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Study on the Specialized Service System in Maryland Tobacco Growing Areas

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Abstract In order to further drive the development of comprehensive service cooperatives of tobacco farmers in Maryland Tobacco growing areas, this paper analyzed new situations, new tasks and new problems rising during the implementation of specialized services in mountainous air-cured tobacco areas and discussed how to accelerate the construction of specialized service system in Maryland Tobacco growing areas based on the present situation of the specialized service system in Wufeng County.

Key words Maryland Tobacco, Comprehensive service, Cooperative, Specialized service, Mountainous air-cured tobacco

1 Introduction

Specialized comprehensive service type cooperatives of tobacco farmers refer to cooperatives organized on the basis of rural household contractual operation for providers and users of specialized services for tobacco production, which are able to offer specialized services for multiple aspects of tobacco production. Currently, most researches on the specialized services of tobacco cooperatives focus on those flue-cured tobacco areas in relatively highly developed plains or hills and foothills, while research on the specialized services in mountainous air-cured tobacco areas is quite rare. In recent years, Wufeng County follows the overall strategic objective of "improve cigarettes quality" of State Tobacco Monopoly Administration of China, focuses on improving the assurance capability of Tobacco raw materials, extensively promotes construction of modern tobacco agricultural base units for mountainous air-cured tobacco, proactively explores new organization models of specialized services, and steadily drives the transformation of tobacco from traditional production modes to modern tobacco agriculture, based on the requirements of raw material supply base unit construction, tobacco quality differentiation and production mode modernization and according to the characteristics of mountainous tobacco agriculture. In 2013, by formally launching the construction of China's first Maryland Tobacco base unit, Wufeng County entered a new period in the development of Maryland Tobacco.

2 Present situation of specialized services of tobacco in Wufeng

Wufeng Tujia Autonomous County ("Wufeng") is situated in the southwest of Hubei Province. As an offset of Wuling Ridge, its territory is all mountainous, and it is an old outlying mountainous poor county of minority, with farm lands and farmer households scattering here and there. It is the only Maryland Tobacco produc-

tion base county in China, a pure air-cured tobacco base. It has a tobacco planting history over 390 years. They began to plant Maryland Tobacco in 1981, and they have now become the provider of core raw materials for Zhongnanhai, the top one brand of blended type cigarette in China. Throughout the county, there are 110 000 mu farmland most suitable for planting Maryland Tobacco. Its perennial tobacco plant area is 20 hm², with a yield of 100 000 piculs and a production capacity over 150 000 piculs. Due to geographic restrictions, traditional tobacco production here is mainly on a household basis, so tobacco planting is dispersed, overall technology implementation rate is unbalanced, and production level is low. With the ongoing expansion of planting scale and regular increase of per household planting area, the problem of "insufficient labor, difficult employment" becomes increasingly obvious.

In 2009, Wufeng started the construction of modern tobacco agriculture demonstration zones, carried out construction and exploration of specialized cooperatives of tobacco farmers so as to solve problems such as labor intensity and technology bottleneck during tobacco production that can not be solved by farmers themselves, and to realize the objective for modern tobacco agriculture construction, that is to "reduce labor and cost, improve quality and efficiency".

In order to fully promote the construction of modern tobacco agriculture and establish a sound comprehensive specialized service system, Wufeng made active exploration to promote a specialized and socialized service system that is comprehensive, supplementary, convenient and efficient, in view of the local situation and the characteristics of mountainous air-cured tobacco areas. They integrated the former "three stations for seven lines" into "one station for five lines", merged the already established 3 tobacco cooperatives into Jinlan Specialized Cooperative of Comprehensive Services for Farmers of Wufeng based on the "Cooperative + Team" model, and built up 5 service teams respectively in 5 zones. In this way, they have established a service system of specialized services and market-oriented operation by the way of comprehensive service cooperative to provide specialized services for

the key tobacco production processes including cultivation of seedlings, tractor ploughing, air-curing technology guidance and preliminary rating. Meanwhile, they actively developed services such as infrastructure maintenance, tobacco leaves transportation, and purchase of air-cured tobacco in bulk, and provided agricultural machinery information and technology guidance for members of the comprehensive cooperative, so as to improve the quality of the specialized services, promote the service efficiency sufficiently, and enhance the specialized organization level finally. The cooperative registration rate of farmers is up to 95% and core demonstrative specialized service coverage of base units reaches 100%; therefore effective breakthrough has been made for specialized services in various villages and towns.

