

Challenges and Enhancement Pathways in County-Level Rural Industry Revitalization: Insights from Ningyang

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Abstract

The development status and development mode of rural industry have been widely concerned by all sectors of the country. Through investigation, it is found that the development of rural industry cannot be achieved without the participation of the party committee, government, enterprises, village collectives, and farmers. Starting from the theory of collaborative governance, this paper takes the rural industry as the main research object and conducts an in-depth exploration of the industrial model, management, radiation, and planning. Through practical case research, three improvement paths are formulated according to the difficulties of industrial development, including collaborative governance mechanism, talent cultivation mechanism, and industrial development mechanism. The focus is on the participation degree of farmers and the distribution of farmers' interests, so that the rural revitalization results can truly benefit farmers and lead them.

Keywords

Rural Industry, Collaborative Governance, Rural Revitalization

1. Introduction

1.1. Background of the Study

The disparity between the growth of cities and villages has widened significantly, driven by the rapid advancement of China's urbanization process and the market-oriented economy. The rural development sector is confronted with significant

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challenges. The main contradiction in Chinese society has shifted, as reported by the 19th CPC National Congress. The “three rural” issue is a prominent example of China’s uneven and inadequate development, and resolving the issue will be essential to China’s future progress. The long-awaited Central No. 1 document, jointly presented by the State Council and the CPC Central Committee on February 21, 2021, clearly indicates that China must comprehensively develop its rural areas. The paper makes it abundantly evident that China must accelerate the modernization of rural regions and agriculture as the primary goal. It also needs to fully expand the promotion of rural revitalization strategies to realize the ambitious vision of prosperous farmers, a beautiful countryside, and a robust agricultural sector. From the policy call to the active practice of the provinces and cities, the following breakthrough issues are committed to in order to support the revitalization of the countryside: organizations that provide guidance, cultivate local industry characteristics, the formation of a rural industrial chain, the convergence of rural industrial brand influence, and these issues that lie behind the focus on the mode of exploration for the rural industry.

Known as “the national agriculture in Shandong”, Shandong Province is a significant agricultural region in China. As a leading agricultural industrialization development, the Shandong provincial governments at all levels conscientiously implement the spirit of the CPC Central Committee. They grasp the general requirements of National Document No. 1, adhere to the five development concepts, with the revitalization of industry as the theme, and focus on the development of rural industries to create a foundation of support for the rural economy’s development. The emphasis is on the high-quality development of rural industries. As a key component of the “five revitalization” strategy, industrial revitalization holds a crucial position. “Industrial prosperity” serves as a general requirement for industrial revitalization and acts as a benchmark to assess the extent of its implementation. The specific characteristics of industrial prosperity are manifested in the diversity of industrial structure, the integration of industrial resources, and the modernization of the industrial system. These aspects are frequently reflected in the extent of penetration and interweaving, integration and promotion among various economic entities in rural areas, and are the outcomes of the synergistic development of multiple subjects.

1.2. Literature Review

Rural industrial development is a crucial measure to advance the strategy of rural revitalization and serves as a significant starting point for addressing China’s “three rural” issues. Scholars at home and abroad have conducted extensive research on industrial development. The author will focus on analyzing and evaluating rural industrial models from two dimensions.

First of all, scholars in China have a diversified perspective on the concept of the rural industrial model. The academic perspective defines the rural industrial model as an industrial system and business model characterized by regional

features and ecological sustainability in rural areas. It is based on agriculture and achieved through industrial integration. From an economic perspective, the rural industrial model is considered a combination of economic activities that enhance the added value of agriculture and the income of farmers through the optimal allocation of resources and the effective integration of agricultural production, processing, marketing, and services. The social perspective emphasizes the role of the rural industrial model in promoting changes in rural social structure, enhancing farmers' quality of life, and improving community cohesion. Scholar Liu Zhibiao (2024) [1] believes that the rural industrial model should prioritize the modernization of the agricultural industry chain. He asserts that the profound integration of technological innovation and industrial upgrading is crucial for enhancing the overall competitiveness of agriculture. In her study, Qin Junli (2019) [2] emphasized that the rural industrial model should leverage the resource advantages of rural areas, develop green, low-carbon, and environmentally friendly industries, and achieve a balance between economic development and ecological protection. Scholar Zhang Xingfa (2021) [3] proposed that the rural industry model should prioritize the central role of farmers and improve farmers' level of organization and market competitiveness. The rural industry model in China has been continuously enriched and innovated through specific practical experiences. Scholar Lian Yifan (2024) [4] uses the idyllic complex in Yunnan Province as an example. This complex emphasizes ecological priority and industrial integration by integrating natural ecology, Na xi culture, and idyllic culture into a tourist resort. The goal is to achieve diversified development in the agricultural industry. Scholar Li Meijie (2022) [5] uses the integration of the tea industry and tourism industry in Mei tan County as a typical example. Li advocates leveraging complementary advantages, emphasizing four development modes: integration of resources, technologies, markets, and functions. Li also advocates for green transformation and digital enhancement to achieve industry integration. Western scholars began to focus on rural development at the beginning of the 20th century and developed various theories on the subject. Representative theories include rural industrialization theory, rural integrated development theory, and rural sustainable development theory. Four foreign rural development models have significantly influenced China's rural revitalization strategy. These models are the American "rural improvement" model, the German "village renewal" model, the Dutch "agricultural land consolidation" model, and the Japanese "rural development" model. In the United States, research on agricultural industrialization began in 1957, and Harvard University scholar John H. Davis introduced the concept of "agricultural integration" in his book "A Concept of Agribusiness". Foreign scholars have conducted numerous case studies on rural industrial models, examining the development trends and current situation of rural areas in developed and developing countries. They have introduced various diversified rural industrial models, including rural tourism, specialty agriculture, and rural industry.

