

Thoughts on Participation of Supply and Marketing Cooperative System in Agricultural Social Service

Yong YANG*, Wensheng WANG, Min LI

Agricultural Information Institute, Chinese Academy of Agricultural Sciences, Beijing 100081, China

Abstract Agricultural social service is an important field in the development of modern agriculture. At present, agricultural social service should be based on the extension of the agricultural industrial chain and value chain. The supply and marketing system has important opportunity to participate in social services. It should be based on deep reform of supply and marketing system, rural industrial poverty alleviation, sustainable agricultural ecological development, development of farmers' cooperative organizations, and increase of organization efficiency. It is recommended to undertake works in construction of platform of supply of agricultural products, commercialization of agricultural technology services, scale development of community-supported agriculture, and market based agricultural social capital. Through improving the team system of supply and marketing system, it is recommended to create platform-based flattening environment and create cooperative ecology in PPP mode to guarantee.

Key words Supply and marketing system, Agricultural social service, Farmer organization, Value chain, Flattening

1 Introduction

On March 23, 2015, the CPC Central Committee and the State Council issued the *Decision on Deepening the Comprehensive Reform of Supply and Marketing Cooperatives* (No. 11 Document), taking the supply and marketing cooperative as an important carrier for cooperative economic organization, party, and government serving the Sannong issues (agriculture, rural areas and farmers). Based on the foundation of the supply and marketing system itself and the development in recent years, developing agricultural social services covering the entire process, comprehensive support, and convenient and high efficient agricultural social service and supply and marketing system will surely be an important force and support. Being hired by the Asian Development Bank and Gansu Provincial Supply and Marketing Cooperative, through participating in the Asian Development Bank's technical assistance project supporting the deepening of policy reforms and capacity construction: "Internet Plus based agricultural social service system of Gansu Province (ADB TA8780-PRC)", we surveyed and studied the participation of the supply and marketing system in agricultural social service.

2 Time background and opportunities of agricultural social service

Generally, agricultural modernization is mechanized, large-scale, intelligent and digital agriculture. However, we think this understanding is not comprehensive. With the development of the

times, technological advances and the emergence of innovative ideas^[1–3], the agricultural modernization should be based on the development of modern agricultural industry with diversified agricultural production and consumer demands. Roughly, it can be divided into the concepts of "big agriculture" and "small agriculture", and the agricultural social service should play a key role.

2.1 Big agriculture Big agriculture is concerned with the "major issue" in the agricultural industry, such as the national grain security, the effective supply of agricultural products, industrial restructuring and price stability. It needs to be supported by the following related aspects. (i) Land circulation. Through land circulation, it is expected to form large scale land and mechanization, optimize the level of agricultural ecological environment and fertility, increase the efficiency of agricultural production, reduce production costs, and increase the efficiency of agricultural production. (ii) Industrialized and socialized service support system. All levels of agricultural production should realize industrialized and socialized service support system as soon as possible, improve and promote technical personnel team system and capacity construction, and improve the social services for agricultural production materials, production operations, logistics, warehousing, and processing. (iii) Big data of agricultural industry. It is recommended to establish on-line data for agricultural industry environment and production and sales behavior at the regional or national level as soon as possible, build big data for agricultural industry, and strengthen the development of the agricultural industry by the national or local governments.

2.2 Small agriculture Small agriculture is based on connecting agricultural consumption experience of urban and rural residents, and it is the extension of industrial chain and value chain in traditional agricultural production. There are many small forms of small agriculture, some of which have been formed and are being developed, such as agro-ecological tourism, community-

Received: May 2, 2018 Accepted: July 15, 2018

Supported by Special Fund for Agro-scientific Research in the Public Interest (201303107); Innovation Project of Chinese Academy of Agricultural Sciences (CAAS-ASTIP-2016-AII); Project of Asian Development Bank (ADB TA8780-PRC).

* Corresponding author. E-mail: wheatblue@163.com

supported agriculture, community-based delivery of specialty agricultural products, fruit tree and vegetable adoption, specialty agricultural auctions, and specialty packaging; some are in the process of being formed. Among them, there are many forms that have not been thought of, such as the wisdom sharing of agricultural technology experts and the online commercialization of technologies. In short, unlike the traditional agricultural production that is oriented towards solving the needs of food and clothes, agricultural product pattern selection, and nutrition, small agriculture is a part of the industrial chain and value chain formed on the basis of consumer demands and extension of support for food culture, emotions, production and environmental experiences, and social services.

