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# Sichuan Agricultural Science and Technology Service Industry: Current Station, Problems and Countermeasures

**Yixin He**

School of Economics, Sichuan University of Science & Engineering, Zigong, China

**Email address:**

hyx19920111@163.com

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**Abstract:** The development of Agricultural Science and Technology Service Industry is of great significance to promote the modernization and high-quality development of agriculture. The service industry of Agricultural Science and technology in Sichuan is characterized by the diversification of agricultural science and Technology Service Subjects, the diversification of agricultural science and Technology Service modes, and remarkable achievements in agricultural science and Technology Service, however, there are some problems such as the shortage of agricultural science and Technology Service personnel, the disconnection between the supply and demand of agricultural science and Technology Service, the segmentation of Agricultural Science and Technology Service Management, the backward construction of agricultural science and technology service system, and the difficulty of agricultural science and technology supervision. By focusing on the cultivation of science and Technology Service Industries in seven major fields such as R & D design, information resources and business incubation, to promote the development of agricultural science and Technology Service Industry, we will implement related policies such as industry access, innovative financial policies, improving investment and financing system, and strengthening the construction of agricultural science and technology service personnel.

**Keywords:** Agricultural Science and Technology, Modern Agriculture, Science and Technology Service

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## 1. Introduction

Agriculture is the foundation of the national economy. China's agriculture is in the critical period of the transformation from traditional agriculture to modern agriculture. The mode of agricultural development is changing from resource-dependent to science and technology-driven. R & D and Innovation of Science and Technology has become the main driving force of the transformation of agricultural modernization in the new period. The healthy development of science and Technology Service Industry, which provides all-round service for Science and Technology R & D and Innovation Activities [1], is the strong support and guarantee of science and technology innovation. As an important part of modern service industry, science and Technology Service Industry was born under the background of Industry Refinement and industry integration. Because of its background and the particularity of the service object, the Science and Technology Service Industry has the characteristics of intelligence-intensive, talent-intensive,

industrial added value, strong radiation and driving effect on the related industries. Especially for agriculture and rural areas, the development level, scale and quality of the Science and Technology Service Industry surrounding the research and Development and innovation activities of agricultural science and technology determine the quality and innovation level of agricultural science and technology activities in Sichuan, thus will have the profound influence to the Sichuan agricultural modernization transformation speed and the quality [2].

## 2. Analysis on the Current Situation of Agricultural Science and Technology Service Industry in Sichuan

### 2.1. The Principal Part of Agricultural Science and Technology Service Has Diversified Trend

Sichuan serves for the Agricultural Science and technology the organization multiplication coexists, the commonweal

type and the management type coexists. There are agricultural universities, scientific research institutes, enterprises and platforms. There are 30 agricultural universities, such as Sichuan University, Sichuan Agricultural University, Sichuan Light Chemical University, Southwest University for Nationalities, etc. The Chengdu Branch of the Chinese Academy of Sciences, the China Research Institute of Testing Technology, the Sichuan Academy of Social Sciences, the Sichuan Academy of Agricultural Sciences and other scientific research institutes; more than 260 leading agricultural enterprises with sales of more than 5 million yuan, grain, oil, pig, beef cattle, poultry, aquatic products and tea are the preponderant and characteristic industries of Sichuan Province Leshan, Yibin and other four state-level agricultural science park, 93 provincial agricultural science and Technology Parks and 20 key agricultural laboratories above the provincial level. In addition, there are still a large number of agricultural engineering technology research centers, expert compounds and special scientific and technological personnel, and nearly 100 municipal and county rural industry technology service centers covering the fields of agriculture, livestock and poultry, and aquatic products have been built. There are more than 100,000 agricultural science and technology personnel in the province, among which one is an academician, one is an Outstanding Youth Fund winner, and 97 of them are provincial academic and technical leaders [3].

