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The Status Quo of Chinese Agro-products Logistics and the Establishment of the Third-Party Logistics Mode

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Abstract The status quo of Chinese agro-products logistics is analyzed from the following five aspects: the circulation mode, exchange mode, storage and transportation situation, food security. The following problems in Chinese agro-products logistics are pointed out, including excessive circulation sections, bad time efficiency, single payment, slow circulation, backward information processing, obvious bullwhip effect, low logistics efficiency, low logistics technology, inadequate professional equipments, low standardization degree, organized operation mode and low degree of scale. The third-party logistics mode of agro-products is analyzed and the advantages of the mode are analyzed as well. Firstly, establishing information network through integrating circulation section to accelerate the circulation of agro-products; secondly, making the operation norms by providing professional equipments to secure the quality of agricultural products; thirdly, improving the core competitiveness of the whole logistics chain by intensifying specialized work division in each section of the supply chain; fourthly, through forming scale economy to reduce logistics costs and increase the diversity of products; fifthly, through signing contracts to clarify duties and responsibilities and materialize the profit integration of the supply chain. The measures for establishing the third-party logistics of agro-products are put forward, including establish the awareness and concept of socialized logistics services; intensify the support on the third-party logistics enterprises of agro-products; lay stress on the cultivation of logistics talents of agro-products; and vigorously apply the modern marketing means.

Key words Agro-products, Circulation pattern, The third-party logistics, China

With the continuous improvement of living conditions, people' consumption structure of agricultural products has changed greatly. People demand the diversity, nutrition and safety of agricultural products, rather than just on survival. The change of the consumption concept has put higher demand on the storage and logistics of the agro-products, which are easy to go bad. The primary demand is the time bound—it should ensure that the agricultural products, especially the fresh agricultural products can come to the consumers' dining table from the production base in the shortest time. The second demand is diversity—it means the producers should provide as more as possible products for consumers to satisfy the different tastes of consumers. Safety—it demands strict supervision on agricultural products import, reinforces the test on food and ensure the food safety. Nutrition –it expresses that the spoilage, pollution and losses of agricultural products in the logistic process should be reduced to ensure the stable or improved quality in the circulation of fresh agricultural products.

The traditional logistics mode of agricultural products can not better satisfy the development of agricultural products and the changes of consumers' demands by its dispersed logistic activities, repeat circulation section and serious resource wastes, so it is imperative to innovate the logistic mode of agricultural products and establish the logistic system of new agricultural products. By analyzing the status quo of the Chinese agricultural product logistics, the paper points out problems of

the existing mode and puts forward the concept of establishing the third-party logistics. Besides, the advantages of establishing the third-party logistics is put forward. In the end, the measures on developing the third-party logistics of agricultural products are pointed out.

1 Problems in the developmental status of Chinese agricultural products logistics

1.1 The status quo of Chinese agro-products logistics

1.1.1 Circulation mode. At present, the logistics of Chinese agro-products is dominated by wholesale market of fresh agro-products, chain supermarket and processing enterprises of agro-products and adopts the self-distribution way. The sections that compose the supply chain of agricultural products are producers, dealers, processors, wholesalers and ultimate consumers (Fig. 1).

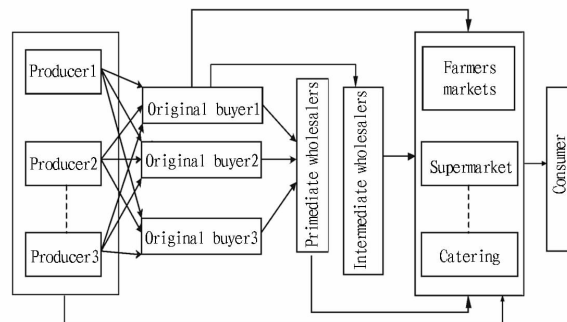


Fig. 1 The traditional mode of agro – product logistics

From Fig. 1, it can be seen that the logistics mode of traditional agro-products is a typical small scale logistics operation. To be specific, the upper sections supply products to many buyers in the lower sections and the lower sections purchase products from many suppliers in the upper sections.

1.1.2 Transaction mode. In the current circulation of agricultural products, the wholesale market and agricultural markets are the major way. More than 98% of the exchange in the wholesale market is dominated by traditional spot and face to face trade. The settlement agent has not been widely accepted. Only 30 market out of the total markets, which have joined the information network of Ministry of Agriculture, practiced electronic toll collection and electronic clearing.

