

The Current Situation of Agricultural Products Logistics and the Conception of Logistics System in Henan Province: based on the Case of Zhengzhou

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Abstract: Based on the understanding of agricultural products, transportation sites and transportation market, this paper puts forward the concept of agricultural product logistics system, and discusses the background of the system and provides recommendations for subsequent protection. Through the research of this paper, we explore the development countermeasures of agricultural products logistics under the background of low-carbon economy to guide the development of agricultural products logistics, improve the economic benefits of agricultural products, promote agricultural development and farmers' income. Finally, the paper discusses the optimization of economic and social environmental benefits, which will contribute to the construction of new socialist countryside in Henan province.

Keywords: agricultural products; logistics; green; system

1 Current situation of agricultural products logistics development in Henan province

1.1 Increasing demand for agricultural products and production

By 2016, the resident population of the central city of Zhengzhou reached more than 6 million people, the population of the urban area Zhengzhou grew at an annual rate of 25%. On the one hand, some negative problems occur frequently, such as unsustainable agricultural products, high land prices and agricultural food safety. On the other hand, with the increasing income of urban residents (Figure 1), their requirements for living standards and quality are also higher and higher. For the consumption of agricultural products, the product quality, safety, nutrition and reliability requirements are increasingly stringent. People have higher requirements for value-added agricultural products, such as freshness, processing level, nutritional value and safety and so on.

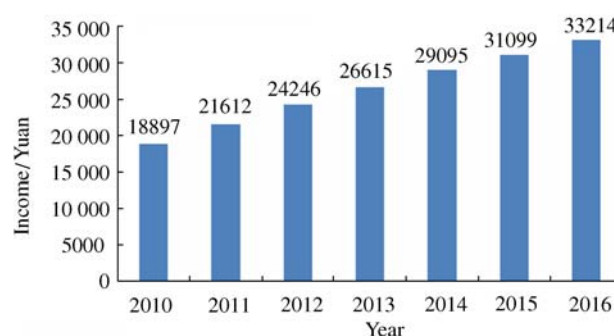


Figure 1 Per capita disposable income of urban residents in Zhengzhou from 2010 to 2016

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Zhengzhou agricultural park has a good momentum of development, the government of Zhengzhou city will support the construction of characteristic agricultural production and the construction of advanced green logistics system around the state-level modern agricultural demonstration area and the leisure agriculture demonstration counties. From 2015 to 2017, there built 10 core areas in Zhengzhou, cultivate and upgrade 100 leisure farm (garden), create a number of national leisure agriculture and rural tourism demonstration enterprises. All of these provided a superior production environment for the development of agricultural economy and stable agricultural products market in Zhengzhou.

1.2 Positive response and promotion of relevant policies

In 2017, the Henan provincial government proposed the "13th Five-year agricultural and rural economic development planning", in support of the county base of dominant agricultural products formed in policies and funding, which will play a very important role in meeting the market supply and increase farmers' income. In addition, the collection and distribution center of agricultural products and township market upgrade has been supported by the government. The county township agricultural products circulation information level will be improved. Under the support of the government, the brand of agricultural products has a good development prospect. Zhengzhou meat traceability system and the construction of the provincial agricultural super docking pilot has been launched, the degree of organization of agricultural products will be increased. By strengthening the circulation of goods tracking mechanism, it will improve the management of the circulation of meat and vegetables in the city, so that consumption structure is upgraded, the public consumption of agricultural products will be more secure and convenient.

1.3 The development and improvement of agricultural logistics node

As the geographical location of Zhengzhou, in the north-south logistics distribution center city, the city operates various types of professional market are mostly traditional farmers market. In 2016, the Zhengzhou municipal government issued the "Suggestions on the implementation of Zhengzhou municipal people's government on accelerating the planning and construction of farmers' Market and promoting the transformation". On the one hand, we must focus on the relocation of the wholesale market and the transformation of the construction of the wholesale market to undertake a platform to improve the flow of trade market. On the other hand, it is necessary to establish a new professional market group in the south-fourth ring road. At the same time, it will focus on the construction of agricultural trading market in Zhengzhou, such as vegetables, flowers, animal products, grain and oil, agricultural, seeds, etc. The future pattern of the market has three major agricultural and sideline products trading centers, namely Wanbang international, Zhengzhou agricultural products trade center and commercial Xintiandi, this pattern increased aquaculture industry and other non-staple food trading hall.

