

Research on the Development Path of Agricultural Modernization in Jiangmen under the Background of Industry-city Integration

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Abstract

In order to accelerate the construction of a new pattern of regional development of the "three districts", further promote the development and prosperity of the agricultural industry in Jiangmen City, give full play to the important role of agricultural industry construction in the integration of industry and city, and facilitate the smooth implementation of the strategy of Jiangmen's agricultural city, highlighting Jiangmen City's Prominent status in the planning and construction of the Greater Bay Area and to meet the increasing demand of the people in Jiangmen and the Greater Bay Area for healthy living and consumption of agricultural products. Based on the need to accelerate the construction of Industry-city integration in the downtown area of Jiangmen, the goal is to promote the modernization of Jiangmen's agriculture. Interpret the connotation of modern agricultural development under the background of Industry-city integration. Based on the current status of agricultural development in urban areas, it is aimed at development problems such as low industrial level in urban areas, weak agricultural science and technology strength, short industrial chain centered on modern agriculture, low integration of the tertiary industries and lack of new agricultural talents. Put forward countermeasures such as strengthening the market competitiveness of its own agricultural products, constructing agricultural modernization demonstration areas, and vigorously developing smart agriculture, in order to accelerate the promotion of urban industry integration and modern agricultural development.

Keywords

Industry-city Integration; Agricultural Modernization; Agricultural Branding; Intelligent Agriculture.

1. Related Concepts

1.1. Agricultural Modernization

Agricultural modernization is the modernization of agriculture in terms of science and technology, management mode, agricultural structure, infrastructure, management system, and harmonious coexistence of ecological environment [1]. With the diversified functions of agriculture as the driving force, on the basis of the current industrialization of agriculture, promote the extension of the primary industry to the secondary and tertiary industries, promote the integration of the tertiary industry and the integration of the industry and the city, consolidate the industrial foundation of the central urban area, and promote the urban economy development .

1.2. Industry-city Integration

The integration of industry and city is a development idea put forward in the context of the rapid development of my country's society and economy relative to the increasingly acute contradiction of separation of industry and city. That is, the functional integration of "industry" and "city" and spatial integration, to achieve "promoting the city with production and promoting production with the city" [2]. Cities need the support of industries. Otherwise, no

matter how beautiful they are, they will only be "empty cities". Industries need the support of cities. Otherwise, no matter how high-end, they can only be "empty". Urbanization and industrialization must promote mutual advancement and cannot be separated from each other. The development of Industry-city integration is a gradual process. A comprehensive understanding of the connotation of Industry-city integration is conducive to making planning recommendations that are more in line with the actual conditions of Jiangmen.

1.3. Agricultural Market Management

Apart from the support of information technology, agricultural modernization believes that the most important thing is the market-oriented operation of agriculture. Among them, the organization form of agricultural market-oriented operation is the specific organization form of current agricultural scale operation.

| Specific forms of organization | Main components | significance |
|---|---|---|
| Company + Farmer ((Or company + cooperative economic organization + farmer; company + production base + farmer; order farming, etc.)) | With the contract as the link and the company's market-oriented operation as the guide, the scattered farmers are organized without changing the household contract responsibility system. | Realize large-scale agricultural production and large-scale circulation, improve agricultural production efficiency and farmers' income levels. |
| Joint-stock cooperative management organization | The profit distribution mechanism is a combination of farmers providing land or labor services, agricultural scientific and technological personnel, industrial and commercial enterprises, etc. | This form of organization is based on the household contract responsibility system, through voluntary combination, centralizing production factors, complementing each other's advantages, and expanding the scale of production, so as to realize the docking of farmers and the market. |
| Private farm | It is formed by industrial and commercial capital or farming experts, through land use rights contracting, subcontracting, leasing, etc., the land is concentrated, and the employment method is used for large-scale and professional operation. | Private farms are connected to the market by farmers, and directly form large-scale production and large-scale circulation. This form currently accounts for a relatively small proportion of agricultural market-oriented operations. |

Figure 1. The concrete organization form of agricultural scale operation

1.4. Agricultural Branding

The organizational forms of agricultural market operations in Figure 1 all need the support of branding. First, promoting agricultural branding is an important means to promote the transformation of traditional agriculture to modern agriculture. Implementing the scientific concept of development, innovating development models, and accelerating the transformation from traditional agriculture to modern agriculture are major tasks facing agricultural development in the new era. Agricultural branding is an important symbol of modern agriculture. Promoting agricultural branding is conducive to promoting agricultural production standardization, management industrialization, product marketization and service socialization, and accelerating the transformation of agricultural growth from quantitative, extensive to quality, Benefit-oriented transformation. Second, promoting agricultural branding is an effective way to optimize the agricultural structure. With the improvement of people's living standards, society has put forward higher requirements for the variety, quality, safety, and function of agricultural products. Promote agricultural branding, be market-oriented, meet the goal of diversified and high-quality consumption, and guide production factors such as land, capital, technology, and labor to optimize the allocation of branded products, which is conducive to promoting the transformation of resource advantages to quality advantages and

