

Research on Rural Industrial Convergence Based on Industrial Chain Development

Ying Bai^{1,*}, Jinpeng Jiao²

¹School of Economics, Harbin University of Commerce, Heilongjiang, Haerbin150028, China

²MBA, MPA Center, Northeast Forestry University, Harbin University of Commerce, Heilongjiang, Haerbin150028, China

* Corresponding author. Email:626561321@qq.com

ABSTRACT

My country is a large agricultural country. Under the requirements of the modern development of socialist agriculture, promoting the integrated development of rural industries is an important measure to promote the rapid development of the agricultural economy. This paper studies the integration of rural industries based on the development of the industrial chain, analyzes the current status and problems of the development of the integration of rural industries in my country, and under the conditions of the establishment of the industrial chain, through the establishment of the industrial chain, by increasing the added value of products, increasing employment, accelerating resource utilization, and reducing transactions Expenses play a driving role in the integration of rural industries. Finally, suggestions on improving the interest linkage mechanism, building a characteristic industrial chain according to local conditions, and government guidance are proposed to promote the integrated development of rural industries, provide reference for the development of rural industrial integration, and promote the development of rural industrial integration modernization.

Keywords: Rural industrial, integration industrial chain, agricultural industrialization

1. INTRODUCTION

Since the reform and opening up, farmers in our country have gradually got rid of poverty and realized income growth, but at the same time, it has been accompanied by the problem of increasing urban-rural income gap year by year. Agricultural economic development has entered a transitional period, and more scientific and effective development of agriculture is an important part of my country's modernization. At present, the development of agricultural modernization in our country is stagnant. Farmers are facing the dual dilemma of rising costs and continuing downward pressure on prices. At the same time, they are facing the destruction and abandonment of resources, which limits farmers' income and further widens the income gap between urban and rural areas.

Beginning in 2015, the Central Document No. 1 put forward the concept of rural industry integration. The country pays more attention to the development of modern agriculture, and the development of rural industry integration has entered a more specific, scientific and diversified research. New models and new forms of business have also emerged in the development of rural industries in my country, which have effectively promoted the increase of farmers' income. At this stage, the integrated development of rural industries has become an inevitable trend in the development of agricultural modernization. The integration of rural industries is: based on agriculture, through the aggregation, penetration and diffusion of production factors to different industries,

industrial linkages, etc., the optimal allocation of resources between different industries is realized, so that agriculture and processing industries, sales, cultural tourism, etc.[1]. Carrying out integrated development, realizing the joint interaction of the first, second and third industries, and the agricultural industry chain continues to extend outward. Rural industrial integration has now generally developed into four models, namely, the industrial chain model, the industrial cluster model, the function expansion model, and the circular economy model [2]. Su Yiqing [3] summarized the entire development process of industrial integration, including: industrial commons as a prerequisite for development, using a common technological foundation; innovative technologies and deregulation as prerequisites for industrial integration to stimulate mutual penetration between industries Under the prerequisites, the embryonic form of product and business integration is born; the final manifestation of industrial integration is the development of new models, new formats and new technologies. From the perspective of transaction costs, Li Zhi et al. [4] believe that transaction costs should be the core in the process of rural industrial integration, and promote rural industrial integration by saving transaction costs. From the perspective of rural revitalization strategy, Wang Gongli [5] believes that a scientifically planned industrial system, an ecologically protected production system, a diversified management system should be established, and the supply-side structural reform of the agricultural industry should be deepened. Based on the analysis and experience summary of Japan's "sixth industry" strategy, Zhu Wenbo et al. [6] found that agriculture and its affiliated companies