## **2.2. Diversified Service Modes of Agricultural Science and Technology**

### **2.2.1. "Sending Technology to the Countryside" Mode**

Development and Reform bureaus of all countries in Sichuan, science, technology and intellectual property bureaus, county agricultural bureaus, county education bureaus and other science popularization units regularly or irregularly visit villages and towns, carry out "innovation-driven development, science and technology rich farmers benefit the people" science publicity and centralized service activities, Take on-site interviews with the masses, field free medical consultation, the service activities of sending science and technology to rural areas should be carried out in the form of science and technology, Intellectual Property Rights, meteorology, planting, breeding, general knowledge of life, laws and relevant scientific and technological information on display of new products. For example, on March 3, 2016, 29 members of the Bureau of Development, reform, science, technology and intellectual property of Rong County, Zigong City, organized the County Education Bureau and other science popularization units to Gujia Township, Rong County, launched in 2016, "innovation-driven development, science and technology rich farmers benefit the people," the science publicity service activities. More than 3500 people were interviewed on the spot, more than 200 people were given free medical consultations, and more than 36000 publicity materials were sent. Through such service activities as sending science and technology to the countryside, farmers' awareness and scientific quality have been further raised, which has played a positive role in popularizing scientific

knowledge, advocating scientific methods and promoting the work of intellectual property rights, for Sichuan Agricultural Development and rural grass-roots governance capacity to provide a strong technical support and intellectual support.

### **2.2.2. Service Mode of Agricultural Science and Technology in Colleges and Universities**

Sichuan colleges and universities have a large scale of high-quality professional talents related to "agriculture, rural areas and farmers", which has become the main position of agricultural science and technology innovation in Sichuan and the cradle of training high-level talents serving "agriculture, rural areas and farmers", it is characterized by having a large number of science and technology practitioners and producing a lot of practical agricultural scientific and technological achievements, the teachers and graduate students of these institutions have the most timely and comprehensive knowledge of modern agricultural knowledge, agricultural product market development and relevant policies and regulations. Moreover, agricultural universities usually have more advanced instruments and equipment and are far better than local agro-technical services in solving the practical problems of production in agriculture and rural development [4]. At present, sichuan-related colleges and universities in rural science and technology services have continued to explore, there are a variety of models. For example, Sichuan Province Agriculture and Industry Committee led the establishment of the provincial and municipal decision-making Advisory Committee of the Expert System Model, Chongzhou's rural expert courtyard model, Meishan's school-enterprise cooperation model, Ya'an's New Rural Development Institute model, school-county Cooperation Model. And the paths and forms of Agricultural Science and Technology Service in colleges and universities must be targeted and diversified, it can provide technical, information and operational services for agricultural development by establishing demonstration bases, project cooperation, Knowledge Training, on-site guidance, equipment and book sharing, and occasional exchange and study.

### **2.2.3. Agriculture-related Representative Enterprise-oriented Agricultural Science and Technology Service Mode**

The so-called agriculture-related representative enterprise-oriented science and Technology Service mode is to let the leading enterprises in a certain field of regional agriculture give full play to their advantages in understanding consumer demand, having close contact with farmers and leading the role, etc., to improve their own level of agricultural production technology and management level as the driving force, through exploring the innovative path of modern agricultural industrial organizations, to give full play to the role of agricultural science and technology innovation as the main channel for providing services, while, can also give full play to the "spillover effect", let region in which the enterprise is located achieve rapid development of related industries. In this mode, the principal part of providing agricultural science and Technology Services is the agricultural science and

technology personnel, while the workers of enterprises and affiliated farmers are the service objects of the science and technology personnel, while the enterprise's own technicians both receive the services of the Agricultural Science and technology personnel, at the same time, farmers and other agricultural operators to provide scientific and technological services. The significant advantages of this mode are as follows: In the service system, agricultural representative enterprises not only accept the scientific and technological services of Agricultural Science and technology personnel, but also undertake the task of organizing and coordinating the service providers and the contacts between the service objects. It reflects and consults agricultural experts and scholars on practical problems arising from production and operation in a timely manner and serves as a link between agricultural experts and farmers, while transferring the technical knowledge gained from technical training to farmers. The content of this service model mainly includes inviting and hiring experts to give technical lectures and guidance, building demonstration bases and supervising scientific and technological services. The leading enterprise-oriented science and technology service mode has the characteristics of tight service chain, three-dimensional efficiency and reasonable operation mechanism [5].