benefit advantages, which is conducive to promoting the adjustment, optimization and upgrading of agricultural structure. Third, the promotion of agricultural branding is an urgent requirement to improve the quality, safety and competitiveness of agricultural products. After joining the WTO, the internationalization process of my country's agriculture has been significantly accelerated, and the pressure of international competition has further increased. By promoting agricultural branding, focusing on cultivating and building famous agricultural brands, it is conducive to promoting the improvement of the overall level of agricultural product quality and safety, and is conducive to the formation of a batch of branded agricultural products with international competitive advantages. Fourth, the promotion of agricultural branding is an important measure to achieve agricultural efficiency and increase farmers' income. Improving agricultural efficiency and increasing farmers' income is an important part of building a new socialist countryside. A brand is an intangible asset, and the process of building an agricultural product brand is a process of realizing the value-added of agricultural products. Vigorously developing famous-brand agricultural products is conducive to expanding the agricultural product market, promoting agricultural product consumption, promoting the formation of a high-quality and preferential price mechanism, achieving agricultural efficiency and increasing farmers' income.

1.5. Mutual Relationship

Industry-city integration is a multi-dimensional and dynamic process of integration and development. However, the primary industry is often overlooked in the process of Industry-city integration. Agriculture plays an important role in the development of urban areas such as labor contribution, product contribution, market contribution, foreign exchange contribution, and location contribution [1]. The establishment of modern agricultural demonstration zones is one of the trends in agricultural modernization, and it is also an indispensable and important means in the future development of Industry-city integration.

2. Agricultural Development Status

2.1. Jiangmen Agricultural Development Status

Jiangmen is known as the "Hometown of Koi Carp", "Hometown of Chinese Tangerine Peel" and "Hometown of China's High-quality Silk Seed Rice" in Guangdong Province. Important "rice bags" and "vegetable baskets" in the triangle area. Duruan Bitter Melon, Taishan Eel, Taishan Rice, Taishan Green Crab, Sweet Radish, Xinhui Tangerine Peel, Enping Bocai, Heshan Black Tea, Magang Goose, Jiangmen Niu Dali and other national geographical indication agricultural products are well-known throughout the country and overseas.

In recent years, the Venezuelan government has promoted the prosperity of the rural industry with the creation of famous, special and high-quality new agricultural products brands, and has achieved remarkable results in stimulating and driving the revitalization of the rural areas. Since 2019, the agricultural brand cultivation and incentive measures have been formulated, and the local standards for Enping bougainvillea and the local standards for the breeding of yellow-throated turtles have been compiled. Accumulatively cultivated 195 "three products and one standard" agricultural products, 15 newly-added Guangdong famous brand products (agricultural), cultivated 5 national famous, special and high-quality new agricultural products, 89 provincial-level agricultural products, and created 6 provincial-level characteristic agricultural products advantage areas. The province has the most, with 10 national geographical indication agricultural products cultivated, ranking first in the province in number, and 48 regional public brands cultivated. At the 10th Guangdong Modern Agriculture Expo in 2019, Jiangmen was the only prefecture-level invited in the province to share brand building experience at the meeting. Successfully held the 2019 Guangdong-Hong Kong-Macao

Greater Bay Area (Jiangmen) famous, special and high-quality new agricultural products promotion and major agricultural project signing activities, attracting 650,000 people to visit the site, signing (framework agreement) 13 major projects with an amount of 5.381 billion yuan, on-site Facilitated sales of nearly 20 million yuan. The 2019 "Chinese Farmers Harvest Festival" was successfully held, and it was included in the all-media live broadcast event of the harvest celebration in 70 places across the country. It is one of the three live broadcast venues in the province.

Jiangmen's agricultural standardization level has a certain foundation. It has established 89 agricultural standardization demonstration areas above grade level. 49 local agricultural standardization production regulations have been formulated and released. Taishan eel won the title of National Agricultural Standardization Demonstration Zone, and Xinhui Tang won the National Citrus Cultivation Comprehensive Title of Standardization Demonstration Zone. A total of 220 agricultural parks (bases) above designated size have been created, covering many agricultural industries such as grain, vegetables and fruits, livestock, aquatic products, and seed industries. Among them, there are 4 modern agricultural parks with "National Brand", which are respectively the Kaiping National Modern Agriculture Demonstration Zone. , Xinhui Chenpi National Modern Agricultural Industrial Park, Enping National Agricultural Sustainable Development Experimental Zone, Taishan China Agricultural Park; 4 parks with "provincial name", namely Guangdong Agricultural Products Processing Demonstration Zone (Jiangmen Taishan), Guangdong and Taiwan (Jiangmen) Agricultural Cooperation Pilot Zone, Jiangmen Taishan Eel Industrial Park and Jiangmen Kaiping Poultry Industrial Park. Really realize the promotion of standards by parks and demonstration zones, and the promotion of agricultural modernization by standards.

