

Research on the Safety of Aquatic Products Transportation under the Background of the New Crown Epidemic

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Abstract

Due to the impact of the new coronavirus, the transportation and sales links of many aquaculture industries have experienced serious obstacles. Not only the transportation between provinces is affected by changes in the epidemic situation, different prevention and control policies, and even poor distribution in the same city. As a result, many companies were forced to suspend work, causing a depression in the entire industry. The safety of aquatic products transportation has become the "soft underbelly" of many aquatic products companies in the context of the new crown epidemic. This paper will conduct research and analysis on the current situation of the aquatic products industry under the epidemic, the current situation of the transportation industry in related industries, and the current problems in the industry, and form a feasibility research report.

Keywords

Epidemic; Aquatic Industry; Transportation Safety; Research Report.

1. Project Background

The new crown pneumonia epidemic in 2020 has affected the development of all walks of life in my country, and the aquatic technology industry has developed into one of the "hardest hit areas". The current economic situation is forcing the continuous optimization of the domestic transportation industry structure, and the overall national demand for aquatic products transportation has not decreased but increased. With the gradual control of the domestic epidemic in my country, the production and circulation of various industries have gradually begun to recover, ushering in another spring, and the domestic aquatic industry has entered a post-epidemic era. However, the challenges placed in the aquatic industry cannot be ignored. The low temperature environment necessary for aquatic products in the cold chain transportation provides an excellent petri dish for the survival of the new coronavirus. Moreover, cold chain transportation has the industry characteristics of one disease contaminating the entire chain. It can be said that the epidemic prevention and control of the entire cold chain transportation is related to the success or failure of the national epidemic prevention and control. Therefore, the importance and urgency of ensuring the safety of aquatic products transportation becomes particularly important.

Taking the cold chain transportation in the UK in April this year as an example, due to the impact of the epidemic, the cold chain storage capacity in the UK is close to saturation, and the warehouses where a large number of goods are hoarded cannot be effectively transported. Among them, a spokesman for the global cold chain transportation industry giant Lineage once said that the utilization rate of the 15 cold storages they put in the UK market has reached 90%. At the same time, affected by the British government's home quarantine, food safety testing and other bills formulated in accordance with the epidemic, the demand for enterprise customer

terminals has shrunk significantly. This has caused the entire cold chain transportation industry to enter a vicious circle of limited transportation, overstocked inventory, and unemployment of related industry personnel. In addition, most of the equipment required for cold chain transportation is special equipment, and the entire equipment involved in cooperation is too numerous to enumerate. The complicated enterprises involved, and the countries or regions that cold chain transportation passes through are difficult to achieve real-time supervision and unification of the whole process, which deeply troubles practitioners.

In terms of aquatic product transportation, cold chain technology is the mainstay of its logistics transportation. The continuous impact of the epidemic has prompted enterprises to try to use the technology of item information traceability to conduct full-process safety supervision. Under the prevention and control of the epidemic, the aquatic transportation industry has also ushered in a period of many opportunities and challenges. Cold chain logistics also needs to catch up with the rolling wheels of the times and continuously improve the requirements for transportation safety. During the epidemic prevention and control period, the road, waterway, railway cold chain logistics enterprises, ports, freight yards and other business units that carry out the loading, unloading and transportation of aquatic products must effectively ensure the safety of the front line of cold chain logistics, and ensure that the traffic management field does not Only when there is a risk of information transmission can the spread of the epidemic be effectively curbed. Therefore, improving the safety of aquatic products transportation is an urgent problem to be solved.