#### **2.2.4. Tech Correspondent Mode**

Based on the practical needs of farmers' production and operation, and at the same time, it is more beneficial to the innovation and Entrepreneurship of Agricultural Science and technology. It has established a community of "sharing risks and benefits" with farmers and the main bodies of agricultural economic activities by going deep into rural communities to carry out scientific and technological entrepreneurship and service activities, various agricultural scientific and technological innovation and entrepreneurial organizations are guided to integrate scientific and technological resources, information, capital, management and other modern economic factors, thus promoting the further development of rural innovation and entrepreneurial activities, and thus promoting the integrated development of the primary, secondary and tertiary industries [6].

Taking Sichuan Province as an example, in 2014, nearly 10,000 science and technology envoys were sent to the countryside to set up business entities, carry out technology contracting, help co-transformation and other rural entrepreneurial activities, and focus on the development of rural advantageous and characteristic industries, it has further intensified the transformation of agricultural scientific and technological achievements and created a good atmosphere for mass innovation and mass entrepreneurship. Some 614 science and technology commissioners in the province have established or led 315 enterprises and 906 cooperative organizations; Industrial Science and Technology Commissions have been set up around the creation and development of the youte brand of agricultural products, and 630 science and technology commissioners have adopted the method of technology contracting, to help enterprises solve

key technology bottlenecks, provide science and technology support in the whole industry chain, and create 19 science and technology innovation industry chains, such as the pig, among them live pig, pickles, goats, edible fungi, walnut in 2014 successfully upgraded to the national entrepreneurial chain, industrial chain annual output value of more than 9 billion yuan. In accordance with the needs of enterprises and the market, 1,085 science and Technology Commissioners have carried out collaborative innovation and transformation among enterprises, universities and research institutes [7].

#### **2.3. The Effect of Agricultural Science and Technology Service Is Remarkable**

The achievements of Agricultural Science and Technology Service in Sichuan Province are remarkable, which are embodied in tackling key problems and transforming achievements. In the area of scientific and technological research, breeding, intensive processing of agricultural products, extension of the industrial chain, cultivation of new economic growth points of biology, research on standards provide scientific and technological support for Food Safety, high-yield food science and technology projects, the implementation of modernization of traditional Chinese medicine. The transformation of achievements can be seen in the following aspects: remarkable achievements in enriching the people by spark, gradual emergence of Agricultural Science and Technology Parks, initial achievements in the construction of a new type of rural science and Technology Service System, the coverage of the rural science and Technology Information Service Network in Sichuan Province, obvious effects of science and technology training and popularization of science and technology, the promotion of regional coordinated development by Spark Special Action Plan for poverty alleviation through science and technology, and remarkable effects of science and technology pilot demonstration (figure 1).

### **3. Main Problems in the Development of Agricultural Science and Technology Service Industry in Sichuan**

#### **3.1. Agricultural Science and Technology Service Personnel in Short Supply**

At present, the supply of Rural Agricultural Science and Technology Service personnel in Sichuan exceeds the demand and can not meet the demand of agricultural science and Technology Service in Sichuan. The number of staff employed in the agricultural service centers of counties and townships (towns) is seriously insufficient, and the number of staff in the authorized staff of the editorial committee (office) is not full. On average, the number of staff in the authorized staff accounts for about 80% of the authorized staff (table 1, table 2). There is a widespread phenomenon that the rural agricultural service centers are not in their posts, and the personnel engaged in the agricultural technical service are in

short supply. For example, in the Dongpo District of Meishan City, although there are 102 people in the establishment of rural agricultural undertakings and 118 in fact, there are only over 40 people actually engaged in agricultural technical services, with an average of less than 2 people in each rural agricultural service center, and there are also a few non-professional technical personnel, as a result, the

agricultural science and Technology Service Work is difficult to put in place. Many County Agricultural Bureau technical personnel, overconfident but insufficient, can only select part of the typical township (town), professional big family, base, farmer professional cooperatives, leading enterprises and so on to provide agricultural science and technology services.

