Research on the Development of GuangXi Agricultural Product Logistics under the Background of Rural Revitalization

Jinghuan Zhu, Shilong Wang*, Canming Mo, Xiaoming Wang
Guangxi Science & Technology Normal University, Laibin, China

*Corresponding author: wangshilong@gxstnu.edu.cn

Abstract. As a large agricultural country, ensuring the steady development of agriculture is the most important task concerning the national economy and people's livelihood. In the context of rural revitalization, achieving rural prosperity is the primary goal. Agricultural product logistics not only affects the development of rural economy, but also plays a vital role in the development of agriculture. Therefore, this paper takes Guangxi as an example, studies and analyzes the current situation of agricultural product logistics under the background of rural revitalization, puts forward problems such as backward agricultural product logistics infrastructure and complex circulation links, and puts forward corresponding countermeasures and suggestions to strengthen infrastructure construction and reduce circulation links. It is of great significance to improve the logistics development of agricultural products in Guangxi and promote the local economic development.

Keywords: Rural revitalization; agricultural products; logistics.

1. Introduction

The Rural Revitalization Strategy was put forward in the report of the 19th National Congress of the Communist Party of China. The main goal of Rural Revitalization is to improve the importance and participation of farmers in industry, so as to increase farmers’ income and achieve rural prosperity. At present, China is in the primary stage of socialism and will be in the primary stage for a long time. There is still a long way to go before entering the next stage. At present, the main problem is still in the countryside. If we want to achieve a strong socialist country, the most important task is still in the countryside. We should follow the National Rural Revitalization Strategy to realize the basic requirements of China's agricultural modernization, take the construction and development of modern smart agriculture as the main line, promote rural revitalization, and achieve rural sustainable development [1]. At present, the construction of agricultural product logistics still lacks comprehensive planning, which hinders the development of agricultural product logistics to a certain extent. The government should increase investment in agricultural product logistics to help the sustainable development of agricultural product logistics under the background of Rural Revitalization [2]. As one of the main production areas of agricultural products, Guangxi's healthy development of logistics plays a vital role in the best-selling of local agricultural products. Therefore, this paper analyzes the current situation of agricultural product logistics in Guangxi under the background of rural revitalization, and optimizes agricultural product logistics, which can reduce transportation costs, reduce losses in transportation, improve transportation efficiency, improve sales scope, and better develop agriculture. It can be seen that the optimization of agricultural product logistics can promote the sales of agricultural products, bring economy to rural areas, stimulate the development of agriculture, and achieve rural revitalization.

2. Current situation of agricultural product logistics development in Guangxi

The main logistics modes of fresh agricultural products in Guangxi Zhuang Autonomous Region mainly include the following four types: first, direct sales, where farmers directly sell their own fresh agricultural products to consumers in the nearest market. The second is the joint operation type, which connects the output of farmers and the needs of consumers through certain cooperative organizations. While facilitating the flow of products, cooperative organizations can negotiate with farmers in advance about the products to be produced and sign relevant contracts. The third is the industrialized
logistics mode. Local large-scale enterprises engaged in the transportation and processing of fresh agricultural products directly purchase farmers' products or indirectly purchase farmers' products. The fourth is the logistics mode in which farmers directly provide products to supermarkets, that is, supermarkets directly purchase the products of rural cooperatives or scattered farmers for sale [6]. The direct sales mode is mainly based on the stall economy. This mode is characterized by a small number of logistics transportation and a small range. It is the most common mode in Guangxi rural areas. Generally speaking, the scale of joint operation and industrialization logistics mode is relatively large, and the scope of agricultural product transportation is in a larger region and even the whole country. However, farmers directly connect with supermarkets, which is relatively rare because of the extremely unstable supply-demand relationship, which is prone to out of stock or excessive agricultural products.

