

DEVELOPING A SHORT SUPPLY CHAIN OF AGRICULTURAL PRODUCTS IN QUANG NGAI PROVINCE

Nguyen Thi Nhu Mai*, Le Thi Minh Toan

University of Finance and Accountancy

*Email: nguyenthinhumai@tckt.edu.vn

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ABSTRACT

The article presents an overview of the theoretical basis of supply and short-supply chains. A short food supply chain is minimum number of participants in the supply chain with 3 main characteristics: (1) Geographic distance: measured by the distance between producers and consumers; (2) the number of intermediaries participating in the chain and (3) the connection and interaction between consumers and producers. In addition, the authors also analyzed the current status of the agricultural product supply chain in Quang Ngai province. The farm product supply chain in Quang Ngai province has the limitations of following the traditional model with many layers and intermediate stages, consumers can't interact directly with agricultural producers; Agricultural producers must independently deal with price fluctuations, supply and demand, and invest capital to implement technological innovation. The authors propose a cooperative-centered short supply chain model of agricultural products to overcome the limitations of the old supply chain and better meet market needs.

Keywords: Short supply chain, agricultural products, agricultural cooperatives, Quang Ngai province.

1. PROBLEM STATEMENT

In recent years, Vietnam has increasingly promoted its advantages as an agricultural country, contributing to national GDP growth, ensuring food security and positioning Vietnam in the global supply chain. In particular, with the policies of the Party and the State, the Prime Minister has also issued many important legal policies on ensuring food safety and improving the quality of agricultural, forestry, and fishery products. The Prime Minister approved the Agricultural Restructuring Plan for the 2021-2025 period with the goal of "Continuing to restructure the agricultural sector towards sustainable agricultural development, improving the quality, added value and competitiveness of agricultural products", and accompanying policies, have promoted production restructuring at many levels, forming a sustainable supply chain in agricultural, forestry and fishery production [1].

Vietnam's agricultural sector faces difficulties in transitioning to a more competitive global economy. The difficulties are: Small and fragmented production land; Small scale production; and Spontaneous agricultural cultivation. The three regulatory limitations cause the agricultural chain to be released and easily burned during the process of bringing agricultural products from production to the market. Therefore, data on the origin of supplied agricultural products is not fully integrated, accurate, and timely in a service season at all levels: local, sub-regional, regional, and national. In addition, data on agricultural products and product types are not updated promptly, making market information often speculative.

Farmers just grow crops and livestock according to their capacity and wait for traders to buy. Traders in turn also find ways to bring agricultural products to businesses and distribution systems. A loose chain is easily broken when finding outlets for agricultural products [2].

In the context of integration and globalization, the world economy is "uncertain", and unstable, and trade liberalization promotes the development of supply chains and "open" linked areas. Supply chains are an effective solution for businesses to coexist and survive. However, traditional supply chains are increasingly losing their role in the context of globalization. According to Bui Viet Hung et al. (2021), consumers do not know exactly about the origin, quality, and production method of the product in the traditional supply chain [3]. The traditional chain model is also gradually losing the traditional cultural identity, skills, and production knowledge of both producers and consumers. Therefore, the short agricultural supply chain is considered one of the alternative initiatives to the traditional supply chain and is on the rise, occupying a large market share in the agricultural commodity market, and has been interested, considered, and institutionalized into legal regulations by policymakers. Building short supply chains for local products is becoming a mainstream trend for most European countries in general and France in particular. In the context of localization, consumer demand for local products is increasing due to the characteristics of "local identity", "natural", "healthy" and "trustworthy". Short supply chains help increase income for smallholder farmers, especially disadvantaged and vulnerable groups.

Quang Ngai is a coastal province located in the South Central Coast of Vietnam, a province in the key economic region of the Central region. The socio-economic situation of Quang Ngai province has been constantly developing and increasingly achieving remarkable achievements, completing socio-economic development goals, and gradually improving the quality of life for the people. In recent times, Quang Ngai province has also focused on developing the advantages of mountainous, remote, and island localities in the area. Quang Ngai province has a variety of agricultural products such as Ly Son onions and garlic, Sa Huynh royal sticky rice, Sa Huynh salt, fish sauce, Tra Bong cinnamon, green-skinned grapefruit, honey, watermelon, etc. Over the years, Quang Ngai has always promoted the construction of a safe agricultural, forestry and fishery food supply chain, thereby helping to control the origin and quality of products, aiming to protect the health of consumers. However, the number of participants in the supply chain is not high, the low content of processed products leads to unstable consumption. Many links in the supply chain are still loose, lack of mutual trust leads to supply chain disruption when there are changes in prices or market fluctuations. Despite facing many difficult challenges (COVID-19 pandemic, extreme climate change, global economic recession, protectionist trends with barriers to trade in goods). Quang Ngai province has restructured economic sectors in association with growth model innovation, improving growth quality, labor productivity, and competitiveness of the economy and focusing on sectors with competitive advantages and potential of the province to form key and key industries and products... in recent times, which has brought about socio-economic development achievements. The trend of developing agriculture in chains to create safe, high-quality agricultural products with traceability and, above all, rebuilding consumer confidence in local products is considered a challenge that Quang Ngai province needs to come up with solutions for. Using a short supply chain contributes to helping Quang Ngai province achieve the goal of achieving key targets by 2025 such as The average growth rate of the agricultural sector is 4-5%/year; the proportion of livestock in agriculture is about 48-50%; the average production value per hectare of agricultural land is 100 million VND; the growth rate of agricultural, forestry and fishery labor productivity is on average from 7.0 to 8.0%/year; the proportion of agricultural, forestry and fishery product value produced in the form of cooperation and association is $\geq 3\%$; the proportion of agricultural labor in the total social labor force is below 37% [4].

