EcoProfit
EcoProfit: Sustainable and Environment Business
EcoProfit 3(2): 83–98
ISSN 3024-9872

Institute for Advanced Science, Social and Sustainable Future
MORALITY BEFORE KNOWLEDGE

The analysis of short supply chain patterns in urban vegetable stalls and its contributions to sustainable development goals

Ivana Arviani Tan[1,*], Rustina Untari[1]
[1] *Department Management, Faculty of Economy and Business, Universitas Katolik Soegijapranata, Semarang City, 50234, Indonesia;*
*Correspondence: arviani.ivana348@gmail.com

Received Date: December 19, 2025 Revised Date: January 6, 2026 Accepted Date: January 23, 2026

ABSTRACT

Background: The long supply chain of the global food system faces criticism of poverty, which has led to the emergence of short supply chains (SSC) as an alternative. The urban system, particularly in Semarang City, still needs improvement because currently, food is still supplied from agricultural areas outside the city due to the city's inadequate conditions for farmed food. This study investigates the implementation of SSC through emerging urban vegetable stalls ("kedai sayur") in Semarang City, Indonesia, a growing urban center that relies on surrounding agricultural areas. **Methods:** A qualitative case study approach was used, utilizing semi-structured interviews and participant observation with eight vegetable stalls selected purposively in five geographical regions of Semarang City—north (North Semarang Subdistrict), east (Gayamsari and Pedurungan Subdistrict), south (Banyumanik and Gajahmungkur Subdistrict), west (West Semarang Subdistrict), and central (Central Semarang Subdistrict)—to understand their operational and supply chains patterns. **Findings:** The research identified four distinct SSC patterns, adapted to local contexts, which effectively reduce intermediaries and enhance vegetable freshness. These patterns demonstrably contribute to Sustainable Development Goals (SDGs) 2, 11, and 12 by improving food access, strengthening urban-rural linkages, and promoting responsible consumption. However, a key finding is the environmental trade-off: reliance on small-scale, fragmented logistics can lead to higher carbon emissions per unit, presenting a risk of unintentional greenwashing. **Conclusion.** Vegetable stalls represent a significant innovation for urban food security, achieving their full sustainability potential requires coordinated logistics solutions, such as shared transport, to mitigate hidden environmental costs and ensure authentic sustainable development. **Novelty/Originality:** This study bridges the gap between urban food security and sustainable logistics by analyzing the "kedai sayur" (vegetable stall) phenomenon in Semarang City.

KEYWORDS: Semarang city; sustainable development goals; short supply chain; urban food system; vegetable stall.

1. Introduction

The use of old type of supply chains to distribute food is still widely used today, so that food only reaches the end consumer after it has traveled many meters even kilometers

Cite This Article:
Tan, I. V., & Utari, R. (2026). The analysis of short supply chain patterns in urban vegetable stalls and its contributions to sustainable development goals. *EcoProfit: Sustainable and Environment Business, 3*(2), 83-98. https://doi.org/10.61511/ecoprofit.v3i2.2025.2597

(Clapp, 2021). This method effectively ensures food supply throughout the year. However, unfortunately, this type of chain is not considered a sustainable supply chain because it does not meet the three perspectives that a supply chain should: economic, social, and environmental aspects (Borsotto et al., 2023). Economically, it reduces farmers' margins due to the numerous intermediaries involved. Socially, it raises suspicion about the origin of vegetables due to the unclear origin. Furthermore, environmentally, this system produces a very high carbon footprint due to the long and long transportation times. In response to this system's shortcomings, a new alternative system called the short supply chain (SSC) has emerged, involving very few intermediaries, at least one, in the distribution of products from producer to consumers (Borsellino et al., 2020; Raftowicz et al., 2024; Renkema & Hilletofth, 2022; Sobczak-Malitka & Drejerska, 2024; Yuna et al., 2025). SSC here is more than just "short." This system was created to help maintain the integrity of local economies and provide guidance to all parties involved. Thus, it is hoped that it will create close and trustworthy social and geographic relationships (Gori & Castellini, 2023; Tsoulfas et al., 2023).

Furthermore, this short supply chain system is also considered a type of supply chain management system that is considered sustainable because it contributes positively to efficiency and cost-effectiveness. This type of supply chain is considered a form of strategic innovation in supply chain operations that balances social responsibility, environmental sustainability, and a more secure and sustainable economy (Chen, 2024). Therefore, it is not surprising that this type of system is classified as a type of sustainable supply chain management within the universal supply chain management system. The short supply chain system approach emphasizes a holistic mindset that focuses on balancing the ethical and regulatory requirements of today's world with sustainability principles. This is integrated into all processes, from planning, coordination, decision-making, to performance evaluation across the entire supply chain network, which is another differentiator from traditional supply chain management.

This form of close relationship is at the heart of SSC, which aims to reduce the number of gaps that occur in all supply chain activities, from raw material procurement and production processes to distribution from the production site to consumption, both physically and interpersonally. consumption process, all the way to the final disposal process after consumption (Sobczak-Malitka & Drejerska, 2024). This is done through strict monitoring of all flows related to the supply chain, from information, data, materials, organizational finances, to collaborations carried out through collaborations with various related organizations (Anderson et al., 2024). This is done to ensure that supply chain management within the organization is aligned with the three aspects of sustainable development, including meeting the needs of customers and related stakeholders (Stroumpoulis & Kopanaki, 2022). Thus, the parties involved are able to gain long-term benefits, while also being able to minimize the negative environmental and social effects arising from these supply chain activities, as well as being able to improve economic performance and support the achievement of sustainable development goals, namely the Sustainable Development Goals (SDGs) (Anderson et al., 2024).

If looked and searched more further into it, this type of supply chain is very suitable for use with certain products, such as agricultural products, which are very susceptible to changes in terms of quality, freshness, and nutritional content. If the product is left for a long period of time, the product will easily spoil (Drejerska & Sobczak-Malitka, 2023. This type of supply chain offers additional benefits, including improving local food security through active community participation, one example being farmers' markets. Further benefits include increased profit margins for farmers, thereby improving their welfare, clarity regarding the origin of products consumed by consumers, and assurance of freshness and quality (Bui et al., 2021; Ran & Chen, 2023).