3 Connotation of agricultural social services under the "Internet Plus" background

In recent years, there have been more and more studies and practices related to agricultural social services, but they are uneven at the level of understanding, especially under the current "Internet plus" background, new forms of business emerge in an endless stream, and agricultural social services have naturally been given more connotations^[4-8]. In general, there are three levels of understanding and connotation.

3.1 Public welfare services Many people think agricultural social services as public welfare services provided by the government. Such understanding is based on the extension of agricultural technology extension services and expands the scope of agricultural services. On the one hand, it expands to serve the agricultural industry. On the other hand, it expands to serve the rural areas. In essence, the agricultural industry service is a government-leading online and offline technical consultation and training service involving the production and sales of agricultural products, including technical training and online problem consultation in the extension of agricultural technologies. Rural services are mainly public welfare propaganda for rural life and health, and question and answer services based on information terminals. Such understanding obviously has a big gap with the connotation of agricultural social services, and it is not helpful for supporting the development of modern agriculture.

3.2 Division of industrial links This level of understanding is a common understanding of most people. To be simple, in the agricultural production process, each link can cooperate through division of labor. For example, in the planting process, you make a phone call or make an appointment online, a company will take the professional sowing machine to come; in the period of prevention and control of plant diseases and insect pests, a company will come to help you to prevent and control plant diseases and insect pests; in the harvest period, some professional company or organization will provide special services. Finally, the products produced belong to the producers, but the service process is charged. In this situation, many agricultural social service organizations have emerged and become a new type of agricultural production

and management entities. The agricultural social service at this level is actually the participation of social capital or organizations in all aspects of agricultural production, and the reduction of the cost of agricultural production through large-scale production. This approach is common in European and American countries and in developed countries such as Japan and South Korea.

3.3 Extension of industrial chain and value chain If the agricultural social services remain at the second level, it is obviously not enough in the era of integration of the three industries, reform of the agricultural supply front, "Internet Plus" and the sharing economy. The agricultural social service should change the original unipolar development model aiming at the pursuit of output, quality and market supply and demand. On the one hand, it is necessary to integrate aspects of agricultural production and social life, and on the other hand, it is necessary to pursue more values in the pre-production, production, and post-production. For example, it is necessary to realize the commercialization of agricultural technology services and realize online and offline visualization of food consumption and environmental experience. In other words, instant online celebrities can obtain high profits through live broadcast. A group of full-fledged agricultural experts can also realize the commercialization of their own experience and technology value through live broadcast, so as to share the wisdom.

4 Position of supply and marketing cooperative system participating in agricultural social service

The original supply and marketing system is well-known to all, and it played an important role in certain historical stages. The *Decision on Deepening the Comprehensive Reform of Supply and Marketing Cooperatives* (No. 11 Document) stated that the supply and marketing cooperatives are rooted in the rural areas and close to the farmers, have a relatively complete organizational system, a relatively complete operating network, and relatively complete service functions, thus they are fully qualified to become the backbone of the services that the party and the government can grasp and use to serve agriculture. In view of this, the supply and marketing system must participating in agricultural social services must be based on the following positioning in the new historical period.

4.1 Based on the deep reform of supply and marketing system The deep reform of supply and marketing system is mainly to reform its service areas, system structure, and cooperation and support systems. The supply and marketing system of the period of planned economy is no longer suitable for the current market economy. However, over the years, the supply and marketing system has also been looking for its own way. In recent years, it has made outstanding achievements in agricultural supplies, agricultural warehousing and logistics, agricultural products processing and agricultural product production, and daily chemical products in rural areas, these greatly support the rapid development of agricultural modernization. In general, there is still a long way to go from the

success of empirical cases to the missions given by the country in the new period. How to use these advantages as a system benefit requires deepening the reform of the supply and marketing system and the socialization of agriculture, while the service is the main direction and main battlefield.

4.2 Based on industrial poverty alleviation in rural areas

In order to achieve the goal of alleviating poverty by the end of 2020, industrial poverty alleviation in rural areas is the priority of current rural work. The supply and marketing system should strengthen the construction of a social service system, help small farmers to integrate themselves into organized production and operation entities as soon as possible, protect their rights and benefits, and make production more efficient and improve the grade of their products. Through our survey, it found that, the poorer areas have more obvious natural characteristic products. Therefore, the supply and marketing system should be dedicated to helping them build brands and solve financial difficulties, and help small farmers to obtain more benefits through improving the product chain and increasing jobs in the industrial chain.

4.3 Based on agricultural ecological sustainable development

For the development of modern agriculture, ecological sustainability is an important part, how to do a good job in this part is very critical. For a long time, the supply and marketing system has the advantages of agricultural production materials, thus the agricultural management department have to make improvements and upgrades in terms of technology, methods, *etc.*, but the technology extension and long-term environmental operation and maintenance need relatively social entities such as supply and marketing system. For example, the introduction of technology and equipment requires capital, and the extension of technology needs to respond to stable market supply such as new fertilizers, pesticides, and production technologies and production processes.