2.2. Existent Problems

2.2.1. Low-level Industry and Poor Agricultural Technology

Located on the west bank of the Pearl River Delta, Jiangmen is an important strategic channel into western Guangdong and the greater southwest. It is an important node city connecting east and west in the Guangdong-Hong Kong-Macao Greater Bay Area. It has jurisdiction over the three districts of Pengjiang, Jianghai, and Xinhui as well as Taishan, Kaiping, Heshan and Enping are 4 counties. The area of arable land is vast, accounting for 1/4 of the Pearl River Delta. Agricultural resources, agricultural economy and the total amount of agricultural products occupy an important position in the Pearl River Delta and even Guangdong Province. However, from the perspective of the Pearl River Delta, Jiangmen's economic aggregate is still small and its industrial foundation is weak. In 2019, the national GDP was 314.664 billion yuan, accounting for only 2.92% of the Pearl River Delta region, and the actual growth rate was 4.3%; the added value of the secondary industry was 135.254 billion yuan, accounting for 3.11% of the Pearl River Delta region. The amount is weaker. At the same time, the overall scientific and technological strength of Jiangmen's economic development is not strong, and the independent research and development capabilities of products are insufficient.

2.2.2. Relatively Short Industrial Chain

The level of agricultural industrialization is not high, and the agricultural product processing industry is backward. The added value of products centered on agriculture is not high, and the industrial chain is short, which restricts the development of agricultural industrialization. The products of most agricultural product processing enterprises basically remain in rough processing, with few intensive processing products, secondary value-added products, high-tech products, and brand-name products, and they have not formed a large industrial scale. Secondly, due to the influence of traditional agricultural production models, the isomorphism of the agricultural industry structure is serious, and there is a lack of obvious competitive advantages.

2.2.3. Lack of New Agricultural Talents

The lack of new agricultural talents is the current pain point in the development of Jiangmen's agricultural industry, and it is also the key bottleneck. At present, Jiangmen agricultural practical talents account for a low proportion of the agricultural labor force, and talents in production and operation are relatively scarce, especially high-end talents in modern agriculture, which are even rarer. Coupled with the difficult working environment of the new agricultural business entities, they are not competitive in terms of salary and treatment, and it is difficult to attract and retain professional talents, which further affects the development of the agricultural industry [3].

2.3. Recommendation

2.3.1. Strengthen the Competitiveness of its Own Agricultural Products Market

Strengthen the construction of the form of agricultural market-oriented operation organization, and cultivate the best new type of agricultural operation entities. Accelerate the cultivation and expansion of leading agricultural enterprises at all levels, strive to add key agricultural leading enterprises above the municipal level, guide the development of enterprise clusters, and enhance comprehensive strength. Carry out the project to cultivate leading agricultural enterprises, support qualified agricultural leading enterprises to carry out modern enterprise system reforms, and guide and promote the development of enterprises' listing and financing. Standardize and upgrade farmer farms and family farms, standardize cooperative decision-making, financial management and other systems, support the establishment of farmer cooperatives, enhance cooperative service driving capabilities, and cultivate municipal demonstration cooperatives; further standardize and support the development of family farms, and strengthen municipalities The above demonstration family farm construction.

Strengthen the construction of agricultural branding. The leading industries in the agricultural economy of our city should implement product development with the characteristics of famous, special, excellent and new, starting from the promotion of local resources and the development of famous and special products, and the development of the most significant agricultural resources and the most prominent development advantages. The project focuses on cultivation, such as Xinhui Chenpi, Enping Bocai, Heshan Black Tea, Jiangmen Niu Dali and other national geographical indication agricultural products. It is necessary to use methods such as the expansion of improved varieties to promote development, establish a good brand image, establish agricultural pillar industries, and build an integrated development model of supply, production and marketing around the dominant industry. It is necessary to enhance the leading role of leading enterprises, but also to strengthen the initiative of emerging enterprises. Maintain and sustainably dig into enterprise agricultural brand resources, such as "Jilong Fengshan Chicken" from Enping Jilong Industrial Co., Ltd., "Cuiyu Candied Date" from Guangdong Yumao Agricultural Development Co., Ltd., Jianghui Star Tea, Pengjiang District, Jiangmen City "Corn Puer Tea" from Jiangmen Ligong International Food Co., Ltd., "Salted Egg" from Kaiping Xuri Egg Products Co., Ltd., etc.

