

Study on Construction of Modern Agricultural Industry System in Xingwen County

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Abstract: This paper aims at studying on construction of modern agricultural industry system in Xingwen county. The results show that Xingwen County constructe modern agricultural industry system should focus on adjusting the structure of agricultural industry, optimizing the distribution of agricultural industry and strengthening the characteristic superior industries. Construction of agricultural industry projects and quality and safety guarantee system for agricultural products are also should be paid much attention in order to accelerate the construction of modern agricultural industry system in Xingwen County.

1. Introduction

Xingwen County, belonging to Yibin City of Sichuan Province, is located in the southeast of Yibin City. It is adjacent to Xuyong County in the southeast, Weixin County in Yunnan Province in the South and Gong County in the west. It is near to Changning County of Yibin City in the northwest and Jiang'an County and Naxi District of Luzhou City in the north, with a total area of 1379.89 square kilometers. Xingwen County has 12 townships under its jurisdiction. In 2018, the permanent population was 388,000. In recent years, Xingwen County has made remarkable achievements in social and economic development. In 2018, GDP reached 10.729.91 billion Yuan, of which the added value of the primary industry was 2.105.08 billion Yuan, the added value of the secondary industry was 3.7047 billion Yuan, and the added value of the tertiary industry was 4.916.36 billion Yuan. The three industrial were respectively 1.96:34.6:45.8, and per capita GDP was 27,654 Yuan. As far as modern agriculture is concerned, Xingwen County is an important agricultural county in southern Sichuan. In 2018, the total output value of agriculture, forestry, animal husbandry and fishery in Xingwen County was 3.562.73 billion Yuan, an increase of 3.7% over the previous year. Among them, agricultural output value was 1,634.6 billion Yuan, an increase of 4.5%, and animal husbandry output value was 1,716.75 billion Yuan, an increase of 2.7%. Modern agricultural industry system is a comprehensive system that integrates food security, raw material supply, resource development, ecological protection, economic development, cultural inheritance, market services and other industries. Constructing modern agricultural industry system is one of the key and core of developing modern agriculture. It is a multi-level and complex industrial system. As far as the specific content is concerned, the modern agricultural industry system includes three levels: one is the agricultural product industry system. Including food, cotton, oil, animal husbandry, aquatic products, vegetables, fruits and so on, the purpose is to ensure national food security and the supply of major agricultural products. Second, the multi-functional industrial system. Including ecological protection, leisure and sightseeing, cultural heritage, bioenergy and other closely related circular agriculture, characteristic industries, bioenergy industry, rural tourism and rural secondary and tertiary industries, the purpose is to give full play to the multiple functions of agriculture and enhance economic and social benefits. Third, modern agriculture supports the industrial system. Including agricultural science and technology, social services, agricultural products processing, market circulation, information consultation and other

related industries for agricultural services, the purpose is to enhance the level of agricultural modernization, improve agricultural risk resistance, international competitiveness, sustainable development. The construction of modern agricultural industry system is closely related to agricultural development, natural endowment and development strategy. Different scholars have different opinions and views on the construction of modern agricultural industry system. Some scholars believe that the construction of modern agricultural industry system should be based on the local agricultural industry foundation, especially the characteristic advantage agricultural industry foundation. Other scholars also believe that the construction of modern agricultural industry system should break the boundaries of agriculture and put local agricultural industry into a broader space for consideration. Some scholars believe that the construction of modern agricultural industry system should put the function of agriculture into the integration of the supply security of agricultural products, the inheritance of traditional farming culture and modern agricultural tourism. Other scholars put forward that the construction of modern agricultural industry system is closely related to regional division of labor. Xingwen is a large traditional agricultural county. The construction of modern agricultural industry system should take full account of its advantages in agricultural resources, the orientation of Xingwen agricultural development in Sichuan agricultural development and the position of Xingwen County in the distribution of agricultural industry in the whole province. In view of this, this paper studies the construction of modern agricultural industry system in Xingwen County.