2. Research Objectives and Main Content

This project takes aquatic products transportation as an incision, investigates its safety in the context of the epidemic, analyzes the risks involved in aquatic products transportation and the positive measures to reasonably avoid risks, so as to improve the risk response ability of aquatic products transportation, and ensure the safety and sustainability of transportation. purpose of sexual development. First of all, have a general understanding of the current operation of the aquatic transportation system, point out potential safety hazards and potential improvements, collect information on aquatic transportation in some typical areas under the background of the epidemic on the website and newspaper materials, integrate and analyze the obtained information, and contact the current policy. Plan and reality, put forward feasible suggestions, draw conclusions and close the project. This project hopes to provide a certain guidance for the safety improvement of the aquatic product transportation industry through the research and analysis on the safety of aquatic product transportation under the background of the epidemic, promote the structural upgrading of the aquatic product transportation industry, and provide continuous prevention and control of the new crown pneumonia epidemic and the continuous protection of national health. play a positive role.

3. Innovation Points and Project Characteristics

We will actively promote the scenario-based application of the traceability system. The traditional food traceability system is too simple, and can usually only be traced back to the source production enterprise and various branches in the production process. It is difficult to realize the data integration of the entire chain to achieve a truly comprehensive, Full digital and visual traceability.

At present, the production and sales data of aquatic products in the vast majority of wholesale markets in the country mostly rely on traditional recording forms, and there are even manual paper records in some markets. Although it will be finally entered into a unified central database for storage, there are many problems, such as the extremely low efficiency of data entry, storage, transmission, publicity and other links, and data loss due to malicious tampering

or improper operation; the entire system Throwing is in the state of manual operation, which is likely to lead to the artificial modification or concealment of relevant unfavorable information by information providers; and the current system lacks data tracking in the downstream of the industry. Therefore, the establishment of an information platform that can trace the whole process of transportation can openly and transparently present the whole process of aquatic product transportation in the eyes of every consumer. Consumers only need to scan the traceability code on the packaging of aquatic products with their mobile phones to obtain relevant information of the product, and learn about the origin of aquatic products, the processing and packaging of aquatic products, transportation stops, and transportation methods. The entire platform is fully monitored and open to the public in real time. This is not only a means of preventing and controlling the epidemic, but also an upgrade of the entire industrial chain. People can watch and retrieve relevant videos at any time through the online platform, and they can report any suspicious or illegal operations at any time. The demand for food safety can also be guaranteed, and the stubborn food safety disease of shoddy and poor quality can be completely eliminated. At the same time, we will use the Internet of Things technology to solve various security problems in the process of cold chain transportation through big data as a feature of our project to help enterprises better manage the supply chain and improve the management of product production and transportation.

The advent of the epidemic has not only made people gradually aware of the importance of living in harmony with nature, but also made people aware of the role of green and safe animal protein on the body's defense against viruses. And aquatic products are officially one of the good sources of protein. Therefore, the actual consumption capacity of aquatic products will surely usher in a comprehensive benefit in the post-epidemic era. In contrast, the transparency and visualization of safe production, processing, warehousing, transportation, and sales have become an industrial link that must be upgraded, which will have a profound impact on the development of China's aquaculture industry.

4. Investigate the Status Quo of the National Aquatic Industry

The aquatic product industry plays a very important role in my country. China's fishery can even be traced back to thousands of years ago. Since prehistoric times, China's rich fishery resources have nurtured thousands of Chinese sons and daughters. It can be said that fish products have been integrated into the Chinese food culture in the diet. Moreover, the aquatic industry plays a pivotal role in my country's economic system, and the industry has huge potential for future development. However, in the context of the outbreak of the new crown epidemic, the safety of aquatic products has become the focus of attention of the whole people. Therefore, to investigate the current situation of the aquatic product industry, the purpose is to understand the crises faced by aquatic products and the problems that need to be improved urgently under the new crown epidemic.

4.1. National Aquatic Products Market Supply and Demand

Since the reform and opening up, my country's aquatic product industry has developed rapidly, and the production capacity of aquatic products has generally maintained an upward trend. In 2020, the annual production capacity of aquatic products in my country will reach 65.45 million tons, a year-on-year increase of 1.5%. Among them, artificial breeding accounted for 79.68%, and natural fishing accounted for 20.32%. The consumption of aquatic products in my country is mainly composed of two parts. One part of the citizens consumes at home, and citizens buy aquatic products for home consumption through channels such as vegetable markets and wholesale markets; the second part is social consumption. consumption of the product. In 2019, the overall consumption demand of aquatic products in my country was 66.4974 million tons, which is still in a steady growth trend. This data also shows that with the improvement of

national income and living standards, the consumption demand of aquatic products will still increase, but compared with developed countries, my country's market consumption demand still has room for improvement.