3 Problems in the process of specialized services and reason analysis

Specialized cooperative of tobacco farmers is an important way to promote large-scale planting, specialized division of labor and intensified operation for tobacco production, and is a key measure to improve tobacco productivity, increase farmers' income and stabilize the production scale^[1-5]. Though the specialized cooperative of Wufeng tobacco area has just developed for a short time, it is developing fast, during which process there are many urgent problems need to be solved.

3.1 Loose implementation of governance structure Though the system of Three Managing Units of comprehensive service cooperative (College of Cooperative Members, Board of Directors and Board of Superiors) is relatively sound, the responsibilities of these units are not clear. It has various complete regulations and rules, but the management personnel have relatively low level of cultural quality and management ability, and they don't deeply understand the specifications, regulations and responsibilities, some of which just exist nominally only and can not get implemented thoroughly during actual operation. Some management personnel are not clear about the scope of "management" or how to "manage", so they haven't performed their duties fully during the implementation process of specialized services. The sluggish thought of "waiting, demanding, depending" is still affecting the management work of the cooperatives, and the construction of cooperatives and implementation of specialized services are driven solely by the tobacco industry or tobacco employees. Currently, there is lack of labor in the rural area, where talents with certain education level and management ability are even scarcer, and most members of the cooperatives have low education level and insufficient business ability and coordination ability. In this case, the cooperative is greatly restricted in terms of innovation, and its self-development ability is poor, which directly decides the quality of specialized services and restricts the development of cooperatives.

3.2 Insufficient infrastructure input Since 2005, the State Tobacco Monopoly Administration of China has invested hundreds of millions Yuan on infrastructure construction to improve the production and living conditions in the tobacco areas, but those funds

are mainly invested in flue-cured areas, especially in the plains, hills and foothills or dam areas with relatively high level of tobacco production, while investment in air-cured tobacco production areas is much less. Taking Wufeng for example, it has a perennial planting area around 27 hm² for Maryland Tobacco and Burley Tobacco. By 2012, totally over 79 380 000 yuan has been invested in construction of water pools, farm machinery roads, curing barns, agricultural machinery, seedling facilities, land treatment etc. There is a certain gap between supporting infrastructures and the demands of base unit construction, and some facilities are even out of repair and substantially not operational. Let's take seedling facilities for example. There are 119 middle-sized plastic-steel seedling greenhouses and 1 large-sized greenhouse throughout the county. On the basis that the maximum seedling capacities of large and middle greenhouses are 0.07 hm² and 0.7 hm² respectively, they just can manage to support seedlings of 8.6 hm² in total, which is far from meeting the construction requirement of modern tobacco agriculture base units.

3.3 Intensified operation level needing improvement In Wufeng County, various ridges and peaks rise one after another, and ravines and gullies criss-cross. Fundamental tobacco fields spread sparsely over 7 towns (there are 8 towns in total in the county) with 25 villages in total, among which 80% are hillside fields. The transportation environment there is hostile, leading to high costs of goods and materials transportation as well as equipment maintenance. In addition, people with certain knowledge and operation abilities increasingly leave home to seek jobs elsewhere, so there isn't sufficient labor left. Due to the special characteristics of air-cured type tobacco, it has a great demand for labor and for large areas of preparation facilities. Tobacco of 1 mu field needs a curing barn about 30 m². Besides, due to the restriction of geographic conditions in mountainous areas, average household planting area is far less than flue-cured tobacco. These disadvantages have greatly hindered the development of modern tobacco agriculture for air-cured tobacco and the improvement of intensified operation level of specialized cooperatives of tobacco.

3.4 Low coverage of specialized services The restricted conditions of transportation in mountainous areas and relatively scattered planting areas have led to the great cost increase of cross-zone operation in various zones for service teams, which also have impaired the improvement of service quality of the service teams. Some tobacco farmers who live far from the service team station and have a small self-run field would give up specialized services for certain stages and continue with the self-sufficient traditional tobacco production mode in order to control costs, which makes it more difficult to further improve the specialized services coverage based on its current level.