From the perspective of the basic elements of logistics, in terms of packaging, simple one-time packaging is basically used in the packaging of agricultural products in Guangxi. Although this packaging method is convenient, it can not provide good protection and high value-added for agricultural products, and this one-time packaging is easy to cause pollution to the environment. In terms of transportation, the infrastructure of rural logistics in Guangxi is relatively weak, especially in the poor mountainous areas. At present, the roads have not been hardened, and it is difficult for large-scale transportation vehicles to enter, which restricts the effective development of agricultural product logistics in Guangxi to a certain extent. In terms of warehousing, Guangxi lacks professional agricultural product cold storage warehouses. The early investment in cold storage warehouses is large and the return time is long. The acquirers are unwilling to establish cold storage warehouses for agricultural products. In terms of handling and loading, more people rely on manpower to handle agricultural products, which is not only time-consuming and labor-intensive, increases logistics costs, but also prone to collision and damage agricultural products. In terms of circulation, agricultural products in Guangxi have to go through many intermediaries such as distributors from production to consumption, which is easy to lengthen the transportation time of agricultural products and affect the circulation speed of agricultural products.

3. Problems of agricultural product logistics in Guangxi

3.1 Guangxi’s transportation infrastructure is weak

In the context of the Rural Revitalization Strategy, agricultural product logistics is also constantly improving. The Rural Revitalization Strategy requires that agriculture be given priority to development, and roads must be built first if we want to become rich. Guangxi belongs to the western region, and its economic conditions are far worse than those in the eastern region. Therefore, the density of Guangxi’s transportation network is lower than that in the eastern region. According to the density of expressways, Shanghai ranks first with a density of 1500 km / 10000 square kilometers, followed by Tianjin, Beijing and Guangdong. On the whole, it is closely related to the degree of economic development. Guangxi, as an economically backward region, Transportation infrastructure is still relatively backward. Transportation is the foundation of economic development. Without convenient transportation, even the best agricultural products can hardly be delivered to the place of demand. If we want to speed up the development of agricultural product logistics and transportation, we can’t do without the input of Guangxi government. Due to the problems of rural roads in Guangxi, the rural roads are relatively narrow, and some places have not realized road hardening, which leads to the use of some simple means of transportation to transport agricultural products. At present, in rural areas of Guangxi, relatively low-end means of transportation are still used in places close to the market, such as tricycles. These low-end transportation equipment make the transportation time longer, which is easy to lose money opportunities due to time differences, and it is easy to damage agricultural products and increase logistics costs. If we can increase the investment in the construction of transportation infrastructure, we can make the distance between agricultural products and
consumers closer, and we can speed up the circulation of agricultural products and promote the development of agricultural product logistics.

3.2 Undeveloped cold chain technology

The logistics activities of agricultural products can not be separated from the means of transportation. As the best means of transportation for agricultural products, cold chain vehicles can not only ensure the freshness of agricultural products, but also ensure that the transportation speed will not be too slow. Cold chain transportation can be transported to further places to achieve higher value-added of agricultural products while ensuring the freshness of agricultural products. However, our cold chain technology is not mature enough to meet the current needs of agricultural product logistics transportation [5]. At present, agricultural products in Guangxi are mostly transported by ordinary trucks. On the one hand, enterprises are unwilling to invest a lot of money in cold chain trucks, because ordinary trucks need less investment. On the other hand, enterprises' cold chain technology is not mature enough to ensure the freshness of agricultural products. The rough way of using ordinary trucks to transport agricultural products is easy to cause damage. Compared with developed areas, Guangxi's cold chain transport is still relatively weak, which can not better ensure the quality of agricultural products. Due to the weak cold chain transportation technology, it is easy to occur that the temperature inside the warehouse is easy to increase due to the relatively long distance of closed transportation of the warehouse, which will make the agricultural products inside easy to rot, thus increasing the cost.