Speed up the process of industrialization of modern agricultural economy, and implement a large-scale agricultural development model. In deepening the development of the industrialization of the agricultural economy, we must always adhere to the principle of marketization, continue to improve the production structure of the agricultural economy, and promote the distribution of agricultural industries, the sales of agricultural products, and the new model of the overall development of the agricultural industry. It is necessary to use the transfer of agricultural economic advantage resources and the improvement of the quality structure of agricultural products to shape first-class brands, create distinctive features, form first-class boutiques, and enhance economic benefits, so that their own agricultural products have strong market competitiveness [4].

2.3.2. Building a Modern Agricultural Industrial Park with High Standards

The agricultural modernization demonstration zone is one of the most important components to promote the development of modern agriculture in the urban area. It not only covers the advantages of rural resources, but also has urban resources as a backing, which is the most direct manifestation of agricultural modernization and the integration of industry and city. Further promote the industrial cycle, promote the integration of the tertiary industries and the development of the new pattern of "three areas in parallel", build a new industrial system, and promote the rational flow of resource elements between urban areas, so as to optimize the urban social organization and spatial elements, and promote the industrial structure and spatial layout. The coupling and symbiosis of the above will finally realize the integration of economy, society, culture, ecology, space and other aspects, and truly integrate the industry and the city [1].

First, in accordance with the directions and requirements of large bases, large processing, large technology, large integration, and large services, focus on creating advantageous industrial belts in overseas Chinese hometowns such as rice, tangerine peel, tea, live pigs, poultry and eggs, aquatic products, and southern medicine., Modern agricultural industrial clusters with domestic competitiveness. Give prominence to the construction of modern agricultural industrial parks at the national, provincial and municipal levels, supervise and guide the construction of projects in the park, manage the use of funds, coordinate and support the construction land, accelerate the implementation of funds and projects, and guide more agricultural business entities to move forward. The Park gathers. Strive to create modern agricultural industrial parks such as the cold chain logistics of agricultural products at the provincial level, tea, silk and seedlings, and build a new pattern of rural revitalization through the construction of modern agricultural industrial parks at the national, provincial and municipal levels. The modern agricultural demonstration zone is dominated by science and technology and information elements, based on fruit tree planting, fruit industry deep processing, sightseeing tourism, new materials, new energy, and featuring ecological agriculture, sightseeing agriculture, etc., focusing on scientific and technological research and development, modern logistics, and trade display, The cultural heritage and innovation of the hometown of overseas Chinese, financial services, socialized services, etc. as the support of the industrial organization system [5].

The second is to provide scientific support and guidance from policies to form large agricultural industrial clusters with great market potential and strong development potential, such as the Kaiping National Modern Agriculture Demonstration Zone, Xinhui Chenpi National Modern Agricultural Industrial Park, and Enping National Agricultural Sustainable Development Experimental area, Taishan China Agricultural Park, etc. Promote the transformation and upgrading of the agricultural industry, and further promote the development of agricultural modernization and the integration of industry and city.

2.3.3. Vigorously Developing Intelligent Agriculture

"Intelligent agriculture" concept of agricultural operators can change the organizational system and structure to some extent. Advanced agricultural science and technology and a relatively complete e-commerce network service system not only enable agricultural related personnel to learn agricultural knowledge remotely, but also make it easier to obtain information on various technologies and agricultural product supply and demand. The decision-making of agricultural producers is ultimately controlled by expert systems and information terminals. Through continuous guidance of agricultural production and management, the backward mode of production and management based on experience is gradually changed, and the impact of modern agriculture on agricultural producers and consumers is deepened. Smart agriculture not only promotes the transformation and upgrading of the agricultural industry chain, but also

realizes the refinement, efficiency and greenness of agriculture through the intelligentization of the production field, the difference in the business field and the full range of information services in the service field, ensuring the safety of agricultural products and the competitiveness of agriculture Upgrading and sustainable agricultural development [6]. Intelligent agriculture is an inevitable trend in the development of agricultural modernization and an important development path for the integration of industry and city.

3. Conclusion

This article explains the connotation of agricultural modernization from the perspective of Industry-city integration. Based on the current situation of agricultural development in Jiangmen City, in response to its existing problems, suggestions are made in the three directions of agricultural product competitiveness, construction of agricultural modernization demonstration areas, and development of intelligent agriculture. However, the development of Industry-city integration requires a gradual process. Knowledge economy and scope economy are the basis for the integrated development of industry, ecology, culture, and urban areas, while the market is the driving force for its sustainable development. Therefore, in addition to reasonable planning concepts, ideas and methods, the development of agricultural modernization and Industry-city integration also requires government regulation and comprehensive support at the macro level.

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