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Research on agricultural economic development based on green logistics system

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Abstract: Agricultural economy is not only related to the national economy and people's livelihood, but also the necessary channel for hundreds of millions of farmers to survive. In recent years, with the enhancement of people's awareness of environmental protection and the deepening of the understanding of the concept of green consumption, Chinese people's demand for high-quality and green agricultural products is growing. At the same time, the export of agricultural products in China is increasingly restricted by green barriers, and the implementation of green logistics of agricultural products has become an inevitable choice for the development of agricultural economy in China. This paper analyzes the problems and further development of green logistics of agricultural products in China, and discusses the mechanism of coordinated development of green logistics of agricultural products and agricultural economy in China.

Keywords Green logistics, Agricultural economy, Development mechanism

INTRODUCTION

Agriculture is the basis of maintaining a country's relative stability, and China is also a large agricultural country, so the development of agricultural economy plays an important role in the development of national economy, and the development of agricultural economy in China has been highly valued by the state and the government [Huidong, 2020]. The logistics level of agricultural products is the main factor restricting the development of agricultural economy. A large number of agricultural products with regional advantages can not be transported out of the hands of farmers in time will directly lead to huge economic losses [Sun, et. al., 2014]. In addition, with the environmental problems in China's economic development gradually highlighted, China's agricultural economic development will face great challenges. In recent years, the vigorous development of green logistics has brought new ideas for the transformation of traditional agricultural economic development mode in China [Ding, 2014]. Green logistics of agricultural products can more adapt to the current requirements of consumers on the quantity, quality and environmental protection of agricultural products [Ruiqin, 2019]. Vigorously promoting and developing green logistics of agricultural products has become an important link to effectively promote the transformation of traditional agricultural economy [Xiao, 2011].

Analysis on the concept and characteristics of green logistics of agricultural products

Basic concept of green logistics of agricultural products

Green logistics of agricultural products refers to the integration of the concept of environmental sustainable development into the logistics activities of agricultural products, emphasizing that agricultural products will not be polluted and their quality will not be affected in the process of logistics and transportation. In the logistics activities of processing, storage, packaging, loading and unloading, low energy consumption and recyclable utilization are implemented to maintain and increase the value of agricultural products, while effectively containing the environmental pollution and resource consumption caused by unreasonable logistics.

Analysis on the characteristics of green logistics of agricultural products

Through the above description of the concept of green logistics of agricultural products, we can see that it generally includes the following characteristics: (1) the intensification of resources. Through the use of internal combustion engine technology and clean fuel, to achieve the optimal allocation of resources in all aspects of agricultural products logistics with the least energy consumption. (2) Green transportation. Agricultural products logistics transportation requires that all levels of freight outlets and corresponding distribution centers must carry out scientific and

reasonable planning and design, and achieve the goal of reducing logistics costs and energy conservation and emission reduction by reducing travel distance and repeated transportation. (3) The reverse of logistics. In addition to considering the green logistics of agricultural products in the environment of transportation, storage and packaging, and in the logistics after-sales service, such as recall system, recycling system and waste disposal system, it is necessary to implement the principle that the recycling level alternative resources should be used first, which is not only limited to the primary behavior of clean recycling and secondary utilization of waste materials, but also involves the inventory of re-produced products Implementation and control process of resale.

PROBLEMS IN THE DEVELOPMENT OF GREEN LOGISTICS OF AGRICULTURAL PRODUCETS IN CHINA

All countries in the world regard the implementation of green product logistics as the focus of the future development of the logistics industry, actively carry out logistics seminars and special technical research of various logistics, and introduce corresponding policies and regulations to support the green and sustainable development of logistics. Compared with some western countries, the development of green logistics of agricultural products in China is still in the initial stage and there is a certain gap [Peng, 2020]. At present, the main problems faced by green logistics of agricultural products in China are as follows:

Backward concept of green logistics

Influenced by the traditional concept, the concept of attaching importance to production and neglecting circulation has been restricting the development of green logistics of agricultural products. In the past, due to the low output of agricultural products and other problems, the government not only gave help in policy, but also gave strong financial support. However, there was a lack of modern understanding and full attention to the logistics of agricultural products. The understanding of agricultural products logistics is not in place, and there are misunderstandings in the concept, which leads to the policy support strength unable to meet the needs of its development [Hu, 2015]. In addition, there are many links involved in agricultural products logistics, and the corresponding management departments are different. There is no clear division of responsibilities between each department, which ultimately leads to the logistics not developing according to the normal law under the cross management system, which is very unfavorable to the development of green logistics.

Low green degree of agricultural products transportation process

First of all, a lot of energy is consumed in the transportation of agricultural products, resulting in serious air pollution. And with the improvement of people's living standards, the increasing consumption, the increasing frequency of the use of non clean energy, causing greater damage to the environment. Thirdly, there are a lot of solid wastes in the transportation of agricultural products, which mainly come from the wastes and oil plants produced in the transportation process. In addition, the agricultural products abandoned due to damage or decay in the transportation process are also important sources of solid wastes, which cause serious pollution problems to the soil and environment along the way. Finally, the logistics and transportation of agricultural products are not well planned. Because there is not a complete green logistics system for agricultural products at present, the transportation forms are not rich, the transportation efficiency is relatively slow, and the no-load situation of agricultural products often exists. The main reason is that the repeated transportation or counter current transportation not only wastes the transportation resources, but also increases the transportation cost.

Backward green logistics technology

(1) The transportation facilities of agricultural products are backward. Although in recent years, the number of agricultural products transportation vehicles is increasing year by year, but the vast majority of them are open top trucks, the number of sealed trucks is not enough, and the number of trucks equipped with refrigeration, refrigeration, insulation and other functions is significantly less. Taking fresh fruits and vegetables as an example, at present, cold chain transportation accounts for only 10%-20% of the total volume. Compared with 80% of developed countries and regions such as the United States and the European Union, the gap is obvious. This will not only aggravate the damage degree of agricultural products, but also cause the problem of secondary pollution.

(2) The fresh-keeping technology of agricultural products and cold chain logistics technology lag behind. The quantity of fresh agricultural products is very large, but its transportation is still in the form of normal temperature logistics, without advanced preservation and refrigeration technology, which has a great impact on the quality assurance of agricultural products.

(3) Lack of high level of mechanization. A lot of agricultural products handling work still uses manpower, which will not only increase the possibility of agricultural products loss, but also reduce the efficiency of logistics. Taking vegetables as an example, from garden to table, the loss rate of vegetables in developed countries is generally controlled below 5%, while the loss rate of vegetables in China will reach 15% - 20%.

(4) The packaging of agricultural products is lack of green. Most of the packaging methods of agricultural products in China are disposable packaging, which can not meet the requirements of the development of green logistics.

Imperfect logistics organization structure

At present, the main mode of production of agricultural products in China is family production, while decentralized mode is the main mode of production and operation. According to the investigation of relevant materials, it can be found that most of the sales and transportation of agricultural products need to be solved by farmers themselves. According to official statistics, 70% The private agricultural products logistics enterprises lack of complete strategic planning. Even if they have made a complete strategic planning, there are not many logistics enterprises that can implement in an orderly manner according to the planning. Their logistics and transportation modes are relatively scattered, lack of sound logistics organizations, more intermediate links, lack of smooth supply and marketing channels, and cannot form an efficient green logistics network for agricultural products, and not choosing the most environmentally friendly and economic route as the design scheme will directly lead to the increase of the logistics cost of agricultural products, unable to form the economic benefits of scale transportation, and seriously hinder the development and progress of green logistics of agricultural products in China.