The bottlenecks in agricultural product consumption partly come from the notion that "higher output means higher income for producers and growth for the agricultural sector". To overcome the above situation and solve the output problem for agricultural products, it is necessary to shift from the mindset of "agricultural production" to the mindset of "agricultural economics". That is, optimizing profits and benefits per unit of production area by integrating multiple values, not simply maximizing the output of single values. That is, closely linking the agriculture and processing industry, between agriculture and services. That is, increasing the value of agricultural products in the industry value chain. That is, forming a brand of green, clean, and safe agricultural products, creating responsible agriculture.

2. OVERVIEW OF THE SHORT SUPPLY CHAIN OF AGRICULTURAL PRODUCTS

2.1. Concept of supply chain

According to Christopher, M. (1992), the supply chain is a network of organizations involved in upstream and downstream linkages in different processes and activities to create value for customers for each product [5].

The supply chain is considered as a "chain", in which the "links" are participating enterprises, organizations, and production and business households and they are contracted in a process of increasing value (Figure 1).

The supply chain is also a process from raw materials until the product is made or the service reaches the final consumer. The supply chain is also a distribution network and means to purchase raw materials, transform these materials through intermediaries to produce products and distribute these products to consumers (Introduction to Supply Chain Management - Ganeshan & Harrison).

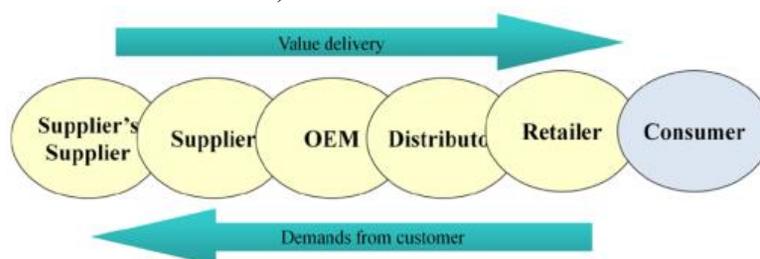


Figure 1. The basic supply chain model [6]

According to Ngo Phuong Thao (2023), in her study on the supply chain of Vietnam's agricultural export products said "A supply chain is a chain of enterprises, organizations, and production and business households (collection, production/processing, distribution, logistics) that participate directly or indirectly in the supply chain of products to the hands of final consumers" [7].

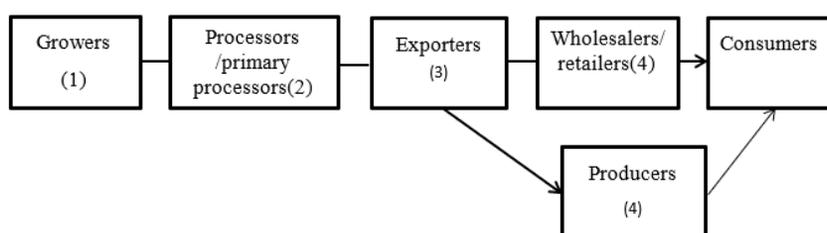


Figure 2. Vietnam's agricultural export supply chain [7]

2.2. Short food supply chains (SFSC)

2.2.1. *The concept of short food supply chains*

Short food supply chains (SFSC) were introduced by [8], then supplemented by [9], this is a term that describes a wide range of areas, including the process of producing, distributing and consuming food such as farmers' markets, farm shops, collective farmers' shops, community-supported agriculture. Short supply chains are analyzed and explained as a strategy to improve the resilience of family farms with the support of consumers, local communities, and civil society organizations. Short agricultural supply chains are considered one of the alternative initiatives to traditional supply chains and are on the rise, occupying a large market share in the agricultural commodity market, and have been and are being paid attention to, considered, and institutionalized into legal regulations by policymakers. The development of short agricultural supply chains is considered a driving force for changing rural areas and creating sustainable development in both agriculture and rural areas. To date, in theory, there are three main types of SFSC, which are: (1) direct sale by individuals: this is the simplest form of short supply chain involving direct transactions between farmers and consumers. With this model, farmers open their stores to sell their products directly or sell products from other farms; (2) collective direct sale: farmers, farms, and cooperatives cooperate to sell their products directly; (3) consumer-producer-partnership is implemented through product consumption agreements signed between consumers and producers [10].

According to Hoa Huu Lan (2022), the short supply chain of agricultural products is an economic chain of links between participants from agricultural producers, and intermediaries to consumers, in which there is a maximum of one intermediary and ideally no intermediaries [11]. Thus, the short supply chain of agricultural products is simply understood as the minimization of the number of members participating in the supply chain, with the main characteristics being: geographical distance, measured by the distance between producers and consumers; the number of intermediaries participating in the supply chain; the connection and interaction between consumers and producers.