Secondly, the evaluation of rural industrial models involves a wide range of diverse evaluation methods. First, qualitative evaluation is primarily based on two methods: descriptive analysis and case study. Scholar Yang Gaosheng (2023) [6], in his research, through the description and summary of the characteristics and benefits of the rural industrial model, showed that the traditional exogenous development model is poorly sustainable, and an effective endogenous sustainable development path is more helpful to achieve sustainable income for farmers. Secondly, quantitative evaluation is based on two methods: statistical analysis and economic model construction. The former emphasizes the use of statistical methods to quantitatively analyze the indicators of the rural industrial model, while the latter assesses the economic benefits of the rural industrial development model by constructing an economic model. Thirdly, a commonly used method for comprehensive evaluation is the hierarchical analysis method [7], which is used to construct hierarchical models for the rural industrial model to carry out a comprehensive evaluation. Additionally, the fuzzy comprehensive evaluation method is employed to consider the uncertainty of the evaluation factors and conduct a fuzzy evaluation of the rural industrial model. Compared with the evaluation system researched by domestic scholars, the foreign evaluation system includes economic benefits, social benefits, environmental benefits, and cultural benefits. It is implemented through two main methods: qualitative evaluation and quantitative evaluation. American scholars focus on the protection and inheritance of resources, industrial innovation, and development in their evaluation. Germany's rural eco-agriculture emphasizes sustainable development and improving the efficiency of agriculture. They aim to enhance the sustainability of agriculture through various means, including establishing eco-agriculture standards, product identification, and technological innovation. Japan's evaluation of the rural industrial model centers on the synergistic effects between industries. From the industrial chain, industrial integration, regional cooperation, and other aspects, the evaluation system is formed to promote the diversified development of the industry.

2. Theoretical Analysis and Research Hypothesis

Collaborative governance theory is an important new concept in the field of public management. It emphasizes a governance approach involving the government, market, society, and other stakeholders. This theory emerged in the 1980s and notable figures associated with it include American political scientists Richard Box and James S. Coleman, as well as British political scientist Robert Rhodes. Collaborative governance refers to the coordination and cooperation among multiple entities, interdependence, joint action, and risk-sharing to establish a rational and orderly governance framework and achieve the maximization of shared interests. The collaborative governance model consists of five key aspects: initial conditions, leadership, institutional design, the collaborative governance process, and policy outcomes. These aspects are closely interlinked and interconnected to

form a cycle, as illustrated in **Figure 1**. Through the establishment of initial conditions, effective leadership, and institutional design, the synergistic governance process is facilitated to create a virtuous circle, thereby aiding in enhancing both policy formulation and implementation.

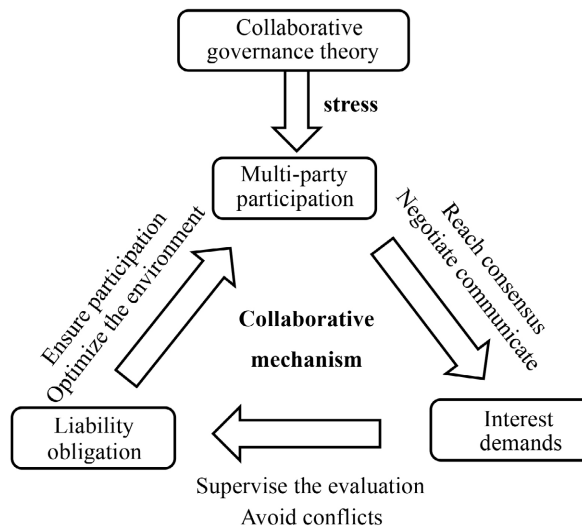


Figure 1. Mechanisms for realizing the theory of collaborative governance.

