

An Analysis of the Public Finance Countermeasures for the Development of Ecological Circular Agriculture in Heilongjiang Province

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ABSTRACT. Heilongjiang Province is a major agricultural province and grain production base in China. Ecological circular agriculture is a new agricultural development model, which is of great significance for improving the ecological environment, the efficiency of resource use and farmers' income. The development of ecological circular agriculture is inseparable from public finance support. Therefore, combined with the problems existing in the development of ecological circular agriculture, the paper will explore the public finance support for the development of ecological circular agriculture in order to promote the development of ecological circular agriculture in Heilongjiang Province.

KEYWORDS: Ecological circular agriculture, Public finance, Financial institutions

1. Introduction

With the economic development and the improvement of living standards, residents are paying more and more attention to the consumption of green and environmentally friendly food, and the grain supply structure faces a disconnection from the market demand structure. Heilongjiang is China's major agricultural province and grain production base. It has large areas of cultivated land and excellent resource conditions. Due to the low resource utilization efficiency of traditional agriculture and the weak ecological awareness, problems such as low resource allocation efficiency and environmental pollution have emerged in the process of agricultural development. Ecological recycling agriculture is an important way to solve the agricultural economic problems. It is a new agricultural development model to take resource recycling as a way and focus on environmental protection and resource conservation. Ecological circular agriculture can solve the

problems of low efficiency of agricultural resources utilization, ecological destruction, and low income of farmers, and achieve economic, social, and environmental benefits. Therefore, the development of circular agriculture is of great significance. The government should take some strong public finance measures to promote its development.

2. The significance of developing ecological circular agriculture in Heilongjiang Province

2.1 The development of ecological recycling agriculture will help improve the efficiency of resource use

Regarding the use of agricultural resources, Eco-cycle agricultural production attaches great importance to the efficiency of resource use to reduce the input of resources from the aspects of water saving, energy saving, land saving and labor saving. In particular, it is necessary to control water resources use in consideration that agriculture itself is a high water consumption industry. Rice is one of the main crops produced in Heilongjiang Province. The water consumption of rice crops is higher than other crops. Under irrigation and other methods, reducing agricultural water consumption can better achieve the efficient use of agricultural water resources. In addition, based on enzyme engineering and cell engineering, with the comprehensive utilization of genetic engineering to develop "white agriculture", water, soil and resource recycling can be achieved. It can be seen that ecological circular agriculture has realized the full and reasonable use of resources, which helps to improve the efficiency of resource use.

2.2 The development of ecological circular agriculture is conducive to improving the ecological environment

Ecological recycling agriculture can implement the comprehensive utilization of the waste accumulated in the process of agricultural production, which helps to improve the ecological environment. For example, burning straw will affect air quality and cause environmental pollution, so straw reuse will help improve the environment and achieve resource reuse. Heilongjiang is a major agricultural province in China, and the annual straw output is among the highest in the country. Through the reuse of straw, the rich nutrients in crop straws, such as nitrogen, phosphorus, potassium, calcium, magnesium, etc., are returned to the soil through the straw, returning the soil to improve the fertility of the soil and reduce the use of chemical fertilizers. The biogas produced by straw energy use has a much higher heat energy utilization rate than the heat energy obtained by directly burning straw, which can reduce the environmental pollution caused by burning straw and increase resource utilization.

In addition, the resource utilization of livestock and poultry manure has solved the pollutants and pollutants in rural fields, which is conducive to the coordinated

development of the rural economy and environment. Anaerobic fermentation of livestock and poultry manure produces biogas energy that can meet the needs of agricultural production and life, and biogas slurry and biogas residue will become a good fertilizer and feed. It is an important guarantee for the sustainable development of agriculture. The wastes of livestock and poultry are processed through certain technologies to achieve resource utilization and recycling between planting and breeding industries.

