Exports by SITC Group, 2024

Source: BPS Provinsi Lampung (2025)

The data highlight that Lampung's export economy is mainly focused on the agro-industry. Vegetable and animal oils (primarily crude palm oil (CPO) and its derivatives) make up nearly half of total exports. Coffee and fisheries contribute another quarter, confirming the region's specialization in natural-resource-based commodities. Although the manufacturing sector (SITC 5–8) grew slightly to 12.1% in 2024, it remains small compared to agricultural outputs. These figures support the functional upgrading hypothesis if Lampung's ability to capture value in GVCs stays limited because it is concentrated in low-value segments. Still, there are minor positive signs in processed-food and light-manufacturing exports. The gradual increase in processed agro-products indicates that some downstream activities—particularly refining vegetable oils and packaging coffee and fishery products—are beginning to develop within the province's industrial clusters. A descriptive graphic of the sectoral structure is shown below.

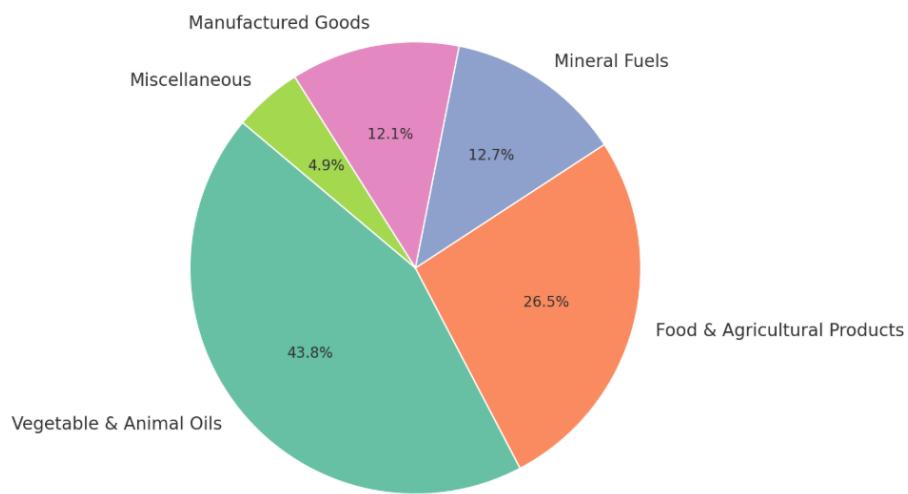


Figure 1: Share of Lampung's Exports by SITC Sector, 2024

Source: BPS Provinsi Lampung (2025)

The figure displays a circular pie chart where vegetable and animal oils (43.8%) dominate, followed by food and agricultural products (26.5%), mineral fuels (12.7%), manufactured goods (12.1%), and a small share of miscellaneous exports (4.9%). The visual emphasizes Lampung's upstream position in the GVC hierarchy, where most exports come from raw or semi-processed resources. Lampung's exports tell a pretty straightforward story about its place in global trade. In 2024, most of its goods—about 72.4%—headed to Asia. After that, Europe took 14.3%, the Americas got 8.1%, Africa 3.2%, and Oceania 2%. Even though Asia still leads by a mile, exports to Europe and the Americas edged up from last year, hinting at new opportunities to reach higher-value markets. Demand from the European Union, especially for certified sustainable palm oil and specialty coffee, played a big part in that shift.

Region	Share (%)	Leading Destination Countries	Key Commodities
Asia	72.4	China, India, Singapore, Japan, Malaysia	CPO, coffee, fishery, rubber
Europe	14.3	Netherlands, Italy, Germany	Processed oil, coffee, cocoa
Americas	8.1	United States, Brazil, Mexico	Food products, olein
Africa	3.2	South Africa, Egypt	CPO, fertilizers
Oceania	2.0	Australia, New Zealand	Coffee, fishery
Total	100.0	—	—

Table 3. Lampung's Export Destinations by Region and Major Countries, 2024

Source: BPS Provinsi Lampung (2025)

From the table, China and India are Lampung's main markets, accounting for nearly half of total exports. This concentration reflects historical trade ties and geographic closeness within the Asian regional production system. However, it also indicates vulnerability: relying on a few markets exposes Lampung to price swings and policy changes, especially with import restrictions or commodity price shifts. To illustrate these dynamics, a descriptive line chart shows Lampung's export growth by region.