As a new approach to social governance, collaboration is at the heart of the theory. It is based on creating multi-stakeholder collaborative mechanisms to ensure the sustainability of social development, guided by the principle of sustainable development. Different stakeholders are involved in the process of initiating events through collaboration, ensuring that the interests and responsibilities of all parties are realized. Through a collaborative and optimal governance model, government agencies acquire leadership and resources, the market mechanism becomes increasingly perfect, the social system is continuously optimized, and individuals can better achieve their goals. Rural industrial development is a complex process due to the unique development environment and location factors. The rural industry faces greater uncertainty and information opacity when entering the market. As the three main characteristics of rural industry are the diversity of business subjects, the diversity of resource endowment, and the diversity of industrial forms, the vulnerability and lag in the development of rural industry necessitate clear leadership embedded in the development process. This means that the power of the party organization is integrated into the development process, and a closer partnership and sense of prestige are established in the coordination of resources, as illustrated in **Figure 2**. In promoting the synergistic development model of rural industries, emphasis should be placed on the guiding role of the government and enterprises. Rural industries are supported by policies, funds, and technologies to create a favorable development environment that ensures productive activities. When discussing the cooperative governance mechanisms for rural industrial development, the principle of interest alignment is especially

important. The fundamental requirement of this principle is that, during the operational process of the mechanism, we must ensure that farmers can participate extensively and genuinely share in the value-added benefits generated by industrial development. As the primary driving force of rural industrial development, farmers should actively engage in the planning, decision-making, and management of the industry. By developing innovative methods to connect interests, enhance policy guidance and support, and improve organizational structures and personnel training, we can ensure that farmers actively participate in industrial development and share in the value-added benefits.

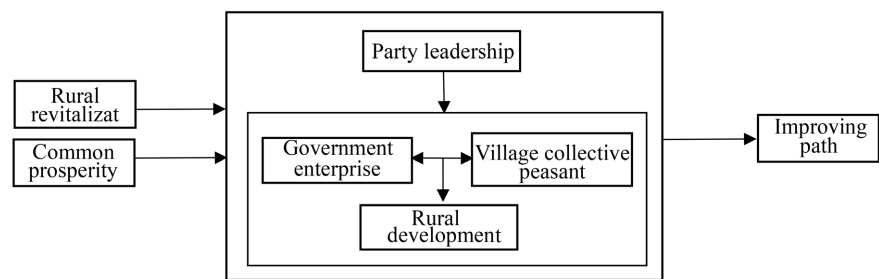


Figure 2. Multi subject governance model.

3. Materials and Methods

3.1. Study Area

By examining the current state of rural revitalization in Shandong Province, the author clarifies the research objectives and scope of the article. The selection criteria are established based on the research content, which includes factors such as time frame, regional distribution, and case characteristics. Ultimately, the development of the rural industry in Ningyang County is chosen as the focal point of the study. Ningyang County, one of the birthplaces of Chinese agricultural culture, is situated in Tai'an City, Shandong Province, and holds a rich history. During the Western Han Dynasty, Han Gaozu established a county on the southern side of Ning Mountain, naming it Ningyang because the southern side of the mountain is referred to as Yang. The county is currently under the jurisdiction of 2 streets, 10 towns, 1 township, and 581 villages (communities) under actual jurisdiction. It covers a total land area of 1125 km², with 622.26 km² being arable land, accounting for 55.31%. Moreover, the region possesses unique advantages in terms of ecological environment and industrial development model.

3.1.1. Geography

Ningyang County is located in the western part of central Lu and the southern part of Tai'an City, at the intersection of the southwestern Lu plain and the central Lu mountainous area (as shown in **Figure 3**). The terrain in the area is higher in the east and lower in the west, with low mountains and hills dominating the eastern region and mostly flat plains in the west. The area falls within the typical warm-temperate humid seasonal climate zone, experiencing four distinct seasons,

abundant sunshine, suitable rainfall, and a long frost-free period. The favorable natural conditions, such as flat and open terrain and ample water resources from the rivers, have provided a solid foundation for Ningyang County to engage in agricultural production.