One of the largest consumer areas of agricultural products is large urban areas with large populations. Large cities with large populations always require a daily supply of fresh food to meet the nutritional needs of urban residents from these products. This is what is known as the urban food system. The urban food system is a unity of various related

elements involved, including the process of food from its "birth" to its "death," namely from how the product is produced, processed, distributed, prepared or processed, consumed, until the product is disposed of in landfills; individuals; organizations; infrastructure; and consideration of sustainability aspects within it, namely social, economic, and environmental aspects, which occur in both the city center and the outskirts (Andreola et al., 2021; Galli et al., 2024; Hennchen & Pregernig, 2020; Moramarco et al., 2025). Simply put, the urban food system is the unity of all elements that integrate the occurrence of food-related activities in urban areas.

This food system can be directly observed in one of Indonesia's major cities, Semarang, the capital of Central Java Province. The city's population is relatively large, at 1,708,833, with an average annual population growth rate of 0.88 percent (Badan Pusat Statistik, 2025b). The city continues to experience a population increase of around 14,000 people per year, illustrating how dense Semarang is. At the same time, public awareness of the importance of nutritious food and a healthy lifestyle among urban residents, as well as the demand for these products, has increased (Nichifor et al., 2025; Verain et al., 2021). According to Statistics Indonesia (Badan Pusat Statistik, 2025d, 2025c), the demand for fresh vegetables is clearly evident, with the average per capita expenditure on vegetables per week reaching Rp 16,744, with a consumption of 2,283 kg. However, in reality, the city cannot meet the needs of its entire population alone. This is due to Semarang's geographical location, where agricultural land is already very limited, as much of it is used for residential development. Furthermore, Semarang's relatively hot climate makes it unsuitable for farming, while vegetables, such as carrots, potatoes, and various other vegetables and foodstuffs, can grow in cooler climates. Therefore, most fresh vegetables are sourced from areas around Semarang, such as Bandungan, Kendal, Sumowono, Wonosobo, and Temanggung, which have cool climates suitable for farming. Demak also has extensive agricultural land, and the majority of the population is subsistence farmers (Badan Pusat Statistik, 2025a). This is a form of urban food system that is still often found in Semarang City today, where fresh vegetable products for the city still have to be supplied from outside the city. Distribution from these various regions presents inherent risks. These risks include distance, which can be seen from the long distribution time required for products, and freshness, caused by the long journey and pollution that contaminates the product, which can degrade its quality, especially if the product has a short shelf life. Examining the things that become possibility discrepancy between making the community demands and time of delivery of the product satisfying is the goal of this research (Drejerska & Sobczak-Malitka, 2023; Jarzebowski et al., 2020).

In this regard, short supply chains are an alternative solution for urban food systems. This system will help improve food system performance. This can be achieved through improvements in three aspects of sustainability: reducing logistics complexity; reducing carbon emissions from long-distance transportation; strengthening local economies; reducing food waste; increasing accessibility to fresh, high-quality food products; enhancing food security against potential shocks such as climate change, pandemics, and disease outbreaks; and strengthening social ties between cities (consumers and intermediaries) and product sources (producers); building resilient infrastructure; and sustainable consumption (Mastos & Gotzamani, 2022; Ochoa et al., 2020; UNIDO, 2020). This is in line with the framework initiated by the UN in 2015 regarding the Sustainable Development Goals (SDGs) and the regulations governing how urban food systems should operate (Petruzzelli et al., 2023).

This form of short supply chain can be seen in one of the popular business forms in Semarang City that has emerged in the last two to three years, namely "vegetable stalls", which this business has been built by many people. They sell and offer that their products are “fresh” and “direct from the farmers.” In way of conventional food system, retailers, agents, and distributors—Johar Market, Semarang's main market—require the involvement of agents, retailers, and distributors— are still required before the product reaches the end consumer from the producer (Thakur et al., 2024). This is diverged with the food system at this vegetable stall, where food supplies can be managed in ways that ensure

the product reaches the end consumer quickly, either by purchasing directly from the farmer or through intermediaries such as collectors and primary markets. In fact, it is not uncommon for the stall to send the customer's needs directly when the customer places an order at the stall.

This business model can indeed significantly reduce the number of intermediaries involved in the supply chain, which aligns with the purpose of the SSC. However, it also has several consequences, particularly related to the operation of these stalls, such as the delivery of ordered vegetables to customers' homes across various geographic locations, stall owners taking limited vegetable supplies to sell at their stalls, and consumers going to stalls located in non-strategic locations. This will result in higher carbon emissions per kilogram of vegetables, which is inefficient compared to using large trucks that can carry large quantities of commodities in conventional supply chains (Broeze et al., 2023; Cui et al., 2024; Jarzebowski et al., 2020; Mohan & Amin, 2025). This incident will eventually create a scenario of the possibility of unintentional greenwashing in the SSC process. However, this has not yet been proven valid, as this form has not been further investigated to determine its validity.

By making vegetable stalls the main focus to observe the paradigm that occurs in Semarang City, this research was conducted to see the truth. This research will focus on two main topics, namely: do vegetable stalls really use SSC to meet the needs of the city's residents? and what SSC models are used by vegetable stalls in implementing SSC? Through this, researchers hope that by understanding the operational dynamics, supporting factors, and possible trade-offs, insights can be obtained to achieve the Sustainable Development Goals (SDGs) (Majewski et al., 2020; Ordonez-Ponce, 2023; Sever et al., 2025). In this case, it will be specifically examined how the existing SSC model contributes to the three SDGs that focused at operation management, that is SDG 2 (Zero Hunger) through the provision of nutritious food (Galabada, 2022), SDG number 11 (Sustainable Cities and Communities) by strengthening urban food systems to make them more resilient (Ionescu et al., 2024), SDG number 12 (Responsible Consumption and Production) through transparency and efficiency in product distribution (Castellano et al., 2024).

2. Methods

2.1 Research design, philosophical underpinning, setting

This research employed a descriptive qualitative method, in which the researcher described the phenomena in depth. This method aimed to directly observe the reality on the ground, as well as the responses and experiences of those actively involved. Furthermore, this method was chosen because it is suitable for analyzing the various data sources and weaving them into accurate and precise information that cannot be explained simply by numbers (Byrne, 2021). In this case, Semarang City was chosen as the research object as it represents the regional food system in Indonesian cities. The methods used were semi-structured interviews, using pre-prepared questions; participant observation in the field; and documentation of activities. Using all these methods, valid and comprehensive results were obtained.

This research was conducted in Semarang City for six months, from early April of 2025, which is the dry season, to early October of 2025, by conducting research during the rainy season, researchers were able to obtain more accurate and detailed results. The research area was divided into seven subdistricts in Semarang City. These subdistricts are West Semarang, Central Semarang, North Semarang, Gayamsari, Pedurungan, Gajahmungkur, and Banyumanik. The total number of vegetable stalls taken as samples in each sub-district was one stall, except in West Semarang subdistrict where two stalls were taken. Thus, the total number of vegetable stalls used as research objects was eight stalls.