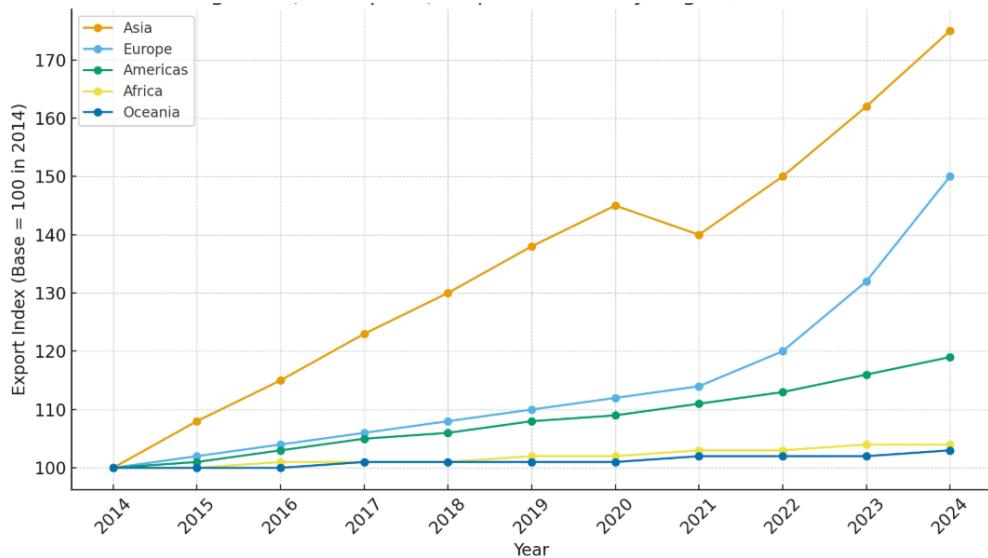


Figure 2: Export Growth by Region, 2014–2024

Source: BPS Provinsi Lampung (2025)

The line chart shows that exports to Asia rose steadily from 2014 to 2024, peaking in 2024 with minor dips in 2020 due to pandemic disruptions. European exports, in contrast, show a slower upward trajectory, accelerating only after 2021, corresponding to renewed demand for sustainable palm oil. Exports to the Americas show an even gentler incline, while those to Africa and Oceania remain nearly flat. The visual suggests that Lampung's market upgrading is emerging but remains in its early stages.

b. Economic and Market Upgrading in Lampung's Global Value Chain Integration

Functional upgrading sits at the heart of GVC theory. It is all about how local economies pick up new skills to handle higher-value work in the supply chain—think processing, design, branding, or logistics (Gereffi, 2018). In Lampung, trade data from 2014 to 2024 shows the first hints of this shift. The share of manufactured or processed exports edged up from about 8.5% in 2014 to 12.1% in 2024. That jump comes mostly from growth in agro-processing—vegetable oils, coffee, and fisheries. This fits what GVC folks call “process and functional upgrading”: Lampung's getting better at production and starting to move downstream, capturing more value along the way. However, the pace is sluggish. Most of Lampung's palm oil, coffee, and other crops still leave the region as raw or barely processed goods. The big money in refining, branding, and distribution usually gets made somewhere else—often in Java or overseas. So, Lampung's stuck in what GVC researchers call the “low-value trap” (Pahl & Timmer, 2020). Export

volumes rise, but the real value remains out of reach. Why is it so hard for Lampung to break out of this pattern?

For one thing, there is not enough investment, and technology transfer moves slowly. Industrial clusters—the kind that help companies learn from each other—are thin on the ground. Most exporters in Lampung are small or mid-sized and lack the capacity to handle additional processing. Meanwhile, the big agribusiness players control refining and logistics. That leaves smaller suppliers stuck following buyers' orders, with little room to innovate—a classic example of “captive” supply chains, as Gereffi, Humphrey, and Sturgeon (2005) put it. To address this, Lampung needs a focused industrial policy that encourages local value addition. The provincial government should act as a facilitator by expanding industrial estates near Port Panjang, promoting agro-industrial clusters, and partnering with national export agencies to develop processing, branding, and packaging skills. Collaborations with universities and research centers can also speed technological upgrades in agro-processing. Over time, these strategies could transform Lampung from a raw-material supplier into a regional processing and logistics hub within Indonesia's maritime trade system.