3.5 Cooperation awareness of farmers needing Strengthening Many tobacco specialized cooperatives in China carry a strong administrative color of "requirement" of the government or "driving" by the State Tobacco Monopoly Administration^[6]. In addition, for farmers in poor mountainous areas, it takes even a

longer time to accept new things and new ideas. Many farmers don't understand the nature and organization pattern of cooperatives, and neither do they know the operation mode or management method of the specialized services. They are not enthusiastic about joining in the cooperatives or participating in cooperation. Their low acceptance level of the specialized services strongly influences the extensive implementation of specialized services. Even some tobacco administrative workers are not clear about the development of cooperatives and they lack confidence in the implementation of specialized services.

3.6 Insufficient financial guarantee In the very beginning of establishment of cooperatives, the start-up capital is limited and late, tobacco farmers have only a little capital contribution, in addition the cooperatives are non-profit, so later on they would have no sufficient operation capital and encounter multiple difficulties. Besides, they have single operation mode. In the beginning of establishment, they have just started tobacco related businesses, and didn't expand more operation channels, so their profitability is insufficient.

4 Suggestions for driving the implementation of specialized services

4.1 Strengthening publicity and training It is recommended to strengthen the publicity and implementation of tobacco industry development trends, preferential agricultural policies and cooperatives, focus on publicity of supporting policies, know – how and successful cases of the specialized services, actively guide and educate tobacco farmers to emancipate their minds and change their ideas. Besides, it is proposed to reinforce the training about know – how and operation management for "Two management teams" (masters of tobacco stations and directors of cooperatives) so that managers are skilled at management and foster more leaders and talents familiar with the policy theories and operation management of cooperatives. In addition, it is required to carry out technology training well for tobacco technicians and specialized service teams, and reduce labor intensity and improve efficiency for the main processes of Maryland Tobacco production. Finally, it is recommended to facilitate sound and rapid development of cooperatives and efficient operation of specialized services.

4.2 Offering more input and support

4.2.1 Investing more in the infrastructure in Maryland Tobacco areas. In addition to prioritized capital support and preferential policies, it is recommended to offer free choices of infrastructure categories in view of tobacco farmers' needs and scientific arrangement in particular. For example, during construction of seedling facilities, it is better to choose middle-sized seedling greenhouses, whose layout shall be appropriately scattered rather than too concentrated, so as to reduce investment cost as well as facilitate transportation. In terms of Tobacco machinery choices, small sized machines suitable for work in mountainous slopes shall prevail. In addition, we should entrust or outsource some business functions including infrastructure construction, material purchase and sup-

ply to specialized cooperatives of tobacco farmers, so as to make full use of the advantages of cooperatives, increase additional benefits for tobacco farmers and improve the strength of cooperatives.

4.2.2 Inputting more in facilities maintenance. It is required to further improve infrastructure maintenance system, make clear maintenance entities and their responsibilities, and actively encourage cooperatives to "maintain facilities through facilities" to effectively maintain infrastructures and ensure that infrastructures exert benefits continuously for a long time.

4.2.3 Strengthening support for specialized services. Compared with specialized service organizations for flue-cured tobacco, currently all social sectors haven't offered enough support for the specialized service organizations for Maryland Tobacco production. Due to its smaller scale and less importance attached to Maryland Tobacco than flue-cured tobacco, the production foundation and productivity of Maryland Tobacco areas are poor. Therefore, local government and higher authorities should primarily strengthen support for specialized services of Maryland Tobacco to make it catch up with the development pace of flue-cured tobacco; social institutes shall be actively encouraged to invest in specialized services organizations for tobacco production and learn from experience of other industries^[7,8], and improve the market operation level of services.

