Logistics Management Model of Fresh Agricultural Products in the New International Land-Sea Trade Corridor

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Abstract
Fresh agricultural products are easy to rot, difficult to store, and difficult to transport for a long time. The market risks faced by producers are very high. Many fresh agricultural products cannot achieve “smooth flow of goods” and “best value for everything”. The appropriate logistics system of fresh agricultural products is particularly important. This paper takes the construction of fresh agricultural products logistics system in Chongqing’s new international land-sea trade corridor based on information network as an example to study systematically. Firstly, the current situation of its logistics development is analyzed, and the factors restricting its development are explored. On this basis, the logistics system of fresh agricultural products in Chongqing is constructed, which is of great significance to solve the contradiction between the supply and consumption of fresh agricultural products in Chongqing, to improve the competitiveness of agricultural products and to increase farmers’ income. At the same time, in the construction and management of the logistics system, we should also strengthen the development and planning of the regional logistics system, construct the strategic development orientation with emphasis on the logistics distribution center of urban fresh agricultural products, highway logistics distribution center, multi-modal transport demonstration base and port business center, improve the construction of “The New International Land-Sea Trade Corridor” and logistics information network, and formulate the logistics industry development as soon as possible. Uniform criteria for exhibition. For the local government, we can strongly support the logistics operation leading economy to accelerate development.

Key words: The New International Land-Sea Trade Corridor, Logistics Management, Fresh Agricultural Products

1. Introduction
In the new era, the new land-sea corridor, as an upgraded version of the south-to-west corridor, embodies on the one hand the directionality of the “new land-sea corridor”, which is both South-Oriented (for example, facing ASEAN) and north-oriented (for example, docking with Central Asia and Europe), has more intensive corridor network and more diversified market access; on the other hand, it involves or participates in more provinces and regions, involves more extensively, and the operation of logistics system is more complex, and faces no coordination mechanism. Realistic challenges such as sound logistics system, imperfect logistics system, unbalanced economic development and unreasonable industrial structure [1]. Fresh agricultural products logistics system refers to an organic whole with specific functions in a certain time and space, which is composed of several dynamic factors that restrict each other, such as the displacement of fresh agricultural products and packaging equipment, handling machinery, transport tools, storage facilities, personnel and communication links. Fresh agricultural products logistics system is a multi-link complex system. Each subsystem in the logistics system is linked through the movement of product entities, and each link coordinates with each other. According to the needs of the overall goal, the basic resources in the system can be timely and appropriately scheduled [2-4].

Chongqing is the only municipality directly under the central government in central and Western China. It is located in the “Y belt” and the Yangtze River economic belt. It has a unique and important role in the national regional development and opening up pattern. In 2016, it was approved to set up a free trade area [5]. The strategic interconnection demonstration project of China-Singapore (Chongqing) takes Chongqing as its operation center and clearly makes Chongqing a leading regional interconnection hub and service economic center in Western China. With the further development of the national demonstration project of strategic interconnection between China and New Zealand (Chongqing) “The New International Land-Sea Trade Corridor”, Chongqing has not only given a new mission to the development of logistics, but also provided a new opportunity for Chongqing to play the role of regional agglomeration and radiation of logistics [6-9]. The Chongqing highway logistics base is the only national logistics hub dominated by road transportation in the city. It is the strategic starting point to connect the “one belt and one road” ASEAN Chongqing South international
logistics channel. It is one of the entity exhibition areas of the Sino Singapore (Chongqing) strategic interconnection demonstration project. It is the only highway bonded logistics center in the city and the “three bases and three port areas” approved by the national development and Reform Commission. First, it is one of the “1 + 3” international logistics distribution center operation bases in Chongqing Inland International Logistics Distribution Center Construction Program. Under the background of accelerating the “The New International Land-Sea Trade Corridor”, it is of great significance to study the future development direction and focus of the base.

