How Do Smallholders Develop Modern Agriculture in Chengdu: A Perspective of Sustainable Development of Social Service System

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Abstract. Realizing the organic connection between small farmers and modern agriculture is the first problem in the process of agricultural modernization in Chengdu. From the perspective of the construction of living service system, this paper proposes that to realize the organic connection between the development of small farmers and modern agriculture Chengdu city should follow four aspects: (1) building a diversified supply channel of agricultural social services guided by science and technology and information; (2) cultivating agricultural socialized service subjects by institutional innovation and organizational innovation; (3) expanding the function of agricultural social service on the basis of industrial integration; (4) rebuilding the interest connection mechanism of agricultural social service with the goal of sharing development.

1. Introduction

Although Chengdu has initially established a socialized agricultural service system, there are still problems such as vague management system, poor service quality, weak technology and few public services. This makes it difficult for small farmers to connect with modern agriculture effectively. Guiding the organic connection between small farmers and modern agricultural development through the construction of socialized service system, it is beneficial to transform the scattered production and operation of small farmers into cooperative production and joint operation, realize the effective connection between small-scale operation and outer market, reduce market and environmental risks, improve market competitiveness, improve the level of agricultural technical equipment, and promote the specialization of agricultural production. It is conducive to the combination of production, supply and marketing, to promote the circulation of agricultural products, to improve market forecasting and market information services for farmers, to help farmers adjust their economic activities in a timely manner, to strengthen their adaptability, to promote agricultural efficiency and farmers' income. But different scholars have different views about that. Some scholars think that realizing the organic connection between small farmers and modern agriculture should start from the scale and industrialization management of local modern characteristics and advantageous agriculture through arable land transferring and concentration. Other scholars think that achieving the organic convergence of small farmers and modern agriculture should strengthen the construction of modern agricultural production system, industrial system and management system then promoting the collaborative integration of the three systems. Some scholars also think realizing the organic connection between small farmers and modern agriculture should strengthen the action of new types of agribusinesses especially the leading agricultural enterprises. However, we think that the organic connection between small farmers and modern agriculture should start with the construction of social service system.

2. Building a diversified supply channel of agricultural socialized services on the basis of science, technology and information

2.1 Setting a network platform for small farmers to enter the development of modern agriculture

First of all, full coverage of network signals in rural areas should be achieved. Therefore, on one hand, the construction of rural network infrastructure should be strengthened to build a comprehensive information highway in rural areas, promote the implementation of the "broadband
China" strategy in rural areas, so that small farmers can access the Internet anytime and anywhere. On the other hand, the development of "information cloud", "intelligent network" and "service end" should be coordinated to provide a network basis for small farmers to obtain timely information services such as agricultural policy, agricultural technology promotion, market price. Secondly, the construction of rural logistics infrastructure should be strengthened. Therefore, on one hand, the construction of distribution facilities at the end of villages and towns should be strengthened to improve the logistics infrastructure of important nodes, improve the cold chain logistics system of agricultural products, and basically form a network system of urban and rural logistics infrastructure with reasonable layout, wide coverage, convenience, efficiency and strong guarantee. On the other hand, the implementation plan of "Internet + logistics" should be worked out to strengthen the Internet of things, cloud computing, big data be used in the field of logistics realizes the data platform docking among government departments, enterprises, social organizations and small farmers. Logistics resources allocation should be also optimized to improve the efficiency of logistics operation.

2.2 Establishing information service platform for small farmers to integrate into the development of modern agriculture

At the level of production management, Internet cloud farms ought to be established. Therefore, firstly, centralized management and unified analysis of agricultural data of scattered farmers should be carried out to help small-scale farmers develop production by using mobile terminals, and make reasonable production plans and provide targeted production services for farmers with different needs. Secondly, local governments should encourage small-scale farmers to promote production integration based on their own reality, and lead offline decentralized production with online scale effect, so as to improve small-scale farmers’ precision and technology in the process of agricultural production. Thirdly, new types of agribusinesses such as leading enterprises need to guide to connect with cloud farms, promote information sharing between small-scale farmers and modern agribusinesses, promote cooperation in the whole industrial chain, and form a pattern of agricultural risk sharing and profit sharing. At the level of marketing, the rural e-commerce platform should be developed to realize the simultaneous promotion of the downward movement of agricultural materials and the upward movement of agricultural products. Therefore, firstly, small-scale farmers should be organized to meet the diversified market demands, realize the information gathering of advantageous agricultural products in different regions, promote the promotion and sales of agricultural products through the Internet, and increase the agricultural economic benefits of small-scale farmers. Secondly, leisure agricultural marketing mode based on the E-commerce network sharing platform should be innovated to develop experience agriculture, folk tourism agriculture.

2.3 Creating a scientific and technological service platform for small farmers to integrate into the development of modern agriculture

First of all, we should actively develop new technologies suitable for small-scale agricultural production and encourage small-scale farmers to become users of new technologies. Based on the characteristics of small-scale agricultural production, establish a digital service system, research and promote agricultural technology related to sowing, fertilization, irrigation and other production behaviors in different stages of agricultural production, and build a high-quality and safe agricultural product supply barrier. Secondly, the research and development should be accelerated to promote agricultural intelligent equipment suitable for small-scale farmers, and build a sharing system of agricultural equipment. Make full use of modern science and technology to develop small-scale agricultural production machinery and precision agricultural technology services and establish equipment sharing system for large-scale agricultural machinery such as seeder, transplanter and combine harvester, so that small farmers can bear the use cost while using agricultural machinery, and improve the utilization rate of production factors and labor productivity of small-scale farmers.
2.4 Optimizing the financial service platform for small farmers to integrate into the development of modern agriculture

Firstly, rural financial institutions should actively innovate their products and service methods to meet the real production and life needs of scattered small-scale farmers, and timely convey government decision-making and financial service information to small-scale farmers. Secondly, the financial service models need to be innovated. Due to the limitations of small-scale agricultural production, the production scale is not large, the agricultural economic benefits are low, and the financial demand is smaller than that of large-scale producers, but at the same time, the agricultural risks are smaller. This requires small and medium-sized financial institutions to innovate the service model in the comprehensive services of agricultural micro credit, agricultural technology, agricultural product marketing, etc to meet the needs of small farmers. Thirdly, an internet financial service platform should be established to collect and sort out the financial demand information of small-scale farmers. To develop agricultural Internet Finance so that scattered farmers can enjoy advanced social financial services.