4.2. Global Aquatic Product Trade under the Epidemic

According to data released by the United Nations, due to the impact of the new crown epidemic, the total production and trade volume of the global aquatic product industry will decline significantly in 2020, which is predictable. With the deepening and continuation of the epidemic, the epidemic prevention policies of various countries continue to be tightened, and the aquatic product market may continue to decline in the future. Although the epidemic in China has been basically brought under control and has gradually returned to normal, as an absolute powerhouse in the import and export of aquatic products in the world, it is difficult for China to remain alone in the international market. In order to effectively prevent and control the epidemic, the quarantine procedures and control policies of various countries will greatly reduce the circulation rate of the global aquatic product market. Due to the particularity of the aquatic product industry, the shelf life of commodities is short and the storage is difficult. Under such a big background, the entire industry chain will be severely impacted.

4.3. Imports of Chinese Aquatic Products under the Epidemic

With the outbreak of the new crown epidemic in agricultural products markets successively across the country (such as the incident of imported salmon in Beijing Xinfadi), customs inspections have been strengthened in many places across the country, and imported aquatic products from related countries have been removed from the shelves in restaurants and supermarkets. Salmon has also changed from the original market "darling" to "outcast", disappearing from the dining table of the citizens. It can be said that the import of aquatic products in a special time period has caused panic among the people.

In recent years, the import volume of China's development aquatic products has continued to increase, and the import market demand is strong. According to statistics, in 2018, my country's aquatic product imports were US\$14.862 billion, a year-on-year increase of 30.99%; in 2019, my country's aquatic product imports were US\$18.70 billion, a year-on-year increase of 25.6%. Affected by the new crown epidemic, from January to April 2020, the import value of China's development aquatic products was 4.518 billion US dollars, a year-on-year decrease of 8.4%. The industry market needs to be shut down in large numbers, and enterprises will stop work and reduce production, which will cause serious pollution to China's traditional fishery economy.

5. Problems in the Supply Chain of Aquatic Products under the Epidemic

At present, although the new crown epidemic has a great impact on the aquatic product industry, the basic product supply can be guaranteed. The most affected part of the entire chain is the key link of logistics and transportation. It can be said that as long as this link is solved, all aspects of the aquatic product industry will be improved. Therefore, solving the transportation problem has become the most important factor in stabilizing the sustainable development of China's fishery under the epidemic.

5.1. Production Source

At present, various national scientific research institutions are conducting traceability analysis of the new coronavirus, but there have been clusters of cases in food processing factories and seafood processing factories in France, Germany, and Dalian, China. Whether there is an infection chain or not, it is necessary to control the source of food production.

5.2. Transit Center

As mentioned above, the fresh food trading market has gradually become one of the major sources of repeated epidemics in China, and aquatic products are the first to bear the brunt, because the trading environment of aquatic products is low temperature, high humidity, complex packaging, and relatively airtight, which provides a very good living space for the virus. The cases mentioned above are the best warning to us.

5.3. Transportation Link

The shelf life of aquatic products is very short, and with the improvement of living standards, more and more people's pursuit of the quality of the food itself is constantly improving. In view of this, the quality control requirements of many supermarkets are also increasing, so the logistics delay caused by the epidemic will cause a lot of food waste. Moreover, as long as there is one negligence in the transportation link, it will pollute the entire downstream industry, cause the spread of the epidemic, and cause irreparable losses to the country and enterprises.