4.3 Combining industrial, commercial, researching and governmental efforts to drive base construction By referring to the development modes of flue-cured tobacco and based on industrial requirements, the cigarette industry shall strengthen their participation efforts and intensity in base unit construction, participate extensively in cultivation, preparation and rating of Maryland Tobacco in addition to establishment of quality and quantity requirements; Tobacco companies shall establish technical measures for Maryland Tobacco production based on industrial requirements and arrangement for their implementation; Scientific research institutes shall carefully study the technical difficulties in the production of Maryland Tobacco, solve accordingly technological problems based on the tobacco industry requirements and improve tobacco quality; Local government shall strengthen their support for base unit construction, combine every effort, integrate all resources and take full advantages of related government policies to strengthen actual support for tobacco industry from human, capital and material aspects. With the help of policies about university graduates working as village officials, it is expected to actively coordinate and try to attract graduates to join cooperatives, take some funds from government finance to support the development of cooperatives and specialized services, changing from "collection" to "allocation" to back-feed agriculture and strengthen tobacco industry. Meanwhile, we should further develop the quality, style characteristics and culture of Maryland Tobacco. Moreover, a quality track and information feedback system shall be established and improved to guide tobacco production in base units and create characteristics bases of Maryland Tobacco.

4.4 Strengthening efforts of production allocation adjustment and popularization of advanced production technologies

It is required to further adjust the production allocation of Maryland Tobacco, increase properly the concentration level of production, focus on supporting and developing specialized tobacco planting households, transfer the current planting areas to climate preferential areas with suitable social conditions, convenient transportation, flat topography and good mass foundation, gradually guide tobacco farmers to follow a intensified and specialized way and realize properly large-scale planting and intensified operation; further enhance popularization of advanced applicable technologies, greatly promote the new variety of Maryland Tobacco Wufeng No. 1, floating seedling in middle-sized greenhouse, well cellar type transplantation, treatment of inapplicable tobacco, two-stage air-curing, indoor air-drying under controlled temperature and moisture *etc.* to improve quality of Maryland tobacco and make special excellent air-cured tobacco bases.

4.5 Innovating upon organization forms As the natural conditions and cooperation awareness of farmers vary from different tobacco production areas, we should establish suitable specialized services modes based on different production conditions and farmers' willingness and perform different management and operation; consider local conditions, progress gradually, take natural conditions into consideration, such as lands and traffic in tobacco production areas. Especially, we should selectively innovate organization forms in view of farmers' requirements, acceptance level and other aspects, follow the development approach of "carrying pilot projects first, then summarizing and finally popularizing," make self improvement through practices and ensure efficient operation of specialized services.

4.6 Expanding more operation channels Proactively explore multi-purpose utilization of seedling facilities. In non-seedling seasons, seedling facilities may be used sufficiently for planting seasonal vegetables and flowers as well as for Maryland Tobacco curing to increase the profitability of cooperatives. Outside flue-curing seasons, the curing facilities can be fully used to cultivate cap fungus, tiger lily buds *etc.* Tobacco stalks can be used to produce organic fertilizers to expand the business scope of cooperatives. In addition, human resources may be taken advantage to carry out agricultural machinery repair to benefit tobacco farmers as well as to realize self development.

5 Conclusions

Specialized service of tobacco is to gradually build up a specialized service system for tobacco production for farmers as the main element around the core of modern tobacco agriculture of "reduce la-

bor and cost, improve quality and efficiency". At present, the construction of specialized service system in Maryland Tobacco areas is still at its primary stage, where mechanization of production is low, socialized service form is far from perfect, so there is a long way to go before satisfying the requirements of modern tobacco agriculture development. We should get rid of under-developed traditional tobacco production and gradually realize modern tobacco agricultural production by exploring and constructing modern tobacco production modes. More efforts shall be made for publicity and training to further drive intensified seedling and commercialized seedling supply, promote unified prevention and control of tobacco diseases and pests, popularize specialized agricultural machinery and differentiated services, thus realizing specialized labor division for tobacco production, reducing labor intensity for tobacco farmers, improving labor efficiency, and increasing tobacco production benefits. By increasing input in supporting infrastructures and scientifically choosing agricultural machinery and seedling facilities suitable for development in mountainous areas, we should further improve the production and living conditions in tobacco areas, increase the coverage of specialized services, reduce costs and quality of specialized services. By continuously exploring and improving the specialized service system for Maryland tobacco, it is expected to study and promote new organization forms and drive persistently development of modern tobacco agriculture.

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