1.4 The development advantages of logistics industry

There are 3 main national road, 9 national roads, 97 provincial highways, constitute the province's cities and counties in the province's highway network in Henan province. Zhengzhou is the central city of the Central Plains Economic Zone, which is located in the center of the national railway network. For many years, the railway construction has formed the "ten" shape of the Central Plains urban agglomeration and the "half ring" shaped inter rail transit network structure. In March 2013, the State Council formally approved the "Zhengzhou airport economic comprehensive experimentation area development plan (2013 ~ 2025)", which means that Zhengzhou has become a national strategy for the development of the airport economic zone. In recent years,

Zhengzhou air port economic indicators continued to grow rapidly, the growth rate of major economic indicators are higher than the province's growth, has become the core of the province's economic and social development. In addition, the great achievements are made in many other aspects, such as the planning of international transit logistics hub, the vigorous development of the aviation logistics and logistics specialty products, and gradually formed the aviation logistics service system, as one of the pillar industries of Aviation Logistics Port has also made great achievements.

2 The problems in the development of agricultural products logistics in Henan province

2.1 Main problems in the circulation of agricultural products

1) Modern circulation system in the initial stage

Most of the circulation of agricultural products is still in the normal temperature logistics and natural logistics development stage in Zhengzhou. A certain area of agricultural products integrated logistics and distribution system has not yet formed, the network distribution is not balanced, multi-species of agricultural products and large batches of fresh supermarket chain has yet to be improved. Farm supermarket docking, meat and vegetables circulation traceability system is still in its infancy, the docking surface is not wide enough, and docking relationship is not stable enough. There are a small part of the agricultural products from the "agricultural super-docking" circulation in the market, circulation tracking system coverage is small, and still in the trial running phase. Although the cold chain logistics of agricultural products has emerged, but only sporadic limited to the characteristics of less fruit and characteristics of agricultural products.

2) The conditional backwardness of the traditional farmers market

Most of the existing farmers' markets have been used for a long time, the environment and hygiene conditions are poor, the trading mode is relatively backward, the degree of organization is lower, its market main body is generally small-scale operation, the operating scope is limited to raw fresh primary agricultural product. Urban traditional farmers market as a frequent expansion of the supply chain sales terminal, but also caused the city's waste disposal, environmental protection, city management, quality control, and many other management pressure. It has begun to transform some of the traditional farmers market, standardized dishes are also under construction in Zhengzhou.

3) Multi-cost overlay in circulation

Generally speaking, the agricultural products from planting picking to the consumer purchase, basically have to go through these four steps: acquisition in the origin, and then through the transport distribution, after a few rounds of wholesale market to the sales market. As the circulation of agricultural products has a corresponding cost of expenditure, and engaged in the circulation of the market players also need to pursue profitability. So, each of the cost of circulation through the layers increases and charges, to the downstream transmission in the supply chain of agricultural products, the "superposition effect" as the result of end consumers can only accept the high price, but the circulation is still in a low profit status. This has a direct relationship with too many links and poor channels. In particular, the main cost of China's current agricultural products circulation includes: The tax burden on the tax, business tax, entry fee, and location fee of the participating subjects; The labor costs caused by small-scale production, decentralization and low mechanization; Higher transportation costs, such as petrol, diesel prices and toll roads; The rapid waste of natural wastes caused by cold chain transportation and shortage of special warehouses.