4.4 Based on the development of farmers' cooperative organizations and increase of organizational efficiency

The implementation subjects and recipients of agricultural social services are the main bodies of new-type agricultural management, while the new-type agricultural management entities are mainly farmers' cooperative organizations. Therefore, developing farmers' cooperative organizations and increasing their organizational efficiency are important foundation for the construction of agricultural social services. The supply and marketing system is closely and naturally connected with the farmers' cooperative organizations. In recent years, the rapid development and improvement of the benefits of the farmers' cooperative organizations are inseparable from the guidance of the supply and marketing system. Therefore, in the new period, especially in the "Internet Plus" era, it is necessary to further enhance the capacity of farmers' cooperative organizations and give full play to the organizational efficiency. The supply and marketing system should strengthen research of the modes and methods, be bold in practice and exploration, and draw lessons from other developed agricultural modernization in western countries, and find a road for the development of farmers' cooperative

organization with Chinese characteristics.

5 Starting point of supply and marketing cooperative system participating in agricultural social service

The agricultural social service system is very large, and it is impossible to rely solely on the supply and marketing system. However, in general, the supply and marketing system must play a leading and platform role. The agricultural social service needs to achieve the flattening of the platform, the socialization of personnel, the specialization of roles, and the extension and promotion of the value chain.

5.1 Platform of supply of agricultural means and products

The supply of agricultural means and products is a superior area for the supply and marketing system. However, it should also be noted that the standardization of agricultural supply market is poor, which poses a great challenge for the efficient and green development of agriculture. There is coexistence of e-commerce platform of large e-commerce companies and offline affiliated stores of large agricultural means and product production enterprises, and separate sales of small production enterprises. Therefore, the supply and marketing system needs to play a leading role to accelerate the integration of online data management and regulation of agricultural products, as well as the integration of supply, sales, distribution, and utilization.

5.2 Commercialization of agricultural technological services

The large-scale and industrialization of agricultural production has made the new-type agricultural management entities become the backbone of production. Among them, profitability has become an important goal of producers. For this, it urgently requires the gradual transformation of agricultural technological services from the formerly purely public welfare to public welfare and marketization, and the commercialization of agricultural technological services has been pushed to the forefront. As a matter of fact, such commercialization is no longer a new thing. For using the Internet to transfer more offline hosting to the online market, and to realize the commercialization and marketization of technology services, the supply and marketing system still needs a long way to go.

5.3 Community supported large scale development of agriculture

The development of "small agriculture" is an essential part of modern agriculture, and the development of community supported agriculture is the mainstream. Food safety and supply, agricultural production and consumption experience, agricultural knowledge and sharing of interests will all form large industries, and these extensions to the conventional agricultural industry chain are all new value chains. At present, the development level is uneven, and the standards and regulations are chaotic. In the long run, consumers will lose confidence. The supply and marketing system should seize the opportunity to actively use the new opportunities of the "Internet Plus" to gradually establish the large scale, standardization, and platform of community-supported agriculture with new concepts, new methods, and new media, such as alliances, chains, and brands.

5.4 Marketization of agricultural social capital The expansion and standardization of agricultural social services will inevitably bring about capital flow and data flow, including the upgrading and adjustment of industrial structure, the extension of industrial chains and value chains, and the creation of new jobs and market areas, and the need for agricultural capital itself. Integration of more external capital into the agricultural sector, especially after the realization of commercialization of technical services, investors are more confident in agricultural production, and payment, insurance, and financing will gradually become an important support for the sustainable development of supply and marketing system.

6 Recommendations for ensuring supply and marketing cooperative system participating in agricultural social service

The agricultural social service is a complex systematic project. It requires positive responses from many aspects such as systems, mechanisms, concepts, talents, and funds. We believed that the supply and marketing system initially has relevant capabilities and potential.