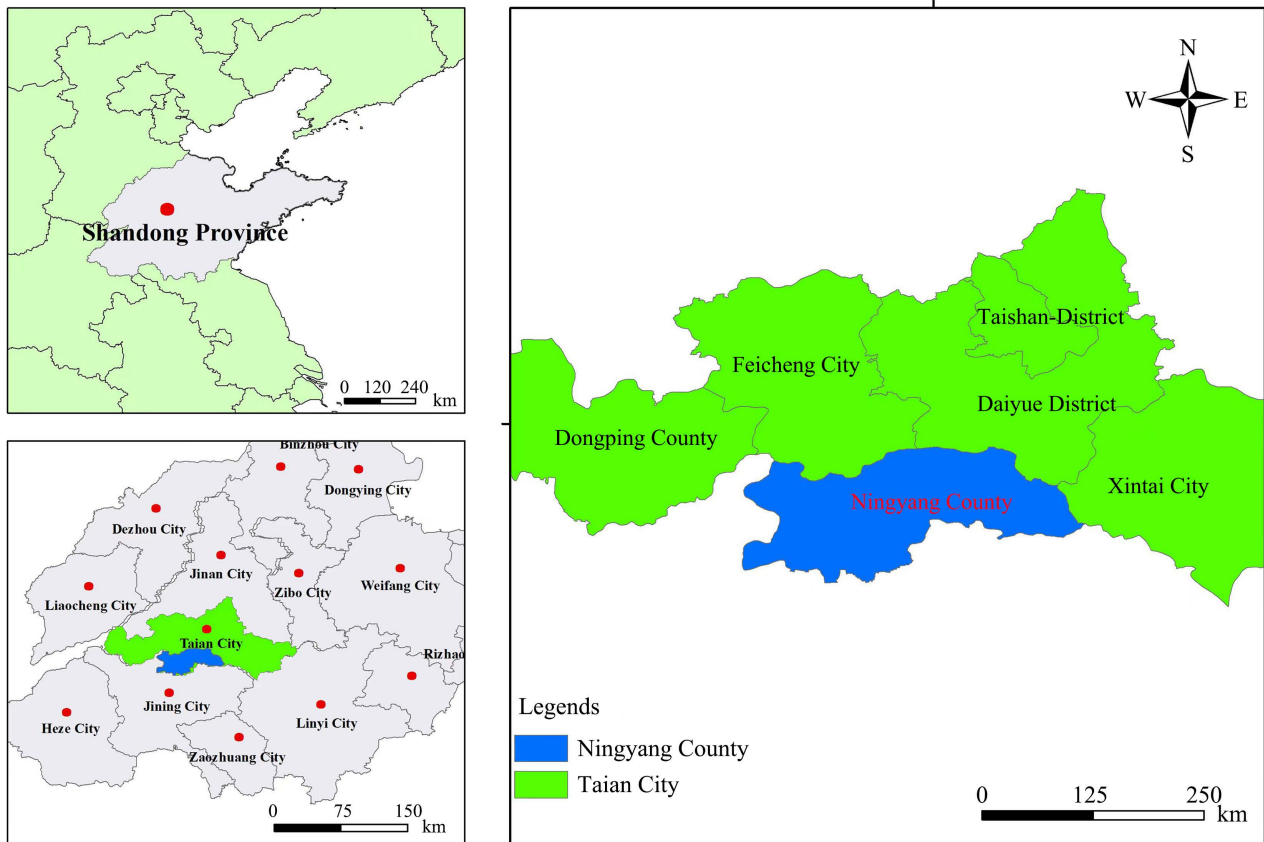


Figure 3. Geographical location map of Ningyang county.

3.1.2. Socio-Economic

As of the end of 2022, the total household population of Ningyang County was about 814,600 people. The total agricultural output value is 140,491,700,000 yuan, with agriculture accounting for 56.29%, forestry for 2.17%, animal husbandry for 30.63%, fishery for 0.24%, and the service industry for 10.67%. The per capita disposable income of rural residents in Ningyang County is RMB 21,988, which is 9.21% higher than the national average (RMB 20,133), as shown in **Figure 4**. Ningyang County has a rich variety of agricultural products with distinctive characteristics, creating a wide range of regional specialties, such as Ningyang Cricket, Tai'an Tofu, Xujiaqiao Cabbage, Ningyang Big Thorn Cucumber, and Ge Shi Jujubes. At the beginning of 2021, Ningyang County was awarded the titles of National Agricultural Product Quality Safety Province, Provincial Animal Husbandry Green Development Demonstration County, and listed as a pilot county for the national new type of urbanization. In the county, there are 15 villages named after famous local products, making a total of 115 “a village, a product”

demonstration villages in the township. Focusing on the core supportive role of talents, the county’s industries continue to innovate, rural economic development improves, residents’ living standards increase, and livelihood activities are significantly safeguarded.

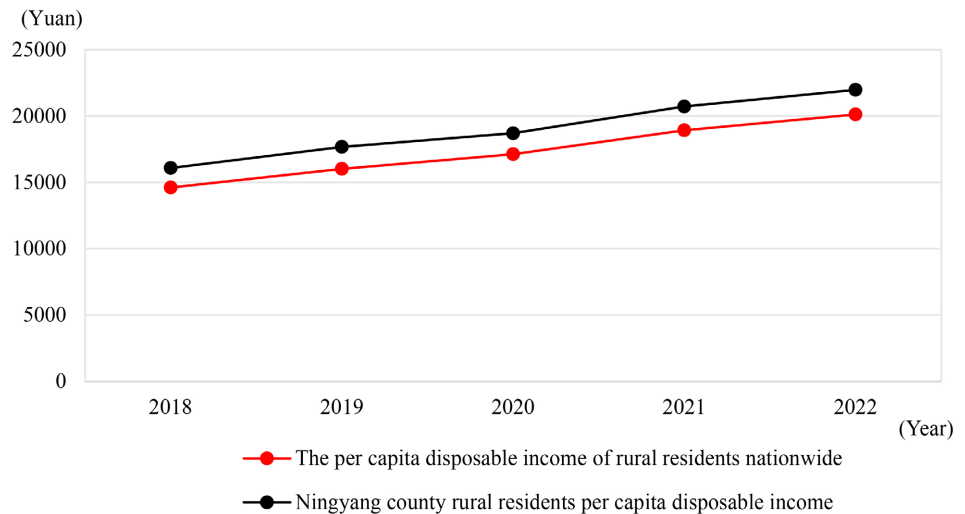


Figure 4. Line chart of per capita disposable income of rural residents in Ningyang County and the country as a Whole. Data source: Ningyang county statistical yearbook 2023.