KEY POINTS OF GREEN LOGISTICS DEVELOPMENT OF AGRICULTURAL PRODUCTS IN CHINA

With the development of agricultural economy and the strengthening of social division of labor, regional logistics network system has developed into an important branch system in the development of regional economy. Building a reasonable logistics network plays an important role in the optimization of the environment, the rational use of resources, and the improvement of the overall efficiency of logistics.

Logistics center node

At present, the main deficiency of regional logistics platform for agricultural products in China is the imbalance between lines and nodes. The development of transportation lines is faster than that of nodes. The important factor restricting the development of logistics system is the node problem, which greatly weakens the coordination and compatibility between logistics facilities [3]p41-45. Each region should accurately position its own agricultural products industry, change the original construction of homogeneous logistics park, show its own advantages and characteristics, and fully integrate the regional characteristics of agricultural products in the construction of logistics park.

Regional planning

According to the logistics planning, China will build a network of modern logistics space, forming an important channel between the eastern coastal logistics and the southeast coastal logistics region. Expand the logistics network of agricultural products, gradually promote the seamless connection between logistics platforms and information platforms, form an integrated logistics information system, strengthen the logistics cooperation and communication between surrounding areas and urban areas, promote the establishment of long-term and stable cooperation between large domestic and foreign logistics enterprises, realize mutual promotion, mutual support, common growth, and promote green logistics of agricultural products developing from "point line" mode to "point line surface" mode [4]p454-457. At the same time, we should increase efforts to cultivate large and excellent logistics operation companies, and establish and improve large commodity trading market.

Logistics channel

The main guarantee of building green logistics of agricultural products is the four-way transportation. In the aspect of building logistics channels, it is necessary to further improve the logistics lines between and within the nodes, eliminate unnecessary charges and checkpoints in the transportation, reduce the possibility of damage to agricultural products in the transportation process, and realize the transportation with low cost, low pollution and high efficiency. It is necessary to gradually improve the transportation network, establish a wide network system, establish a modern logistics service system, improve the transportation efficiency, and maximize the establishment of green technology system for agricultural products.

ON THE MECHANISM OF PROMOTING THE COORDINATED DEVELOPMENT OF AGRICULTURAL PRODUCTS GREEN LOGISTICS AND AGRICULTURAL ECONOMY

Improve the management policy and improve the management mode of modern agricultural products logistics industry

The development of green logistics of agricultural products is not only related to the development of agricultural economy and the needs of people's life, but also can provide transportation guarantee for the national food supply security. Logistics enterprises or individuals alone cannot guarantee the smooth operation of green logistics of agricultural products and meet the needs of macro-control of agricultural economic development [5]p21-25. Therefore, to promote the coordinated development of green logistics of agricultural products and agricultural economy, on the one hand, it is necessary for logistics enterprises and relevant employees to continuously learn new concepts and technologies, strengthen the application of information technology in the process of green logistics of agricultural products, simplify the intermediate links of logistics, and improve the benefits of green logistics of agricultural products; on

the other hand, it is also necessary to give full play to the functions of the government, optimize government services, and To ensure the functions of the management organization, give full play to the guiding role, standardize the management measures of green logistics of agricultural products, and further improve the technical standards and norms of green logistics of agricultural products.

Strengthen the construction of green logistics infrastructure for agricultural products

Perfect infrastructure construction is the necessary condition for economic development, and also the foundation for the rapid development of green logistics industry of agricultural products, especially the infrastructure needed in the production, processing, storage and transportation of agricultural products, such as farmland water conservancy facilities, farmland roads, agricultural product processing workshops, warehouses or refrigerators, perfect transportation network, etc.[Huang, 2015], in addition, network facilities construction is also an indispensable infrastructure for modern agricultural products green logistics, and the Internet of things system relying on the Internet and sensors has gradually become an important part of modern agricultural products production and logistics process; once the infrastructure construction is completed, agricultural products green logistics has a material basis and smooth channels, and with appropriate management mode and other software facilities, it can develop rapidly. As an increasingly important part of modern green logistics of agricultural products, cold chain logistics is facing an important opportunity and rapid development because it can better maintain the quality of agricultural products and the growing demand for fresh agricultural products market. Strengthening the construction of cold chain logistics infrastructure for agricultural products has also become an important part of the construction of green logistics infrastructure for agricultural products. Efforts should be made to build facilities such as cold storage of origin, low-temperature distribution and processing center, refrigerated vehicles, community cold chain cabinets, etc., so as to form a more perfect cold chain transportation infrastructure [7]p172-176.