Under the new economic situation, the relationship between information network and logistics management is inextricably linked. The two influence and promote each other. The specific relationship is shown in the following two aspects [10]. First, logistics management is an important part of information network. Information network is a new product of Internet economic interest. With the maturity and perfection of information network, the role of logistics management has become increasingly obvious. In the context of e-commerce, the corresponding advantages are outstanding. In the era of rapid development of information network, logistics management with low cost and high efficiency has become the most important. It is no exaggeration to say that the quality of logistics management is related to the ultimate effectiveness of the information network. Second, efficient and scientific logistics management can add wings to e-commerce [11]. E-commerce is an economic sales mode that uses the convenience of the network to get rid of the limitations of time and space. Efficient logistics management is an effective guarantee to reduce the cost of e-commerce [12]. Therefore, it is very important to establish a set of logistics management based on information network that matches e-commerce.

Nowadays, the operation of the logistics management center mode with fresh agricultural products as the main part has been basically realized [13]. Intensive transaction is the basis for the management of the development and sale of fresh agricultural products. Even though the circulation of agricultural products has undergone obvious improvement and change, there are still some problems and shortcomings in the whole, such as the lack of specific management mechanism, the lack of advanced thinking, etc., which make the present life. Fresh agricultural products are inefficient in the circulation of goods [14], with more investment and less benefits. Therefore, this paper analyses the current situation and advantages of Chongqing highway logistics base in industry, open system, logistics channel and logistics facilities, and puts forward the strategic development direction focusing on building highway logistics information platform, building urban logistics distribution center, highway logistics distribution center, multimodal transport demonstration base, port business center, etc.

2. Proposed Method

2.1. Status Highway Logistics Base for the Development of Chongqing Analysis

![Figure 1](image.baidu.com) Chongqing Logistics Base (Image courtesy of image.baidu.com)

From the industrial economic analysis of the whole city, the industries with larger logistics demand in Chongqing mainly distribute in the main city and a circle, with more concentrated spatial distribution, obvious growth trend of industrial scale, rich types of industries that road transportation can undertake (such as
consumer goods, electronic information products, etc.); from the perspective of Banan, the surrounding Maluyangjiang Development Zone, Tiaming Automobile Industry Park, Jieshi Digital Industry Park, and Huaxi, Yudong Jizhu Industrial Zone and other industrial parks, most of the goods are suitable for road and rail transport, the base is rich in future transport supplies, as shown in Figure 1. Analysis of Open System: Highway Logistics Base is the only bonded logistics center and the only bonded area in the southeast of the main city. At the same time, it has opened the Chongqing-ASEAN “Five-Ding” highway freight train, which undertakes the business of fruit, food, timber and other products and commodity display, cross-border e-commerce, warehousing services, etc. transported from Southeast Asia. Strength and market advantage. Logistics Channel Analysis: As the starting point of ASEAN Logistics Channel and the important intersection point of Yuxin Europe Logistics Channel and ASEAN Logistics Channel, highway Logistics Base can effectively radiate the surrounding areas.

Analysis of transportation and logistics facilities: At present, the highway logistics base relies on the high-speed, Xiaoqiang expressway and the expressway to form an external communication passage extending in all directions. The base is mainly connected through Dongchong Avenue. With the completion of the construction of the railway hub East Ring Road and Nanpeng Railway Station, the base will be more abundant in external transportation, and it will also bring multimodal transport between the base and other mode hubs such as Tuanjie Village, Yufu (Orchard) and Jiangbei Airport [15]. Convenient. The base is the city’s planned business logistics distribution center and public distribution center. It has great potential in the future for cargo distribution and city joint distribution. Analysis of the development of logistics bases: Through research and analysis, the base enterprises cover the business scope of urban distribution, trunk transportation, information platform, cross-border e-commerce, transaction display, commercial trade, e-commerce, production and processing, and logistics support. The current base-based enterprises have weak development and less cooperation in the areas of trunk transportation, multimodal transport, and urban joint distribution. However, all enterprises have the development of transformation, strengthening cooperation, and reducing logistics costs. Therefore, the base is promoting the integration of trunk transportation. Development and urban joint distribution, multimodal transport and other aspects have great room for development.