accounted for a continuous decline in the proportion of GDP, a U-shaped change in the associated manufacturing process, and an increase in the associated circulation industry. To the first place, the accommodation and catering industry has risen, so agriculture and its related enterprises should be developed with the circulation industry as the core. Xiao Weidong et al. [7] conducted an in-depth analysis of the connotation, status quo and development path of rural industrial integration, emphasizing the need to build a diversified development system for rural industrial integration, build multi-mode integration, improve interest linkage mechanisms, and exert government functions. Tian Zhenping [8] proposed the evolutionary mechanism of innovation-driven promotion of rural industrial integration, which is divided into three stages: the embryonic stage, the innovation of technology and the main body provides endogenous power; the development stage, the innovation of market and system provides external power; At the mature stage, the innovation-driven portfolio achieves sustainable development. Chen Shengwei et al. [9] used the entropy method and TOPSIS method to analyze agricultural industry chain index, multi-functionality index, and rural economic prosperity index, taking Shandong Province as an example, and found that rural industrial integration has achieved initial results. Under the conditions of the new era, rural industrial integration still faces many problems. Insufficient integration capabilities, weakened agricultural foundation status, and insufficient agricultural social division of labor restrict the development of rural industrial integration. [10]. Starting from the perspective of the agricultural industry chain, this article combines the current problems facing rural industrial integration, and puts forward feasible suggestions for the development of rural industrial integration.

2. THE CURRENT STATUS OF RURAL INDUSTRIAL INTEGRATION DEVELOPMENT

2.1. Coexistence of Multiple Integrated Development Models

From the perspective of the agricultural industry chain, there are currently five types of industrial integration development models. (1) Agro-products production-processing-sales type or "front store and back market" type; (2) Expansion of production, supply and marketing, often dominated by leading enterprises, compared with the first model, it has expanded to the financial industry, catering industry and other industries (3) Leisure experience. This model often relies on the local characteristics of natural landscapes and human culture to

form a characteristic new countryside integrating culture, tourism, leisure and health; (4) Direct selling of agricultural products. With the rapid development of self-media and the Internet, farmers directly sell agricultural products through online platforms or live broadcasts; (5) The integration of industry and city, through the formation of agricultural industrial clusters and development of agriculture through characteristic towns and industrial parks.

2.2. Regional Governments Help Rural Industry Integration

Since the central government's No. 1 document proposed industrial integration in 2015, various regional governments in my country have taken a series of measures to promote the development of rural industrial integration. In terms of scientific research and innovation, local governments have launched various agricultural science and technology innovation competitions, linking enterprises and college professional technicians to carry out project research. In terms of capital investment, local governments have allocated a large amount of funds and subsidized the development of agriculture. my country has the following plans for the integrated development of the agricultural industry in 2020-2025.

In Table 1, it can be seen from the table that the Chinese government attaches great importance to the development of my country's agricultural industry and further scientific plans for the extension and expansion of the agricultural product industry chain

3. INTEGRATION AND DEVELOPMENT OF RURAL INDUSTRIES

3.1. The Overall Degree of Rural Industrial Integration is Low

The integration of the agricultural industry is now in its infancy, the level of integration is not high, and there is a certain degree of chaos, lacking scientific management. One is the lack of linkage of interests, and the order mechanism is the dominant one. For most regions, the order-based cooperation method is still mainly adopted, and the share of shares and dividends is relatively low. At the same time, there is a risk of high default rate in order-based agriculture. Second, the integration of rural industries lacks scientific planning, especially for the serious homogeneity, poor sustainability, and lack of its own characteristics in the integration of agriculture and cultural tourism. For example, Longtou Village was not driven by industry, and eventually declined.

Table 1 National rural industry development plan

index	2019	2025	Average annual growth
The ratio of agricultural product processing industry to total agricultural output value	2.3:1	2.8:1	[0.5]
Agricultural product processing conversion rate	67.5	80	12.5
Agricultural product network sales(Billion)	4000	10000	16.5%
Returning home to start a business drives employment (Million)	3400	6000	10%
Annual operating income of leisure agriculture(Billion)	8500	12000	5.9%

Data source: Ministry of Agriculture and Rural Affairs

3.2. Factors of Production Restrict Industrial Integration

The constraints of production factors are mainly reflected in the constraints of land, capital, and manpower. On the one hand, the original family management of the land leads to differences in soil conditions and land topography and hinders large-scale planting. On the other hand, the land use is subject to the jurisdiction of the local government, which prevents many projects from being implemented. Currently, rural financial loan services are few and the amount is low, collateral assets are scarce, and financing difficulties are prominent. The massive outflow of rural labor has become a trend, while the inflow of talents is minimal, creating a vicious circle.