3.3 The circulation of agricultural products is complex

At present, the logistics of agricultural products is mainly produced by farmers, then purchased by wholesalers, and then transported to all parts of the country by wholesalers, and finally transferred to consumers. The purpose of this series of logistics activities is to realize the value-added of agricultural products. The seemingly simple circulation links are actually very complex, which makes the efficiency of agricultural product logistics relatively low [3]. Because of the slow speed and many circulation links of agricultural product logistics, it greatly increases the cost of agricultural product logistics and restricts the development of agricultural product logistics in China. According to the current statistics of agricultural product logistics, the loss rate of fruits and vegetables in China is 25% ~ 30%, while that of countries with relatively perfect agricultural product logistics is only 5%, or even lower [4]. It is precisely because of the high logistics cost of agricultural products in China that agricultural products can not be delivered, and many fruits and vegetables can only rot in the ground, resulting in serious waste of agricultural resources. Guangxi's agricultural products are mainly operated by families. The family based business model is characterized by self-sufficiency, small planting scale, no standardized large-scale, small-scale and multi batch transportation of agricultural products, which requires multiple links to integrate agricultural products and seriously increases the logistics cost of agricultural products.

3.4 Shortage of agricultural logistics talents

The logistics industry is developing into a new economic growth point. According to the survey of authoritative institutions, logistics professionals have been listed as one of the talents in short supply in China. Agricultural product logistics talents need to have both logistics and agricultural product knowledge, and such talents are even less. Logistics exists in all walks of life, so logistics needs more talents, but logistics is a relatively low-level status in enterprises, and often can not be really valued. There are few management talents in logistics, and it is difficult to play a leading role in the logistics industry. Often, many college students studying logistics go to big cities with perfect logistics facilities such as Beijing, Shanghai, Guangzhou and Shenzhen after graduation. Few talents can develop in Guangxi, and even fewer are engaged in agricultural product logistics, which limits the development of agricultural product logistics in Guangxi. Guangxi still needs to keep up with the
pace of logistics development, impart advanced agricultural product logistics experience in developed areas, and train agricultural product logistics professionals in combination with Guangxi’s situation.

4. Countermeasures and suggestions for promoting the development of agricultural product logistics in Guangxi

4.1 Strengthen transportation infrastructure

Perfect transportation infrastructure is the basis for the development of logistics and transportation of fruits, vegetables, and meat. Guangxi needs to increase the construction of transportation infrastructure. As the saying goes, if you want to become rich, you must first build roads, constantly build expressways and rural roads between cities, and realize that every village has access roads, and large transport vehicles can enter the village. Transportation facilities directly affect economic development, so the development of agricultural product logistics is not only beneficial to the sales of agricultural products, but also has a positive impact on the transportation environment in rural areas in the development process of agricultural product logistics. Therefore, other industries in rural areas will also benefit from the rapid development of agricultural product logistics, thus promoting the transformation of rural economic structure. Moreover, the development of other rural industries will feed back the construction of agricultural product logistics, which will play a positive role in the development of the overall rural economy.

4.2 Introduce advanced cold chain technology

Cold chain technology has always been a weak place in Guangxi, and it has not been popularized in many areas of Guangxi. During the transportation of agricultural products, the temperature of the warehouse will rise due to the closure, and the agricultural products will easily rot due to the long transportation distance. The cold chain technology can adjust the temperature in the warehouse to ensure that the agricultural products are at a suitable temperature, which has a good protective effect on the agricultural products that need to be refrigerated. The government should actively improve the supervision system of production, processing, packaging, storage and transportation of fresh agricultural products in the whole cold chain circulation, improve the infrastructure capacity in product quality detection, increase investment in relevant aspects of the cold chain system of fresh agricultural products, and research and develop cold chain technology. The developed areas in the East have good cold chain technology. The Guangxi government will give certain subsidies to enterprises that introduce cold chain technology to promote the development of cold chain transportation of agricultural products.