6.1 Improving the team system for the supply and marketing system For developing agricultural social service, personnel are a key factor. For the supply and marketing system, the management team is generally sound at the central, provincial, city and county levels. In some places, such as some townships and even villages in Tianshui of Gansu Province, the supply and marketing team still plays an important role. Besides, a large number of people in the supply and marketing system team have played the role of pioneers, demonstrators and leaders of helping others to get rich in the agricultural industry and social services through the establishment of farmers' cooperative organizations. Therefore, to improve the team construction for the supply and marketing system, it is recommended to widely attract various operation and management personnel, cultivate a number of excellent entrepreneurs who have rich knowledge of market and are good at management, and build a high quality cadre team with affection for farmers, enthusiasm for cooperative undertaking. And it is recommended to attract those competent, vigorous and experienced people to join in the supply and marketing system and participate in the agricultural social service system. In addition, it is recommended to promote the reform of grass-roots organizations in accordance with local conditions, and do a good job in grass-roots cooperatives. The grass-roots cooperatives are comprehensive operation service organizations oriented towards farmers, major carrier for supply and marketing cooperatives serving farmers, agriculture and rural areas, to gradually establish standardized cooperatives and realize win-win objectives for farmers and grass-roots cooperatives.

6.2 Building platform-based and flattening environment

With the system in place, it is also necessary to create a platform for social service and a flattening environment. Social service focuses on joint participation. Especially in the "Internet Plus" period, every participant is a user from the system's point of view. In

the context of social services, every participant can enjoy the service and provide service. This is the concept of platform-based and flattening environment. The supply and marketing system should actively use its own foundation to create a platform and environment for all participants, whether they are providing services or purchasing services, whether they are value-added services or public welfare services, whether they are powerful capitalists or weak individuals, all stakeholders should be involved. Specifically, the supply and marketing system provides social service, which is not centralized management, but provides services for public authorities, cultivates farmers' organization ability, safeguards their rights and interests, guides them to participate in social service system, so as to create equal, transparent, orderly, standardized, and justified social service system environment. Rather than continuously acquiring local companies or small cooperatives through large-scale supply and marketing groups or social enterprises, it is recommended to build a platform to allow different scales, industries, levels, and forms of production and operation organizations to participate with low threshold or without threshold, to enjoy or purchase social services or provide social services.

6.3 Creating a collaborative ecology in PPP mode PPP is an abbreviation for Public-Private-Partnership. It is a cooperative arrangement between two or more public and private sectors, typically of a long-term nature. PPP can be understood of both as a governance mechanism and a language game. When understood as a language game, or brand, the PPP phrase can cover hundreds of different types of long term contracts with a wide range of risk allocations, funding Arrangements and transparency requirements. And as a brand, the PPP concept is also closely related to concepts such as privatization and the contracting out of government services. In agricultural social services, the supply and marketing system should be an excellent guider. The supply and marketing system, especially at the provincial level, requires not only a management system for the public welfare management department, but also an enterprise-style management and maintenance entity and team to help coordinate the relationship between the public and private sectors. Besides, it is necessary to properly handle the internal relationship within the large-scale supply and marketing system, transform public-private partnerships that rely mainly on human relations to open, standard, and market-oriented cooperative mechanism, properly deal with the relationship between social-funded enterprises and the supply and sales management departments, transform associations, properly deal with the relationship between the society and enterprises, and attract enterprises with potential and ability rather than relying on human relations. Further, it is necessary to properly handle the relationship between the supply and marketing system and other industry systems, and extensively link, accommodate and bring together all resources such as the Rural Work Committee, the Department of Commerce, *etc.*, and make clear the responsibilities and cooperation mecha-

4 Conclusions

In this paper, through mathematical statistics, logical reasoning and model evaluation methods, the food safety problems of on-line take-out food service enterprises are deeply studied. The main conclusions are as follows: (i) The promotion of wireless networks and smartphones has contributed to the rapid growth of on-line take-out food industry, and China's main on-line take-out food platforms are Meituan Waimai, Baidu Waimai, and Eleme. The rapid growth of on-line take-out food service industry has posed a serious challenge to the food safety in today's society. (ii) This paper constructs an food safety evaluation index system for the on-line take-out food service enterprises, which includes four modules (management qualification; procurement and transportation; conversion of finished products; take-out delivery), and 17 specific evaluation indexes (catering licensing status; health status of employees; management system; supply situation of suppliers; standardization of procurement tools; cleanliness and tidiness of procurement tools; corruption of food materials; storage methods of raw food materials; cleanliness of food materials; cook's operation specification; finished product production environment; production process specification; finished product status; the quality of take-out food box; standard of delivery tools; standard of delivery staff; standard of delivery process). (iii) Using the evaluation index system in (ii), this paper evaluates the food safety status of enterprises A and B in J City, the comprehensive food safety scores of enterprises A and B are 73.7 and 46.1, respectively, and finds that the two enterprises have different levels of food safety problems, which are mainly reflected in two modules: procurement and transportation; take-out delivery.