2.2. The Main Challenge to Build “The New International Land-Sea Trade Corridor” Logistics System Faces

(1) The coordination mechanism is not perfect. From the proposal of the south-facing channel in the west to the construction of the “The New International Land-Sea Trade Corridor”, the consultations or conferences on coordination of relevant provinces and regions include: (West) Chongqing, Guangxi, Guizhou and Gansu provinces in August 2017, the district and city signed the “Framework Agreement on Cooperation and Co-construction of the Sino-Singapore Interconnection Project”. In June and August 2018, Qinghai and Xinjiang successively joined the “Southward Channel” to jointly build the provinces and regions, 2019 In May, Chongqing, Guangxi, Guizhou, Gansu, Qinghai, Xinjiang, Yunnan, and Ningxia, Shanxi. And other western nine provinces and regions officially signed cooperation in Chongqing to build a new channel for the international land and sea trade of China-Singapore interconnection project. Framework Agreement. In fact, the framework agreement as a directional, intentional, non-detailed cooperation document, the breadth, depth and even the implementation of “hardness” in the construction of the “The New International Land-Sea Trade Corridor” logistics system is very limited, especially at the national level. In the context of the overall plan for the new International Land-Sea Trade Corridor in the west, as a systemic, wide-area, regional open development strategy involving the provinces and regions along the line, there are many issues that need to be communicated and coordinated before and during the construction of the logistics system. Including provincial co-ordination, inter-provincial coordination, and involving policies, industries, enterprises and other dimensions. Therefore, it is imperative to establish and improve a cross-regional coordination platform and mechanism that is government-led, multi-participating, and relatively fixed and authoritative.

(2) Imperfect logistics system From a macro perspective, the “The New International Land-Sea Trade Corridor” (regional) logistics should be based on the principle of division of labor in the nine provinces of the western region, using modern logistics networks, logistics facilities and logistics technologies (including hard technology and soft In terms of technology, it realizes the flow and exchange of goods in the nine provinces of the western region, optimizes the allocation of resources, and promotes the process of economic prosperity and development in the nine provinces and autonomous regions in the west. From a microscopic perspective, the “The New International Land-Sea Trade Corridor” (regional) logistics should be the best way and path for the nine provinces in the west, with the lowest cost and the smallest risk, quality, quantity and timely delivery of goods from the west. The suppliers in the 9 provinces (one province or many provinces) pass the activities of other provinces (which can be transported to the overseas demanders or sales destinations). However, as far as the current economically developed regions are concerned, in addition to the logistics industry in Chongqing, Chengdu, Lanzhou and Guangxi Beibu Gulf, the logistics industry along the “Western Land and Sea New
Channel” is still relatively low. In particular: the roads between the provinces and provinces along the “The New International Land-Sea Trade Corridor” are not balanced enough in planning, connection and construction progress; there are many provincial highway logistics charges and many checkpoints, which hinders the “The New International Land-Sea Trade Corridor” to a certain extent. Construction progress and interconnection level. Therefore, in order to make the “The New International Land-Sea Trade Corridor” truly unblocked, the key is to reduce the fees and other cross-province roads and bridges, reduce the level of the checkpoints, and strive to realize the integration and convenience of inter-provincial non-stop express fares and even multimodal transport.

(3) Unreasonable industrial structure on the one hand, the provinces along the “New Roads in the Western Lands and Seas” has a leading industry convergence phenomenon in the process of co-constructing the “The New International Land-Sea Trade Corridor” logistics system due to the lack of competition and the division of administrative divisions.