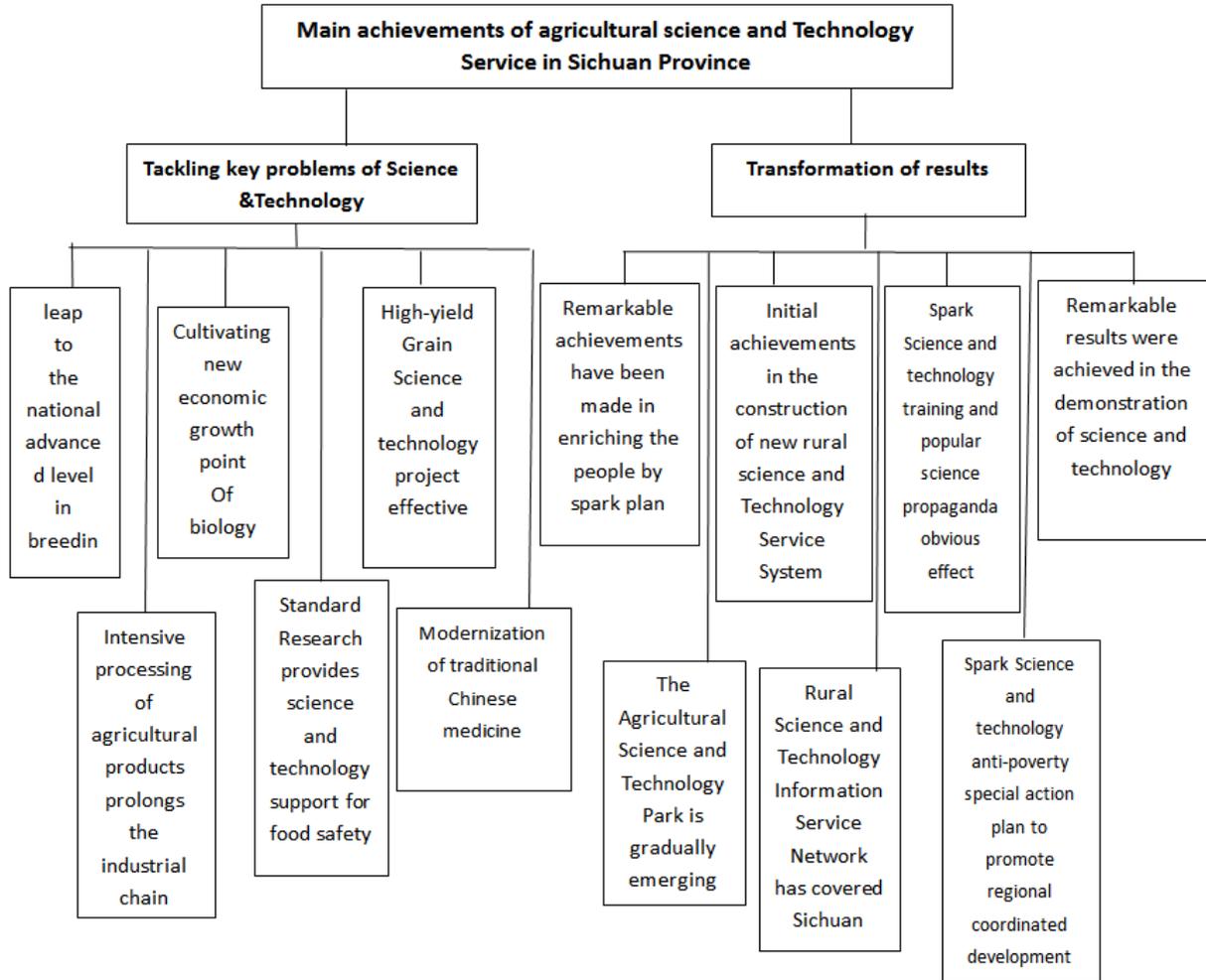


Figure 1. Main achievements of agricultural science and Technology Service in Sichuan Province.

Table 1. Statistics on the number of personnel of agricultural technology extension system at the grass-roots level in Sichuan Province (county level).

categories	Plantation Industry	Farm Machinery	Animal husbandry	Aquatic products	Total
Number of staff authorized by the editorial board (office)	12694	1466	7243	1158	22561
Actual number of On-duty employee	10546	1173	5421	896	18036
Staff on duty as percentage of approved number	83.08%	80.01%	74.84%	77.37%	79.94%

Data Source: Sichuan Provincial Department of Agriculture.