5.4. Current Relevant Regulations and Solutions

First of all, both the United Nations Food and Agriculture Administration and the Chinese health department have issued a personal hygiene and safety management code for employees in the fresh product industry. Basic requirements such as regular disinfection and testing. In terms of logistics and transportation, the driver and the accompanying personnel should not leave the transportation vehicle halfway, and must have the necessary disinfection materials in the vehicle. The National Health Department recommends that visitors place orders online instead of physically entering production plants and wholesale markets. At present, large supermarkets in many countries have begun to shorten business hours according to the specific regulations of each country, and implement a rotation system. In terms of online ordering and mobile payment, our country is advanced and demonstrable for electronic transactions in the world. Whether it is the means of payment or the scale of the enterprise, the utilization rate of the people or the degree of recognition. This is one of our great strengths and needs to be put to good use. Regarding the first customs regulations for imported aquatic products, my country's customs has also strictly implemented the management methods of centralized storage, centralized quarantine, and centralized sterilization. All aquatic products without customs permission shall be subject to centralized destruction. For enterprises that produce locally, once the virus is discovered, it will be reported immediately, and the products produced by the enterprise should be recalled urgently, and the source of the virus should be traced urgently. For farmers' markets and fresh food markets with outdated facilities, China International subsidizes software upgrades to help them complete online transactions.

6. Industry Status of China's Cold Chain Development

Like other new industries, China's cold chain industry has been gradually expanding its scale since 2015, and it has been growing rapidly at an annual growth rate of 30% since 2015. This is mainly related to the national pursuit of fresh product quality and the development of the pharmaceutical industry. In contrast, my country's refrigerated storage capacity still needs to be improved, and the degree of informatization still has great potential for development. Especially in 2020, under the national home isolation policy, electronic transactions have shown a blowout development, and the country and the people have higher requirements for speed, convenience, and no contact, and this also exposes many of our current problems.

6.1. Uneven Distribution of the Number of Enterprises

The epidemic is a big test for the entire logistics industry, especially for the cold chain transportation that aquatic products rely on. In terms of scale, the scale of the cold chain market

in 2020 has reached an unprecedented 500 billion yuan. However, we found that during the period of home isolation, the urban-rural differences in cold chain transportation and the east-west differences across the country were directly exposed. There are significantly more cold chain enterprises in economically developed regions than in backward regions, and the warehousing system is also more complete. Although China's cold chain industry is developing rapidly, it is difficult to change the development law of this market economy in a short period of time.

6.2. Continuous Breakthroughs in New Technologies

At the Cold Chain Summit just held, various countries showed us the development results of emerging technologies. With the help of the Internet of Things, cloud storage and computing, a whole-chain intelligent cold chain system has been created. While satisfying the technological nature, there are also important breakthroughs in environmental protection technology. Cold chain transport vehicles, warehouse storage freezers, etc. have all applied environmental protection technology, which not only ensures the technical environment, but also protects the environment.

6.3. Problems to be Improved in the Cold Chain under the Epidemic

At present, the automation technology of the electronic trading platform is relatively mature, but due to the surge in business volume caused by the epidemic, most companies lack expectations for the business volume in the cycle, and rashly using the automated inbound and outbound system will affect the efficiency of actual operations. However, the temperature control standards, storage standards, and transportation cycles of different products are still in their own battles. Each enterprise has its own standards for each link, which has not yet been unified. The personal ability of relevant practitioners is not up to standard, there is a shortage of talents, it is difficult to meet the needs of the industry, and it is difficult for the entire market to become transparent.

The uneven distribution of the industry mentioned above also directly makes it difficult for the cold chain business of aquatic products to form a transportation network. Therefore, the current cold chain transportation is still relatively small for the logistics of single-point customers, and mainly focuses on the transportation between enterprises. This will inevitably cause people to gather in the technical secondary center of the goods. The imperfection of this link will directly reduce the effectiveness of the previous prevention and control policies. Moreover, it is difficult to form a network, which will also increase the transportation cost for single-point clients.

However, several financing failures in 2019 have caused some capital to have a wait-and-see mood. This has formed a vicious circle. On the one hand, the market has huge potential and sufficient development space. On the other hand, the high cost and slow return of funds make the capital that develops the cold chain by heart discouraged.