Improve the informatization level of green logistics of agricultural products

The application of modern information technology can greatly improve the organization and management efficiency and distribution service level of green logistics of agricultural products, realize the docking of supply and demand information of agricultural products and maintain and increase the value. To improve the informatization level of green logistics of agricultural products, first, improve the collection and processing system of agricultural product information, second, improve the circulation link of agricultural product information in the logistics project, build the information sharing platform of agricultural product logistics, third, improve the supervision and query system to fully protect the rights and interests of consumers.

Improve the quality of employees and speed up the training of professional talents

At present, China's agricultural practitioners have not completed the process of technological transformation. Most of the relevant practitioners have low cultural quality and technical level, which obviously does not meet the development requirements of modern agricultural economy and green logistics of agricultural products. Therefore, it is necessary to speed up the cultivation of professional talents and compound talents, absorb and draw on the successful experience of other countries, introduce advanced technology, and combine with China's actual situation To improve the talent training mechanism, on the one hand, through the establishment of a variety of training methods to improve the professional quality of existing practitioners, on the other hand, to provide more opportunities for students engaged in related majors to contact and participate in the front-line work of green logistics of agricultural products, so as to promote the full combination of theoretical and practical abilities of students.

CONCLUSIONS

As an important part of national economy, the healthy and stable development of agricultural economy is not only an important factor to promote the development of national economy, but also a necessary condition to maintain social stability and national food security, and the green logistics of agricultural products plays an important role in promoting the development of agricultural economy. To promote the development of green logistics of agricultural products, we need not only the perfect infrastructure, but also the supporting policies, management methods and talent support; to improve these aspects will also promote the development of agricultural economy.

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REFERENCES

Ding Lifang. Integrated agricultural products logistics mode of agribusiness under cloud logistics environment. China circulation economy, No.6, 2014.

Hu Ying. Logistics efficiency analysis of fresh vegetables, fresh fruits and cold chain based on green supply chain. China Agricultural Resources and division, Vol.36, No.5, 2015.

Huang Youwen. Problems and Countermeasures in the development of green logistics of agricultural products in China. Agricultural economy, No.10, 2015.

Huidong Duan, Research and Exploration on File Standardization of Archival Information System, Journal of Applied Science and Engineering Innovation, 2020, 7(1), 52-55.

Peng Wang, Hongkai Zhao, Zheng Li. Decomposition of Influencing Factors of Carbon Dioxide Emission in Qinghai Transportation Industry, Journal of Applied Science and Engineering Innovation, 2020, 7(1), 25-38.

Ruiqin Hu. Research on the Method of Improving the Scientific Level of Archives Management from the Perspective of Internal Control, Journal of Applied Science and Engineering Innovation, 2019, 6(2), 53-56.

Sun Xi, Yang Weimin. Construction and implementation of green logistics system for agricultural products. Jiangsu agricultural science, No.7, 2014.

Xiao Liang. Research on circulation mode and operation process of green supply chain of agricultural products. Research on technology economy and management, No.11, 2011.

Xu Honglian. Green logistics development of agricultural products in developed countries and its experience. Journal of Central University of Finance and economics, No.12, 2011.

Zhang Weili, Liu Penghu, Luo Xuhui. Development direction and mechanism construction of agricultural product logistics from the perspective of green economy. Journal of Fujian agricultural and Forestry University, No.3, 2015.