3.2. Study Methods

Since the implementation of the rural revitalization strategy, agriculture has played a crucial role as a key driver and a strong foundation for promoting sustainable development in rural areas. It has significantly contributed to supporting economic and social progress. Through industrial development, rural economic growth is promoted, farmers’ income is increased, and their living standards are improved. In Ningyang County, the current situation of rural industrial development is evaluated based on the principles of objectivity, systematicity, local conditions, and operability. This evaluation system is established on the foundation of industrial prosperity, which is the primary requirement of the “twenty-word” policy for rural revitalization. It comprises eight specific indicators, as outlined in **Table 1**.

Table 1. Evaluation indicator system of rural revitalisation in Ningyang county.

The essence is the layer	Index layer	Unit	Index interpretation	Indicator attributes
Industry prosperity	The proportion of agricultural added value in the total output value	%	Growth in agriculture, forestry, animal husbandry and fishery	+
	Comprehensive mechanization rate of crop cultivation and harvest	%	The popularity of mechanization	+

Continued

	The put value of agriculture, forestry, animal husbandry and fishery services	%	Development status of agriculture, forestry, animal husbandry and fishery	+
	Agricultural land yield rate	Ten thousand yuan/mu	Reflect the rural land use situation	+
	The proportion of cash crops in the planting industry	%	Understand the level of agricultural economic development	+
Industry prosperity	Agricultural products processing industry growth rate	%	Agricultural product processing industry production quantity increase or decrease change degree	+
	Per capita disposable income of rural residents	Yuan	Measure the people's income level, and then reflect the living standard of the residents	+
	Number of rural labor force	Number	The number of rural people of the working age and able to work	+

Note: A “+” in the table indicates a positive indicator and a “-” a negative indicator.

3.2.1. Hierarchical Analysis (AHP)

The Analytic Hierarchy Process (AHP) is a research method that combines qualitative and quantitative approaches to calculate weights. It involves pairwise comparisons, matrix establishment, and the use of relative numerical values. Generally speaking, the larger the number, the more important the principle, and the weight will be higher. The final calculation is used to determine the importance of each factor, which is usually suitable for solving problems that are difficult to address with quantitative methods.

3.2.2. Data Source

The data source is county-level statistics, with the primary data mainly sourced from the Ningyang County Statistical Yearbook (2021 to 2023) and the Tai'an City Rural Statistical Yearbook (2021 to 2023), some of which are derived from secondary calculations. Some data contain residual values. To ensure data continuity and completeness, this paper utilizes linear regression equations for imputation.

3.2.3. Evaluation Results and Analysis

In order to systematically reflect the level of rural industrial development in Ningyang County, this paper will collate and summarize the data obtained from the statistical yearbook. To unify the evaluation standard, the data will be processed dimensionlessly, and the processed data are shown in **Table 2**. The hierarchical

analysis method will be applied to assign weights to the indexes for the experts' scoring. Subsequently, the comprehensive evaluation value of the revitalization of rural industries in Ningyang County from 2020 to 2022 will be calculated.

Table 2. Data and weights of indicators for evaluating the level of rural industrial revitalisation (after dimensionless).

Index layer	Weight	Year		
		2020	2021	2022
The proportion of agricultural added value in the total output value	0.15	1	0.67	0
Comprehensive mechanization rate of crop cultivation and harvest	0.1	0	0.96	1
The put value of agriculture, forestry, animal husbandry and fishery services	0.15	0	0.7	1
Agricultural land yield rate	0.1	0	0.61	1
The proportion of cash crops in the planting industry	0.1	1	0	0.05
Agricultural products processing industry growth rate	0.15	1	0.71	0
Per capita disposable income of rural residents	0.2	0	0.62	1
Number of rural labor force	0.05	1	0.73	0

Note: Dimensionless processing is a commonly used data preprocessing method to eliminate the effects of scaling between different variables and make the data comparable. In this paper, the processing method of min-max scaling is selected.