2.2.2. *Characteristics of short supply chains for agricultural products*

According to Markuszewska et al. (2012), a supply chain is called short if it has the following four basic characteristics:

- First, geographical proximity: There are two approaches to determining the geographical proximity of short supply chains for agricultural products, specifically:

- + The first approach assumes that geographical proximity in short supply chains for agricultural products is limited to a specific geographical area in which agricultural products are produced, processed, and distributed (retail form) in the same location. Forms such as direct sales to consumers at a farm, box schemes, and farmers markets are the most common examples of this approach.

- + The second approach assumes that geographic proximity in the short supply chain of agricultural products focuses only on the area of agricultural production, not the area of distribution. Agricultural products are produced in a geographical area, but may not necessarily be processed or retailed in that area. This approach allows for the supply of agricultural products outside a specific production area, for example, agricultural products can be distributed in other localities.

Both approaches involve the delimitation of the geographical distribution area or the production area of agricultural products. In most cases, this geographical delimitation is

referred to as an administrative boundary (e.g. district, province, region, etc.) or a radius from the place of production to the place of consumption. Currently, there is no unified regulation on the geographical boundary of the short supply chain of agricultural products. Each country has its regulations. Therefore, the geographical distance in the short supply chain of agricultural products will vary depending on the factors of natural terrain, economy, culture, politics and society of the locality.

- Minimize the number of intermediaries: Short supply chains of agricultural products require no more than one intermediary in the chain, ideally no intermediaries. In this case, the contact between agricultural producers and final consumers is direct, involving commodity exchange relationships based on mutual trust.

- Social interaction in the chain: When analyzing the definitions of short supply chains of agricultural products, a common feature that is easily seen is the social interaction of the participating factors at the center of the chain's operations. This interaction develops to form network-like links and promotes increasingly closer ties to the local community. Social interaction in the chain is expressed in two aspects:

+ Relationship between agricultural producers and consumers: this relationship exists in the following forms: direct, close, and extended.

+ Community network: short supply chains of agricultural products can involve social interactions in the community, facilitating consumers and agricultural producers to be closer together in a network and promoting relationships in the local community.

- Fourth, sustainable environment: Short supply chains of agricultural products will help shorten the distance of agricultural products, reduce carbon emissions, increase the use of organic fertilizers in the production process, and strictly adhere to sustainable production methods. This will contribute to creating environmental sustainability in local communities [12].

2.2.3. The role of short supply chains for agricultural products

The form of agricultural product supply chains brings many benefits to the participants, such as for farmers, this method is a channel to diversify products, towards better and cleaner production, achieving higher added value and thereby ensuring more stable revenue.

The shorter the supply chain, the more favorable conditions are created to maintain and convey the authenticity and uniqueness of agricultural products in the form of cultural identity, production methods and origin of the products.

Short supply chains have been scientifically proven to have a positive impact on sustainable local economic development from economic, social, and environmental perspectives [13]. This is assessed through indicators of job creation [14], [15], increased income of people [10], contributing to increased social interaction, trust and social cohesion, promoting the relationship between production and consumption [14], [15], as well as improving people's knowledge in the production process, thereby reducing greenhouse gas emissions [16]. The benefits of short supply chains for sustainable local economic development, especially for farming households, small farms, and vulnerable groups, are increasingly receiving attention from governments in developed countries through institutionalization into law (France, Italy, Poland) [17].

The short supply chain of agricultural products can be simply understood as minimizing the number of members participating in the supply chain with the main characteristics being: Geographical distance, measured by the distance between producers and consumers; the

number of intermediary units participating in the supply chain; the connection and interaction between consumers and producers. The short supply chain aims to provide consumers with products that reflect characteristics such as "local identity", "natural", "healthy" and "reliable", etc.

Short supply chains are gradually becoming a popular trading method globally, gradually replacing traditional trading methods with multi-layered, multi-stage, multi-intermediary supply chains, making it difficult for farmers to promote their agricultural products and for consumers to learn about the origin of products, farming methods, and production methods of agricultural products. In addition, short supply chains also aim to minimize intermediaries, to bring the final product to consumers. The shorter the supply chain, the more favorable it is to maintain and convey the authenticity and uniqueness of agricultural products in the form of cultural identity, production methods, and origin of the products. In addition, the demand consumers for local products has increased sharply in recent years, buying local products to minimize environmental pollution, meet product quality, create added value for the local community, etc. is considered the driving force for the increase in the trend of consuming local products.

The form of supplying agricultural products brings many benefits to the participating parties. For farmers, this method is a channel to diversify products, towards better and cleaner production, achieving higher added value and thereby ensuring more stable revenue. For consumers, they will be able to use clean, safe agricultural products made in their localities at a more suitable cost. For the state, the short supply chain plays a useful role in the strategy for agricultural and rural development, creating sustainable livelihoods for farmers, developing cooperatives, connecting farmers, creating a safe food supply system, an integrated food strategy, developing businesses and entrepreneurs, a startup ecosystem, changing production and consumption habits that are friendly to society and the environment.

3. SUPPLY CHAIN SITUATION OF AGRICULTURAL PRODUCTS IN QUANG NGAI PROVINCE

Up to now, Quang Ngai has been promoting the construction of a safe agricultural, forestry, and aquatic food supply chain, thereby helping to control the origin and quality of products, aiming to protect the health of consumers.