1.1.3 The situation of storage and transportation. Traditional circulation of fresh agricultural products is dominated by normal temperature and natural logistics without the cold chain logistics equipment and facilities. At present, 70% of Chinese motor transportation relies on pickup trucks and only 30% of it relies on sealed trucks. Among the sealed trucks, less than 10% of them have freezing equipment and temperature-keeping facilities. The rate of fruits and some other fresh agro-products, transported with freezing facilities, accounts for only 15% to 20% of the total fresh agricultural products transported. The freezing and temperature-keeping equipments are inadequate seriously in the sections of processing and storage of fresh agricultural products. The chain system for the storage and processing of fresh agricultural products has not been formed.

1.1.4 Mode of information circulation. The agricultural information network is imperfect; the sections in the supply chain are separated and the information is passed on from the lower stream sections to the upper stream sections gradually.

1.1.5 The security of food safety. The unified food inspection and food inspection standard have not been formed. The current food inspection still adopts the manual way, and the staff picks and grades the agricultural products by their direct perception.

1.2 The problems of Chinese agro-products logistics

1.2.1 Excessive circulation sections and bad timeliness. The multiple transfer of property in products will inevitably increase the transaction costs. The frequently happened repeat transportation and roundabout transportation increased the damages of goods and decreased the transportation efficiency; the elongated circulation time of agricultural products abated the timeliness and increased the damages of products, so it is hard for the inflation-proof of agricultural products, let alone the appreciation of agricultural products.

1.2.2 Single payment and slow circulation speed. The single transaction way limited the circulation speed of agricultural products to a lower level, which greatly choked the rapid circulation of Chinese agricultural products.

1.2.3 Lagged information processing, prominent bullwhip effect and low efficient of logistics. As a result of the asymmetric information, the problems of marketing channels and supplying channels often torment the producers and sellers. In the multiple information transfer processes, the information may be weakened, distorted or hindered, which have a bad effect on the

efficiency of agricultural products logistics.

1.2.4 Low logistics technology, inadequate professional equipments and low standardization degree. For one thing, due to the dearth of professional equipments, the agricultural products may easily go bad, be polluted and damaged in the process of transportation and storing, so the logistics costs will be lifted. For another thing, as a result of the low standard of Chinese agricultural products logistics; the vacancy of quality and sanitation standard and inspection system in the market, the uneven quality of agricultural products in the market, it is hard to find out the root of the problems when the quality problems happen.

1.2.5 Low organizational operation model and low degree of scale. The logistics main bodies of Chinese agricultural products include individual farmers, agricultural broker, self-employed wholesalers, small scale transportation companies, large state-owned enterprises. Except for the large scale state-owned enterprises, the organization and scale of other logistics main bodies are low. All of them do not have special equipments and few of them undertake the business of agricultural products transportation.

2 Establishment and the advantages of the third-party agricultural products logistics

2.1 The establishment of the third-party agricultural products logistics The third-party logistics of the agricultural products refers to the responsibilities of logistics taken by the third party rather than producers and processors. The third party takes the responsibilities of transportation, storage, distribution, circulation and a series of logistics activities^[1]. With the enhancement of market degree of agricultural products, the logistics, specializing in storage, distribution, circulation and processing, appear gradually. In the mode, the third-party enterprises of agricultural products do not own the commodities, do not engage in trade of commodities, they connect the producers, processors, wholesaler at various level, intermediary organizations of agricultural products as leaders to provide serial, customized and information-based logistics services limited by the contract and based on alliance. After participating in market operation, the operation mode of the whole chain will change^[2]. As a bridge, the third-party logistics enterprises connect the producers and sellers directly and integrate the two ends of the supply chain. Fig. 2 explains the process.

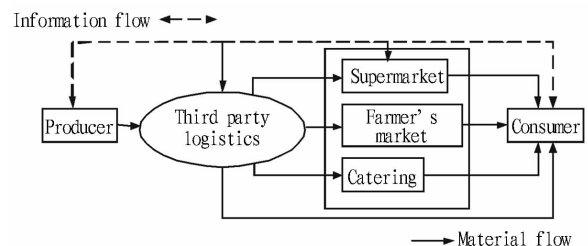


Fig. 2 Third-party logistics model of agro-products

2.2 The advantages of the third-party logistics of agricultural products Comparing with the self-operated logistics, the third-party logistics of agricultural products provide appreci-

ated, professional and comprehensive logistics service. The emergence of third-party logistics is beneficial to improving the low efficiency, great damage, bad timeliness and unsecure food safety of the traditional logistics. Besides, it conforms with the basic situation of China and has great developmental space.