2.2 Data collection methods and procedures

Data were collected through direct interviews regarding the supply chain and customer service of the stall, with all stakeholders involved in the vegetable stall, including the stall owner, employees working at the stall, and consumers who purchase products from the stall. Questions asked of the stall owner and employees included the source of the product, the type of product taken, the durability of the product taken from the supplier and offered to consumers, the product distribution process until it reaches the vegetable kiosk and the reasons for using this model, the process of caring for vegetables that are not sold out in one day to maintain their freshness and not dirty, the benefits and impacts of this vegetable kiosk on the surrounding community, the operation of the stall, and what services the vegetable stall offers, both physical and non-physical.

Meanwhile, questions asked of consumers included the reasons for buying vegetables at the vegetable stall, whether consumers know where the vegetables come from, and their impressions of consuming the vegetables. Interviews with all parties were conducted at one time and lasted approximately 30 to 60 minutes, followed by field observations to see for themselves how the process occurred during the two to three hours. In addition, researchers also recorded interviews as audio evidence and stall documentation in the form of photos used to verify the data obtained.

2.3 Data analysis approach and ethical considerations

The data was analyzed using thematic analysis, developed by Braun & Clarke in 2006. The analysis involved several stages. The first stage involved converting the audio recordings of interviews into written text, commonly known as audio transcripts. This transcription was performed using an online transcription tool, the Turboscribe website. The second stage involved coding the data. This was done manually using colored highlighters on the downloaded audio transcript file. Each piece of information obtained from the interview was highlighted in a different color to serve as a basis for the report. This was done to facilitate the subsequent stages. The third stage involved grouping the highlighted information into one group to provide an informative explanation for the report. The fourth stage involved sorting and connecting the information obtained within one group.

This process allowed the same information to emerge, revealing patterns and analysis of SDGs, factors, and also causal relationships. In the fifth stage, the results obtained in the previous stage were rechecked to ensure the validity of the data. Finally, in the sixth stage, all the explanations and information previously obtained are compiled into a comprehensive report (Byrne, 2021). This research specifically focuses on unique events that typically challenge potential patterns and ensures that the results reveal a complete picture.

Furthermore, the existence of research carried out at the vegetable stall chosen as the research object was acceded upon, including the process by the informant and the questioner. Anything that is not permitted to be stated in the article will be suppressed by the questioner, one of which is the identity of the informant. In this research, the questioner re-clarified the data that had been previously obtained. All these steps were taken to maintain credibility and ensure the study's results remained ethical and truthful.

3. Results and Discussion

3.1 The vegetable stall phenomenon: A hybrid retail innovation

"Kedai sayur", or what is commonly called a vegetable stall, is a form of retail business that functions as an intermediary for the distribution of fresh vegetables in retail form from producers to consumers in the city of Semarang. This stall provides various types of fresh vegetables as its main products, such as spinach, carrots, kale, tomatoes, cucumbers,

cabbage, green mustard greens, white mustard greens, mustard greens, cabbage, red and green chilies, and also eggplant. In addition, this stall also provides various cooking needs needed by the local community, such as kitchen spices, namely shallots, garlic, onions, white pepper, black pepper, coriander, turmeric, candlenuts, soy sauce, and sugar. In this vegetable shop, other needs are also available such as potatoes, both soup potatoes and large potatoes; basic necessities such as oil, vermicelli, noodles, rice, and flour; meat, such as nuggets, otak-otak, chicken and fish fillets, meatballs, and beef cuts; eggs, both omega eggs and free-range chicken eggs; tofu and tempeh; They even sell fruits like bananas, strawberries, limes, oranges, grapes, pineapples, and jackfruit. Essentially, this vegetable stall is designed to provide a variety of nutritious and high-quality food needs in one place, so that Semarang residents, who live far from markets, can still enjoy fresh, quality food at affordable prices without having to shop at multiple locations.

Vegetable stalls in Semarang City are formed from two established forms: conventional vendors and supermarkets. From the perspective of the conventional vendor, these stalls utilize a delivery system and relatively low prices. Meanwhile, from the supermarket perspective, vegetable stalls utilize a price-labeling and sorting system to ensure they sell high-quality vegetables. These vegetable stalls are typically family-owned businesses, with family connections within them. However, this is not always the case; some are independent businesses. Purchases at these vegetable stalls can be made in two ways: indirect and direct. The indirect method involves ordering online or calling the stall for delivery. The direct method involves customers purchasing directly from the stall.

Vegetable stalls are open from dawn to dusk, some even 24 hours a day. At least two employees manage the stalls in shifts to ensure the products are well-monitored. In fact, the stall owners often even personally serve customers. At these vegetable stalls, customers can order the products they need from the store. This can be done by calling the store's phone number or chatting with the store and listing their orders. Payment for products is also available not only in cash but also online, using bank transfers or QRIS. This operational system has provided convenient shopping for urban residents in the region (Lankauskienė et al., 2022).

3.2 Short supply chain pattern in Semarang city vegetable stalls

3.2.1 Short supply chain (SSC) of Semarang vegetable stalls pattern 1

The SSC of Semarang vegetable stalls pattern 1 was found in several vegetable stalls in the southern region of Semarang City, specifically in the Gajahmungkur and Banyumanik Districts. At Fig. 1., this pattern demonstrates a short supply chain that begins with farmers as primary producers who plant and harvest vegetables to meet the needs of the surrounding community. After harvesting, farmers bring their product to local markets near their farms, like in Bandungan areas. Vegetable stall owners then visit the local market in morning at 4:00 AM or in afternoon at 2:00 PM to purchase vegetables in quantities specific to their stall's needs, then transport them to Semarang City by car or pick-up. Upon arrival at the stall, the vegetables are sorted again to maintain their quality before being sold to end consumers.

Fig. 1. SSC of Semarang vegetable stalls pattern 1

SSC of Semarang vegetable stalls pattern 1 is widely used for vegetables with a long shelf life such as carrots, because root vegetable commodities have a low level of post-harvest damage, so distribution does not have to be very fast but still prioritizes direct connections and the integrity of the material content (Gouda & Duarte-Sierra, 2024). The same applies to broccoli, which, although more vulnerable, can last longer if stored with

proper refrigeration, while preserving bioactive compounds such as glucosinolates, which tend to degrade during storage and long-distance transport (Nuñez-g et al., 2020). This pattern is also used for commodities that must always be fresh and easily accessible, such as onions, corn, celery, mustard greens, cabbage, tomatoes, and eggplant, generally through direct partnerships between farmers and stall owners according to agreed prices and harvest times, as an effective strategy to reduce dependence on traditional intermediaries (Mengoni et al., 2025). SSC of Semarang vegetable stalls pattern 1 reflects a form of short supply chain (SSC) collaboration at the local level, where farmers and stall owners build mutually beneficial economic relationships. This pattern creates added value in the form of transparency, trust, and provenance, which are valued by modern consumers, while also providing economic benefits to farmers through increased margins due to the elimination of costs from numerous intermediaries (Borsellino et al., 2020).