According to the communique, in the past three years, the leading industries in the provinces along the “Western New Lands and Seas” are still concentrated in traditional fields such as agriculture, forestry, animal husbandry, fishery, wholesale and retail, mineral resources mining and processing industries; emerging industries such as electronic information and big data, in addition to Chongqing, Guizhou has some scales, and the remaining provinces and regions account for a smaller proportion, and some provinces and districts can even be ignored. The convergence of industries has led to the phenomenon of “Prisoner’s Dilemma” in economics along the provinces and regions along the “Western New Lands of the Sea and the Sea”, which has seriously affected the quality and level of competition and development in the provinces and regions along the line, and has restricted the total foreign trade of the “The New International Land-Sea Trade Corridor”, Capacity and logistics capabilities development. On the other hand, measured by the ownership structure, the provinces and regions along the “Western New Lands and Seas” are less developed regions, and are affected by the traditional planning system and resource endowments. The private economy has a small proportion in the industry. According to the communique, in 2018, the state-owned (including state-owned holdings) enterprises in Guangxi accounted for more than 40% of the added value of industrial enterprises in the region, and the added value of Qinghai’s private economy accounted for less than the province’s GDP 30%. Compared with the developed provinces in the east, the local governments along the “The New International Land-Sea Trade Corridor” have strong control over resources, and the market economy of the channel economy is relatively low.

2.3. Strategies to Build “The New International Land-Sea Trade Corridor” Logistics System

(1) At present, the policy coordination innovation is ahead of the others. The New International Land-Sea Trade Corridor is still at an initial stage in the field of coordination mechanism construction and integrated development policy. The links are far from enough. The framework agreements are mostly focused on intentional and local attempts. There are still many tasks to be done for the future integration of the whole “The New International Land-Sea Trade Corridor” logistics system, especially the system and operation. Organizational model, interest coordination mechanism and so on. From the national point of view, the construction of “new land-sea corridor” is an important regional pilot demonstration project in nine provinces and regions in the West and even in China, and the regional coordination mechanism is an important demonstration area. As far as the logistics system of “new land-sea corridor” is concerned, as a regional development strategy from “line” and “face” to “face” and “body”. Whether it is to promote the construction of inter-provincial railways and expressways, speed up the opening of “broken roads”, or enhance the service of integrated corridors, it involves different administrative subjects (currently only nine administrative subjects are involved at the provincial level), and needs to be mutually reinforcing. Cooperate. Therefore, the establishment of coordination mechanism among different administrative bodies, different provinces, regions and even cities is the premise and foundation of all these works, and is also one of the goals of the construction of a “new road between land and sea”.

(2) Logistics integration and joint efforts to break through the “New International Land-Sea Trade Corridor” along the province’s logistics integration is an important way to accelerate the construction of new land and sea passages in the west, on the one hand, the development of the overall plan, “The New International Land-Sea Trade Corridor” transportation system. By provinces along the high-speed railway construction and speed up the transfer of existing lines to form separate passenger and freight, efficient and convenient modern railway network; well-developed road network built by the inter-provincial highway and national highway trunk and other components; coastal ports, international Lugang and airport have strengthened cooperation and rational division of labor to form a multi-dimensional port system to solve the extension and docking of the “last mile” of channel logistics and multimodal transport. On the other hand, improve the standardization of logistics in the “The New International Land-Sea Trade Corridor”. Build “western land and sea, the new channel” (area) logistics information platform, information platform along the provinces of logistics parks, logistics base and industrial base by penetration, to the maximum extent to achieve “the western land and sea, the new channel”
(area) Logistics standard docking and information share, thereby improving channel efficiency and reducing logistics costs flow passage thereof. Furthermore, it should improve the “The New International Land-Sea Trade Corridor” (regional) Logistics market access system, and promote effective and reasonable flow along the provinces of logistics resources, including to develop mutual recognition “The New International Land-Sea Trade Corridor” green logistics, logistics enterprise compliance rating of integrity And the joint development and training of international and applied logistics talents.