4.3 Reducing the Circulation link of agricultural products

The development time of agricultural product logistics in Guangxi is relatively short, and the research in this area is not yet mature. There is a lot of room for improvement in agricultural product logistics. We can take each city in Guangxi as a unit, connect all prefecture level cities with rural supply and marketing cooperatives, strengthen communication between rural supply and marketing cooperatives, effectively integrate rural logistics resources, create a new direct channel for agricultural products to the maximum extent, and reduce the circulation of agricultural products. Establish a market operation system centered on wholesale and retail, gradually improve the construction of agricultural product logistics management system, establish agricultural product logistics benchmarking enterprises, accelerate the circulation of agricultural products, promote the development of agricultural industrialization structure, and build a diversified and diversified agricultural industrial system. The Guangxi government should actively promote the development and growth of the leading enterprises of fresh agricultural products, and take them as the core to establish an integrated logistics and transportation system linking various rural agricultural products, which can reduce unnecessary links in the circulation of agricultural products, improve the
transportation capacity of fruits, vegetables, meat and other agricultural products, and reduce the financial and material resources spent by enterprises in the transportation process. With the help of leading enterprises and the government, we can penetrate the intermediate links of agricultural product logistics, reduce unnecessary costs in the logistics, accelerate the logistics circulation of agricultural products, and reduce the operational risks of farmers, so as to drive farmers to become rich.

4.4 Cultivate agricultural product logistics talents

As agricultural product logistics personnel, it is equally important to master agricultural professional theoretical knowledge and modern logistics experience. Therefore, Guangxi should pay more attention to the training of agricultural product logistics professionals. At present, there is a shortage of agricultural product logistics talents. Colleges and universities can carry out logistics courses for agricultural products to train more agricultural product logistics professionals. In terms of teaching, teachers master the latest development of agricultural product logistics in real time and impart the latest agricultural product logistics knowledge. In terms of schools, colleges and universities can cooperate with agricultural enterprises to jointly establish relevant practice bases, realize the combination of theory and practice, and cultivate students who can do practical things and have the courage to innovate in agricultural product logistics. At the same time, the local government should cultivate professionals in agricultural product logistics through multiple channels. For farmers with rich experience in agricultural products, the government can set up special training courses in agricultural product logistics, so that farmers can learn some logistics knowledge, improve their overall comprehensive quality, and better complete the circulation of agricultural products by combining their own experience.

5. Concluding remarks

The Rural Revitalization Strategy has provided great development opportunities for China's agricultural development, and has also provided great help for narrowing the income gap between urban and rural areas. As one of the important links of agricultural development, agricultural product logistics still faces many challenges in the development process. For example, the current transportation logistics infrastructure can not meet the growing demand for agricultural product logistics; The cold chain and cold storage technology are not advanced enough, which leads to unnecessary losses during the transportation of agricultural products; The development of agricultural product logistics industry in Guangxi is not proportional to the increasing output of agricultural products in Guangxi. Without good agricultural product logistics conditions, there is no way to deliver agricultural products to consumers. In addition, the logistics of agricultural products has higher requirements on timeliness, and the transportation efficiency is too low, which will lead to the fact that agricultural products are not fresh when they reach consumers. Agricultural product logistics also plays a vital role in agricultural development. Perfect agricultural product logistics can speed up the circulation of agricultural products and promote agricultural development. Therefore, the Guangxi government should attach importance to the development of agricultural product logistics, play a leading role, improve the construction of transportation infrastructure, introduce advanced cold storage and cold chain technology, build special warehouses for agricultural products, strengthen the informatization construction of fresh agricultural product logistics, cultivate professionals in agricultural product logistics, provide power for the development of agricultural product logistics, better promote agricultural development, and drive farmers to become rich. Provide a good policy guarantee for the development of agricultural product logistics from the macro level, and the policy support makes the rural economy and China's agriculture achieve better development. Farmers should actively cooperate with the government, work together to promote agricultural development and promote the development of agricultural product logistics.
Acknowledgements

Funding. This research was funded by the Key Laboratory for the Green and Efficient Production Technology of Sugarcane, Guangxi Science & Technology Normal University (GXKSKYPT2021006); Laibin Talent Project for the Comprehensive Utilisation of Sugar Resources (Laibin Talent Project [2019] No. 12); Youth Scientific Research Innovation Team for the Development and Application of Green and Efficient Technology for Sugarcane Resources (GXKS2020QNTD01); Laibin Scientific Research and Technology Development Program (Lai Ke Zhuan 202413).

References