3.2.2 Short supply chain (SSC) of Semarang vegetable stalls pattern 2

This second pattern is found in vegetable stalls in the eastern part of Semarang City, namely in Gayamsari District, and some in the western part, namely in West Semarang District. This pattern is almost identical to the first pattern, but the difference lies in the role of collectors as the main intermediary in the supply chain. While in the first pattern, farmers directly sell their crops at local markets, in this pattern at Fig. 2., collectors buy crops from farmers and sell them at nearby local markets, such as Sumowono Market, Wonosobo Market, and Temanggung Market. Vegetable stall owners then come to these markets to purchase vegetables according to their business needs, then sort them before displaying and reselling them to consumers. This pattern provides convenience for stall owners because the supply is already available in the market, but it involves an additional intermediary, resulting in a smaller profit margin for farmers compared to the first pattern.

Fig. 2. SSC of Semarang vegetable stalls pattern 2

This pattern is typically used for vegetables that are not needed in large quantities per day due to their short shelf life, such as kale and spinach. Leafy greens vegetables have a high surface area and high water content, making them highly susceptible to wilting and quality loss within hours of harvest if not maintained at optimal temperature and humidity levels (Faisal et al., 2025). This pattern is typically used by stall owners whose owners previously worked in the supply chain, either in hotels or restaurants. From this position, they ultimately decided to leverage their existing network for their vegetable stall business.

3.2.3 Short supply chain (SSC) of Semarang vegetable stalls pattern 3

The SSC of Semarang vegetable stalls pattern 3 is found in vegetable stalls located in the eastern part of Semarang City, namely in the Pedurungan District. This pattern is similar to the second pattern, but the difference lies in the distribution position carried out by the collector. While in the second pattern, the collector brings the harvest to the local market and the stall owner comes to pick it up. In the third pattern (look at Fig. 3.), the collector directly delivers the vegetables to the vegetable stalls that serve as their customers. The flow begins with the farmer harvesting the produce, then the collector purchases the vegetables and distributes them to the stalls using their own transportation. The stall owner then receives the vegetable supply according to their needs, sorts them again to maintain quality, and then displays them for sale to consumers. This pattern is considered more practical because the stall owner does not need to visit the market, while the freshness of the product is maintained through direct delivery from the collector.

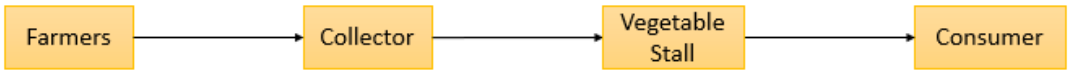

Fig. 3. SSC of Semarang vegetable stalls pattern 3

Pattern 3 can be used on several types of vegetables, both products that have a long shelf life, such as chilies, tomatoes, cabbage, green beans and potatoes, as well as products that have a short shelf life, such as mustard greens, spinach and kale (Faisal et al., 2025). This distribution model is effective for consolidating various products with different characteristics, meeting the diverse demands of a vegetable stall at once (Petruzzelli et al., 2023). This 3rd pattern is usually used by stalls that have close relationship with collectors who already have their own transportation, so that the stall owner only needs to order the amount of vegetables needed by the shop based on the demand of his customers.

3.2.4 Short supply chain (SSC) of Semarang vegetable stalls pattern 4

SSC of Semarang vegetable stalls pattern 4 is the most common pattern found in the North Semarang Subdistrict; West Semarang Subdistrict; parts of the eastern part of Semarang City, namely the Pedurungan Subdistrict; and the central part of Semarang City, namely the Central Semarang Subdistrict. At Fig. 4., the pattern begins with farmers harvesting their vegetables, then collectors buy them from the farmers to resell. This pattern is almost similar to the second pattern. The difference lies in the market the collectors targeted. In this fourth pattern, collectors do not sell their vegetables in markets in the surrounding area, but rather in the main market in Semarang City, namely Johar Market. In the urban food system, the main market plays a role as a collector of products from agricultural areas and a distributor of products to various retailers in the city, in this case vegetable stalls (Asiah et al., 2020). At Johar Market, vegetable stall owners pick the vegetables they need for their business and bring them to their stalls to be sorted. Afterward, the stall owners display the vegetables, allowing customers to choose the vegetables they need.

Fig. 4. SSC of Semarang vegetable stalls pattern 4

SSC of Semarang vegetable stalls pattern 4 is usually used for types of vegetables that are not needed in large quantities and are easily rotten, such as in pattern 2, namely spinach, cabbage, mustard greens, and water spinach (Faisal et al., 2025). This pattern is typically used by stalls that don't have direct contact with farmers or collectors and don't require large quantities of vegetables, so stall owners usually source directly from Johar Market. Furthermore, this pattern is often used because the vegetable stall is close to Johar Market, so they prefer to source from there.

Based on the findings of these four patterns, it can be stated that the short supply chain pattern that occurs through vegetable stalls in Semarang is not the same as that stated by Renkema & Hilletofth (2022), which states that a short supply chain only goes through one intermediary. The findings of this study expand the conventional view of short supply chains. However, these patterns can still be stated as a short supply chain according to the definition expressed by Tsoulfas et al. (2023). In a short supply chain, there are few intermediaries who distribute products. Vegetable stalls themselves have become second or third-party intermediaries in distributing fresh vegetables directly from the source farm.

Based on the analysis of the data obtained, there are several reasons why vegetable stalls in the short supply chain that occurred in Semarang City could not become the first intermediary, namely consideration of the number of vegetables needed for trading is not much for each day. First, consideration of the number of vegetables needed for trading is

not much for each day, vegetables commonly consumed by consumers are perishable foodstuffs. For example, kale and spinach. These two ingredients only last until the afternoon of one day. If consumed late in the day, the vegetables will no longer taste good and will often wilt. Vegetable stall businesses do not source directly from farmers because they would need to buy in large quantities, weighing up to 50 kg, while consumer demand does not reach that figure. That's why vegetable stall businesses typically source through collectors or farmers' markets, where they can source the vegetables needed for their business. Based on interviews, the maximum amount harvested per day is only around 20 bunches of spinach and kale, and around 10-20 kg of vegetables are harvested daily. This reduces the risk of vegetable spoilage.