According to My Hoa (2023), in Quang Ngai province, there are 32 "Safe food supply chains for agriculture, forestry and fishery" that have been assessed and certified [18]. Safe food supply chains are assessed and evaluated on many criteria related to the production, preliminary processing, processing, and packaging processes of products. Thereby, meeting the conditions of traceability and origin to improve management efficiency as well as product quality, ensuring the health of consumers.

In addition, managers always promote propaganda work to bring safe agricultural, forestry, and aquatic food supply chains closer to consumers, especially schools, businesses as well as collective kitchens. Thereby, ensuring input food sources, especially fresh food, must meet VietGAP standards and safe food chains. Along with that, the department strengthens monitoring, warning, inspection, and surprise checks to promptly detect and strictly handle establishments that violate regulations on food quality and safety. Support establishments that produce safe agricultural products and food to complete procedures and regulations on food traceability to expand the consumption market.

According to the report of the Department of Agricultural, Forestry and Fishery Product Quality Management of Quang Ngai province, in the first 6 months of 2024, all levels and

sectors in the province have used funding sources to support production and business establishments to build and apply advanced quality management programs. Build and form production chains to improve product quality and value. Up to now, the whole province has 10 cultivation establishments certified with VietGAP and equivalent.

In addition, departments and branches in Quang Ngai province are gradually supporting enterprises producing and trading agricultural, forestry, and aquatic products in the province to promote and introduce products and seek and expand product consumption markets, develop production, improve quality and output, and create product positions in the market in the province as well as outside Quang Ngai province. Currently, Quang Ngai province is planning production areas, creating favorable conditions to attract large enterprises to invest, and accelerating the application of scientific and technological advances in agricultural production and processing. Farmers in Quang Ngai apply scientific and technological advances in cultivation, processing, improving quality along with linking consumption, helping many agricultural products to be welcomed by the market, increasing consumption. In particular, since the implementation of the "One Commune One Product" program, agricultural products of Quang Ngai province have been raised to a higher level. Units and localities have contributed to orienting the development of OCOP products based on the advantages and strengths of each locality. As of March 2024, Quang Ngai province has 191 OCOP products. Of these, there are 17 4-star OCOP products and 174 3-star OCOP products (13/13 localities have OCOP products) [19]. Quang Ngai's agricultural products are gradually regaining consumer confidence by limiting the use of chemicals and moving towards organic farming. However, according to [20], the issue of output for agricultural products has not been fundamentally resolved. Quang Ngai province is implementing many solutions, gradually removing bottlenecks, restructuring agriculture towards increasing value, stabilizing agricultural product consumption, increasing farmers' income, and sustainable development. From 2021 to 2025, Quang Ngai province will continue to restructure the agricultural sector towards sustainable development; improving the quality, added value, and competitiveness of agricultural products. The locality focuses on promoting the development of modern agriculture, clean agriculture, and organic agriculture, associated with the development of the agricultural processing industry, adapting to climate change. Building codes for agricultural growing areas in Quang Ngai are facing many difficulties. Many countries require fresh fruits and some other agricultural products of Vietnam to be grown and packaged in growing areas and packaging facilities that have been granted codes to be eligible for import. Building codes for agricultural growing areas in Quang Ngai aim to monitor and control production, control pests, food hygiene and safety, and traceability. According to Ha Phuong (2024), Quang Ngai province has 3 agricultural products for export: bananas, watermelons, and chili peppers which are directly affected by the above regulations. Currently, only 1 enterprise has been granted a code for banana growing areas for export to the Chinese market. Chili peppers and watermelons have not been granted yet [19].

The current agricultural supply chain in Quang Ngai (traditional agricultural supply chain) is still loose and fragmented, causing many difficulties for food processing and agricultural product exporting enterprises and very low income for farmers. Specifically, the supply chain for agricultural products involves too many intermediaries, mostly traders, who are knowledgeable about the locality, and have adequate means of transport and warehouse systems. Therefore, traders play the role of purchasing and transporting agricultural products. The longer the supply chain, the more expensive it is. Thus, in the agricultural value chain, traders play the role of logistics service providers. Enterprises hardly have direct interaction with farmers, so they almost do not have a clear understanding of the supply situation. This leads to a situation where "the supply side does not know the demand and the demand side does not know the supply side". As a result, enterprises do not have enough information to

forecast and plan effective supply. Once the enterprise at the market outlet cannot control the plan, it will affect the efficiency of the entire supply chain on the supply side. All of this has slowed down the flow of goods and also caused congestion and a lack of transparency in price and market information.

Because of the above limitations, building a short supply chain with the characteristic of bringing agricultural products from producers to consumers directly. Currently, with the increase in the scale of cultivation, along with the fluctuation in agricultural product prices, leading to unstable incomes of people, consumers turn their backs on local products because the design and quality of the products do not meet expectations. Therefore, applying a short supply chain to create safe, high-quality agricultural products with traceability, and improve consumer confidence and demand for local products is very necessary.

To develop a short supply chain model for agricultural products in Quang Ngai province, within the scope of this paper, the authors primarily conducted a synthesis and analysis of secondary data from existing reports and documents, aiming to provide an overview and assess the current situation based on recognized credible sources. Additionally, the authors employed in-depth interviews with seven experts (including three managers involved in the agricultural sector, two university lecturers specializing in supply chain management, and two individuals from households actively supplying agricultural products to the market). The interview results indicate that constructing a short agricultural product supply chain model centered around cooperatives is the most appropriate approach for developing the agricultural supply chain in Quang Ngai province.

