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A Study on the Construction Mechanism and High-quality Development Path of Jiaxing Agricultural Science and Technology Park

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ABSTRACT: Agricultural science and technology park has deduced a brand-new economic development model in the era of science and technology agriculture, created a new economic form of science and technology agriculture industry, and will become the mainstream of agricultural development in the 21st century. Promoting the construction mechanism of agricultural science and technology parks is to show and demonstrate the achievements of advanced agricultural technology and management mode, and to use its demonstration effect to exert the radiation influence effect from point to area, so as to further promote the structural reform of agricultural supply side and promote the high-quality development of regional agricultural economy. Therefore, this paper intends to fully understand the present situation of Jiaxing Agricultural Science and Technology Park by exploring its construction mechanism, so as to provide effective reference for planning the high-quality development path of Jiaxing Agricultural Science and Technology Park, and combine the current market agriculture situation to build the agricultural science and technology park with high standards and high quality, so as to scientifically guide farmers to adjust agricultural structure according to market orientation, innovate agricultural service system, and change agricultural organization mode, thus improving the degree of marketization, industrialization, informationization, standardization and extroversion of agriculture.

Keywords: Construction Mechanism, High-quality Development, Jiaxing Agricultural Science and Technology Park

I. INTRODUCTION

It provides a case study for the construction mechanism and high-quality development of agricultural science and technology parks, which is helpful to promote the development of related research and make up for the shortcomings of existing research in China. There are relatively few studies on the combination of mechanism construction and high-quality development path in agricultural science and technology parks in China, and the existing studies are mostly theoretical and speculative, lacking in-depth mechanism research and typical empirical case analysis. This paper just meets the requirements of these two, filling the gaps in relevant aspects, and hoping to provide certain reference and reference value for theoretical research and empirical analysis on mechanism construction and high-quality development path exploration of agricultural science and technology parks.

Give full play to the role of "Innovation Center of Jiaxing Modern Agricultural Science and Technology Park" in practice, establish an in-depth cooperation mechanism with the Institute of Industry, Government and Research, and strengthen the research and demonstration of new varieties, the promotion service of new technologies and the incubation operation of new models. Encourage the park to establish close cooperation with scientific research institutes or institutions of higher learning, and set up a team of scientific research and innovation experts. For the existing parks with good foundation and strong scientific research strength, we will speed up the construction of experimental bases, R&D promotion centers and other institutions, and carry out research on industrial basic and cutting-edge fields from the whole industry chain such as improved seed breeding, production guidance, technology promotion and product development, so as to seize the commanding heights of industry development. Secondly, changing the mode of agricultural production, developing green agriculture, making the leading industry bigger and stronger, and enhancing the driving force of the park are the only way for modern agricultural parks to achieve high-quality

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development. Therefore, according to the development idea of "one park, one brand", based on the existing foundation, superior characteristics and resource endowment, combined with the delineation of production function areas, important agricultural products protection areas and characteristic agricultural products advantage areas, we can do a good job in industrial characteristics, expand industrial norms and strengthen industrial clusters. Each park concentrates on building a leading industry through the construction mechanism, providing strong industrial support for industrial prosperity and rural revitalization.

II. LITERATURE REVIEW

Wanget al.(2020)with the rapid development of the global IoT and various information technologies, the construction of “smart city” has been gradually put on the agenda, and at the same time, the smart management of the National Agricultural Science and Technology Park will also become the key content of smart city construction. This paper proposes a scheme design of smart platform for the agricultural science and technology park, and lists the basic contents of the construction of the smart park. The proposed scheme design of smart platform applies 5G, AI, cloud computing, Internet of Things, mobile Internet and other new ICT technologies to solve the long-term pain points faced by traditional agricultural science and technology parks, including poor service experience, weak comprehensive security, low operational efficiency, high management costs, difficult business innovation, and so on. Because of the construction of the smart park has many contents and a long construction period, this paper discusses the specific design options of smart platform for the agricultural science and technology park. It can provide users with better service perception and help enterprises achieve innovative development through digital transformation. Based on the proposed smart platform, the business subsystem of the agricultural science and technology park is opened horizontally, through data fusion to business integration, to help customers more efficiently and agilely solve business problems that are difficult or even impossible to solve with traditional technical means. The future development and the impact on the life of people. Yu et al.(2021)an agricultural science and technology park (ASTP) is a new mode of agricultural development supported by science and technology. At present, research focuses on diseases and insect pests, intelligent irrigation, greenhouse environment-specific crop monitoring, and other individual issues, in which the utilization efficiency of agricultural information technology is low. The purpose of this study is to fully grasp the change in the ecological climate of ASTPs and improve their intelligence level. This study, based on the Internet of Things of agricultural information transmission and control, designs a greenhouse climatic and agricultural science and technology park and unifies the field intelligent control and scientific research and production integration management platforms. Standardized planting and a field monitoring center for large data visualization analysis for scientific research and production are used to achieve real-time online mining analysis, monitoring, and early warning and decision support services. A software terminal is used to prompt on-site management measures and early warning according to weather changes. After one growing season, the labor force was reduced by 20%, the use of pesticides by 20%, and the use of water resources and fertilizers decreased. Practical application shows that the system runs stably and meets the demands of ecological environment monitoring in ASTPs.