Table 2. Statistics on the number of rural agricultural extension system personnel in Sichuan Province (township level).

categories	Plantation Industry	Farm Machinery	Animal husbandry	Aquatic products	Total
Number of staff authorized by the editorial board (office)	15449	3185	17076	1493	37203
Actual number of On-duty employee	11900	2363	14655	1351	30269
Staff on duty as percentage of approved number	77.03%	74.19%	85.82%	99.49%	81.36%

Data Source: Sichuan Provincial Department of Agriculture.

The main reasons for the shortage of agricultural science and Technology Service personnel are as follows: First, the

introduction of personnel and the difficulty of promotion. Due to the serious shortage of professional and technical posts at the middle and senior levels, many technicians have already obtained the qualification for the middle and senior levels, but due to the limitation of the index, they have not been hired because of the evaluation, and they have to wait in the queue for the appointment of the index. As a result, their work enthusiasm has decreased, resulting in the loss of some talents; The introduction of personnel has also been affected, as well as the reluctance of knowledgeable technical personnel to move to the agricultural technical services sector. For example, in the Dongpo District of Meishan City, there are only 8 high-level technical posts in the district-level public institutions, and at present there are 11 people who have already obtained qualifications, and 3 people can not be employed because of the shortage of posts; there are 21 middle-level technical posts, and 32 people who have already obtained qualifications, 11 persons are not available for employment; only 3 senior technical posts are available in rural public institutions and 12 persons are currently qualified; 9 persons can not be employed because of the lack of posts; in recent years, the public institutions under the district agricultural bureau have recruited more than 10 high-level graduates and are in short supply of professional and technical personnel, but because of the serious shortage of middle-and high-level technical positions, even the middle-level technical positions can not be promoted. As a result of technical job promotion blocked, resulting in unstable people, job enthusiasm, is likely to be lost.

Secondly, villages and towns have many affairs and are short of manpower, while the establishment of the agricultural technology service center is relatively large. Many villages and towns take the approach of recruiting personnel into the Agricultural Technology Service Center, and then borrow personnel from the agricultural technology service center to other departments, the number of people actually engaged in agro-technical services is small because they are engaged in other jobs; these agro-technical services are also engaged in other jobs, so they can not be fully focused on agro-technical services, the service of Agricultural Science and technology can not meet the demand of agricultural development.

Third, the performance can not mobilize the enthusiasm of agricultural science and technology personnel. In accordance with the current fiscal input model and performance-based wage policy of the public institutions, the implementation of total wage control over all incomes of public institutions personnel is not conducive to mobilizing the enthusiasm of scientific and technological personnel, no or little year-end performance appraisal reward.

### ***3.2. Disconnection Between Supply and Demand for Agricultural Science and Technology Services***

The demand of agricultural science and technology is exuberant, but the supply is insufficient, the bridge, mechanism and channel between the supply and demand are not unobstructed. Because of the different purposes of production and operation, the traditional farmers and the new

agricultural operators have different demands for agricultural science and technology services. Traditional Farmers' agricultural production is generally used for their own livelihood, and the surplus is likely to be traded in the market. They have little demand for agricultural science and Technology Services. The new agricultural management subjects, such as representative enterprises, farmers' professional cooperatives, family farms and professional large households, aim at seeking the maximum profit, and they demand the agricultural science and Technology Service. China's agricultural science and Technology Services for Public Welfare Services, by the Agricultural Bureau, Forestry Bureau, Animal Husbandry Bureau, Science and Technology Bureau, Township Agricultural Technology Service Center. These traditional science and technology service organizations are doing their job of demonstrating practical technologies at the forefront of agricultural production to farmers. The supply of conventional and traditional technology can basically meet the needs of farmers, but the characteristic planting and breeding technology can not meet the needs. The reasons are as follows: The initiative of the service is not enough, and the consistency between the service provided and the actual demand of the main agricultural operators is poor. In Public Welfare institutions, expert teams from provinces, prefectures and cities serving the farming industry, water conservancy, forestry, fishery and animal husbandry have been set up. There is an expert network and an expert pool, but the network experts have not been integrated, supply and Demand Intermediate Bridge, mechanism, channel blocked, the two sides did not meet, enterprises need, no way to check, find technical services can only private inquiry, experts can not find the market. In 2013, for example, in Sichuan Province, there were 87 rural industry technical service centers, 60 of which were initiated by government departments, accounting for 69 percent; 7 by enterprises or social organizations, accounting for 8 percent; and 20 by public institutions, accounting for 23 percent. The results transformation rate recommended by the Rural Industry Technical Service Center to enterprises is only 8%, and nearly 90% of the technological needs of enterprises can not be met. Less than 5% of the profits of the Rural Industry Technical Service Center are realized through the service, and only 5% of the times of the initiative to the Enterprise Service [8].