6.4. Transformation Opportunities for the Cold Chain Industry

The transformation of logistics companies or the integration of the cold chain industry has great advantages. The transportation network of the logistics company has basically been established. For example, JD Logistics already has the basic elements necessary for the cold chain industry such as express outlets and warehousing. Traditional postal enterprises are also facing transformation, and their strong freight capacity also has inherent advantages. The above-mentioned enterprises need to join in the investment of cold chain equipment and the cultivation of talents. During the epidemic, Chinese cold chain companies with forward-looking arrangements played an important role. However, some small cold chain enterprises have their own management problems. There are many operations in a state of savage development in order to save costs. The industry's involution had the opposite effect. The living space of

enterprises is constantly being compressed, and many enterprises are still in the state of "strugglers" in the market, and they do not have more energy for talent reserve, training and technological innovation.

6.5. Current Situation of Cold Chain Logistics in Our Province

The overall cold chain market in Anhui Province developed late, but the growth momentum is strong. Both the cold storage capacity and the professional cold chain transportation vehicles are increasing at a rate of about 20% per year. By the end of 2020, the province's cold storage capacity has reached 1.2 million tons, and there are more than 4,000 professional transport vehicles.

However, these data are still far from the developed cold chain regions. The cold storage capacity of our province accounts for less than 2% of the national total, and there is a big gap compared with the neighboring province of Jiangsu, which is only 10% of that of Jiangsu Province. The per capita cold storage capacity is even worse, which is 35% of the national average. Moreover, many cold storages, production chain equipment, and transportation vehicles are too old, and some of them cannot meet the existing transportation standards.

Another point is that there is also a serious imbalance in the distribution of the cold chain industry in our province. The inventory capacity and transportation capacity around the provincial capital Hefei and Bengbu are relatively strong, but they are still weak in Ma'anshan, Suzhou and other places, and most of the cold storage is placed in the wholesale distribution center, which has played a role in the formation of transportation network and the development of epidemic prevention and control. extremely inconspicuous. Because of the above-mentioned status quo, a large amount of losses in the transportation and storage of aquatic products in our province have occurred.

6.6. Problems in the Development of Cold Chain in Our Province

The cold chain transportation in our province has the characteristics of late start and rapid development. This part will summarize and analyze the problems encountered in the province, and then organize and explain the causes.

6.6.1. Unfamiliar with Cold Chain Logistics

The equipment and transportation requirements of cold chain logistics are relatively high, so the corresponding cost will be higher than that of ordinary fresh food. Under the condition that the public has not yet fully understood the high-quality services provided by cold chain transportation, they are more inclined to choose products with big brands and low prices. What is more noteworthy is that many citizens still believe that the taste and freshness of cold chain food are not as good as room temperature logistics, which will hinder the development of cold chain logistics in the long run.

6.6.2. High Personnel Cost and Difficulty in Returning Funds

The cases of financing failure in 2019 mentioned above are also common in our province. According to market analysts' estimates, the capital return cycle of the cold chain is more than 10 years. Moreover, the total amount of investment in the entire industry is too large, and the professionalism and impairment of equipment during the operation period have made it difficult to obtain loans from financial institutions. Moreover, with the increase of personnel costs year by year, the capital chain is prone to breakage. At the stage of large-scale and industrialization of the entire cold chain industry in Anhui, many large fresh food companies would rather choose third-party cold chain companies from other provinces.

6.6.3. Difficulties in Implementing Standardized Processes and Shortage of Talents

There is a serious shortage of relevant talents in the upstream and downstream supporting links of the cold chain industry in our province. After investigation, most of the practitioners

have transformed from the original ordinary logistics and have no relevant knowledge reserves. There are no related majors in the universities in the province, and it is impossible to continuously export talents in the province. This has caused many cold chain companies to have difficulty recruiting people. Moreover, there is no unified standard from the production source to the transport vehicle, the vehicle to the cold storage, and the cold storage to the distribution center. For example, aquatic products need to be pre-frozen, and many production sources do not have relevant standards. As a result, pre-frozen products and unfrozen products are distributed in the same transport vehicle, resulting in quality differences, making it difficult to form a good reputation and limiting the development of related companies. In the process of loading and unloading, most of them rely on manpower, and the degree of automatic sorting is very low, which makes the loading and unloading cycle longer, and also affects the quality of cold chain products to a certain extent.