2.2 The specific logistics issue in the circulation of agricultural products

1) Backward logistics of agricultural products

The entire agricultural products cold chain logistics in the initial stage of Henan province, lagging agricultural transport equipment and technology, too few efficient dedicated transport vehicles, especially low cold chain transport rate, seriously lagging behind the domestic average, cold chain circulation far less than 5% of the national level, the lack of fresh agricultural products brand advantage, a serious shortage of infrastructure, inadequate refrigerated transport vehicles, which have affected the Zhengzhou city and even the development of modern agriculture in Henan province. Low temperature, cold storage and three-dimensional library of special warehouses are relatively rare in Zhengzhou, especially in rural areas. It is difficult to use the conditions of advanced storage equipment, and farmers will be scattered agricultural products, mixed or open dumping. At the same time, in handling and handling, more manual-oriented, the degree of mechanization is very low. There are insufficient degree of processing of agricultural products, relatively backward and simple treatment, more rough packaging, relatively poor shelf life freshness, in short, the sales market is mainly primary agricultural products. Logistics activities of agricultural products are basically room temperature logistics, for the processing and cold chain of agricultural preservation of short time, in circulation of high damage rate, it is difficult to open up the market. In short, the backwardness of logistics technology restricts the circulation efficiency of agricultural products, which is also difficult to statistic.

2) The logistics nodes with low specialization

Agricultural leading enterprises, well-known wholesalers, large chain retailers such funds and the strength of the market monopoly of large enterprises, after all, are a small number of agricultural products in the current logistics operation system in Zhengzhou. Mainly scattered farmers, retail small shops and individual traders in the agricultural products circulation industry participants in Zhengzhou, these participants engaged in the operation of fresh agricultural products, although a large number, but the individual small, weak, scattered distribution in the market. These individual operators do not have specialized technology and equipment to complete the operation of agricultural logistics, and logistics operations are still low-end and simple. Even the wholesale market, pooling individual wholesalers, its logistics operations generally focus only on logistics results and logistics costs, and the necessary professional logistics facilities and equipment investment is very little on the storage, packaging, sorting, handling, refrigeration and other specific process, resulting in the wholesale market facilities and the degree of operation is generally low in the modernization and specialization, mainly in the traditional extensive logistics operations. Because of the decentralization of logistics activities, the low degree of specialization and the low efficiency of organization and management, the logistics distribution ability of agricultural products wholesale market is relatively weak, which makes it difficult to play the role of logistics nodes and obtain the scale benefit and lack competitiveness in the market.

3) Delayed logistics information

The level of agricultural industrialization and the level of production and marketing are not high in Zhengzhou, which influences the resource integration of agricultural product logistics and the development of agricultural products industry. Due to the lack of information communication between upstream and downstream in the primary agricultural products and raw agricultural supply chain, it often appears to supply and demand imbalance phenomenon. It is difficult to collect information about agricultural products from farmers to consumers, and the information lag and distortion of logistics nodes are severe. There are fewer distinctive

advantages and lower market recognition. The information feedback in agricultural product logistics is slow, and the degree of coordination and control is limited. Existing traditional farmers and farmers' markets, logistics enterprises are independent of the market as the main body, mutual contact less, which are unable to form logistics network system and take advantage of scale to effectively reduce logistics costs. Most of the market is small, the management is extensive and the radiation area is limited. For the quality and safety of circulation, the control is small and the responsibility is not clear.

3 Construction of green logistics system of agricultural products in Henan province

3.1 The objective of the construction of green logistics system for agricultural products in Zhengzhou

According to the present situation and existing problems of agricultural logistics in Zhengzhou, the goal of building green logistics system for agricultural products is sustainable development. The criteria for achieving this goal are not only economic interests, but also social interests and environmental interests, and the unity of these interests. It is supported by information platform to gradually build system of green logistics of agricultural products through integration of resources, to realize information to guide the production and processing value-added and circulation of adjustable function, to combine government departments and authorities of supervision, control and management, meet the agricultural products safe and reliable, change its flow requirement, we will further improve the logistics network system and market system construction, and form a full social public logistics information platform, to enhance the level of logistics. After the results will be formed for the country's agricultural logistics system center, with Zhengzhou as the core, connecting the surrounding towns, driven by Henan province, which will gradually become the central provinces of radiation. And strive to improve the competitiveness and influence of agricultural products in Zhengzhou, and finally make Zhengzhou rich agricultural resources to meet the requirements of the city through the minimum investment in resources, the lowest total cost of logistics, the highest efficiency of agricultural products circulation system. And agricultural products gradually sold to all parts of the country, as well as exports to foreign markets, promote the development of modern agriculture, and ultimately to effectively improve the income of farmers and the purpose of living standards.