Second, the relationship between shop owners and suppliers is more intimate with collectors in local markets or sellers in the main market, shop owners usually have more acquaintances with collectors who often come to pick up the harvest from farmers as in the SSC of Semarang vegetable stalls pattern 2 or if they do not have any acquaintances with collectors, they will usually stand by at the main market to pick up vegetables directly because they have more acquaintances in that market as in the SSC of Semarang vegetable stalls pattern 4. This causes some shop owners to rarely interact with farmers directly because they are direct customer who subscribed to the collectors. Third, product distribution distance considerations, based on interviews, most shop owners prefer to source their vegetables from the main market due to the considerable distance between the shop and the farmers.

Table 1. Routes and distances from Semarang city to various regions

No	Route	Mileage
1.	Semarang City – Temanggung Market	80 km
2.	Semarang City – Wonosobo Market	97 km
3.	Semarang City – Mranggen	12 km
4.	Semarang City – Sumowono Market	40 km
5.	Semarang City – Johar Market Semarang	3.3 km

Table 1. shows that the distance from Semarang City to several markets located near their agricultural land is quite far, ranging from 12 to 97 km, which takes a lot of time, energy, fuel, and money. SSC of Semarang vegetable stalls pattern 1 and 2 occur because the distance between the shop and the local market is closer, so they choose to get their supplies from there. Similarly, in SSC of Semarang vegetable stalls pattern 4, where the stall owner chooses to get their supplies from the main market because the distance from Semarang City to Johar Market Semarang is only about 3.3 km, which of course will save more expenses.

Fourth, product freshness (entered regarding product shelf life), as discussed in point 1, some vegetables only have a short shelf life, so SSC of Semarang vegetable stalls pattern 2, 3, and 4 are used to minimize these losses. Stall owners is sourcing vegetables for their stall needs near their stall. That’s because they are known by this way, they can sustain the freshness of the product until it reaches the end customer. They know that freshness is a crucial aspect to consider, as fresh vegetables retain their nutritional value.

3.3 Short supply chain of vegetable stalls support for SDGs

3.3.1 Short supply chain of vegetable stalls support for SDG 2

The research conducted has also found that there is a contribution from the above patterns to the achievement of 3 SDGs points, namely 2nd, 11th, and 12th SDG. The following is an explanation. The high demand for vegetables in Semarang City has led to an increase in vegetable consumption in the area. According to statements from vegetable stall owners from all samples taken, this event has certainly led to an increase in vegetable demand, especially coupled with the habit of urban residents who stall for vegetables at

varying frequencies, whether every three days, every five days, or sometimes once a week, depending on the number of family members and the family's vegetable needs. The four patterns above have helped support food procurement in Semarang City (Borsellino et al., 2020; Gouda & Duarte-Sierra, 2024). All short supply chain patterns that occur, from the first to the fourth pattern, have helped maintain stable city food security, which allows all city residents to enjoy fresh vegetables as part of a nutritious diet. This is supported by statements from Mr. X, a vegetable stall owner in West Semarang District; Mr. S, a vegetable stall employee in North Semarang Subdistrict; Ms. A, a vegetable stall employee in Banyumanik Subdistrict; and Mr. Y, the owner of a vegetable stall in the Pedurungan Subdistrict, stated that vegetable shops exist to meet consumers' vegetable needs so that their nutrition is met and they are satisfied with the products. Furthermore, a statement from one of the product consumers at a vegetable shop in Banyumanik Subdistrict stated that they enjoy buying there because the products are fresh and affordable. This statement aligns with the theory of a good urban food system, which helps strengthen the local economy, builds good relationships with consumers, and simplifies vegetable logistics so that they can reach the end consumer directly in fresh condition (Mastos & Gotzamani, 2022; Ochoa et al., 2020). Thus, the SDG goal of eliminating hunger can be achieved. Furthermore, they can actually become more prosperous because their basic needs are met (Majewski et al., 2020).

3.3.2 Short supply chain of vegetable stalls support for SDG 11

The four short supply chain patterns mentioned above have helped create sustainable cities and communities. A city or community can be considered sustainable if it maintains sustainability aspects, particularly in three aspects of sustainability (Borsotto et al., 2023). Through the first pattern, we can see active direct interaction between farmers and vegetable stall owners, which fosters positive relationships between rural and urban areas (Borsellino et al., 2020). This aligns with what Mr. D, an employee at a vegetable stall in Gajahmungkur Subdistrict, stated that this business system helps him get to know his farmers and build close relationships with them. Meanwhile, the second, third, and fourth patterns show interactions between local communities, namely collectors in indigenous agricultural areas who interact directly with stall owners, which also helps build trust between production and consumption areas (Majewski et al., 2020; Ordonez-Ponce, 2023; Sever et al., 2025). This is supported by a statement by Mrs. I, one of the employees of a vegetable stall in Gayamsari Subdistrict, that the existence of a business with this system helps create close relationships with the community and collectors who supply food ingredients for vegetable stalls. With these four patterns, good economic resilience can be created for all parties involved because all benefit from these activities. Furthermore, this approach also helps realize green supply chain management, which minimizes negative impacts on the environment (Dwidienawati et al., 2025; Nazir et al., 2024). Thus, it will help Semarang become a sustainable city with strong food security (Asiah et al., 2020).

3.3.3 Short supply chain of vegetable stalls support for SDG 12

The four short supply chain patterns above have helped realize the theory of a sustainable urban food system, where the production and consumption of products are carried out responsibly (Mastos & Gotzamani, 2022; Ochoa et al., 2020). The first pattern demonstrates a controlled production pattern, where the farmer's produce is directly handed over to the stall owner for distribution to the end consumer (Borsellino et al., 2020; Brun et al., 2020). The second, third, and fourth patterns demonstrate responsible consumption. In all three patterns, the stall owner can stock vegetables in the quantities needed by their stall. This reduces waste caused by rotting vegetables, as all vegetables are consumed without any being wasted, especially perishable vegetables like kale and spinach, also increase the efficiency of the logistics (Borsellino et al., 2020; Majewski et al., 2020; Popescu et al., 2024). This statement is supported by statements from vegetable stall

employees in Central Semarang, Gajahmungkur, and East Semarang named Mr. J, Mr. D, and Mr. T, as well as the owner of a vegetable stall in Pedurungan District, namely Mr. Y, that these patterns help reduce the number of vegetables that are wasted due to rot.

