

Research on Building Modern Agricultural Product Logistics System

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Abstract. Logistic systems have received considerable attention in the last 10 years, as they constitute one of the cornerstones in the design and control of production systems and the modeling of supply chains. Agricultural product logistic system is the necessary process and fundamental guarantee for the development of modern agriculture. This research studies the existing problems in agricultural product logistics in China and proposes some advice on building modern agricultural product logistics system.

Introduction

A Logistics system is a passage in the process of the agricultural product circulation, it is also an important factor that affect agricultural product market environment. A perfect logistics system is of extremely high value to quality assurance, efficient circulation, operating costs reduction, international competitiveness enhancement of the agricultural products in China. With China's accession to the WTO and market economy continued to be refined, the logistics industry of China's agricultural products has developed rapidly. However, there still exist many problems in the course of logistics system operation. In accordance with the WTO accession agreement, China will release geographic and quantitative restrictions of foreign circulation enterprises and lift restrictions on commodity distribution operation in 3-5 years after accession to the WTO, which means that logistics companies in developed countries will soon enter China, China's logistics enterprises will face fierce competition, therefore, we should build a highly efficient logistics system of agricultural products without delay.

The Main Problems Existing in the Logistics of Agricultural Products in China

China's Agricultural Product Logistics Is In Separate Position. In China, highway is operated and managed by the Ministry of Transportation, railways by the Ministry of Railways, air traffic by the Civil Aviation Administration of China. Management partition makes a wide gap among different modes of transport in transport organization, service specification, technical and equipment standards, etc, this makes logistics enterprises difficult to choose reasonable transport service mode in accordance with the needs of the market and makes many modern logistics service mode based on multimodal transportation difficult to develop. The transportation costs are very high. In addition, the logistics processes are also in a divided state, a large number of individual specialized enterprises had completed only a part in the logistics of agricultural products, such as only transport, storage or packaging. The different links in logistics are lack of coordination and this seriously affected the efficiency of logistics.

High Logistics Costs and Serious Waste in the Process of Logistics. The non-smooth circulation of agricultural product market has greatly increased circulation costs and reduced circulation capacity. Many products can not be promptly delivered to the hands of consumers. Generally speaking, the current agricultural products logistics in China is mainly based on room temperature form or natural form, and this caused a great loss in the logistics process. According to relevant statistics, China's agricultural products in the circulation process suffered the direct loss of

value as high as 25% to 30% of total value of agricultural products (U.S. only about 2%) due to improper handling of agricultural products, or technical problems which caused decay, deterioration, pollution, destruction. Furthermore, there is no guarantee in quality. It can be seen that the agricultural products have not got value-added but got loss of competitiveness in the circulation process.

Inadequate Investment in Agricultural Product Logistics. Inadequate investment in logistics infrastructure and construction, backward technology and low level of informatization has seriously limited the development of the logistics industry in China. For example, the rate of railway refrigerated transport of perishable goods, although rank high among various modes of transport, but only 35%-39%, while the rate of road refrigerated transport of perishable goods is about 15%, for river and air transport, the rates are much lower. At present, the agricultural product transaction in China is still mainly carried out by traditional mode of the agricultural products wholesale market; it is extremely backward in the logistics system, also transport organizations and transport carriers. In addition, the agricultural product circulation facilities are also backward, reflected mainly in poor storage conditions and low capacity. With the rapid development of agricultural production, there are a large number of surpluses of agricultural products, while the current quality and quantity management of storage modes can not meet their needs.

Backward Agricultural Product Logistics Technology. Preservation technology is an important guarantee for the operation of raw and fresh agricultural products. At present, it has caused huge losses of agricultural products due to technical aspects of product preservation. In addition, the transport equipment and transport technology of agricultural products are relatively backward, modern containers and bulk transport have developed very slowly, high-performance dedicated transport vehicles are not enough. We lack effective protection to agricultural products. Now, in storage aspect, there are too many common warehouses and insufficient specialized warehouses. We badly need special storages such as low-temperature warehouse, cold storage and three-dimensional warehouse. In transport aspect, the low level of mechanization, limited number of forklifts, pallets, platforms and other equipment have undoubtedly increased the storage cost of fresh agricultural products and greatly reduced competitiveness of China's agricultural products in the marketplace.

Countermeasures for Building Modern Logistics System of Agricultural products

Developing Distinctive and Modern Logistics System of Agricultural Products. At present, with the development of economic globalization, international business competition has entered into the phase of marketing mode competition. Modern logistics will play a very important role in this stage. Agricultural products, especially the fresh agricultural products, are very difficult to circulate. We need a modern logistics system guaranteed by moderate temperature, security, 24-hour service to keep low loss and ideal shelf life from field to the market. In order to promote innovation in marketing of agricultural products, we should speed up building up modern agricultural product logistics system, introduce new circulation mode such as chain operations, logistics distribution, e-commerce to agricultural product circulation system.