4. BUILDING A SHORT SUPPLY CHAIN MODEL FOR AGRICULTURAL PRODUCTS WITH COOPERATIVES AS THE CENTER

According to the Department of Agriculture and Rural Development, as of July 2024, there were 244 agricultural cooperatives in Quang Ngai province. Some cooperatives have boldly innovated their business activities to serve the needs of their members better. Cooperatives have transformed their operating models towards cooperation and diversified linkages, focusing on building brands for typical agricultural products. Cooperatives register to build brands, origins, packaging, and labels for products, meeting the requirements of the consumer market. Cooperatives apply advanced technology to production to increase labor productivity, and agricultural products are increasingly of better quality. Developing an agricultural supply chain with cooperatives as the center will contribute to increasing income for cooperative members, while also contributing to restructuring agriculture, building new rural areas, and reducing poverty.

➤ **Actors participating in the chain:**

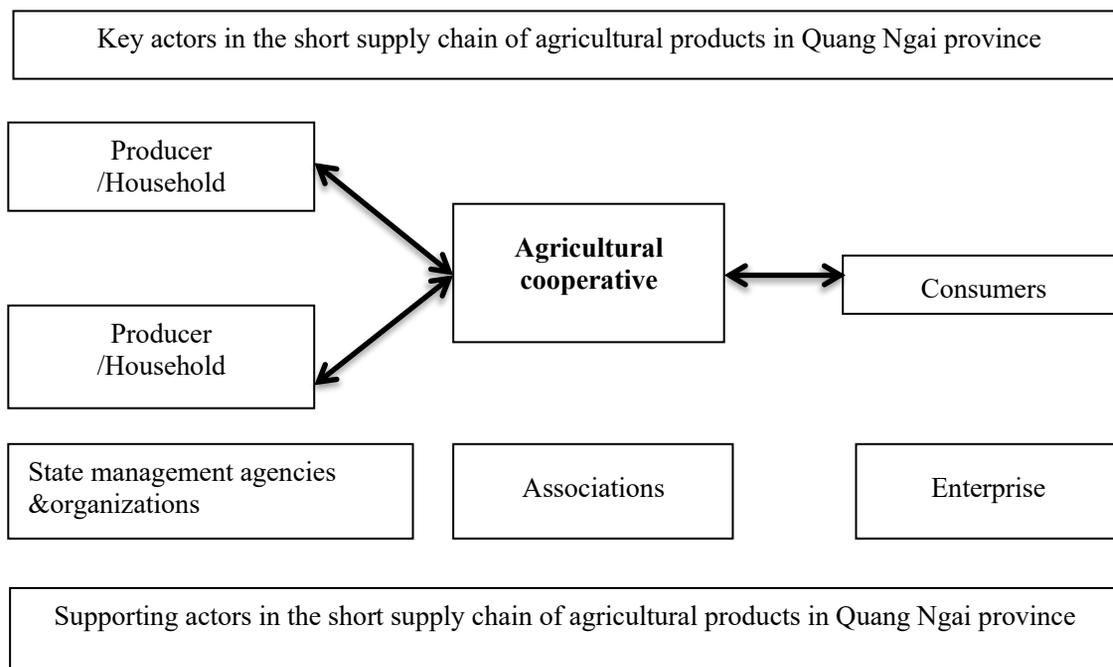
- Producers: farming households mainly living in the same area or farming households in adjacent areas, cultivating and growing similar products (cinnamon, garlic, salt) are official members of the cooperative or have the desire to join the cooperative.

- Agricultural cooperatives: select typical agricultural cooperatives for three types of products: cinnamon, garlic, and salt. The cooperatives chosen as experimental models must be strong cooperatives, especially the cooperative director and the board of directors must have management capacity, business capacity, and prestige to gather members.

- Distribution channel: relatively diverse consumption network for many different customer groups in the area, outside the area, it can even participate in direct export when the cooperative has enough conditions. However, the operating principle of the cooperative is to

represent the interests of its members, distribute directly to customers, and minimize intermediaries.

- Consumption market: includes customer objects that are addresses corresponding to each distribution channel as shown in the model diagram. In the initial stage, these cooperatives should focus on the near market and then expand to distant markets, from the simple distribution and customer approach stage, then gradually expand to consumption channels that require investment and costs, especially with the support of functional agencies to be qualified to implement more complex distribution channels.



(Source: Author's proposal)

Figure 3. Short supply chain model of agricultural products in Quang Ngai province with cooperatives as the center

➤ Functions and linkages between actors in the model

- Agricultural cooperatives

The cooperative must gather members in the area or gather members in adjacent areas who share the same desire to participate in the short supply chain, helping farmers realize the benefits of participating in the short supply chain compared to previous ineffective forms of product consumption. Cooperatives need to draft voluntary contracts based on strict compliance provisions on ensuring output sources, agreeing on product prices agreed between the cooperative and each member household, mandatory standards on the production process and ensuring product quality, on product purchase commitments along with sanctions for contract violations by both parties, creating confidence and peace of mind for farmers to participate in the chain.