6.7. Solutions to Provincial Problems

According to the "Anhui Province Action Plan for Accelerating the Construction of Urban and Rural Cold Chain Logistics Facilities", accelerating the construction of the cold chain industry is related to the national economy and people's livelihood, and making up for the promotion and construction of the rural cold chain industry has been the main task in the past five years. It is difficult for any industry to develop and expand without upstream and downstream supporting facilities. Therefore, speeding up the top-level design is the first step in the Long March. Under the support of national policies, accelerating infrastructure construction, unifying planning and layout, and formulating unified industry standards are the urgently needed development directions.

6.7.1. Government Participation and Support

In response to the above-mentioned problems such as the long return period of funds, the provincial government needs to carry out appropriate measures such as loan relaxation and government joint venture investment in accordance with national policies to help the development of cold chain enterprises. In addition, for the existing cold chain enterprises that are still "barbaric growth" by third parties, they should carry out standardized management while increasing their support to form a unified industry standard. For old facilities, a strategic jump can be implemented, that is, skip the intermediate development cycle and directly introduce the latest technology, and implement a one-step comprehensive upgrade. In the examination and approval of cold storage land, the lengthy examination and approval links are reduced, and the management method of special handling is implemented. In addition to the government's investment, it should cooperate with financial institutions to provide low-interest loans or interest-free loans to cold chain enterprises to provide industrial assistance.

6.7.2. Taking Advantage of Geographic Location

Our province is in the main position of the integrated layout of the Yangtze River Delta. Strengthening the quantitative management of the origin will help our province to become a supply base and a transportation base in the overall layout. Therefore, it is very important to strengthen equipment construction and decentralization of capital and talents in rural production areas. Precisely deploy outlets and guide relevant large and medium-sized enterprises to enter the market to participate. Reduce taxes on companies that respond to policies and provide preferential policies. Introduce professional talents and technologies from developed areas, independently develop refrigerated warehouses and transportation vehicles, install real-time monitoring equipment in each link, and effectively combine with new technologies such as cloud computing and the Internet of Things.

6.7.3. Encourage Colleges and Universities to Export Talents

The development of every industry is inseparable from the support of talents. As the saying goes, the troops and horses are not ready for food and grass. In modern society, talents are the food and grass of the army. In the short term, our province can attract industry talents by means of housing subsidies and high wages, but from a long-term perspective, the independent training and delivery of talents in the province is the key to the long-term development of the cold chain industry. Therefore, encouraging colleges and universities to open majors related to cold chain transportation must be put on the agenda as soon as possible. Strengthen cooperation with enterprises, and the talent transfer mode can adopt the mode of "determining production according to needs" to continuously transfer talents without causing backlog and loss of talents.

6.7.4. Publicity and Popularization of Cold Chain Expertise

Through the combination of authoritative traditional media and popular self-media, the cold chain industry will be popularized in an all-round way. The scientific principles of the cold chain can be publicized to the public in the form of popular science programs. The consumption concept of cold chain products can be used as a carrier through self-media such as Douyin to create Internet celebrity products and guide consumption habits. For complaints about cold chain consumption, we will actively and transparently disclose the solution to the society, enhance social trust, and create a good consumption atmosphere and business environment.

7. Countermeasures for Aquatic Product Transportation Problems under the New Crown Epidemic

The previous part mainly analyzed the cold chain transportation countermeasures in my country and our province under the general market environment, but what measures should we take when the new crown epidemic spreads around the world? This part will discuss the solutions to the epidemic in different links of the entire industry chain.