2.3 The development of ecological circular agriculture helps to increase farmers' income

Ecological circular agriculture can extend the agricultural industry chain and produce green agricultural products, thereby increasing farmers' income. Heilongjiang Province is one of the important rice production areas in China. In Wuchang City, Suibin County and other regions, the model of raising ducks in paddy fields has been implemented. The ducks are raised in paddy fields. Ducks can also eat insects on the leaves, reducing pesticides use. In addition, the selling price of green rice and ducks produced by the duck farming model in rice fields is higher than that of ordinary rice and ducks, which is conducive to increase farmers' income, extend the industrial chain and expand the industrialization space. The expansion of agricultural space is the entry point for the development of ecological circular agriculture and the source of farmers' income.

3. Problems in the development of ecological circular agriculture in Heilongjiang Province

3.1 The total amount of investment in ecological circular agriculture is insufficient

Agricultural funds mainly come from public finance funds. In the process of promoting ecological circular agriculture, public finance funds for supporting agriculture are insufficient. For example, agricultural infrastructure is the foundation for the development of ecological circular agriculture. The productive infrastructure and environmental infrastructure in Heilongjiang Province are obviously in an unbalanced state. The living infrastructure cannot meet the needs of the population. The lack of infrastructure supply is affecting the ability of gathering resources. Because infrastructure has the characteristics of public goods, general enterprises and individuals are reluctant to provide it. Government should provide it as the mainstay, supplemented by market regulation. It is necessary to coordinate the construction of infrastructure in various regions and departments as a whole. Insufficient government investment has weakened the role of public finance in supporting agriculture, and it is difficult to promote the healthy development of ecological circular agriculture.

3.2 The proportion of agricultural science and technology expenditure is low

In the process of developing ecological agriculture, the scientific and technological reserves of green and cyclic development are weak, and supporting technologies for ecological agriculture are not sufficient. The scientific and technological support for ecological circular agriculture is not strong. The proportion of agricultural science and technology expenditure is relatively low, and the source of funds is narrow, resulting in insufficient research and development of circular agricultural technology, which affects scientific and technological innovation, and restricts the development of ecological circular agriculture.

3.3 The public finance policy is not strong in guiding the development of ecological circular agriculture

Reasonable policies can effectively compensate for market failures, thereby promoting the effective allocation of resources. They are mandatory and effective compared to moral constraints, which affects the construction of ecological circular agriculture and environmental protection to varying degrees. At present, public finance policy is not very oriented to the development of ecological circular agriculture. For example, public finance subsidies are an important means of protecting agricultural development. The government generally provides subsidies in the production (investment) link to directly mobilize the enthusiasm of production (investment) units and improve their production and investment conditions. More policy measures such as investment subsidies, tax reductions and exemptions, and public finance discounts should be adopted, for example, price subsidies for agricultural and sideline products and agricultural production materials. However, although these subsidies have protected the development of agriculture to a certain extent, they have neglected environmental protection and other issues, and are not very guiding for the development of ecological circular agriculture.

4. Public financial countermeasures to support the development of ecological circular agriculture in Heilongjiang Province

4.1 Increase investment from government and financial institutions

Agriculture is a process in which natural reproduction and economic reproduction are intertwined. In addition to facing market risks, it also faces natural risks. The agricultural product market is a typical divergent spider web market. Its demand elasticity is small, while supply elasticity is relatively large. Moreover, ecological circular agriculture has a strong externality. All of these determine that the production and development of agriculture cannot be completely regulated by the market, but need to be regulated by the government. On the one hand, it is necessary to give full play to the government's leading role in the development of ecological circular agriculture and effectively solve the problem of agricultural investment. To ensure the continuous expansion of the absolute scale and relative

scale of agricultural expenditures, and to ensure a certain growth rate, in particular, the funds should be inclined to ecological circular agriculture to promote the development of agricultural ecological circular economy. On the other hand, the development of ecological circular agriculture in the province is inseparable from the support of bank funds. But because of the existence of interest payments, borrowing comes at a cost. In the case of low return on agricultural investment, financial institutions are unlikely to invest large amounts of capital in the agricultural sector. Therefore, the government should grant certain financial subsidies to financial institutions' ecological circular agricultural loans, and use agricultural subsidies to guide rural financial support function of the institution. Reform of the financial system should be carried out, and financial funds are tilted towards ecological circular agriculture to meet the funding needs of ecological circular agriculture.