(3) Foreign trade economic transformation and upgrading “The New International Land-Sea Trade Corridor” along the province’s economic development, especially foreign trade economic development is a historical and universal economic phenomenon, logistics system construction should pay attention to the economic development gap between different provinces and regions, deal with the province along the line District efficiency and fairness issues. On the one hand, “The New International Land-Sea Trade Corridor” along the provinces and local governments may formulate regulations and policies regulate western land and sea, the new channel construction order, through economic levers and policy instruments (such as fiscal and financial transfer payment system, etc.) regulatory path of economic activities, a scientific and rational Plan the direction of foreign trade economic development along the provinces and districts and cities, and improve the investment environment. On the other hand, foreign-related industries including logistics industry enterprises along the “The New International Land-Sea Trade Corridor” should actively cultivate foreign trade competitiveness, shift from cost advantage to quality advantage, brand advantage and technological advantage; increase technological innovation and foster autonomy. Brands, improve product quality and service, increase product added value and position in the value division of labor in ASEAN, Central Asia, Europe and even the world. In addition, the “The New International Land-Sea Trade Corridor” and its provinces along the line should strengthen economic and trade cooperation with the above-mentioned countries or regions, and pay attention to the uncertainty of their political environment and economic environment, and pay attention to prevent possible investment, cross-border logistics and e-commerce. And other foreign trade risks.

![Diagram](image)

**Figure 2.** Logistics systems coping strategies

(4) Industry differentiated products and high-end development on the one hand, the “The New International Land-Sea Trade Corridor” along the provinces should seize the channel to promote local economic development in a bid to hold the industries with local advantages, continue to increase along the characteristic advantages provinces With the support of the industry, the “Catalogue of Encouraging Industries in the New International Land-Sea Trade Corridor” was issued, and relevant preferential policies such as corporate income tax reduction and exemption were implemented. Promote the construction of national clean energy, deep processing of agricultural products, intelligent equipment manufacturing and strategic emerging industrial bases along the provinces along the “New Roads in the Western Lands and Seas”, especially the new industries and new formats represented by big data, big health, big tourism and big logistics, development, and expansion of high-end industrial / proportion of exports. On the other hand, “The New International Land-Sea Trade Corridor” along the provinces also actively explore ASEAN, Central Asia, Europe and other “The New International Land-Sea Trade Corridor” strong demand access countries and regions, “The New International Land-Sea Trade Corridor”
along the provinces of production capacity and strong industries, such as meets their needs, but also to optimize the export structure along the provinces, to achieve mutual benefit and win-win development. In addition, comprehensively improving the vitality of the private economy and vigorously promoting the high-quality development of the private economy is also a systematic project. It is worth noting: In the new normal situation of economic development, due to the emerging industrial scale is still small, not enough to fill the traditional gap left by the industry slowdown, “The New International Land-Sea Trade Corridor” along the provinces in order to achieve, including the logistics industry. The export of foreign trade-oriented industries / products has grown steadily and rapidly, and the conversion of new and old kinetic energy has to be further accelerated. The response strategy of the logistics system is shown in Figure 2.

3. Effective Method of Implementing Third Party Logistics Management Model for Fresh Agricultural Products

The construction of information network is applied to modern logistics management. Firstly, it can reflect the pluralistic characteristics of information sources. Compared with other network activities or information activities, the information network construction of modern logistics management will obtain information through retaining channels of procurement, transportation, circulation, distribution or sales, so its information sources are very wide and the scale of information is quite large. Secondly, the construction of information network in modern logistics management will also embody the characteristics of regional scale. This is due to the expanding construction scale of information network, the effective construction of information network across regions and fast industries, and the increasing coverage of information network, which makes the scale characteristics of information network construction gradually highlight, and the application of modern logistics management of information network construction.

![Diagram](image)