3.4 Sustainability trade-offs and greenwashing risks

The emergence of vegetable stalls remains a challenge. Economically and socially, they offer distinct benefits that can be enjoyed by various parties. However, from an environmental perspective, this issue remains poorly addressed. This phenomenon, in turn, increases carbon emissions, driven by the large number of private cars used to frequently pick up limited vegetables. According to research by Wo et al. (2021), the carbon emissions generated per kilogram of produce are 1.09–1.13 kg CO_2. Repeated, unconscious practices like this have led to unintentional greenwashing, where environmental costs are hidden upon closer inspection but ignored when only superficially addressed (Jarzebowski et al., 2020). Therefore, a more organized integration of SSC logistics is necessary. This can be done by using shared transport vehicles for several stalls, having cooperative cooperation in the delivery of fresh vegetables so that all aspects remain sustainable, and can also build a joint consolidation center in one place, such as a shared storage warehouse.

4. Conclusions

The research conducted by researchers concluded that the hybrid "vegetable stall" model in Semarang City has become a form of creativity with four short supply chain patterns, which occur depending on the situation and conditions at each stall. Each strategy within each pattern has contributed to three points in the SDGs. From this fact, it can be seen that further development of this SSC system still needs to be done to ensure all aspects of sustainability. Solutions that can be implemented to maximize the use of SSC include cooperation between stalls, both by using existing shared transportation to help reduce negative impacts on the environment, as well as through joint coordination by building organized logistics cooperation between vegetable stalls, as well as regulatory support from the government related to handling carbon emissions and movements to initiate SSC in economic activities. Thus, this system can be maximized to achieve a better future.

This research still requires further development in various areas. Current research focuses solely on describing the picture in words and only from the perspective of stall owners, stall employees, and consumers. It also lacks perspectives from producers and primary intermediaries—collectors. The results in less-than-optimal information. In the future, the researcher hoped that the next research can be supplemented with figures to strengthen the descriptions. Furthermore, the researcher is hoped that this research will examine the various perspectives to explore other reasons that may not have been uncovered in this study.

Acknowledgement

The proprietors and staff of the vegetable stands, who contributed detailed information to support this study, are much appreciated by the author. The author also expresses gratitude to her friends for helping to arrange transportation so that she could carry out the study at Semarang City vegetable stalls.

Author Contribution

Conceptualization, I.A.V., and R.U.; Methodology, I.A.V., and R.U.; Software, I.A.V.; Validation, I.A.V., and R.U.; Formal Analysis, I.A.V.; Investigation, I.A.V.; Resources, I.A.V.; Data Curation, I.A.V.; Writing – Original Draft Preparation, I.A.V.; Writing–Review & Editing, R.U.; Visualization, I.A.V.; Supervision, R.U.; Project Administration, I.A.V.

Funding
The research was not funded by external parties. Funding was provided independently by the researcher in the amount of 715,000 Rupiahs, including transportation expenses and a fee to the vegetable stall to get the data.

Ethical Review Board Statement
Ethical review and approval were waived for this study due to the nature of the research, which involved standard interviews and non-intrusive observation of business practices, posing minimal risk to participants. All research procedures adhered to the principles of voluntary participation, anonymity, and confidentiality.

Informed Consent Statement
Informed consent was obtained from all subjects involved in the study.

Data Availability Statement
The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy and ethical restrictions, as they contain information that could compromise the anonymity of the research participants (vegetable stall owners).

Conflicts of Interest
The authors declare no conflict of interest.

Declaration of Generative AI Use
During the preparation, the author used ChatGPT and Deepseek AI to find the references and also the topics for the research. The author used Grammarly and Google Translate to assist in improving grammar, clarity, and the academic tone for the manuscript. After using this tool, the author reviewed and edited the content as needed and took full responsibility for the publication's content.

References
Anderson, J., Smith, J., Anderson, J., & Smith, J. (2024). EasyChair Preprint Sustainable Supply Chain Management : Balancing Environmental, Social, and Economic Goals Sustainable Supply Chain Management: Balancing Environmental, Social, and Economic Goals. *EasyChair Preprint*. https://easychair.org/publications/preprint/61K3/open

Andreola, M., Pianegonda, A., & Favargiotti, S. (2021). Urban Food Strategy in the Making : Context, Conventions and Contestations. *Agriculture*, *11*(2), 1–25. https://doi.org/10.3390/agriculture11020177

Asiah, N., Moita, S., & Supiyah, R. (2020). The Socio-Economic Impacts After Relocation of Pasar Panjang Traders to the Wua-Wua Central Market Kendari City. *Indonesian Journal of Social and Environmental Issues (IJSEI)*, *1*(1), 28–33. https://doi.org/10.47540/ijsei.v1i1.6

Badan Pusat Statistik. (2025a). *Kabupaten Demak Dalam Angka 2025*. *49*, 388. Badan Pusat Statistik Demak.

Badan Pusat Statistik. (2025b). Kota Semarang Dalam Angka 2025. *BPS Kota Semarang*, *52*. https://doi.org/1102001.3374

Badan Pusat Statistik. (2025c). *Rata-rata Konsumsi Perkapita Seminggu Menurut Kelompok Sayur-Sayuran Per Kabupaten/kota (Satuan Komoditas), 2024*. Badan Pusat Statistik.

Badan Pusat Statistik. (2025d). *Rata-rata Pengeluaran Perkapita Seminggu Menurut Kelompok Sayur-Sayuran Per Kabupaten/kota (Rupiah/Kapita/Minggu), 2024*. Badan Pusat Statistik.

Borsellino, V., Schimmenti, E., & El Bilali, H. (2020). Agri-food markets towards sustainable patterns. *Sustainability (Switzerland)*, *12*(6). https://doi.org/10.3390/su12062193

Borsotto, P., Cagliero, R., Giarè, F., Giordani, G., Iacono, R., Manetti, I., & Sardone, R. (2023). Measuring Short Food Supply Chain Sustainability: A Selection of Attributes and Indicators through a Qualitative Approach. *Agriculture (Switzerland)*, *13*(3), 1–16. https://doi.org/10.3390/agriculture13030646

Broeze, J., Guo, X., & Axmann, H. (2023). Trade-Off Analyses of Food Loss and Waste Reduction and Greenhouse Gas Emissions in Food Supply Chains. *Sustainability (Switzerland)*, *15*(11). https://doi.org/10.3390/su15118531

Brun, A., Karaosman, H., & Barresi, T. (2020). Supply chain collaboration for transparency. *Sustainability (Switzerland)*, *12*(11). https://doi.org/10.3390/su12114429