From **Figure 5**, it can be observed that the level of development of rural industry revitalization in Ningyang County from 2020 to 2022 follows an inverted V-shaped trend, with minor fluctuations in the overall data. Among them, the highest evaluation value (0.629) was recorded in 2021. Subsequently, the value decreased in 2022, but it remained higher than that of 2020. The growth rate from 2020 to 2021 reached 39.78%, indicating a positive trend in the development of rural industries in Ningyang County. In 2021, the revenue reached 29.72 billion yuan, showing a year-on-year growth of about 4.5% at comparable prices. The average annual growth rate has been 5.35% since the 14th Five-Year Plan. In the total output value of agriculture, forestry, animal husbandry, and fishery industry in all counties and municipalities in Tai'an City, the county ranked second with 140,491,917,000 yuan. Specifically, the added value of agriculture, forestry, animal husbandry, and fishery industry also ranked second at 76,162,260,000 yuan. The high-speed development can be attributed to Ningyang County's focus on the work of each village. For instance, in rural infrastructure construction, the focus is on consistently enhancing the maintenance of rural roads. In addressing people's basic needs, the emphasis is on rural sanitation and sewage treatment. Regarding rural industrial development, efforts are made to enhance water conservancy projects, establish rural greenhouses, and actively promote the transfer of

rural land. Along with the implementation of the rural revitalization strategy, Ningyang County is constantly optimizing and adjusting its agricultural planting structure. It is creating demonstration bases for agricultural products with special characteristics, aiming to develop a more large-scale, industrialized, and branded rural industry.

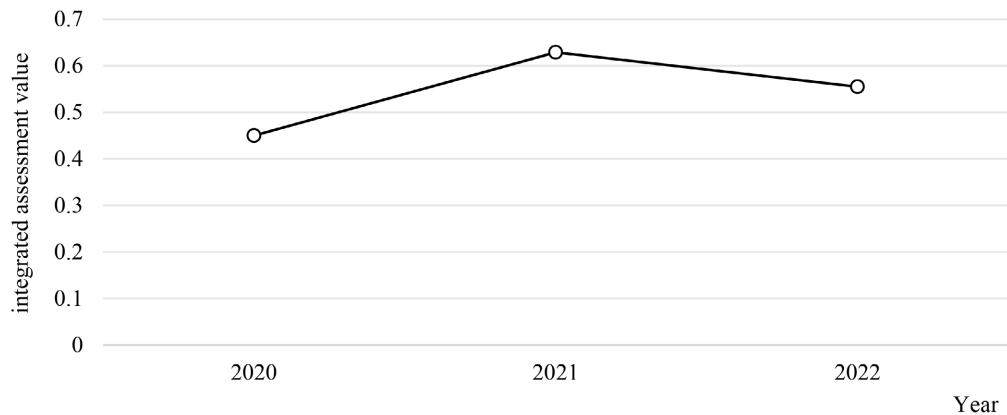


Figure 5. Line graph of comprehensive evaluation of rural industry revitalisation level in Ningyang county.

4. Research Results and Discussion

Promoting the development of modern agriculture is a key initiative to revitalize rural industries. It is also crucial for supporting the integrated development of the three industries in rural areas, improving the structure of rural industries, and achieving the overall goal of rural prosperity. Industrial development is not static, it should be a long-term dynamic process. By combining the evaluation and analysis of the level of rural industrial revitalization in Ningyang County with a discussion of industrial development structure, the author concludes the following issues based on the theory of collaborative governance.

4.1. Dilemmas and Reasons for Rural Industrial Development

4.1.1. Disorderly Participation of Multiple Governance Subjects

A single government-led model is inadequate for addressing the systemic and complex nature of rural industrial development. The model of “being built” poses a significant challenge to industrial development in Ningyang County. This issue is not unique to rural industrial construction in Shandong Province but rather a reflection of challenges faced nationwide. Achieving industrial revitalization is a dynamic and complex process that involves identifying responsibilities and distributing benefits among multiple stakeholders, including party committees, governments, enterprises, village communities, and farmers. A single government-led model aiming for “high, fast, strong” construction standards may weaken the inter-subjective relationship and lead to functional alienation. In the obscure development of the black cloth, rural revitalization will transform into a battleground for the interests of various stakeholders. All key stakeholders involved in

industrial development will continuously compete for resources and power dynamics. This situation can easily lead to industrial decline when the policy benefits provided by the local government diminish over time. As the enterprise's focus shifts towards maximizing profits and the availability of resources changes, the depleted resources in rural areas may revert to the previous development challenges.

4.1.2. Rural Industry and Talent Matching Problems

Talent plays a crucial role as the “soft power” for rural industrial development, being essential for achieving rural revitalization. However, a comprehensive talent cultivation mechanism that aligns the talent structure with the needs of rural industries is yet to be established. This lack poses a serious obstacle to the high-quality development of industries in Ningyang County. The county faces challenges due to the absence of a robust mechanism for high-level talent platforms. Issues such as limited platforms and a shortage of skilled platforms are common, causing delays in talent projects and an inability to bridge the talent gap. The unstable labor market impedes the migration of skilled workers to rural areas. A significant portion of talent resources lack an understanding of rural industries, exacerbating the urban-rural divide. Consequently, high-quality human resources are unable to be retained in the county or rural areas, resulting in a bidirectional flow. Moreover, the lack of investment by the township government in developing rural talents is a critical factor. Often citing insufficient funds and personnel as excuses, the township government significantly reduces the effectiveness of talent development initiatives.