**Figure 3.** Implementation of third party logistics management model for fresh agricultural products

Naturally, it will also be reflected. Thirdly, the construction of information network in modern logistics management has higher requirements for professional skills and equipment, so its professional characteristics are more prominent. Fourthly, in the construction of modern logistics management information network, due to the need to record material logistics information and present it to customers in real time, it must also have the characteristics of timeliness. The construction of modern logistics management information network needs to have the function of achieving objectives. This is because the construction of logistics information system will essentially be an information platform which combines logistics transportation activities with materials. Therefore, in the process of defining the functions of information network, it is necessary to have the functions of transaction information collection, management and processing. At the same time, it is also necessary to help logistics managers to formulate logistics transportation plans and to make them through the optimal selection of schemes. Establish reasonable enterprise development strategy, etc. At the same time, in the information network system, it is necessary to present the order content and goods information, facilitate the arrangement of transport work, and have the function of selection and after-sales service, in order to strengthen the level of
logistics services. In addition, in the construction of information network, in order to effectively enhance the image, service level and economic benefits of logistics enterprises, it is necessary to establish an information warehousing system to provide information warehousing services to customers. In this process, material information is acquired by customers and input into the database, and a virtual storage information platform is established to store or process fresh agricultural products. In addition, it is necessary to improve the management of customer information, so as to provide better logistics distribution or warehousing services. The third-party logistics management mode of fresh agricultural products is shown in Figure 3.

By updating and perfecting the WBM network management mode, we can promote the development of modern logistics management. In the modern logistics management scheme of information networking, network managers need to actively transform the application of other WEB browsers under the supervision mode of WWW and other means. In the practical operation link, it is necessary to strengthen the supervisory role of WWW, and promote the configuration and operation of each node in the network to connect with other networks. By perfecting the WBM network management mode, we can promote the optimization of network system in modern logistics management. With the support of WBM network technology, we can choose a server more suitable for information storage by comparing the advantages and disadvantages of different network browsers. We can optimize the storage of information data in the corresponding server to facilitate users to query, and achieve the purpose of reducing equipment costs. For example, a logistics management company in a certain area of our country has used WBM network management mode. By formulating more scientific and perfect management norms, and according to local economic policies, the company has restructured and designed its internal logistics information system with more scientific means to achieve a more scientific and complete effect. The management of virtual inventory includes the economic and technical feasibility involved in material storage system and the feasibility of inventory management. The design of virtual inventory software relies on MIS as the core of database operation and design. For example, the logistics information management center in a certain area of our country usually uses Microsoft Access operation software when the computer hardware and software managers call small and medium-sized databases, and establishes a combination of material sales records, warehousing records, warehousing records, inventory orders and profit accounting and other items. By combining business process and data establishment, software and hardware equipments with logical examination of data dictionary are generated, and various instruments and equipments are prepared and managed beforehand. In addition, the center also designs the material code as a 6-digit numerical form, which unifies the encoding of all kinds of information into and out of the warehouse, and applies the 9-digit numerical form to the encoding of sales and purchases. The other two purchase volumes and the information, storage and sales volumes of Fairy Agricultural Products are coded by clicking on the user’s operation. According to different situations, report forms are printed and debugged, and data are reasonably protected by establishing backup of inventory information. The correct system will be debugged and the program software provided by Visual Basic will be installed to promote the network information construction of fresh agricultural products logistics management.

4. Conclusions

In a word, under the background of new land and sea corridors, the third-party management of fresh agricultural products logistics has great value and advantages, which is the inevitable trend of fine management of agricultural products circulation and the development of rural industry. The government attaches great importance to rural agricultural work, enlarges relevant investment, especially to accurately support and take the lead in implementing laws, regulations and preferential policies. Enterprises should actively cooperate with the government, accelerate the pace of renewal and innovation, actively participate in the standard formulation of logistics associations, timely share management information, fully demonstrate the advantages of the third-party management mode of agricultural products, and enhance the circulation of agricultural products as a whole. Operational efficiency. In the field of logistics development, the functions and functions of big data are very significant. Logistics management based on big data can play an important role in promoting customer viscosity, information docking and data value-added. In the process of information networking construction in logistics management, we need to pay attention to it from various perspectives. At the same time, it is necessary to combine the development method with practical application, and promote the construction of modern logistics management information network in China through coordination and cooperation here. The future development direction of logistics management is bound to be the network operation of logistics management information. At the same time, the network operation of logistics information is one of the important goals that it must achieve. It is necessary to strengthen the effective establishment of management system from the aspects of security, inventory, distribution and team, so as to ensure that the service function of logistics system is more comprehensive.
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