Bui, T. N., Nguyen, A. H., Le, T. T. H., Nguyen, V. P., Le, T. T. H., Tran, T. T. H., Nguyen, N. M., Le, T. K. O., Nguyen, T. K. O., Nguyen, T. T. T., Dao, H. Van, Doan, T. N. T., Vu, T. H. N., Bui, V. H., Hoa, H. C., & Lebailly, P. (2021). Can a short food supply chain create sustainable benefits for small farmers in developing countries? An exploratory study of vietnam. *Sustainability (Switzerland)*, *13*(5), 1–17. https://doi.org/10.3390/su13052443

Byrne, D. (2021). A worked example of Braun and Clarke's approach to reflexive thematic analysis. *Quality and Quantity*, *56*(3), 1391–1412. https://doi.org/10.1007/s11135-021-01182-y

Castellano, R., De Bernardo, G., & Punzo, G. (2024). Sustainable Well-Being and Sustainable Consumption and Production: An Efficiency Analysis of Sustainable Development Goal 12. *Sustainability (Switzerland)*, *16*(17). https://doi.org/10.3390/su16177535

Chen, R. (2024). *Sustainable Supply Chain Management as a Strategic Enterprise Innovation*. *0*, 24–29. https://doi.org/10.54254/2754-1169/85/20240831

Clapp, J. (2021). The problem with growing corporate concentration and power in the global food system. *Nature Food*, *2*(6), 404–408. https://doi.org/10.1038/s43016-021-00297-7

Cui, Y., Diarrassouba, I., Joncour, C., & Michel Loyal, S. (2024). Optimization and Analysis of the Impact of Food Hub Location on GHG Emissions in a Short Food Supply Chain. *Sustainability (Switzerland)*, *16*(17). https://doi.org/10.3390/su16177781

Drejerska, N., & Sobczak-Malitka, W. (2023). Nurturing Sustainability and Health: Exploring the Role of Short Supply Chains in the Evolution of Food Systems—The Case of Poland. *Foods*, *12*(22). https://doi.org/10.3390/foods12224171

Dwidienawati, D., Indrajaya, B. L., & Zanten, E. Van. (2025). Factors Affecting the Implementation of Green Supply Chain in Companies in Indonesia : A Qualitative Study. *Sustainability*, *17*(12), 1–19. https://doi.org/10.3390/su17125349

Faisal, M., Arshad, N., Wang, H., Li, C., Ma, J., Kong, X., Luo, H., & Yu, L. (2025). Recent Advances in Technologies for Preserving Fresh-Cut Fruits and Vegetables. *Foods*, *14*(16), 1–26. https://doi.org/10.3390/foods14162769

Galabada, J. K. (2022). Towards the Sustainable Development Goal of Zero Hunger: What Role Do Institutions Play? *Sustainability (Switzerland)*, *14*(8). https://doi.org/10.3390/su14084598

Galli, F., Arcuri, S., Belletti, G., Marescotti, A., Moretti, M., & Rovai, M. (2024). Integrating Local Food Policies and Spatial Planning to Enhance Food Systems and Rural – Urban Links : A Living Lab Experiment. *Land*, *13*(12), 1–23. https://doi.org/10.3390/land13122014

Gori, F., & Castellini, A. (2023). Alternative Food Networks and Short Food Supply Chains: A Systematic Literature Review Based on a Case Study Approach. *Sustainability (Switzerland)*, *15*(10). https://doi.org/10.3390/su15108140

Gouda, M. H. B., & Duarte-Sierra, A. (2024). An Overview of Low-Cost Approaches for the Postharvest Storage of Fruits and Vegetables for Smallholders, Retailers, and Consumers. *Horticulturae*, *10*(8). https://doi.org/10.3390/horticulturae10080803

Hennchen, B., & Pregernig, M. (2020). Organizing Joint Practices in Urban Food Initiatives — A Comparative Analysis of Gardening , Cooking and Eating Together. *Sustainability*, *12*(11), 1–18. https://doi.org/10.3390/su12114457

Ionescu, G. H., Firoiu, D., Manda, A. M., Pîrvu, R., Jianu, E., & Antoniu, M. E. (2024). Progress towards the 2030 Sustainable Development Goals for EU Urban Communities (SDG11). *Sustainability (Switzerland)* , *16*(11), 1–21. https://doi.org/10.3390/su16114513

J˛edrzejewska, M. W., Markowska, J., Bie ´nczak, A., Wo´zniak, P., Ignasiak, Ł., Polak, E., Kozłowicz, K., & Ró˙zyło, R. (2021). Carbon Footprint in Vegeburger Production Technology Using a Prototype Forming and Breading Device. *Sustainability*, *13*(16), 1–18. https://doi.org/10.3390/su13169093

Jarzebowski, S., Bourlakis, M., & Bezat-Jarzebowska, A. (2020). Short food supply chains (SFSC) as local and sustainable systems. *Sustainability (Switzerland)*, *12*(11). https://doi.org/10.3390/su12114715

Lankauskienė, R., Vidickienė, D., & Gedminaitė-raudonė, Ž. (2022). Evolution of Short Food Supply Chain Theory and Practice: Two-Sided Networks and Platforms. *Energies*, *15*(3). https://doi.org/10.3390/en15031137

Majewski, E., Komerska, A., Kwiatkowski, J., Malak-Rawlikowska, A., Was, A., Sulewski, P., Goła, M., Pogodzinska, K., Lecoeur, J. L., Tocco, B., Török, Á., Donati, M., & Vittersø, G. (2020). Are short food supply chains more environmentally sustainable than long chains? a life cycle assessment (LCA) of the eco-efficiency of food chains in selected EU countries. *Energies*, *13*(18). https://doi.org/10.3390/en13184853

Mastos, T., & Gotzamani, K. (2022). Sustainable Supply Chain Management in the Food Industry : A Conceptual Model from a Literature Review and a Case Study. *Foods*, *11*(15), 1–27. https://doi.org/10.3390/foods11152295

Mengoni, M., Belletti, G., & Marescotti, A. (2025). Assessing the economic, social and environmental impact of collaborative short food supply chains: a producers' perspective. *Agricultural and Food Economics*, *13*(1). https://doi.org/10.1186/s40100-025-00397-z

Mohan, M., & Amin, S. (2025). Green Cold Chain Logistics: Minimising Greenhouse Gas Emissions of Fresh Food Products in Transport Refrigeration Units. *Logistics*, *9*(3). https://doi.org/10.3390/logistics9030112