3.2 The overall structure of agricultural green logistics system

The circulation of agricultural products is still mainly traditional circulation form, characterized by scattered from plant origin acquisition through several layers of wholesale market for transfer to the common market or shops, which represented by the contradiction between small-scale production and big market, all of these make the circulation of agricultural products production and marketing information communication. But the existence of this traditional model will not be withdrawn from the historical stage in a short period of time, and the coexistence of the new and old models is a transitional option. The first thing to consider is to build an information sharing platform for the traceability of the information in the distribution system for farm products, refactoring circulation system, reduce logistics cost, reduce the number of layers of premium link, ensure the safety of agricultural products circulation.

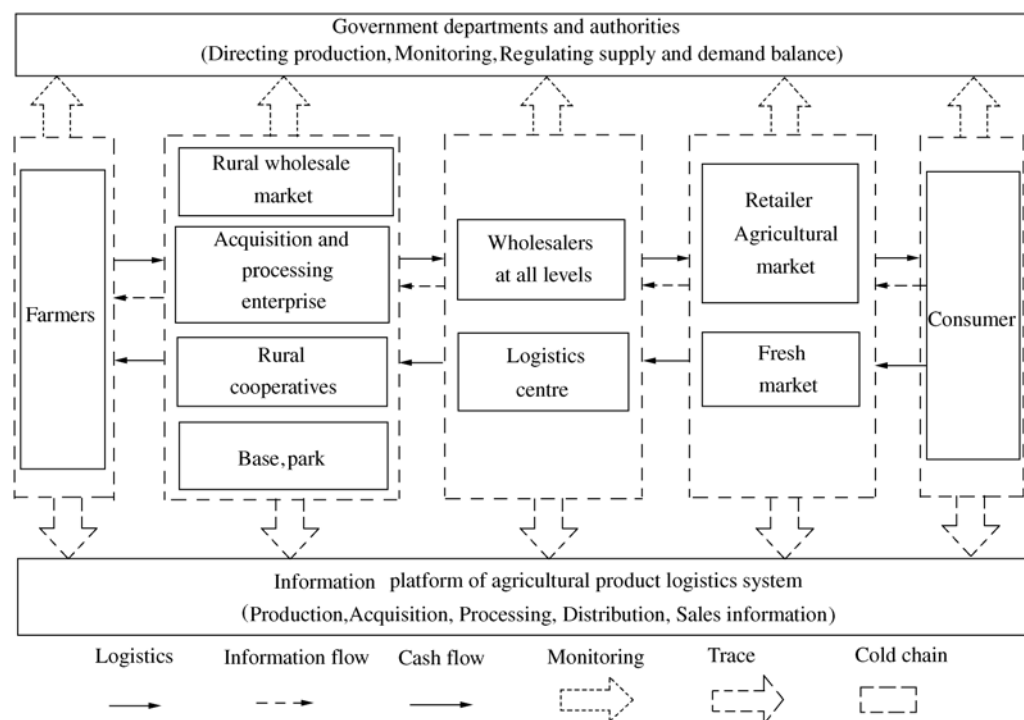


Figure 2 Agricultural logistics system construction framework

As shown in Figure 2, agricultural products logistics system mainly has three parts in Zhengzhou, the government department or authority, agricultural products logistics system each node (farmers, wholesale markets, supermarkets, etc.) and related information traceability platform. Different logistics system will choose different logistics channels to carry out the logistic function of agricultural products and organize agricultural product logistics activities. The agricultural product logistics system is a system which is formed by the combination of different logistics main body, the new logistics channel and the standardized traditional logistics channel. Monitoring and management authority of government departments, for the whole system, can improve the safety of agricultural products supervision and information level of public services, ensure the quality and safety of agricultural products from the source, and control the balance of supply and demand, which is conducive to the building of high efficiency, no pollution, low cost and green food transport network and transport system.