### ***3.3. Segmentation of Agricultural Science and Technology Service Management System***

The existing agricultural science and technology service institutions are subordinate to different management departments, and the service fields are in a state of industry segmentation, with administrative functions and professional fields being separated from each other. From the perspective of administrative functions, since the administrative departments in charge of science and technology resources in various industries have different administrative functions based on the Division of Administrative Authority, each department with different supporting emphasis and different supporting links manages and serves the same industry; the

compartmentalization of Administrative Management determines the compartmentalization of science and Technology Service System. However, from the perspective of the professional field, it is only theoretically possible to solve the problem of the segmentation of the service field through such institutional arrangements as the special commissioner system for science and technology and the New Rural Development Institute, since the current assessment system and performance evaluation mechanism for scientific and technological personnel are not scientific and reasonable, scientific and technological commissioners and experts from universities will focus their efforts on technological innovation based on realistic considerations, such as patents and inventions, applications for high-level projects, publication of scientific research papers, etc., instead of devoting major efforts to the service link, coupled with the administrative operation of scientific research institutions, resulting in the coordination of cross-sectoral, cross-unit scientific and technological services, etc., the current service system of agricultural science and technology with the characteristics of compartmentalization is difficult to guarantee the technical demand of the whole agricultural industry chain.

#### **3.4. Backward Construction of Agricultural Science and Technology Service System**

The Western developed countries all have sound and effective agricultural science and Technology Service Systems. Relatively speaking, the construction of China's agricultural science and Technology Service System started relatively late and its development is relatively backward, and it is difficult to meet the needs of Agricultural Science and Technology R & D and Innovation Activities, then becomes the agricultural science and technology development, the agricultural modernization transformation bottleneck. One of the concrete manifestations is the limited number of organizations engaged in agricultural science and technology services that have independent legal personality at the provincial level in China, it is common practice to set up internal bodies within other units to serve agricultural science and technology activities or to simply put up a sign. The vast majority of Agricultural Science and Technology Service Organizations at the prefectural, municipal and county levels do not have independent legal person status, and the various existing agricultural science and technology service organizations have various names and loose organizational forms, it is difficult to form a high-efficiency service system that serves the R & D and Innovation Activities of the main body of new-type agricultural management. Taking Sichuan Province as an example, 87 rural industry technical service centers have been built and registered in civil affairs, of which one is at the provincial level, seven are at the municipal level and 79 are at the county level, covering only one third of the administrative cities and less than 45 percent of the administrative counties in the province, the coverage of administrative areas is not enough, and the service capacity for enterprises, farmers' special cooperation organizations and large professional

households is not strong [9].

#### **3.5. Regulation of Agricultural Science and Technology Is Difficult**

There are three difficulties in the supervision of Agricultural Science and technology: First, in the supervision of the quality and safety of agricultural products, the awareness of agricultural producers on the quality and safety of agricultural products, the lack of self-discipline in inspection, and the low enthusiasm for the certification of "three products", county, township and other grass-roots governments on the quality and safety of agricultural products in the daily inspection and testing work is not in place, guidance of village coordinators to carry out supervision work is not enough; The general consumer to the pollution-free, the green food, the organic food cognition degree also needs to enhance. Second, Rural Biogas Safety Supervision. There are also large-scale breeding farms, large and medium-sized biogas projects, joint household biogas projects. Rural Biogas users are basically farmers, the level of education is generally not high, no emergency handling capacity. Third, agricultural means of production market supervision. The management of agricultural means of production is extensive, the supervision is difficult, the business ability of some agricultural means of production is not high, the level of management is low, the consciousness of laws and regulations and the level of skills need to be improved urgently It is difficult to deal with high toxic and residual pesticides, fake pesticides and expired pesticides.