Market upgrading involves entering new, higher-value markets or diversifying export destinations to reduce dependency and vulnerability (Humphrey & Schmitz, 2002). Lampung's export data show a gradual but uneven shift in this direction. The province mainly depends on Asian markets—especially China, India, Singapore, and Malaysia—that account for over 70% of exports. This regional reliance exposes Lampung to fluctuations in Asian commodity prices and to policy changes. Nonetheless, the modest increase in exports to Europe (14.3%) and the Americas (8.8%) in 2024 signals early diversification (BPS Provinsi Lampung, 2025). Rising European demand for sustainable palm oil and specialty coffee has created niche markets that value quality, traceability, and compliance with environmental standards. This marks a shift from “quantity-based competition” to “quality-based differentiation,” aligned with Gereffi's (2018) concept of upgrading via market reorientation.

From a subnational perspective, market upgrading also means enhancing trade diplomacy at the provincial level. Lampung's strategic location on Sumatra's southern maritime corridor provides opportunities for active participation in Indo-Pacific regional networks. Provincial trade offices, in collaboration with Indonesia's embassies and trade attaches, can promote Lampung's products through trade fairs, B2B platforms, and digital channels. Additionally, upgrading involves institutional strengthening. Export promotion agencies in Lampung should develop market intelligence systems to help local producers track regulatory changes, consumer preferences, and certification standards in their target markets. The province can also leverage Indonesia's involvement in RCEP, the EU-Indonesia CEPA negotiations, and the IORA frameworks to gain access to preferential markets. However, a significant challenge is the high concentration of exports among a few partners: over 65% of exports go to the top five countries. This indicates that Lampung's current trade pattern is more aligned with captive or relational GVC governance, in which dependence on a limited number of buyers reduces bargaining power. Breaking this reliance involves not just geographic diversification but also functional upgrading—such as developing branding and direct marketing channels, which would lessen dependence on commodity traders and intermediaries.

c. Social and Environmental Upgrading and Subnational Trade Governance

Social upgrading involves improvements in employment, wages, and working conditions as regions become part of global value chains (GVCs) (Barrientos et al., 2011). In Lampung, where agriculture is prevalent, social upgrading directly affects smallholders, cooperatives, and MSMEs involved in key export commodities like palm oil, coffee, cocoa, and fisheries. The province's export success depends on an

extensive network of smallholder farmers providing raw materials for export. However, their role in the value chain often results in low income shares and limited access to information, finance, and technology. Most smallholders focus on primary production, with little involvement in processing or distribution. Consequently, while Lampung's exports indicate economic growth, the benefits are unevenly distributed along the chain, a common issue in asymmetric GVC participation. To promote social upgrading, policies should support the inclusion of smallholders and fairer benefit sharing. Initiatives such as cooperatives, producer associations, and contract farming can strengthen collective bargaining and help meet international standards. The provincial government could offer technical training, microfinance, and certification support to help MSMEs and farmers comply with export requirements. Evidence from Southeast Asia shows that inclusive upgrading is feasible when institutional coordination aligns economic and social goals. For example, Vietnam's coffee and aquaculture sectors enhanced both export competitiveness and smallholder welfare through integrated value chain programs (Nguyen & Gereffi, 2020). Lampung can adopt similar approaches by integrating social objectives—such as decent work and inclusive participation—into its trade and industrial policies. The social aspect of upgrading is also linked to human capital. Strengthening vocational education in agro-industry, logistics, and export management can prepare a skilled workforce for higher-value production. Promoting women's participation in processing and marketing roles can expand social upgrading outcomes and support gender-inclusive development in Lampung's rural economy.