3. Cultivate agricultural social service organizations driven by institutional innovation and organizational innovation

3.1 Strengthening the agricultural public welfare service system

Firstly, improving sustainably service capacity of public service institutions such as township or regional agricultural technology promotion, animal and plant disease prevention and control, and agricultural product quality supervision. Improving service institutions, and achieve full coverage. Through the establishment of the incentive mechanism that the subsidy is linked to the service performance, the enthusiasm and the promotion efficiency of the grass-roots agricultural technology service organizations can be improved. Second, the construction project of agricultural technology extension public welfare institutions should be implemented and encourage scientific research institutions to establish cooperation with local governments to develop service models such as expert yards, rural science and technology service supermarkets, and crop hospitals.

3.2 Cultivating agricultural operational service organizations

First of all, we should support farmers' cooperatives, professional service companies, professional technology associations and agricultural enterprises to provide low-cost, convenient and all-round services to small farmers. Secondly, local governments at all levels are encouraged to adopt the way of purchasing services, introduce a third-party division and cooperation mechanism, support qualified operational social service organizations to engage in agricultural social services, build a comprehensive carrier, and explore integrated development.

3.3 Training of agricultural socialized service talents

Firstly, we should vigorously cultivate new vocational farmers, relax the threshold of talent access, and pay special attention to cultivating a batch of new vocational farmers on the spot from traditional farmers, returning migrant workers, veterans, and rural college graduates, so that they can become a living force to promote and drive small farmers. Secondly, we need to improve the system of agricultural science and technology special commissioners. Based on the characteristics and needs of small-scale agricultural production, we need to establish an organization system and a long-term mechanism for agricultural science and technology special commissioners, vigorously develop small-scale agricultural machinery, integrated pest control and governance and other social services, with science and technology services and information services as the core, and encourage agricultural science and technology special commissioners to use scientific and technological achievements to drive small-scale farmers to start businesses.
4. Expanding the service function of agricultural socialization on the basis of industrial integration

4.1 Expanding the service function of agricultural socialization

In the current economic situation of the continuous development of modern agriculture and the deep adjustment of urban and rural economic structure, the comprehensive production of small farmers themselves based on their families no longer meets the needs of economic development. Small farmers in the original production experience to expand in production, need more powerful social services to ensure, such as in the production and processing of agricultural mechanization input and sales of information channels and fair negotiation mechanism. When a large number of small farmers change the mode of production of small families and join in the integration of rural industries, the demand for social services has formed.

4.2 Expanding social services to promote the participation of small farmers in the integrated development of rural industries

Under the background of the current urban-rural integration development and the integration development of primary, secondary and tertiary industries in the countryside, the function of social services should be closely linked to each link of small farmers and modern agricultural development, such as production, processing, sales and other links, and provide more refined services in depth with the market mechanism as the main driving force. Social services for small farmers to provide more accurate, convenient and affordable service products, so that small farmers with more confidence into the track of modern agricultural development. In the face of the development of modern agriculture, we should add more mature forms and strong strength to the wider supply market of means of production and consumer goods, and improve the sense of market competition and crisis of social services. At the same time, we should use the market mechanism to optimize the supply capacity of social services, and cultivate more suitable social service organizations for industrial integration and the development of small farmers.

5. Reconstruction of the interest linkage mechanism of agricultural socialized services with the goal of shared development

In order to encourage the organic connection between small farmers and modern agricultural development, it is necessary to form the stable income expectation of small farmers after participating in the development of modern agriculture, actively create the income sharing environment for small farmers to participate in the development of modern agriculture, and cultivate the trust foundation for small farmers to participate in agricultural socialized services by strengthening the frequency of interconnection between social service organizations and small farmers, so as to stabilize small farmers’ foundation of organic connection with the development of modern agriculture. The organic connection between small farmers and modern agricultural development can not only be reflected by the application of modern agricultural production factors, but also by joining the middle link of modern agricultural development. For example, when small farmers jointly purchase modern agricultural machinery for production and use through joint production and joint operation, they can also contract the mechanical equipment to the agricultural socialized service subjects, entrust them to provide agricultural mechanization leasing services, or small farmers use their spare time to join the socialized service organizations as the power source of Socialized services. In these links of value output of small farmers, we should ensure that they share the benefits of social services. However, due to the seasonality of agricultural production, the services provided by small farmers do not fully reflect the fixed labor relationship between companies and workers. Therefore, in order to realize the organic connection between small farmers and the development of modern agriculture, we need to
distribute the income fairly and fairly within the main body of social services, and guarantee the enthusiasm of small farmers to participate in social services by ensuring the income of small farmers.

6. Conclusion

To achieve the goal of smallholders developing modern agriculture, a highly integrated information and technology agricultural social service network should be established. And a professional social service talents team with market orientation ought to be built. otherwise, a socialized service platform for the whole agricultural industrial chain supported by policies should be also built.

References