### **4. Development Countermeasures of Agricultural Science and Technology Service Industry in Sichuan Province**

#### **4.1. Development of Agricultural Science and Technology Service Industry in Sichuan**

We will deepen the reform of the scientific and technological system, give full play to the decisive role of the market in agricultural scientific and technological research and development and technological innovation, and strengthen and improve the service functions of governments at all levels in optimizing the scientific and technological innovation environment, deepen the reform of the government system in the direction of serving the needs of scientific and technological innovation and promoting the innovation capability of industries, improve the quality of scientific and technological services provided by the government with the support of innovative technologies, the government should make greater efforts to pool resources and innovate the service model; at the same time, efforts are being made to cultivate and strengthen market players in the provision of agricultural science and Technology Services, improve the science and technology innovation service chain, and promote national science and technology service pilot projects in the areas of big data applications and the

construction of Science and Technology Cloud Service alliances [10], promote the construction of science and technology service clusters in Chengdu and Mianyang, promote the development of agricultural science and Technology Service Specialization, networking, scale and internationalization, and make the Agricultural Science and technology service industry an important supporting force for the agricultural economy.

#### **4.2. Development Path of Agricultural Science and Technology Service Industry in Sichuan Province**

##### **4.2.1. Promoting the Development of R & D and Design Services**

The core is to guide scientific research institutions, representative agricultural enterprises to increase agricultural new, Core Technology R & D Investment, Improve R & D Service System.. Focus on serving the important, key technology and common technology of agricultural development in Sichuan. In particular, it is necessary to provide high-quality financing, personnel training and supply services for the research and development of new agricultural varieties with high yield, good quality and stress resistance, which are suitable for the natural conditions and climatic environment of Sichuan.

##### **4.2.2. Quality of Service of Information Resources**

Agricultural Informatization is the symbol of agricultural modernization. Actively expand the development space of new information services such as “cloud computing, digital publishing, network value-added services, spatial data services and remote diagnosis and treatment” in rural areas, we will vigorously promote the application of big data and information network technologies in the field of agricultural production and management and in rural governance. We should speed up the construction of “new infrastructure” in rural areas and promote the “three-network integration” and “multi-network integration” in rural areas, so as to effectively integrate agricultural scientific and technological information and gradually realize the intelligentization of all links in agricultural production and management activities, to realize the sharing of agricultural science and technology resources in the whole field and to set up the public information platform. And carries out the network education, causes the expert, the superintendent, the agricultural technical personnel, the new agricultural management main body, the science and technology demonstration household to understand the new information promptly. Develop on-line supply and demand through services, so that agricultural technology experts and agricultural operators through the network to achieve docking, timely provision of agricultural science and Technology Services [11].

##### **4.2.3. Development of Business Incubation Services**

We will strengthen the capacity of agricultural science and Technology Business Incubator and university science and Technology Parks to serve agriculture and rural areas. Establish and improve the industry management system,

strengthen the industry’s own organization. We should explore the network construction of agricultural science and technology incubator, form a rational layout of various types of incubator in regional space, and attract domestic and foreign science and technology talents to start their own businesses or obtain employment. Establish a seed or incubation fund.

##### **4.2.4. Fostering Healthy Agricultural Science and Technology Intermediary Service Industry**

Strengthening the quality of service to all links of agricultural intellectual property rights, and building a diversified network of service organizations for Agricultural Intellectual Property Rights, we will promote the use of agricultural-related patent technology information, Patent Licensing, patent litigation rights, Patent Pledge Financing and other high-end knowledge services [12]. We will encourage the establishment of agricultural technology transfer service providers and guide them to carry out technical consultation, product promotion, financing guarantee and other businesses.