The cooperative is the unit responsible for providing inputs (seeds, fertilizers, related agricultural materials) and guiding production methods according to prescribed processes and standards (VietGap, GlobalGap, ...), guiding farmers to use blockchain methods to trace the origin of products. Applying technology to trace the origin is extremely important to ensure that the output of the product is truly safe and to create trust for consumers, building a reputable

product brand. However, the cooperative itself does not have enough capacity to carry out the above technical steps, it is necessary to have the participation of specialized departments of the Department of Agriculture and Rural Development of Quang Ngai province to support and introduce reputable agencies and enterprises through the cooperative as a representative unit for farmers to sign contracts to supply raw materials, provide guidance and professional training for members. During the implementation process, there must be supervision by officers of the agricultural extension center and representatives of the cooperative management board [11].

After purchasing the products, the cooperative is responsible for cooperating with customer partners to consume products for member households. To ensure the quality and reputation of the products, the cooperative is responsible for packaging, labeling, and branding the products. Product brands should be unified with the names of locally branded products such as Tra Bong cinnamon, Ly Son garlic, Sa Huynh salt, etc. Along with product brand registration, the cooperative carries out trade promotion activities, promotes the image and advertises the cooperative's product brands. After the cooperative has collected enough agricultural products according to the contract signed with farmers and fully performed the above functions, the director and the cooperative management board conduct market research to establish appropriate product consumption channels. This function requires the capacity and sensitivity of the management board, especially the role of the cooperative director. In addition, there must be active support from the Department of Industry and Trade, and relevant state management agencies of the province in forecasting, providing updated and accurate market information, economic and technical infrastructure, marketing operations in trade promotion, etc.

Cooperatives need to build cold storage and perform preliminary processing of products. To carry out this technical step in the short supply chain of agricultural products, it is necessary to have the participation and support of provincial and district authorities in terms of production space, capital, technology and professional training. Cooperatives cannot perform this function.

Compatibility between distribution channels and consumer market channels. First, cooperatives in the province focus on distribution channels through agents, fairs, exhibitions, traditional markets, supermarkets, schools, hospitals, agencies, organizations, units located in the province, and online sales to sell directly (wholesale, retail) to customers in the area, visitors, and residents in the area. Then, when there are conditions in terms of facilities and other technical standards, the market will be expanded to other markets, including direct export. To harmonize the benefits for farmers and the benefits for cooperatives, the short farm supply chain needs to determine all input costs, including management costs and product transportation costs, to include in the price frame for agricultural products collected from cooperative members participating in the chain.

- Farmer households

According to the Law on Agricultural Cooperatives, farmer households participate in cooperatives voluntarily, with mutual benefits. However, to ensure a legal basis, farmer households participating in the supply chain must sign an economic contract with the cooperative after agreeing to the terms stated in the contract. In addition to the contract signed by both parties, the cooperative needs to draft a set of rules for production and business activities so that farmer households can easily understand, grasp, and implement them. When participating in the short agricultural supply chain, farmers must commit to providing input products (seeds, fertilizers, pesticides, etc.) directly signed by the cooperative with reputable institutes, centers, and businesses. The cooperative signs contracts with reputable consulting units to help farmers implement blockchain technology and digitize products. Farmers'

products must comply with these mandatory standards before the cooperative can collect labels and attach smart electronic stamps to the products.

Farmers in the process of participating in the short supply chain of agricultural products need to identify the perception of stability, and sustainability, and put their trust in the board of directors and the executive director of the cooperative. To do so, in the process of electing the board of directors and the director of the cooperative, farmers need to be wise in choosing members with enough heart and leadership capacity. In some cases, if the cooperative in the area cannot choose a director with enough capacity, the district Department of Agriculture can introduce personnel.

- Consumers

Consumers are important actors in terms of demand and supply, in the process of operating the short agricultural supply chain through a cooperative-centered model. In addition to the function of directly consuming products, through the distribution channel (F1) from the cooperative, customers also have the function of providing feedback on product quality, product form, and product distribution methods directly to the product distribution intermediary, which is the cooperative. Through this, the cooperative can grasp the feedback and psychology of customers' tastes to promptly adjust and improve the shortcomings in product quality and appearance, meeting customer requirements conveniently and quickly. This relationship not only creates conditions for customers to access quality products but also creates conditions for the cooperative to expand market share, increase output, and improve income efficiency for producers.

- Other supporting agents

The functions and roles of state management agencies and organizations in the area (Provincial and District People's Committees, relevant departments such as the Department of Agriculture and Rural Development, Department of Industry and Trade, Department of Information and Communications, Department of Science and Technology, farmers' associations, Department of Rural Development, Agricultural Extension Center, Department of Cooperative Development, etc) are agencies and organizations that have important impacts on the implementation of the model. The above agencies need to unify their awareness of innovation in thinking about the approach to the market for short-chain agricultural product consumption. In addition to management agencies and social organizations, the participation and support of associations (Farmers' Association, Consumer Protection Association, scientific research and application centers, agricultural extension centers, rural development departments of Quang Ngai province, etc.) play a key role in helping cooperatives in guiding, training, providing input materials (seeds, fertilizers, pesticides) as well as guiding farming households to properly implement VietGap, GlobalGap standards, etc.)