(From page 4)

nisms of all parties. Also, it is necessary to properly handle the relationship with various social resources; e-commerce platforms such as Jingdong and Taobao, logistics companies such as Shunfeng, Zhongtong, and Shentong, as well as powerful enterprises such as agricultural resources and seed industries. For example, in the field of construction of agricultural product circulation network, through innovative circulation methods, combined with its own circulation advantages, it is recommended to cooperate with private circulation enterprises to bring into play the advantages of both ends of circulation in rural areas, namely, warehousing of production areas and rural daily chemical products to rural areas. It is recommended to accelerate the development of e-commerce in agricultural products, form an integrated operation of online transactions, warehousing and logistics, and terminal distribution, and achieve the integration of online and offline development. In the field of rural cooperative financial services, it is recommended to unite social capital, establish rural mutual aid and cooperation insurance organizations in compliance with laws, undertake mutual aid insurance business, set up small and medium-sized banks, and set up financial leasing companies, small loan companies, fi-

References

- [1] ALMANZA BA, BYRD KS, BEHNKE C, *et al.* Cookbooks in U. S. history: How do they reflect food safety from 1896 to 2014 [J]. *Appetite*, 2017, 116(2):599–699.
- [2] DA CD, ROSSO VVD, STEDEFELDT E. Should weights and risk categories be used for inspection scores to evaluate food safety in restaurants [J]. *Journal of Food Protection*, 2016, 79(3):501–506.
- [3] LIU YS. On the prevention mechanism of food supply chain safety risk—From the perspective of behavior[J]. *Social Sciences of Beijing*, 2015, 30(7):47–51. (in Chinese).
- [4] THAIVALAPPIL A, WADDELL L, GREIG J, *et al.* A systematic review and thematic synthesis of qualitative research studies on factors affecting safe food handling at retail and food service[J]. *Food Control*, 2018, 89(5):97–107.
- [5] BROWN LG, LE B, WONG MR, *et al.* Restaurant manager and worker food safety certification and knowledge[J]. *Foodborne Pathogens and Disease*, 2014, 11(11):835–843.
- [6] QU XH. Study on food safety supervision of catering service[D]. Shandong: Shandong Normal University, 2015. (in Chinese).
- [7] LI JJ, LI N, LUO L. Reconsideration of food safety systemic risks in China from the perspective of risk cognition dimensions[J]. *Food Science*, 2016, 37(9):259–262. (in Chinese).
- [8] LI YJ. To comprehensively promote the special improvement of food safety in catering industry from the perspective of quantitative grading management of catering industry health[J]. *Chinese Journal of Health Inspection*, 2011, 18(2):117–121. (in Chinese).
- [9] SUN WS. A systematic analysis of the implementation of public policy in the period of social transformation—based on the empirical study of China's food safety policy[D]. Wuhan: Wuhan University, 2014: 16–30. (in Chinese).
- [10] WU SS, SONG SY. Data era food delivery model[J]. *Modern Business*, 2015, 21(7):21–23. (in Chinese).
- [11] SUN JW, KONG YW. Comparison of business model of takeout O2O platform—Taking ELeMe, Meituan takeout and Daojia food as examples[J]. *Enterprise Management*, 2016, 37(2):23–24. (in Chinese).

nancing guarantee companies.

References

- [1] LI CH. New agricultural social service system framework and operation mechanism[J]. *Reform*, 2011, 24(10):79–84. (in Chinese).
- [2] CAI JF. Countermeasures for establishing and improving China's agricultural socialization service system[J]. *Fujian Tribune (The Humanities & Social Sciences Monthly)*, 2005, 25(10):21–25. (in Chinese).
- [3] CHEN XW. Discussion on promoting agricultural development methods transformation[J]. *Theoretical Horizon*, 2011, 19(1):48–49. (in Chinese).
- [4] GAO ZM. The socialization service mode of agriculture in developed countries and the development thought of China's new agricultural service system[J]. *World Agriculture*, 2012, 34(12):50–53. (in Chinese).
- [5] LIU XH. The predicament of the development of family farm and the construction of agricultural socialization service system in China[J]. *Studies on Mao Zedong and Deng Xiaoping Theories*, 2013, 20(10):31–35. (in Chinese).
- [6] LI BK. The construction and development of agricultural socialization service system[J]. *Management World*, 1999, 15(1):195–202. (in Chinese).
- [7] JIANG YM. Objective model and measures of agricultural socialization service system[J]. *Rural Economy*, 1999, 17(12):9–11. (in Chinese).
- [8] YANG HQ, ZHU QZ. Commentary on the organization construction of commercialized rural service system since the 60th anniversary of the founding of new China[J]. *Journal of South China Agricultural University (Social Science Edition)*, 2010, 9(1):21–27. (in Chinese).

Reproduced with permission of copyright owner. Further reproduction prohibited without permission.