3.3 Insufficient Driving Ability of the Main Body

Business entities often play a leading role in industrial integration. In the process of rural industry integration, there are a large number of family farms and cooperatives as the main operating methods, lacking the support of capital, technology, and talent elements to extend the industrial chain, and it is difficult to further upgrade . While building the industrial chain, the construction of the value chain was slow and the number of brands created was small, which mainly played a role in reducing transaction costs without increasing the added value of products.

4. ANALYSIS OF THE DRIVING EFFECT OF THE INDUSTRIAL CHAIN ON THE INTEGRATION OF RURAL INDUSTRIES

4.1. Promote the Upgrade of the Front and Back Ends of the Agricultural Industry Value Chain, and Increase the Added Value of Agricultural Products

The development of the industrial chain has made up for the gap in the front end of the agricultural industry value chain. For the front end of the industry chain, the increase in added value stems from product research and development, natural resource development, and regional culture excavation, but small-scale family farming and cooperatives are difficult to achieve. Once the industrial chain is established through cooperation or shareholding and under the condition of maintaining a long-term contractual relationship, driven by long-term benefits, the capital, technology, and talents of leading enterprises or scientific research institutions will invest in the front end of the industrial chain to improve The added value of agricultural products will increase the income of the entire industry chain.

The development of the industrial chain has promoted the upgrading of the back end of the agricultural industry value chain. The back end of the industrial chain is mainly integrated with the tertiary industry, and the scope is wider. The back end of the industrial chain involves the integration of tertiary industries such as packaging, design, publicity, and services, which enable agricultural products to have unique labels, differentiate them, enhance market competitiveness, and increase added value.

4.2. Increase Employment and Slow Down the Rate of Labor Loss

The fundamental reason for the massive outflow of the rural labor force in my country is low income and poor

infrastructure conditions. Faced with the huge shortage of rural talents, it cannot be changed in the short term, and the effect of talent introduction is minimal. Under the condition of constructing the industrial chain, the effect achieved is the decline of knowledge and technology of talents, not the decline of talents. For the scarcity of talents in the agricultural industry, one should not blindly focus on "people", but on "knowledge and technology". on. Retain the local population through the spillover effects of knowledge and technology, and use the economic development of local industries to attract the migrants to their hometowns. The industry chain includes primary, secondary, and tertiary industries from the front end to the end. The positions can basically meet the employment needs. Participate in job competition according to their actual conditions, subverting the status quo that returnees can only engage in planting.

4.3. Speed up Resource Utilization and Reduce Transaction Costs

First of all, agricultural production is seasonally affected and there is an idle period, and idle resources can be applied to the links represented by the secondary and tertiary industries in the industrial chain, so that resources can be continuously used. Secondly, the development of the industrial chain has transformed the division of labor between industries into the internal division of labor in the industry, reducing transaction costs in the process of product circulation. The transfer of original products from production to consumers requires multiple divisions of labor, resulting in information asymmetry between consumers and farmers. Industrial integration shortens the circulation path of products, promotes the development trend of integration of supply and demand, and greatly reduces transaction costs.

5. THE PATH TO PROMOTE THE INTEGRATED DEVELOPMENT OF RURAL INDUSTRIES

5.1. Improve the Benefit Linkage Mechanism

Closely linking agriculture with the secondary and tertiary industries through the benefit linkage mechanism should lead different stakeholders to form a relationship of mutual supervision, mutual incentives, mutual benefit and risk sharing, and form a stable industrial integration development link. Encourage farmers to participate more in the investment and operation of the industry, and achieve a new pattern of industrial cooperation, complementary advantages, and network linkage. Ensuring that farmers have the right to profit, decision-making and management rights is to make the interest linkage mechanism more standardized and legalized, and to

protect the legitimate rights and interests of farmers and avoid being marginalized.