The interaction of enterprises related to agricultural business, local and non-local enterprises as both partners and agents supporting cooperatives in implementing short agricultural supply chains. According to Nguyen Chien Thang (2021), in the current economic development conditions of our country, farmers themselves as well as cooperatives in the process of implementing short agricultural supply chains in the initial stage cannot accumulate capital, and accumulate land and management experience [21]. Therefore, it is necessary to have enterprises to support and create conditions for the development of short agricultural supply chains.

5. CONCLUSION

As mentioned, the short food supply chain can be simply understood as the minimization of the number of members participating in the supply chain with 03 main characteristics: (1)

Geographical distance: measured by the distance between the producer and the consumer; (2) the number of intermediaries participating in the chain and (3) The connection and interaction between consumers and producers. The short food supply chain aims to provide consumers with products that reflect characteristics such as: "local identity", "natural", "healthy" and "reliable".

Short agricultural supply chains are a channel to diversify products, towards better and cleaner production, achieving higher added value and thereby ensuring more stable revenue; consumers will be able to use clean and safe agricultural products made in their localities at more suitable costs; for the state, short supply chains play a useful role in the strategy for agricultural and rural development, creating sustainable livelihoods for farmers, developing cooperatives, connecting farmers, creating a safe food supply system, an integrated food strategy, developing business and entrepreneurs, a startup ecosystem, changing production and consumption habits that are friendly to society and the environment, etc. However, the production and distribution of agricultural products in general and agricultural products in particular in Quang Ngai still have "bottlenecks" that have not been resolved on a large scale. One of the weakest points is that the current food supply chain is still mainly based on the traditional model with many layers and intermediate stages, causing consumers to not have direct interaction with agricultural producers. The current context, when the pressure from consumer demand for safe agrarian products is increasing, creates unprecedented development opportunities for safe agricultural supply chains, in which short agrarian supply chains are one of the necessary methods to encourage development.

According to Nguyen Chien Thang (2021), currently, short supply chains are almost a new concept in Vietnam and have not attracted much attention. Vietnam does not have a policy to encourage the development of sustainable short-supply chains. At the same time, the connection between farmers and agricultural enterprises/cooperatives is still weak; Cooperatives and farmers - the main actors in short supply chains are often limited in access to knowledge about production according to safety standards, product marketing advanced technology, etc. In addition, households, cooperatives, and enterprises do not have stable conditions to meet the requirements of international regulations. The agricultural distribution system is still inadequate and involves many intermediaries. Therefore, agricultural producers have to grapple with several problems including strong price fluctuations and financial constraints to implement technological innovation [21]. Therefore, by establishing policies to support marketing, trade, and product promotion, farmers who are often the main actors in the supply chain in general and short supply chains in particular are facing great difficulties in marketing and promoting their products. Therefore, policies to support marketing and product promotion have helped them a lot when participating in short supply chains, where they directly introduce, advertise, and sell products to consumers. There are several types of support aspects such as logistics support for local markets, technical support to create a marketing platform; negotiation capacity; access to marketing and production services; support for the development of collective retail stores to facilitate product certification; development of product logos and trademarks, etc.

In recent times, Quang Ngai province has invested heavily in infrastructure and technology, especially in supporting digital transformation application software in managing production and business activities to promote the development of the digital agricultural economy in the new situation, gradually forming a database system to manage, monitor and control agricultural, forestry and fishery products on the market... contributing to improving the efficiency of agrarian product supply activities, contributing to the success of bringing agricultural products to the market. In addition, with the increasing trend of consumers applying information technology to search and trace the origin of products, cooperatives and agricultural production and processing facilities have proactively and actively transformed

digitally in management and developed safe agrarian supply chains. Thereby, creating trust among consumers and improving production and business efficiency. The application of information systems in the management of safe agricultural product chains has helped cooperatives and enterprises transform from purely agricultural production to modern agriculture, applying 4.0 technology. At the same time, food production and processing establishments have applied information technology to advanced quality management programs, warehouse logistics management, preservation, and promoting production and consumption chain linkages, which will control the origin and quality of agricultural products from raw materials to products on the market.