2.2.1 Establishing information network and accelerating the circulation of agricultural products through the integration and circulation section. Integrating the sections of storage, package, transportation, marketing of agricultural products, as well as the collection and management of information are conducive to down the time took on circulation of agricultural products, abate the circulation costs, curtail unnecessary losses of agricultural products, so as to drop the circulation costs and transaction costs of agricultural products. Through perfect information system, the suppliers and sellers can be connected together, and then the collection and processing of information will be accelerated and the strong information edge will be formed. The two parties can timely and comprehensively obtain the information from farmers' market, which can promote the trade and balance the supply and demand.

2.2.2 Making the operation norms and ensuring the quality of agricultural products through providing professional equipments. The third party logistics have specialized logistic management personnel, professional transportation trucks and warehouse, which are conducive to quality-keeping and inflation-proof of agricultural products. Taking the third-party logistics as the main body, each section establish the profit-share relations. Besides, the traceable system of agricultural products will be established to intensify the inspection on the quality of agricultural products. The third-party logistics will pick, process, fresh-keep and pack agricultural products professionally to realize the added value of agricultural products.

2.2.3 Improving the core competitiveness of the whole chain through intensifying the professional distribution of each section of the supply chain. The development of the third-party logistics has reduced the input on logistics services put by agricultural producer, processors and sellers, so it is conducive to concentrating more resources and energy to produce products; improving the techniques of agricultural products and the pre-sell and after-sell service level. In the end, the quality of the products in the whole chain will be improved, as well as the core competitiveness of producers of agricultural producers.

2.2.4 Reducing the logistics costs and diversifying products by fostering scale economy. Adopting the professional operation mode, the distribution scope of products can be elongated to ensure the integrity and diversity of products. Relying on the strong coordination capability and negotiation capability of third-party logistics, the third-party logistics companies can reduce the transportation costs; distribution more goods from different costumers. And then, the transportation costs per unit can be cut down sharply, as well as the transaction costs. In the meantime, the prices of the agricultural products can be reduced, so the scale benefits can be achieved and the competitiveness of the whole chain can be improved.

2.2.5 Clarifying duties and responsibilities through fostering

contract relations to realize the benefit integration of supply chain. Taking the contract as the guild, the third-party logistics provides logistics services of agricultural products for customers and manages the logistics services and process of the entrusted party according to contract. For example, the order management, inventory management, transportation fee negotiation and so on. Besides, the development of the third-party logistics alliance also clarifies the mutual relations of rights, responsibilities and benefits of each participant of the logistics alliance.

3 Strategies on establishing the third-party logistics system

3.1 Comprehensively establishing the awareness and concept on socialized logistics services Developing the third-party logistics of agricultural products is the key for the evolution of Chinese agricultural products logistics from the traditional mode to the modern mode. The third-party logistics can effectively promote the circulation of agricultural products, reduce wastes; increase the income of operators; normalize the market management of agricultural products and accelerate the pace of agricultural modernization. At present, most operators of agricultural products have not aware of the function of third-party logistics, so the related department should promote the advantages of the third-party logistics to agricultural personnel through public promotion and special training to increase their awareness on the third-party logistics.

3.2 Strengthening the support on third-party logistics of agricultural products The third-party logistics enterprises should start from integrating the individual agricultural enterprises, and the dispersed logistics resources of middle and small logistics, and then, in the process of operation, construct the information-based, network, automatic and functions integrated logistics according to the demands. Besides, in the process of operating the third-party logistics of agricultural products, the government should support the enterprises in terms of policies and macro-environment to promote the stable development of the third-party logistics of agricultural products.

3.3 Laying stress on cultivating talents of agricultural products logistics Besides, the favorable logistics equipments, advanced technology, the implementation of the third-party logistics of agricultural products also needs professional management talents, who are goods at mastering advanced technology. The cultivation and application of talents is the basic situation for successfully implement the third-party logistics. The government and the enterprises should provide various forms of trainings to the personnel involved in the third-party logistics. For example, the government and enterprises can select promising middle-aged and young staffs to study in the modern agricultural products logistics companies at home and abroad to learn the management concept, method and technology of the third-party logistics of agricultural products. In addition, the education resources of junior colleges and universities should be made full use of to cultivate the talents specialized in third-party logistics.

improved seeds with high quality, high production, high efficiency, anti-diseases and anti-cold and drought. According to different situation of various places, the producers should use more advanced equipments and production modes, for example selecting advanced harvest equipments, seed machine, farmland machine, and cultivation machine; adopting excellent cultivation, seed and management technology; developing ecological agriculture, tourism agriculture so as to form advanced, developed and high effective modern agriculture.