5.2. Adjust Measures to Local Conditions and Rely on Regional Advantages to Build a Characteristic Industrial Chain

The core advantage of industrial integration development to achieve long-term effective development is to form differentiated industrial categories and avoid homogeneity. It is necessary to fully rely on regional conditions to conduct internship inspections, including soil conditions, climate, ecological environment, humanities and culture, etc., to build a characteristic industrial chain in accordance with local conditions. Pay attention to agricultural technology innovation and product innovation, and incorporate scientific and cultural elements into products.

5.3. The Government will Play a Leading Role and Do a Good Job in Industrial Planning and Policy Guidance

The local government is the dominant party in grasping rural information. It should guide farmers to explore more development and business models based on the local resource endowment, regional culture, and labor structure, and make industrial planning and industrial layout to give full play to local advantages. The government plays a leading role. On the one hand, it effectively communicates with farmers. On the other hand, it actively attracts investment to promote the integration of agriculture and other industries, and uses other industries to promote the development of agriculture to achieve the purpose of extending the industrial chain. With the frequent transactions and the increase of cross-industry cooperation, the government should keep pace with the times to create a good business environment and provide sound legal guarantees to avoid transaction chaos.

ACKNOWLEDGMENT

This work was supported by Postdoctoral Research Fund Project of Heilongjiang Province (LBH-Z18012)

REFERENCES

- [1] Lu Yanwei, Liu Yang, Research on the Path to Promote the Integration of Primary, Secondary and Tertiary Industries in Rural Areas[J]. Contemporary Economic Management, 2017(10) 38-43
- [2] Lu Qianwen, Jiang Changyun, Analysis and thinking on promoting the integrated development of primary, secondary and tertiary industries in rural areas-

based on a survey of Yichang City, Hubei Province [J]. Jianghuai Forum, 2016(1) 12-16.

[3] Su Yiqing, You Yuting, etc., The integrated development of primary, secondary and tertiary industries in rural areas: rational discussion, current situation analysis and countermeasures[J] Strategy and Decision, 2016(8) 17-22.

[4] Li Zhi, Wang Dongyang, Research on the integration and development of rural primary, secondary and tertiary industries from the perspective of transaction costs [J], Zhongzhou Academic Journal, 2017(09) 54-59.

[5] Wang Gongli, Analysis of the integration and development of the three rural industries from the perspective of rural revitalization strategy[J]. Journal of Hebei University (Philosophy and Social Sciences Edition), 2018(6) 118-127.

[6] Zhu Wenbo, Chen Yongfu, etc, Discussion on the development path of rural revitalization and the integration of rural primary, secondary and tertiary industries based on the evolution law of agriculture and its related industries [J]. Exploration of Economic Issues, 2018 (08) 171-181

[7] Xiao Weidong, Du Zhixiong, The integration of primary, secondary and tertiary industries in rural areas: connotation, development status and future ideas[J]. Northwest A&F University (Social Science Edition), 2019(06) 120-129

[8] Tian Zhenping, Xie Yincheng, Research on the Evolution Mechanism of my country's Rural Industrial Convergence Driven by Innovation[J]. Changbai Journal, 2020(03) 104-111.

[9] Chen Shengwei, Feng Ye, Research on the Comprehensive Evaluation of Rural Three-industry Integration Development Based on Entropy Method and TOPSIS Method-Taking Shandong Province as an Example [J]. Dongyue Lun Cong, 2020(05) 78-86.

[10] Gou Xingchao, Yang Jirui, The predicament and way out of the integration and development of rural industries—Based on the structural theory perspective of "theoretical mutual penetration[J]. Changbai Academic Journal, 2020(03) 96-103.