##### **4.2.5. Optimizing the Structure of Financial Support Services for Technological Innovation**

To attract diversified high-end financial entities to establish various forms of agricultural science and technology venture investment entities in Sichuan, and to form a pattern of agricultural venture investment with government-guided investment as the auxiliary and private capital investment as the main; We will support investment banks, technology assessment agencies and other capital Operation Intermediary services to expand their business space to agriculture and rural areas, establish and improve the agricultural technology property rights trading market, and form an exit mechanism for agricultural-related venture capital. At the same time, the traditional financial institutions should be guided to increase their investment in agricultural science and technology services, and to promote diversified and deep-level credit products and model innovation in line with the characteristics of agricultural science and technology industry [13].

##### **4.2.6. Further Enhance the Ability of the Inspection and Testing Industry to Serve the Innovation of Agricultural Science and Technology**

We will deepen reform, liberalize market access for agricultural product inspection and testing in an orderly manner, and encourage market forces to develop third-party certification services for agricultural product inspection and testing Support Inspection and testing enterprises to expand the whole process of agricultural production and management of one-stop service areas, building a multi-level, multi-level collaborative service model; Special support shall be given to qualified agricultural technology and agricultural product inspection and testing institutions to operate independently. Constructing the whole course service system of agricultural technology standard.

### **4.3. Optimize the Policies Supporting the Development of Agricultural Science and Technology Service Industry in Sichuan Province**

#### **4.3.1. Strict Implementation of Industry Access**

In order to promote the structural optimization and upgrading of the Agricultural Science and Technology Service Industry, ensure the high-quality development of the agricultural science and technology service industry, promote the transformation of Sichuan from traditional agriculture to modern agriculture, and realize the high-quality, high-efficiency, ecological and safe development of modern agriculture [14], we will improve land productivity and the utilization of resources and energy, and, in accordance with relevant laws, regulations and industrial policies, formulate guidelines for admittance to the Agricultural Science and Technology Service Industry.

#### **4.3.2. Improving Fiscal and Financial Policies**

The central government should provide appropriate policy support to enterprises engaged in agricultural science and technology services through innovative policy tools, such as financial policy, the key projects and enterprises of the Science and Technology Service Industry may be supported by relaxing the examination and approval conditions for loans, project financing, setting up industrial investment funds, financing discount interest, etc., thus, it provides a favorable macro-environment for attracting private enterprises and foreign enterprises to invest in agricultural science and technology service industry. At the same time, through innovative financial support, we will explore ways to support enterprises to purchase science and technology services, increase financial and tax support, and give tax preferences to science and Technology Service enterprises that are identified as high-tech enterprises.

#### **4.3.3. Improving the Investment and Financing System**

To Build A MULTI-CHANNEL FUND INPUT SYSTEM: First, to increase financial market support for science and Technology Service Enterprises, and guide market investors to invest in agricultural science and technology services, in particular, the Agricultural Development Bank of China and the Agricultural Bank of China should play the role of the main channel for investment in agricultural science and Technology Service Industry Third, local governments should set up special funds and other means, we will support agricultural science and Technology Service enterprises in building public service platforms, innovating service models, and exploring international development paths to enhance their professional service capabilities for Agricultural Science and Technology R & D and Innovation Activities [15].

#### **4.3.4. Strengthening the Construction of Agricultural Science and Technology Service Personnel**

Local governments and industry management departments should make effective use of special plans for various types of existing talents, introduce and train a group of high-end talents who know agricultural technology, agricultural product

market, agricultural enterprise management and rural grass-roots governance Supporting innovative talents in agricultural science and Technology Service field such as relevant universities, scientific research institutes, returned students, senior managers of large enterprises, etc. Relying on various trade associations in agriculture and rural areas, we will carry out vocational skills training for Agricultural Science and Technology Service Personnel; and we will encourage the development of agricultural-related professional qualifications that are authoritative and self-disciplined in their profession, improving the professional quality and ability level of agricultural science and Technology Service employees.

## **5. Conclusion**

The development of Agricultural Science and Technology Service industry is of great significance to the modern development of agriculture in Sichuan. But some of the problems still exist today, such as the shortage of professional and technical personnel, the disconnection between the supply and demand of scientific and technological services, and the difficulty of technical supervision, if the relevant government departments can actively improve policies and improve investment mechanisms, strengthening the establishment of related policies and deepening the relationship with the corresponding enterprises will surely promote the rapid development of agricultural science and Technology Service Industry in Sichuan Province.

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