4 The strategy of developing agricultural products green logistics in Henan province

4.1 Increase government support

The effective implementation of the green logistics system of agricultural products is inseparable from the encouragement and support of the government. At present, the development of green products in agricultural products is not perfect, such as the lack of laws and regulations and the lack of supervision. We all need timely improvement. We need to provide a good legal environment for the green logistics of agricultural products, and formulate a complete green standard system for agricultural products. Then we have to develop a strict regulatory system to ensure that every link in the entire logistics chain can be protected by law and supervised by regulatory procedures. Market supervisors, the government, should be completed is to let the entire industry chain in the

sun, so that producers and consumers can identify and participate in them.

4.2 Improve the modernization level of agricultural products logistics

Now, consumers demand for green agricultural products is growing, but for agricultural production and transportation in the green pollution-free attention is very low. Green products are not only green labels it is placed in the supermarket, more importantly, it is in the production, transportation, sales and other processes throughout the green pollution. For producers, they also know that the price of green products is high, the demand is large. But for the high cost of green products, the production of strict, standard and regulatory uncertainty, eventually leading to the production of packaging products just to have a green products. The root of all this is farmers' disapproval of the green concept of agricultural products. Therefore, it is also important to enhance the value recognition of producers and sellers for the green concept of agricultural products.

4.3 Increase awareness of the green logistics value of agricultural products

Logistics modernization means that it is not a simple manual and paper document delivery. In the process of the evolution of human society, the most obvious sign is the human free from heavy manual work, relying on the improvement of technology and upgrading of production tools. In terms of logistics, compared with the abroad for the development of logistics, which is a standardized, automation and information technology development, at present, in the development of logistics in our country is still a long way to go. The green logistics system of agricultural products is more stringent in terms of transport requirements, so it is especially necessary for modern logistics. At the same time, the modernization level of green logistics of agricultural products is also an important technical guarantee for developing the green logistics system of agricultural products.

4.4 Accelerate the training of green logistics professionals for agricultural products

The reason for the slow development of green logistics of agricultural products is not only the lack of standards and supervision, on the other hand, the important reason is the lack of green logistics professionals. At present, the green logistics of agricultural products is still a in the early stage of development of the logistics, which is stringent requirements for technology. Therefore, in this regard, people need to have a higher ability to control, and because of the particularity of the transport of products, there will be a high demand for professional ethics of technical staff. So, the training of such professional and technical personnel is not only in the technical theory of education, but also in professional ethics training.

4.5 Realize the green logistics of agricultural products

An important part of the construction of the green logistics system of agricultural products is the construction of infrastructure. The establishment of special agricultural infrastructure for special needs in different areas is an important foundation for ensuring the smooth development of green logistics of agricultural products. The construction of agricultural green logistics infrastructure includes three parts, the construction of agricultural products wholesale market, the construction of agricultural products storage facilities and the renewal of agricultural products. The wholesale market is an important place for the transfer of products, but there are still poor health conditions in the site, and now the site of the transfer of products need to be reasonably planned to protect the health conditions. Because agricultural products have very strict requirements for the quality of the products, it is necessary to have strict standards on temperature, humidity and ventilation for storage areas. The replacement of transportation means to reduce the pollution of the environment and avoid the waste of resources in the process of transportation.

5 Conclusions

This study shows that by increasing government support, improve the agricultural product logistics modernization level, to improve the understanding of the value of green logistics of agricultural products, accelerate the cultivation of green agricultural products logistics professionals, agricultural products logistics links of "green" five strong measures, can solve the existing problems of agricultural product logistics in Zhengzhou. The establishment and improvement of the green logistics system for agricultural products can promote the development of modern agriculture and ultimately achieve the purpose of improving farmers' income and living standards.

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