7.1. Guarantee the Quality of Products at the Origin

The origin is the first link of the entire industrial chain, and the virus detection of the origin is the most important. Most of the origins are concentrated in the rural and urban-rural borders. The population in this area is not as dense as in cities, and the probability of transmission is low, but the detection and investigation of the epidemic is also relatively difficult. Therefore, medical support for the origin is the most critical part of ensuring that the epidemic does not spread in the origin during the epidemic.

7.2. The Whole Process of Application of New Technologies is Traceable

At present, Anhui Province has launched a whole-process traceability platform, and a QR code can monitor and manage all links, which is a leading demonstration in the country. It is the next work direction for imported aquatic products and other foods to be included in this system nationwide. This is not only effective prevention and control of the epidemic, but also the supervision of food quality.

7.3. Reduced Suitability for Imported Goods

As a major importer of aquatic products, my country's annual import volume accounts for about 1/5 of the world's. Such a large import volume poses a great test for the efficiency of customs and epidemic prevention departments. Moreover, once a product that is not inspected enters the cold chain transportation system, it will spread to the entire chain. Therefore, in order to prevent the epidemic and reduce the spread and unnecessary losses, my country can appropriately reduce imports from countries of origin with severe epidemics. Increase the base production of the country.

7.4. Follow the Trend and Support the Development of E-commerce

During the epidemic, the consumption patterns of the people have gradually changed, and many age groups who did not use e-commerce for consumption have joined the army of online consumption. The state can take advantage of this change in consumption patterns to stabilize this consumption pattern through preferential policies such as policy subsidies and approval of newly registered enterprises. Accelerating the circulation of online resources can solve the situation of crowd gathering.

7.5. Vigorously Develop Contactless Distribution

At present, major express companies have successively launched contactless delivery, but in actual operation, many people still choose to pick up items in the form of "Cainiao Station". Therefore, this requires us to vigorously guide the new lifestyle of contactless distribution, and speed up the hive cabinets, centralized storage points, and drone distribution can be the preferred solutions.

7.6. Timely Emergency Alarm System

Adhere to the establishment of an electronic and automated alarm system. Each logistics center and commodity distribution center should ensure that once a positive sample is found, it can be transmitted to the networked system in real time, reducing the manual operation link, so that the data upload and the alarm system can be synchronized and linked. Emergency recall of the entire chain of relevant batches of positive samples, centralized isolation, testing and destruction to completely control the spread of the epidemic and avoid cross-infection and outflow of the epidemic.

8. Technical Route, Problems to be Solved

During the one-year period, we continuously summarized and reflected on the problems we raised, and then carried out relevant data collection and practical analysis for theoretical solutions. During this process, we found that cold chain logistics is the mainstay of aquatic product transportation. , and the technical level of the cold chain may face the following problems:

1 Due to the modernization and professionalism of the industry, we still have problems such as lack of benchmarking and lack of experience in the construction of the entire system. There is a lack of targeted emergency measures for the practice of sudden outbreaks.

Suggestion: To establish a unified big data system, not only the industrial networking of a single industry, but also a unified system of information for all transportation networks should be established. In the event of a sudden outbreak, emergency measures should be initiated immediately to close a single chain to ensure the normal flow and supply of goods on other transportation lines.

2 Due to the differences in epidemic prevention policies in different places, it has a great impact on the efficiency of logistics capacity. In particular, cold chain transportation mostly relies on freight transportation. Many regions have strict restrictions on the entry and exit of vehicles with licenses from multiple provinces, which affects the flow of aquatic products to a certain extent. Shipping speed. The transportation market scope of domestic aquatic products is limited, and the transportation efficiency is relatively low.

Suggestion: Build a more comprehensive public information exchange platform, actively improve the transportation policy inquiry system in various regions, and push dynamic information on policy changes to enterprises as soon as possible, so as to facilitate the adoption of different transportation strategies according to local policies, and improve the coldness of aquatic products under epidemic prevention and control. chain transport efficiency.