2. The path of constructing modern agricultural industry system in xingwen county

2.1 To Optimize Agricultural Industry Structure

Xingwen County should speed up the strategic optimization and adjustment of agricultural structure and promote the circular development of planting, forestry, animal husbandry and fishery. Therefore, the first is to optimize the planting structure, vigorously develop famous, excellent, special and new cash crops, steadily expand the planting area of feed crops, steadily reduce the planting area of grain crops, and form a three-dimensional planting structure of coordinated development of grain crops, cash crops and feed crops. Secondly, Xingwen County is located in the south of Sichuan Province, with strong light and high heat, which is very conducive to the development of early-maturing vegetables in spring. Therefore, we should consolidate the advantages of early-maturing vegetable industry in spring and vigorously develop protected vegetables and intelligent agricultural greenhouses. Third, actively develop forestry economy. Focusing on the goal of building “Bamboo Industry Economic Belt in South Sichuan”, we should strengthen the construction of bamboo forest base, vigorously develop bamboo ecological tourism with Bowangshan as the main part, actively carry out afforestation and forest cultivation, and implement ecological restoration, forest cultivation and construction of key modern forestry counties. Fourthly, we should develop ecologically efficient and recycled animal husbandry, accelerate the development of beef cattle, black chicken and pig industries, and build a new type of crop and grass cultivation mode that combines agriculture with animal husbandry and ecological cycle. By 2022, we will strive to achieve an appropriate proportion of livestock and poultry farming to more than 80%.

2.2 To Optimize the Distribution of Agricultural Industry

Xingwen County should scientifically distribute modern agricultural industry, focusing on building “four major agricultural industry parks”. First, the grain and oil modern agricultural Comprehensive Park in Gongle District. It covers Gongle Town, Wuxing Town, Lianhua Town, Taiping Town, Liwangshan Town, Yuping Town and Ancient Song Town. Around selenium-rich rice, selenium-rich vegetables, sericulture industry. Relying on the traffic advantages of Chengdu-

Guizhou high-speed railway and Yixu high-speed railway, the park will be built as a window and front position for material, personnel, technology and commodity circulation between Xingwen County and the outside world, and develop modern agricultural planting demonstrations of scale, mechanization, scientificization, industrialization and informationization. The second is the modern agricultural park in Karst watertowns. Covering Daba Miao Township and Dahe Miao Township and other townships, relying on the diversified topographic conditions in the region and the industrial basis of forest fruits and green fruits and vegetables, the three-dimensional industrial model of “under-forest aquaculture” and “interplanting” has been formed. Vigorously promote the “animal-marsh-fruit” cycle model, and promote the county's modern agricultural scale development. Third, Dahua Lake Modern Agricultural Comprehensive Park. It covers Qilin Miao Township and its surrounding areas. Relying on the water resources of Xinba Reservoir, we will vigorously develop selenium-rich rice, vegetables, Yinhong plum and aquaculture, highlight national characteristics and develop aquatic leisure tourism. Fourth, Xianzhou Modern Agricultural Park. It covers Xianfeng Miao Township, Jiusi Township, Yuxiu Miao Township and Zhou Jia Town. Relying on Flue-cured tobacco, sericulture, tea and potato industries, we will promote the integration of the first, second and third industries in rural areas and promote the integration of production, processing and marketing. Through the construction of modern agricultural demonstration zones with complete industrial chain, the demonstration driving capacity of agricultural industry will be enhanced.

2.3 Strengthen Characteristic Advantage Industries

Firstly, we need to strengthen the special advantages of grain, rape and vegetable industries. Firstly, we should stabilize the development of selenium-rich grain crops and oil crops. We will stabilize the sown area of grain crops and oil crops, optimize the structure of industrial varieties, expand the cultivation area of oil crops, high-protein feeding maize and Fresh-eating maize, and focus on building standardized bases such as selenium-rich rice, Virus-free Potatoes and *Camellia oleifera*. We will strengthen the introduction and promotion of good varieties, increase grain yield per unit area and increase per capita grain possession. By 2022, the sown area of grain will be more than 560,000 mu, the total grain output will reach 215,000 tons, and the per capita grain occupancy will be more than 400 kg. Secondly, vigorously develop the vegetable industry. Fully combining with Se-rich resources in Xingwen County, we will vigorously develop alpine Se-rich vegetables and autumn postponed Se-rich vegetables, and moderately develop Se-rich vegetables in edible fungi-based facilities to meet the supply and demand of Se-rich vegetables in different seasons. By 2022, more than 100,000 mu of selenium-rich vegetables such as edible mushrooms, turnips, taro, peppers and radishes will be developed, with a total output of 300,000 tons.