REFERENCES

1. The reporters - Development of a Safe Agricultural Supply Chain (diendandoanhngiep.vn) (2023). Access at: <https://diendandoanhngiep.vn/phat-trien-chuoi-cung-ung-nong-nghiep-an-toan-10005297.html>
2. Khuyen nong Viet Nam - Tackling the issue of effective market outlets for Vietnam's agricultural produce at present (khuyennongvn.gov.vn) (2021). Access at: <https://khuyennongvn.gov.vn/hoat-dong-khuyen-nong/thong-tin-huan-luyen/-giai-quyet-bai-toan-dau-ra-cho-nong-san-o-nuoc-ta-hien-nay-20972.html>
3. Bui Viet Hung, Nguyen An Ha, Hoa Huu Cuong - Short supply chain of agricultural products in Dak Lak: new trends in sustainable agricultural development. *Vietnam Social Sciences* **5** (2021) 3-16.
4. Ha Phuong - Quang Ngai sets new goals for OCOP products (2024). Access at: <https://kinhthedothei.vn/quang-ngai-dat-muc-tieu-moi-cho-san-pham-ocop.html>
5. Christopher, M - *Logistics & Supply chain management* **5** (1992).
6. Lu, D. - *Fundamentals of supply chain management*. Bookboon (2011).
7. Ngo Phuong Thao - Solutions for developing the supply chain of agricultural products for export when Vietnam participates in the global agricultural product supply chain. *Electronic Industry and Trade Magazine* **11** (2011).
8. Marsden, T., Banks, J., & Bristow, G. - Food supply chain approaches: exploring their role in rural development. *Sociologia Ruralis* **40** (4) (2000) 424-438.
9. Renting, H., Marsden, T. K., & Banks, J. - Understanding alternative food networks: exploring the role of short food supply chains in rural development. *Environment and Planning A* **35** (3) (2003) 393-411.
10. Galli, F., & Brunori, G. - Short food supply chains as drivers of sustainable development. Evidence document (2013).
11. Hoa Huu Lan - Short supply chain model for key agricultural products in Dak Lak province. *Journal of Science of Dong A University* **1** (44) (2022) 42-59. <https://js.donga.edu.vn/index.php/daujs/article/view/81>
12. Markuszewska, A., Prior, A., Strano, A., Bálint, B., Midoux, B., Bros, C., ... & Hudson, T. -Local food and short supply chains. European Commission. Belgium, (2012) 1-72.
13. Duarte Alonso, A. - Farmers' involvement in value-added produce: the case of Alabama growers. *British Food Journal* **113** (2) (2011) 187-204.

14. Kawecka, A., & Gębarowski, M. - Short food supply chains–benefits for consumers and food producers. *Journal of Agribusiness and Rural Development* **37** (3) (2015).
15. Gębarowski, M. - Short food supply chains – Benefits for consumers and food producers. *Journal of Agribusiness and Rural Development (JARD)* **3** (37) (2015).
16. Broderick, S., Wright, V., & Kristiansen, P. - Cross-case analysis of producer-driven marketing channels in Australia. *British Food Journal* **113** (10) (2011) 1217-1228.
17. Bui Viet Hung, Nguyen An Ha, Hoa Huu Cuong - Short supply chain of agricultural products in Dak Lak: new trends in sustainable agricultural development. *Vietnam Social Sciences* **5** (2021) 3-16.
18. My Hoa - Developing safe agricultural, forestry and fishery supply chains (2023). Accessed at: <https://baoquangngai.vn/channel/2025/202303/phat-trien-chuoi-cung-ung-nong-lam-thuy-san-an-toan-3160265/>
19. Ha Phuong - Quang Ngai sets new goals for OCOP products (2024). Access at: <https://kinhtedothi.vn/quang-ngai-dat-muc-tieu-moi-cho-san-pham-ocop.html>
20. Vinh Thong - Agricultural Restructuring and Enhancing the Value of Agricultural Products in Quang Ngai (2023). Access at: <https://vov.vn/kinh-te/tai-co-cau-nong-nghiep-nang-tam-gia-tri-nong-san-o-quang-ngai-post1002580.vov>
21. Nguyen Chien Thang - Digital Transformation in European Countries and Lessons for Vietnam (2021). Access at: <https://ies.vass.gov.vn/hoi-thao-toa-dam/Hoi-thao-khoa-hoc-quoc-gia-Chuyen-doi-so-tai-cac-nuoc-Chau-au-va-bai-hoc-kinh-nghiem-cho-Viet-Nam-39.0.html>

TÓM TẮT

PHÁT TRIỂN CHUỖI CUNG ỨNG NGẮN HÀNG NÔNG SẢN TỈNH QUẢNG NGÃI

Nguyễn Thị Như Mai*, Lê Thị Minh Toàn

Khoa Quản trị kinh doanh, Trường ĐH Tài chính – Kế toán

*Email: nguyenthinhumai@tckt.edu.vn

Bài báo trình bày tổng quan cơ sở lý thuyết về chuỗi cung ứng và chuỗi cung ứng ngắn. Chuỗi cung ứng ngắn (*Short food supply chain*) là sự giảm thiểu tối đa các thành viên tham gia trong chuỗi cung ứng với 03 đặc trưng chủ yếu là: (1) Khoảng cách về mặt địa lý: được đo bằng khoảng cách giữa người sản xuất và người tiêu dùng; (2) số lượng các đơn vị trung gian tham gia vào chuỗi và (3) Sự kết nối, tương tác giữa người tiêu dùng và người sản xuất. Bên cạnh đó nhóm tác giả cũng phân tích thực trạng chuỗi cung ứng hàng nông sản trên địa bàn tỉnh Quảng Ngãi, chuỗi cung ứng hàng nông sản trên địa bàn tỉnh Quảng Ngãi có hạn chế là vẫn theo mô hình truyền thống với nhiều trung gian, khiến cho người tiêu dùng không có sự tương tác trực tiếp với người sản xuất nông nghiệp; các nhà sản xuất nông nghiệp phải tự mình giải quyết khó khăn với biến động giá mạnh, hạn chế tài chính để thực hiện đổi mới công nghệ. Nhóm tác giả đề xuất mô hình chuỗi cung ứng ngắn hàng nông sản lấy hợp tác xã làm trung tâm nhằm khắc phục những hạn chế của chuỗi cung ứng cũ và đáp ứng tốt hơn nhu cầu của thị trường.

Từ khóa: Chuỗi cung ứng ngắn, hàng nông sản, hợp tác xã nông nghiệp, tỉnh Quảng Ngãi.