4.2 Adjust the public finance investment structure

The government should increase the proportion of investment in agricultural infrastructure, implement property rights reform, and improve and upgrade the construction of agricultural infrastructure through multi-direction and multi-channel financing, such as issuing government bonds, guiding private investment of enterprises, and adopting build-operate-transfer (BOT), transfer-operate-transfer (TOT) and other cooperation methods between the government and enterprises. Accelerate the construction of water conservancy infrastructure, and do a good job of supporting construction and management of water conservancy facilities based on the actual shortage of water resources. Pay attention to the construction and maintenance of the quality of rural transportation facilities; increase the construction of product warehousing and agricultural product distribution infrastructure; lay a solid foundation for the development of the logistics industry; strengthen the construction of a network information platform to achieve tracking; control and management of all aspects of logistics; strengthen green logistics relevant infrastructure construction to reduce environmental pollution.

The government should increase the proportion of investment in scientific research and continuously improve its ability to innovate. The collection and utilization of rain water resources, ice and snow resources, the development and use of new energy, and the collection of garbage in underground pipeline networks are all inseparable from technical support. Therefore, the government should rely on urban scientific and technological resources, focus on production cooperation and exchanges, build a public participation R & D platform for the whole society, and carry out ecological cycle technology innovation. Increase the proportion of capital investment in agricultural innovation and technology. Increase the investment in scientific research infrastructure, experimental bases, equipment and other resources to provide good scientific research conditions for agricultural innovation. It is also necessary to increase the investment of special funds to support the development of new products. Improve the operational efficiency of invested capital and make better use of scientific and technological investment funds for technological innovation.

Strengthen the integration of agricultural production and technological innovation, and pay attention to the transformation of agricultural scientific research.

4.3 Strengthen policy regulation

Establish an environmental protection benefit sharing and benefit compensation mechanism to internalize the external effects of the ecological environment. Carry out reform of the investment system, establish a clear interest mechanism, establish a system of paid use of resources, realize the paid use of resources, assign different prices to different resources, and use price factors to carry out effective protection of the environment.

Implement a green economic system, integrate natural resources and ecological environment into the performance evaluation of economic behavior in the green economic system, and realize the effective allocation of ecological resources in the economic field of production and exchange through green production and other green constraint systems. Green public finance as one of the incentive systems not only provides institutional guarantee for resource utilization and environmental protection, but also promotes environmental awareness. Through the interaction of incentives and constraints, the healthy development of ecological circular agriculture will be achieved.

5. Conclusion

If ecological circular agriculture realizes the full and reasonable use of resources, it will help to improve the efficiency of resource use in Heilongjiang province. It can also reduce environmental pollution and improve the ecological environment. Through the extension of the industrial chain and the production of green agricultural products, the income of farmers can be increased. Therefore, the development of ecological circular agriculture should be accelerated. Problems in the development of ecological recycling agriculture are also obvious, such as insufficient investment in ecological recycling agriculture, unbalanced supply and demand of funds, the low proportion of agricultural science and technology expenditure which affects scientific and technological innovation. The guiding role of public financial policies in the development of ecological recycling agriculture is not strong, and thus fails to provide institutional guarantee. Therefore, exploring the public financial support for the development of ecological circular agriculture will help promote the development of ecological circular agriculture. First, increase the investment from government and financial institutions; give play to the government's leading role in the development of ecological circular agriculture; strengthen the function of rural financial institutions to support agriculture; tilt financial funds to ecological circular agriculture; provide economic guarantee for ecological circular agriculture. Second, adjust the public finance investment structure and increase the proportion of agricultural infrastructure and scientific research investment. Finally, strengthen policy regulation and provide institutional protection through incentives and constraints.

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