4.1.3. Slow Pace of Modern Industrial Transformation

High dependence on traditional factor inputs, low industrial concentration, and a low contribution rate of science and technology are common issues in rural industries. The overall development of the rural industrial system lags behind, making it challenging to achieve modern industrial transformation. At the present stage, industrial integration in Ningyang County faces the challenge of inadequate development. The progress of secondary and tertiary industries in the integration process lags behind, leading to a structural imbalance in the industry and insufficient depth of industrial integration. Secondly, there is a lack of diversified development modes in the industrial structure, and some villages have not yet fully embraced new industries such as modern agriculture and rural tourism. The singular industrial structure makes industrial production and income more vulnerable to market fluctuations. In a close-knit society, the market relationship between farmers is relatively loose and weak in terms of market connectivity, which also heightens the economic risk for farmers. Finally, the lack of adequate support for rural industry science and technology hinders the development of the rural industry. The irrational use of resources poses a serious constraint, leading to increased production costs and difficulties in ensuring product quality, thereby impeding the healthy growth of the rural industry.

4.2. Rural Industrial Development Enhancement Path

In the context of collaborative governance for rural industrial development, the power dynamics among stakeholders are fundamental elements that influence the efficiency and effectiveness of the collaborative process. Achieving a balance of power, equitable sharing, and a well-structured framework among these stakeholders presents a significant challenge to enhancing cooperation in rural industries. It is essential for promoting the active participation of various entities in governance and for establishing and sustaining an efficient governance network. Consider and address a series of challenges encountered during the development process, including the consistency of policy objectives, the effectiveness of government intervention, the symmetry of information communication, the demonstration effect, and the practical operations of the free rider problem.

4.2.1. Constructing a Coordinated Governance Mechanism and Determining the Main Governance Order

The key to realizing the orderly development of rural industries lies in establishing a benefit-sharing mechanism among various stakeholders involved in rural industry development [8]. This will create a sustainable development framework for rural industries. Party organizations, governments, enterprises, village collectives, and farmers, as different entities in rural revitalization, are interconnected by shared interests, creating a community of interest where “you have me, and I have you” [9]. In the production process, it is essential to overcome the main action of unilateral development and promote a new collaborative model under the supervision and leadership of the party organization, as illustrated in **Figure 6**. The responsibilities, powers, and interests of various governance subjects are clarified, the synergistic effect of governance subjects on each other is valued, and each subject is placed in an equal development position to achieve interoperable information communication. Farmers are the central focus of rural revitalization strategies. Their involvement and the advantages they gain are vital indicators for assessing the results of rural revitalization endeavors. It is essential to enhance the cooperative efficiency of rural industrial development and promote effective governance by systematically integrating the voices of farmers into the governance process. During the information collection phase, the primary objective is to encourage farmers’ initiative, ensuring that they are not only willing to “speak actively” but also to “speak freely”, a solid foundation for information convergence.

4.2.2. Improving Talent Cultivation Mechanism and Building Management Team

For the rural industry, strengthening the construction of rural talents is a key task to grasp the revitalization of the countryside. Cultivating and developing local rural talents is crucial for enhancing the talent reserve system [10]. To achieve industrial development, we should focus on the importance of supporting rural industrial talent. We should adhere to a problem-oriented approach, combined with market demand, to accurately train professional industrial personnel based on the

type of industry to be developed. This training should encompass aspects such as party building, legal systems, and publicity to cultivate talent (as shown in **Figure 7**). It is crucial to pay attention to regional planning and industrial development management [11]. Deepen the leading role of the concept that “talent is the first resource”, focusing on developing talent skills in the process of value creation. Create a conducive learning environment, strengthen the training of management personnel, and enhance quality work to build a high-level management team. Deepen the synergies among the various participating entities. Agricultural science and technology talents are crucial in advancing the development of new rural areas and are a key factor in rural industrial growth [12].