Moramarco, L., Santo, N., Sparti, D. Di, Petrontino, A., Moro, G., Santoro, F., & Fucilli, V. (2025). Assessing Food Policies for Sustainability Transitions : A Scoping Review of Evaluation Methods. *Sustainability*, *17*(18), 1–34. https://doi.org/10.3390/su17188105

Nazir, S., Zhaolei, L., Mehmood, S., & Nazir, Z. (2024). Impact of Green Supply Chain Management Practices on the Environmental Performance of Manufacturing Firms Considering Institutional Pressure as a Moderator. *Sustainability (Switzerland)* , *16*(6). https://doi.org/10.3390/su16062278

Nichifor, B., Zait, L., & Timiras, L. (2025). Drivers, Barriers, and Innovations in Sustainable Food Consumption: A Systematic Literature Review. *Sustainability (Switzerland)*, *17*(5). https://doi.org/10.3390/su17052233

Nuñez-g, V., Baenas, N., Navarro-gonz, I., & Garc, J. (2020). Seasonal Variation of Health-Promoting Bioactives in Broccoli and Methyl-Jasmonate Pre-Harvest Treatments to Enhance Their Contents. *Foods*, 1–18. http://dx.doi.org/10.3390/foods9101371

Ochoa, C. Y., Ruiz, A. M., Olmo, R. M., Figueroa, Á. M., & Rodríguez, A. T. (2020). Peri-Urban Organic Agriculture and Short Food Supply Chains as Drivers for Strengthening City / Region Food Systems — Two Case Studies in. *Land*, *9*(6), 1–20. https://doi.org/10.3390/land9060177

Ordonez-Ponce, E. (2023). Exploring the Impact of the Sustainable Development Goals on

Sustainability Trends. *Sustainability (Switzerland)*, *15*(24). https://doi.org/10.3390/su152416647

Petruzzelli, M., Ihle, R., Colitti, S., & Vittuari, M. (2023). The role of short food supply chains in advancing the global agenda for sustainable food systems transitions. *Cities*, *141*. https://doi.org/10.1016/j.cities.2023.104496

Popescu, C. A., Ifrim, A. M., Silvestru, C. I., Dobrescu, T. G., & Petcu, C. (2024). An Evaluation of the Environmental Impact of Logistics Activities: A Case Study of a Logistics Centre. *Sustainability (Switzerland)* , *16*(10). https://doi.org/10.3390/su16104061

Raftowicz, M., Solarz, K., & Dradrach, A. (2024). Short Food Supply Chains as a Practical Implication of Sustainable Development Ideas. *Sustainability (Switzerland)* , *16*(7), 1–14. https://doi.org/10.3390/su16072910

Ran, W., & Chen, Y. (2023). Fresh Produce Supply Chain Coordination Based on Freshness Preservation Strategy. *Sustainability (Switzerland)*, *15*(10). https://doi.org/10.3390/su15108184

Renkema, M., & Hilletofth, P. (2022). Intermediate short food supply chains: a systematic review. *British Food Journal*, *124*(13), 541–558. https://doi.org/10.1108/BFJ-06-2022-0463

Sever, S. D., Tok, E., & Sellami, A. L. (2025). Sustainable Development Goals in a Transforming World: Understanding the Dynamics of Localization. *Sustainability (Switzerland)*, *17*(6), 1–26. https://doi.org/10.3390/su17062763

Sobczak-Malitka, W., & Drejerska, N. (2024). Integrating Short Supply Chains and Smart Village Initiatives: Strategies for Sustainable Rural Development. *Sustainability (Switzerland)*, *16*(23). https://doi.org/10.3390/su162310529

Stroumpoulis, A., & Kopanaki, E. (2022). Theoretical Perspectives on Sustainable Supply Chain Management and Digital Transformation : A Literature Review and a Conceptual Framework. *Sustainability*, *14*(8), 1–30. https://doi.org/10.3390/su14084862

Thakur, P., Mehta, P., Lal, P., Chaudhary, R., Pani, S. K., Singh, A. G., Devi, C., Verma, K., & Sharma, P. (2024). Agricultural Produce Supply Chain Network of Capsicum: Empirical Evidence from India. *Economies*, *12*(1). https://doi.org/10.3390/economies12010024

Tsoulfas, G. T., Trivellas, P., Reklitis, P., & Anastasopoulou, A. (2023). A Bibliometric Analysis of Short Supply Chains in the Agri-Food Sector. *Sustainability (Switzerland)*, *15*(2). https://doi.org/10.3390/su15021089

UNIDO. (2020). Short food supply chains for promoting local food on local markets. *Inclusive and Sustainable Industrial Development*. United Nations Industrial Development Organization. 1–56. https://www.suster.org/wp-content/uploads/2020/06/SHORT-FOOD-SUPPLY-CHAINS.pdf

Verain, M. C. D., Snoek, H. M., Onwezen, M. C., Reinders, M. J., & Bouwman, E. P. (2021). Sustainable food choice motives: The development and cross-country validation of the Sustainable Food Choice Questionnaire (SUS-FCQ). *Food Quality and Preference*, *93*, 104267. https://doi.org/10.1016/j.foodqual.2021.104267

Yuna, C., Frédéric, W., Paolo, P., Frédéric, C., & Françoise, M. B. (2025). Short food supply chains, an alternative economy for sustainable food systems: a mixed approach over time. *Agricultural and Food Economics*, *13*(1). https://doi.org/10.1186/s40100-025-00403-4

Biographies of Authors

Ivana Arviani Tan, is a student in the Faculty of Management at Universitas Katolik Soegijapranata, Semarang, Indonesia. She has interests in seeing how operation management works in daily life. One of it is about sustainable development, supply chain management, and local food systems, particularly exploring how short supply chains contribute to urban sustainability and the achievement of the Sustainable Development Goals (SDGs).

- Email: arviani.ivana348@gmail.com
- ORCID: N/A
- Web of Science ResearcherID: N/A
- Scopus Author ID: N/A
- Homepage: N/A

Rustina Untari, is a lecturer in the Faculty of Management at Soegijapranata Universitas Katolik Soegijapranata, Semarang, Indonesia. She holds a Doctorate (S3) in Industrial Management from Institut Teknologi Bandung (ITB). Her expertise and research interests lie in industrial management, entrepreneurship, small business, and sustainable business practices.

- Email: r_untari@unika.ac.id
- ORCID: 0000-0002-3730-701X
- Web of Science ResearcherID: AAQ-7265-2021
- Scopus Author ID: 57188955479
- Homepage: https://sinta.kemdiktisaintek.go.id/authors/profile/6018369