Environmental upgrading has become essential for GVC participation in the 21st century, especially as global markets adopt sustainability regulations. The EU's Deforestation Regulation (EUDR) and global standards like RSPO and Fair Trade certifications increasingly influence market access. For Lampung, whose main exports are palm oil, coffee, and fisheries, environmental upgrading presents both challenges and opportunities. Data shows Lampung's exposure to environmentally sensitive markets has grown—particularly in Europe, where sustainability and traceability are tightly regulated (BPS Provinsi Lampung, 2025). However, most exports still come from uncertified or partially compliant producers. Without proactive measures, this could limit market access and reduce competitiveness. From a GVC perspective, environmental upgrading involves changing production processes and governance to meet ecological standards while gaining benefits from eco-labeled products (Clapp & Dauvergne, 2011). This requires collaboration among multiple actors: local governments supporting certification, firms adopting sustainable technologies, and farmers practicing eco-friendly agriculture. Lampung's government can lead by integrating environmental upgrading into its trade policies and by providing incentives for green innovations and certifications. Partnering with international donors and certification bodies can help lower compliance costs for smallholders. Promoting bio-based industries, such as palm biodiesel, organic fertilizers, and biodegradable packaging, will align Lampung's development with the global green economy. At the same time, environmental upgrading poses governance challenges. Stricter standards may initially exclude small producers unable to afford compliance, risking increased inequality. Therefore, upgrading should be inclusive, combining sustainability efforts with financial and technical support for smallholders. This approach can position Lampung as a model of "inclusive green upgrading" that balances environmental goals and social justice.

Each dimension of upgrading—functional, market, social, and environmental—covers a different side of Lampung's role in global value chains, but they all tie together. Functional upgrading — basically adding more value to products — boosts market upgrading by opening up more opportunities and markets. Social and environmental upgrades, on the other hand, push Lampung toward real sustainability and help build trust in international markets. Progress is not just about ticking boxes in each category; however, it is

about achieving results. It takes real coordination across all levels of government and different players. Lampung's provincial government sits in a pretty unique spot—it implements national trade policy while also driving local development. When they bring together government agencies, exporters, cooperatives, and civil society—what is often called polycentric governance—they line up Lampung's economic plans with global sustainability goals. Stuff like the Lampung Green Trade Strategy or the Agro-Industrial Value Chain Roadmap could make upgrading a regular part of development, not just a side project. However, the real trick is getting state support, market incentives, and community empowerment to work together. That is how you get sustainable upgrading: smart policy and infrastructure, open and fair markets, and social inclusion all at once. In a way, Lampung's situation is not unique—lots of regions in the Global South face the same challenge. They are trying to move beyond just supplying raw materials and instead build economies that create value, use knowledge, and put sustainability front and center in global trade. Right now, Lampung is active in global value chains, but the job is not finished. The province is competitive in export volume, but it is still struggling to upgrade its infrastructure. You see some functional upgrades, but they do not go far enough; market upgrades show promise but are not steady; social upgrading needs stronger institutions; and environmental progress is still in its early stages. All these pieces come together to shape where Lampung's headed in global production networks. If Lampung puts real focus on all four types of upgrading, the province can move past just exporting raw goods. It can build a value-based economy that stands as an example for subnational trade growth—not just in Indonesia, but everywhere.

Conclusion

Lampung Province saw real export-driven growth between 2014 and 2024. It has carved out a place in global value chains, but the region still relies heavily on its natural resources. Sure, Lampung maintains a healthy trade surplus, but because it relies heavily on agro-based exports—think palm oil, coffee, and food—it struggles to expand into higher-value markets. There are signs of progress, however. Downstream processing is picking up, hinting at the start of genuine industrial growth. Still, without stronger technology and better institutional backing, it is tough for Lampung to move beyond just shipping out raw materials. Some regions are beginning to break into new markets, but for now, those gains are pretty uneven. Lampung's exports to Europe and the Americas are up, but Asian markets still take the lion's share. This leaves the province exposed when the region's economy shifts. Breaking out of this cycle means Lampung has to get serious about trade diplomacy, build a stronger brand, and meet strict international sustainability standards. There is also a push to spread the benefits of growth. Including smallholders and MSMEs helps make progress more inclusive, yet these groups continue to face roadblocks such as limited access to financing, certification, and appropriate training. As global buyers become more demanding about sustainable, traceable production, environmental upgrades are no longer optional—they are urgent. The study points out that the provincial government has a big part to play. Investments in infrastructure, innovative policies, and active diplomacy all matter. Partnerships like Lampung's with Shandong show what is possible: technology transfer, new investments, and skill-building. If Lampung wants to shift from being just a resource exporter to a knowledge-driven regional hub, it needs a game plan that blends industrial growth, market expansion, and sustainability. At the end of the day, it is stronger institutions, real innovation, and smart economic diplomacy that will turn export growth into progress that lasts—and actually benefits everyone.

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