3.2 Improving the knowledge technology of producers in the supply chain of agricultural products The relevant scholars have researched the labor productivity. Taking the illiterate labor productivity as 1 to calculate, the conclusion can be drawn. The labor productivity of people with primary school education is 1.43; the labor productivity of people with middle school education is 2.08 and labor productivity of people with college education is 4. So the knowledge level of producers in the supply chain of agricultural products should be improved. Many measures can be adopted to improve farmers' skills. In the first place, the government should organize the skill training. The government should invite experts to instruct farmers in the fields. The experts can provide agricultural knowledge and relevant skills for farmers and promote the development of agriculture and local economy. In the second place, the government can build spare time training schools and launch skill training school and improve the recognition and application modern communication skills of producers of agricultural products. Through providing training for farmers, the government can not only improve the knowledge level of producers in the supply chain of agricultural products, but also improve the negotiation capability of producers of agricultural products to improve the production interests of Chinese agricultural products.

3.3 Establishing the alliance and cooperation with other producers of agricultural products to expand scale The dispersed and small scale of producers of Chinese agricultural products lead to the weak negotiation capability in the supply chain^[6]. So the production scale of agricultural products should be improved, and the organizations including alliances of agricultural products and farmers' cooperative economic organizations should be established to reinforce the negotiation rights of producers of agricultural products to let the producers master more information. Only by combining the producers, then the interests of them can be protected when facing processors, wholesalers and retailers. From the past experiences, many

(From page 102)

3.4 Vigorously applying multiple modern marketing means

On the basis of innovating the traditional marketing, the third-party logistics companies should boldly explore and apply the modern marketing and encourage the pillar industries or marketing companies to establish marketing network in big and mid-sized cities, especially, to build circulation, processing and marketing networks in coastal cities. Besides, the third-party logistics companies should develop agents and establish the direct-marketing markets; develop the chain operation and distribution of agricultural products; vigorously apply the modern transaction way of auction and agent; adopt to the information-

developed countries adopted the method and made good results. Although, in recent years, China has established many local agricultural cooperative organizations, their actual functions should be displayed. The government should also display its supervision and supporting functions to protect the interests of producers of agricultural products.

3.4 Improving the quality of agricultural products, satisfying the relevant safety standard and enhancing the competitiveness of products As for the quality of Chinese agricultural products, three measures can be adopted. In the first place, the government should intensify the stipulation on laws, regulations and standard to be in line with international standard and reinforce the evaluation and supervision on agricultural products. Besides, the government should combine the demonstration work of standardized base to launch the integrated service of agricultural standardization. The government should stipulate relevant stimulation measures to improve the enthusiasm of producers on enhancing the quality of agricultural products. In the second place, the service and supervision functions of social intermediary institutions should be well displayed. In the third place, the producers should increase their quality and law awareness, because in the future, only by relying on high quality, the products can get success in the market. Therefore, the producers should adopt targeted actions to improve the quality of agricultural products.

References

- [1] Project group of Shenyang Agricultural University. Investigation and analysis on the current status of peasant' s quality in Liaoning and strategy research [J]. Higher Agricultural Education, 2006 (12): 23–25. (in Chinese).
- [2] QU LF. Study on the development of agricultural mechanization in China [J]. Agricultural Economy, 2010(8): 9–11. (in Chinese).
- [3] Ministry of Agriculture of the People's Republic of China. Report of agricultural pricing and profit distribution survey [EB/OL]. (2008–04–29). <http://www.chanye360.com/news.asp?id=5426&ty>. (in Chinese).
- [4] The Agriculture Law of the People's Republic of China. Committee of the Ninth National People' s Congress of the People's Republic of China on. [EB/OL]. (2005–08–31). http://www.gov.cn/fflg/2005-08/31/content_27886.htm.
- [5] MA SH, LIN Y. Supply Chain Management [M]. Beijing: Mechanical Industry Press, 2000. (in Chinese).
- [6] SUN YL. Discussion on the development of agricultural supply chain [J]. Jiangsu Commercial Forum, 2008(3): 42–43. (in Chinese).

based and network-based development; accelerate the development of e-commerce and promote the on-line transaction^[3].

References

- [1] TAO XZ, LIU DJ, YANG DX. Research on agricultural system of third-party logistics [J]. Social Science Journal of Shenyang Agricultural University, 2008, 10(4): 407–409. (in Chinese).
- [2] ZHANG Y. Countermeasures for China's agricultural logistic development [J]. China Business and Market, 2006, 20(3): 20–23. (in Chinese).
- [3] YU YK. Current situation and future of agricultural products logistics third-party logistics [J]. Logistics Sci–tech, 2010(8): 7–8. (in Chinese).