3 The transmission risk of loading, unloading and splitting should not be underestimated. The closer to the terminal, the more likely this link is to be infected and spread by viruses during operation. The virus residue on the packaging has become a chronic disease.

Recommendation: Promote intensive management in the safety protection of the cold chain logistics process, promote the transportation of aquatic products to take the whole pallet as a unit operation, and reduce the contact of personnel in each link with aquatic products during shipment and the mutual contact between staff.

4 The problem of product backlog under the epidemic has caused many cold chain companies to repeatedly deliver goods to reduce losses, which has led to increased risks and costs. For the management and sterilization of cold storage, there have also been problems of incomplete epidemic prevention and dead ends.

Suggestion: Set up port emergency management plans and safeguard system measures. Prepare emergency transportation equipment, set up additional warehouses, uniformly control and manage refrigeration equipment intelligently, control the output of electricity rate, and achieve the purpose of energy saving and emission reduction.

5 During this epidemic, relevant customs departments actively responded to the national transportation policy and proposed a series of safeguard measures to close relevant import channels to ensure the safety and reliability of imported aquatic products. However, the current emergency policy still has a relevant impact on the overall operation, which is not conducive to the long-term operation of overseas trade and overseas transportation of aquatic products.

Suggestion: In view of the impact of various emergency policies on actual operation, it is necessary to attract the attention of relevant departments of Guanghai, and how to adjust such policies into daily and long-term policy implementation. While it can effectively ensure the inspection of basic education requirements, it can improve the convenience and feasibility of students' operation as much as possible, and control the range of corresponding resources and cost management investment.

6 At present, many cold chain logistics standards involve refrigeration, including some requirements and specifications of the wholesale market, but these management regulations are relatively scattered and unsystematic, with general regulations and no detailed rules, and the implementation effect is not satisfactory. Regarding the incident of frozen salmon carrying the new crown virus during the epidemic, from a certain point of view, it may be because the delivery operator is infected with the new crown pneumonia virus. Relevant technical standards have made it clear that people with infectious diseases are not allowed to participate in the actual management operation of the cold chain. The types of infectious diseases in the original standards need to be updated. At the same time, we also need to monitor the mental health development of social work researchers and other requirements. Increase inspection efforts.

Suggestion: conduct centralized sorting out of relevant logistics management standards, and at the same time increase normative inspection and implementation supervision of the standards, strictly grasp the implementation of management standards, and conduct inspections on standards that are not implemented in place and that do not meet expectations and market conditions after a period of implementation. Timely revision.

7 At present, there is a lack of reference for the formulation, implementation and supervision of domestic cold chain-related hygiene standards and requirements. Recently, there have been outbreaks of epidemics in many foreign meat processing plants. Once the virus breaks out in the layout environment of such plants, it will exist for a long time. As a result, the protection of industry safety will be a great test. The virus in the factory production and processing environment There are technical difficulties in disinfecting.

Recommendation: Strengthen the management and control of cleaning and disinfection of cold chain logistics related equipment, and develop high standards and positive demonstrations for warehouses, vehicles, containers, tools and equipment, on-site environment, operators, and delivery links. Improve the internal monitoring system of production and processing enterprises, establish uniform germ elimination standards and regulations, conduct key inspections on production and processing sites, establish special inspection standards and systems, and assign professionals to strictly supervise and implement the disinfection standards.

8 Cold chain transportation is an important link in the circulation of aquatic products, and it is also a key functional node in the entire supply chain. Due to the irrationality of the previous planning, the strategy of the overall layout was missing. This will directly affect the closed-loop management of the entire chain, resulting in problems such as unstable operation and increased risks on the industrial supply side. It has become a weak link in epidemic prevention and control and network system construction, hindering the development of the entire industry. Suggestion: build a smart new logistics, promote the standardization and digital management of aquatic products transportation, empower the aquatic products transportation industry, realize the integrated management of the transportation process, and establish a closely related overall industrial chain.

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