Secondly, we need to strengthen the characteristic advantages of fruit and tea. On one hand, we should vigorously develop special fruits. Taking high-quality mountain kiwifruit and plum as the core, we should strengthen the construction of standardized demonstration bases, complete the infrastructure of ditches, canals and roads, and develop the physical and biological control technologies of trap lights, yellow boards to enhance the level of industrialization. By 2022, the total area of kiwifruit will reach 50,000 mu, with an output of 20,000 tons, and the base area of organic kiwifruit will reach more than 20%; 30,000 mu of plums will be developed, with a total output of 60,000 tons. On the other hand, we should vigorously develop selenium-rich green tea. Through improving soil, seedling and technology, the transformation of Low-yield and low-efficiency tea plantations will be carried out, the construction of selenium-rich organic tea plantations will be actively promoted, and the regional public brand construction of Yibin early tea will be actively integrated. The resource advantages will be transformed into brand advantages, so as to enhance the competitiveness of tea products in an all-round way. By 2022, we will develop a selenium-rich green tea base of 30,000 mu, with an output of 2,000 tons.

Thirdly, we need to strengthen the characteristic advantage of cash crops. On the one hand, we

should vigorously develop high-quality sericulture. Standardized mulberry gardens should be built, co-breeding facilities and silkworm shed should be perfected, and labor-saving silkworm platform, small silkworm incubator and new cocoon production facilities such as grid cocoons and “simple ant harvesting method for co-breeding of small silkworms” should be allocated to improve silk quality and efficiency. By 2022, the area of mulberry garden in the county will reach 100,000 mu, 150,000 silkworms are reared annually, and the cocoon output will reach 120,000 tons. On the other hand, we should vigorously develop high-quality flue-cured tobacco. Flue-cured tobacco industry focuses on quality and cultivation of characteristics, and takes varieties K326 and Yunyan 87 as leading varieties. It vigorously promotes and applies key technical measures such as nitrogen control, alkali reduction and aroma enhancement to develop high-quality tobacco with char-sweet flavor. By 2022, five modern tobacco standardization base units will be built, covering an area of 50,000 Mu and yielding 20,000 tons. Finally, we should vigorously develop characteristic traditional Chinese medicines. Relying on the relevant scientific research technology of colleges and universities, we will develop the characteristic Chinese medicinal materials such as papaya, *Eucommia ulmoides*, *Phellodendron amurense* and *Pseudostellaria heterophylla*. By 2022, we will develop 100,000 mu of Chinese medicinal material base through the mode of “enterprise + Project + professional cooperative + farmer household”.

Fourthly, we should strengthen the bamboo industry with special advantages. Focus on developing bamboo eco-tourism, bamboo health care, bamboo food, bamboo beverage, bamboo building materials, bamboo musical instruments and other industries, building bamboo cluster with bamboo shoots and timber as the main part, bamboo cluster with bamboo shoots as the main part, bamboo industry cluster with bamboo paper as the main part, building bamboo eco-tourism scenic area of Bowangshan and bamboo Kang culture scenic area of Xianfeng; Fangzhu fine variety breeding base, Lianhua Town Juhuang bamboo fine variety breeding base, and the construction of Xingwen Taiping bamboo industrial park. It is estimated that by 2022, the output value of bamboo industry will reach 7 billion yuan, and it will become a key county of bamboo industry in the whole province.

Fifthly, we need to strengthen animal husbandry with special advantages. On the one hand, we should strengthen the modern pig industry. The key layout is in Bowangshan, Jiusheng, Taiping towns. On the other hand, we should strengthen the cattle and sheep industry of high quality. Finally, we should strengthen the characteristic poultry and rabbit industry. By 2022, the total number of live pigs and beef cattle will reach more than 1 million, the total number of beef cattle will exceed 100,000, the annual production of mutton sheep will exceed 10 million, and the annual production of black-bone chickens in mountainous areas will exceed 10 million. The comprehensive output value of animal husbandry and fishery in the county will reach 3 billion Yuan, accounting for more than 50% of the total agricultural output value, and leading enterprises with annual output value of over 100 million Yuan will be cultivated. Home, 1-2 leading enterprises and listed enterprises of Black Bone Chicken State level and 1-2 well-known brand livestock products have promoted the modern animal husbandry and aquatic industry of Xingwen County to a new level.