III. MECHANISM INTRODUCTION

The construction mechanism is mainly embodied in five aspects: technical innovation support mechanism, diversified investment integration mechanism, business transposition development mechanism, revitalizing industrial layout mechanism and human resource optimization mechanism.

Table 1 Construction mechanism table

Mechanism	Specific content
Technical innovation support mechanism	In order to find out the economic model, ecological model and scientific evaluation index system that are more suitable for the development of the park, we should explore the development path of factor upgrading, the path of green recycling and low carbon and the path of organic combination of supply and demand from three aspects: research and development of high-tech products with high added value, the construction of complete environmental protection, energy saving and emission reduction technology and the innovative research and development model of Industry-University-Research.
Multi-investment integration	Explore the path of organic combination of supply and demand, the path

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mechanism	of business innovation and the path of regional resource allocation from three aspects: multi-participation mode, multi-investment strategy and multi-win situation, so as to increase the investment of special funds and focus on supporting the large-scale and commercial development of leading products with independent intellectual property rights and their advantageous industries.
Management transposition development mechanism	Explore the development path of factor promotion, scientific and technological innovation and regional resource allocation from three aspects: resource integration, comprehensive management to form synergy, product innovation coordinated development and information sharing coordinated development, reasonably arrange the horizontal layout, vertical layout and functional orientation of agricultural science and technology parks, select the leading products and advantageous industries of the parks, avoid similarities and repetitions, and build agricultural science and technology parks into modern agricultural new technological innovation systems, demonstration and extension systems and industrial development systems that meet the requirements of Jiaxing's agricultural development in the new stage.
Revitalize the industrial layout mechanism	Explore the path of regional resource allocation, business innovation format and scientific and technological innovation development from three aspects: regional agglomeration development, large-scale operation and improvement of preferential policies. It is necessary to highlight high technology and high starting point, highlight the development of new products and technologies independently researched and developed, and rationally arrange technological innovation, technological transformation development and technology popularization and application, as well as the coordinated development of enterprise benefits, park benefits and driving farmers to become rich.
Optimization mechanism of human resources	We should explore the development path of factor promotion, regional resource allocation and cultural empowerment from three aspects: talent training design, talent introduction system and talent development planning, and vigorously introduce and cultivate a group of high-level technical talents, marketing talents and entrepreneurs with high quality, knowledge of technology, management and good management. Conditional parks should attract scientific and technological personnel living abroad to work in order to enhance the stamina of innovation and development in the park.

IV. KEY PROBLEMS TO BE SOLVED

Due to the short construction and development time of agricultural science and technology park in Jiaxing, there are still many problems in the regional layout, functional orientation, operating efficiency and operating mechanism of the park, which are embodied in four aspects:

(1) The attention is not deep enough

At present, Jiaxing Agricultural Science and Technology Park is not paid enough attention to, and its positioning is not clear. The agricultural science and technology park is seriously lacking in personnel investment and capital and technology investment, which directly leads to its failure to fully develop. Secondly, there is no effective integration relationship between the relevant single departments and agricultural science and technology departments, and there is a lack of stable, clear and sustainable development policies for agricultural science and technology parks.

(2) The operation mode does not match the market demand

The operation mechanism of agricultural science and technology park is imperfect and its development lacks vitality. The government can be the main investor of agricultural parks, but the main operator should be enterprises. At present, the local government intervenes too much in the operation of the park, emphasizing the display of political achievements and neglecting the embodiment of benefits. Its management system and operation mode are basically in accordance with the planned economy operation system and management mode, which leads to the difference between the project selection and development and the actual market demand.

(3) The quality of personnel needs to be improved

The number of agricultural scientific and technological talents in agricultural science and technology parks is small, and the agricultural technology structure is unreasonable, which can not meet the requirements of high-tech agriculture development.

(4) The investment in funds is relatively insufficient

The investment subjects of agricultural science and technology park construction are diversified, but the investment is insufficient. The construction funds of agricultural science and technology park mainly come from local financial support, financial loans and enterprise investment, and the investment scale is generally small. And scattered in different departments, it is difficult to concentrate funds to arrange and implement some forward-looking and overall industrial development projects of agricultural science and technology parks to support the development of agricultural science and technology parks.

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