Strengthening Construction of Agricultural Product Logistics Infrastructure. We need perfect infrastructure support to keep smooth functioning of agricultural product logistics. Agricultural logistics infrastructure construction includes the construction of wholesale markets of agricultural products, the construction of storage, transportation facilities of agricultural products, etc. To do a good job in this regard, we should strengthen rural road construction and development and production of agricultural product carrying vehicles, speed up storage building of the agricultural products, develop agricultural product processing and distribution center, set up advanced information network platform so as to provide important material conditions for the development of modern logistics.

Upgrading Technology Innovation Ability of Modern Agricultural Product Logistics in China. In the process of the development of agricultural product logistics, the stamina of agricultural

product circulation in China is obviously insufficient due to ignorance of technological innovation. As the processing technology lagged behind, the majority of agricultural products can only enter the market in the form of primary products or rough products, and some of the added value of agricultural products can not be realized. Poor preservation condition of agricultural product storage, high logistics costs, unguaranteed time value of agricultural products and many other problems are dependent on technological innovation. Therefore, we should enhance the innovative capability and core competitiveness by research and development and application of key technology of modern agricultural product logistics. Only by this can we enhance international competitiveness of agricultural product logistics enterprises and further heighten level of agricultural product logistics in China.

Setting up Standards of Agricultural Product Logistics. In view of its own characteristics of agricultural product logistics market, we should develop appropriate standard for the logistics system of agricultural products. We may study standard requirements of agricultural production, procurement, transportation, storage, loading and unloading, handling, packaging, distribution processing, distribution, information processing, etc., and then analyze and classify the data collected to form preliminary logistics standard system of agricultural products. In terms of logistics terms, measurement standards, technical standards, data transmission standards, logistics operations and service standards, we should not only formulate the standards in line with the industry standard of other countries according to WTO rules, but also ensure the actual application.

Improving the Technical Level of the Logistics of Agricultural Products. We must increase investment on research and development of logistics technologies of agricultural products and encourage scientific research organizations, together with logistics enterprises, to get breakthroughs in agricultural product processing and packaging, storage, transportation and preservation, information and communication technology to promote a new round of agricultural products logistics technology transformation, innovation and upgrading. In the entire chain of agricultural products logistics, technology innovation is an important support and impetus to the development of logistics industry. The effective way to enhance the market competitiveness of agricultural products and increase farmer's income is that we should improve processing, packaging technology, adopt new preservation technology, and make primary products into finished products of high technical content, long storage time, advantageous brand, and high added a value.

Enhancing the Construction of Agricultural Product Logistics Informatization. In order to improve the efficiency of agricultural product logistics, we should regard the information construction as a key task. The explosive development and the popularity of the WWW have resulted in marketing of agricultural products on the Internet, where every agricultural organization and company is rushing to build their own web site. Almost all homepages support static HTML-page. In the logistics system, the information flow is an impetus to lead the operation of entire system. We must establish market demand information center based on the existing information system in rural areas. The updating and improving of information center database is on the basis of accurate and timely data upload from downstream distributors and retailers. The information center database related technologies are: bar-code technology, scanning technology, POS systems and EDI / INTERNET, INTRANET, ID code and so on. Through comprehensive, timely, scientific collection, processing, analysis and publishing of logistics information of agricultural products, producers and sellers can share the resources, and this, on the one hand, and ensure that planned production process and reduce risk; on the other hand, can save transaction costs, improve logistics efficiency and service levels by the Internet orders, auctions, etc.

Increasing Investment in Education and Training Specialized Personnel of Logistics. Human resources is the key factor that affects the development of agricultural product logistics. The relevant departments should formulate long-term personnel training program of agricultural product logistics. We should not only attach importance to agricultural logistics technology and management know-how training, but also should pay attention to the combination of this professional knowledge and the practice of agricultural product logistics. Only by this can we change lagging situation of

agricultural product logistics rapidly and realize scientific operation of China's agricultural product logistics in very short time.

Conclusion

In today's volatile economic climate, logistics management is becoming more important than ever before. In order to succeed in today's global marketplace, agricultural enterprises develop a logistics management strategy that capitalizes on the best-of-breed technology solutions available today, so that they can meet the demands of their customers today and be well prepared for the future. Developing modern logistics of agricultural products is a complex systematic project. It needs to be guided by advanced logistics information technology, and it should integrate all aspects of the circulation of agricultural products, such as agricultural production, processing, storage, transport, trading, etc. Only through advanced logistics technology and information technology and high-concentrated agricultural logistics information platform, can we really build modern logistics system of agricultural products in our country.

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