3. Construction of Modern Agricultural Industry System Guarantee System in Xingwen County Functional Orientation

3.1 To Achieve Construction of Modern Agricultural Industry System through Project Construction

Firstly, the construction project of characteristic advantage agricultural product base. Including: (1) In Gongle Town, Wuxing Town, Liwangshan Town, Dahe Miao Township, Daba Miao Township and Kirin Miao Township, a standardized selenium-rich rice demonstration base with a

total area of about 100,000 Mu is constructed respectively; (2) Construction of a core demonstration base of rice mechanization throughout the whole process; (3) Construction of a core of breeding high-quality virus-free potato varieties. Base, about 10,000 mu; (4) New silkworm varieties trial base will be built in Wuxing Town and Zhoujia Town, respectively, and high quality silkworm varieties will be introduced for trial cultivation; (5) New mulberry seedling rapid breeding base and standardized mulberry garden base will be built in Wuxing Town, Zhoujia Town, Jiusi Town and Lianhua Town, respectively, and various advanced seedling cultivation techniques will be adopted to realize mulberry production. The seedlings are self-sufficient.

Secondly, the construction project of characteristic superior industrial base. Including: (1) Construction of standardized vegetable demonstration bases in Dahe Miao Township, Xianfeng Miao Township, Gongle Township, Gusong Township and Kirin Miao Township, mainly developing edible fungi, cabbage, taro, pepper and radish; (2) In Xianfeng Miao Township, Daba Miao Township, Shihai Town, Zhoujia Town, Yuxiu Miao Township and Jiusi Town. Construction of standardized flue-cured tobacco bases in Dahe Miao Township, Taiping Township, Yuxiu Miao Township, Shihai Township and Liwangshan Township; (4) Construction of new standardized organic selenium-rich green tea bases in Zhoujia Township, Dahe Miao Township and Shihai Township; (4) Construction of standardized organic selenium-rich green tea bases in Daba Miao Township, Jiusi Township and Xian Peak Miao Township, Five-Star Township, Kirin Miao Township to build kiwifruit standardized production base; in Dahe Miao Township, Gongle Town, Lianhua Town, Zhoujia Town to build standardized plum base.

3.2 To Strengthen Quality and Safety Guarantee

Highlighting the supervision of the quality and safety of agricultural products to ensure the “safety on the tip of the tongue”. We will accelerate the improvement of the grass-roots supervision, testing and comprehensive law enforcement system, strengthen the specialized construction of township supervision services and the allocation of village-level coordinators, so as to achieve “personnel, funds and equipment” at all levels. Actively advocate the detection of pesticide residues and other harmful substances in agricultural production bases, wholesale markets and agricultural trade markets, demonstrate and popularize rapid detection technology, strengthen the quality and safety access of agricultural products market, and conduct spot checks, investigations and monitoring on the environment of agricultural products origin and agricultural inputs periodically or irregularly. Accelerate the construction of traceability system and system for quality and safety of agricultural products. According to the principle of traceability in every link from production to sale, a system for recording production and operation of agricultural products is established. Network technology and its equipment, such as bar code and RFID tag, are used to endow the products with “ID card” and traceability code, so as to realize the production, sale and sale of agricultural products. Circulation and service monitoring and management. We will vigorously promote the identification of “three products and one standard” origin and product certification, organize the establishment of standardized production, build a number of standardized production bases for vegetables, fruits and cereals, and give full play to demonstration and leading role in process control, reduced production and ecological environment protection.

4. Conclusion

Xingwen County has made great progress in the field of modern agricultural development in recent years. The choice of its modern agricultural industry system should take into account the position of its modern agricultural industry in the development of modern agricultural industry in the whole province, the advantages of the development of agricultural industry in Xingwen County, the superior natural conditions of the development of modern agriculture in Xingwen County and the industrial basis formed by the long-term development. Fundamentally speaking, accelerating the

construction of modern agricultural industry system should focus on adjusting the structure of agricultural industry, optimizing the distribution of agricultural industry and strengthening the characteristic superior industries; from the point of view of the security system, accelerating the construction of modern agricultural industry system in Xingwen County should start from project construction and strengthening the quality and safety guarantee. Only by means of multiple measures and facilities at the same time can we promote the construction of modern agricultural industry system in Xingwen County.

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