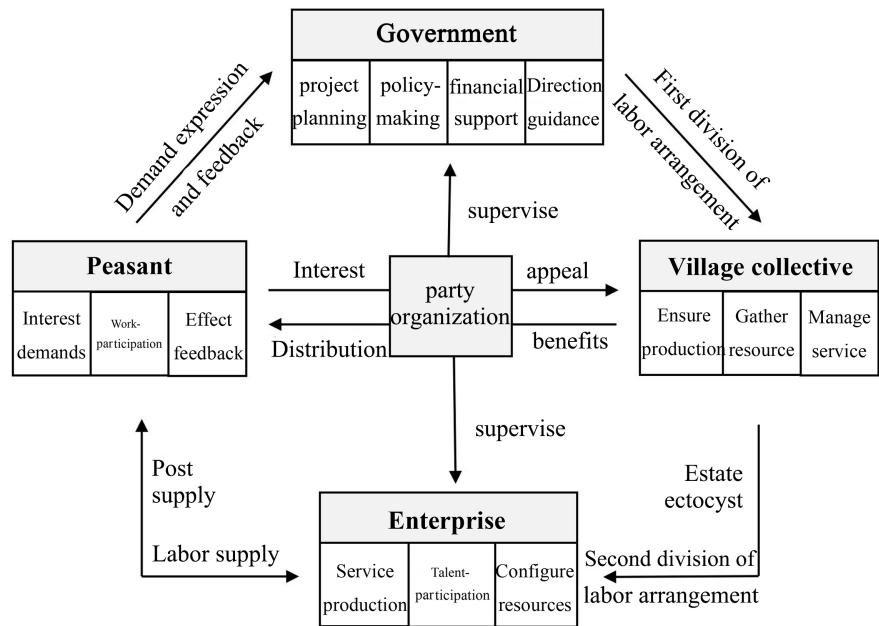


Figure 6. New collaboration model of multiple subjects.

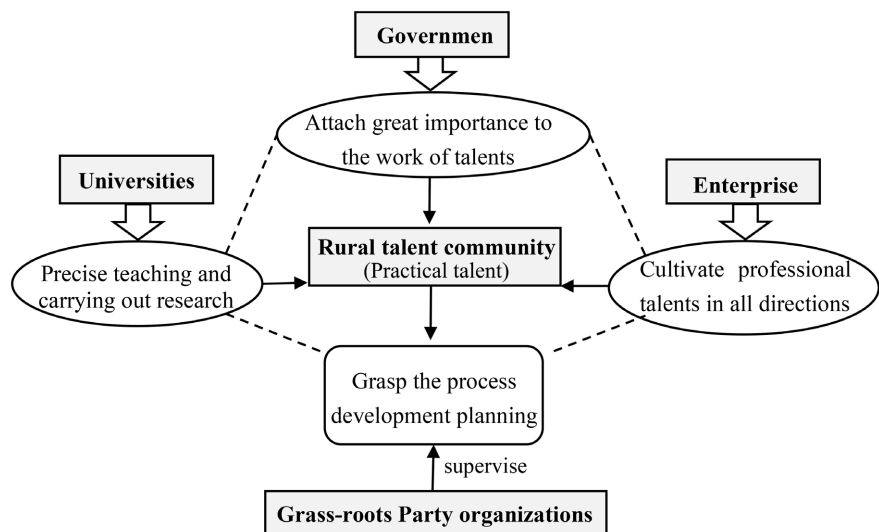


Figure 7. Talent cultivation mechanism.

4.2.3. Improving Industrial Development Mechanism and Promoting Industrial Transformation and Upgrading

Based on the perspective of the industrial industry, breaking the barriers in the industrial hierarchy and value chain is the first step to carry out the integration of the agricultural product processing industry. It is one of the main sources of profitability in the current rural industry, and improving the processing and conversion rate of agricultural products is a crucial step to increase industry profitability. The development of socialized ecological agriculture is a key strategy to achieve industrial prosperity. Considering the context of industrial integration, the construction and adjustment of the rural industrial system should be guided by the fundamental principles of agriculture, local conditions, and urban-rural interaction. Adopting the approach of “market-led, government-led, and farmer-led” to implement the integrated industrial development paradigm can lead to county village community linkage and the convergence of new energy for development. Through the development concept of “county linkage [13], township aggregation, and township and village linkage [14]”, the establishment of regional aggregation of the agricultural industry chain. Accelerate the pace of scientific and technological innovation and enhance the supportive role of science, technology, and equipment construction in rural industrial revitalization. While facilitating the transfer of scientific and technological elements to rural areas, encourage the deeper integration of traditional agricultural production with modern agricultural information technology and equipment technology [15].

5. Conclusion and Prospects

For the revitalization of rural industries, the industrial development model presented under different rural development conditions varies. Identifying the problems of the industrial model and formulating the enhancement path need to be tailored to local conditions. With the development of agricultural modernization tasks and the continuous improvement of the rural ecological environment, the focus on rural industrial development to engage villagers in generating income and achieving rural revitalization is closely linked to the goal. Shandong Province, as a significant agricultural province, has conducted numerous practices in exploring rural industries, leading to the formation of several typical Qilu models. Ningyang County in Shandong Province is selected as a research case due to its uniqueness, providing a certain mode of supplementation for the study of rural industrial revitalization. The article also highlights areas for improvement; the author uses theory to analyze the industrial development of Ningyang County, pointing out deficiencies in the comprehensiveness of the development of solution strategies. It is hoped that in future studies, with maturity in all aspects, a deeper exploration can be made into the content of this study.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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