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Study on the Sustainable Development of the Tobacco-growing Area in South Anhui

Chun JIANG*, Jingjing TIAN, Chengqing ZONG

Anhui Wannan Tobacco Co., Ltd., Xuancheng 242000, China

Abstract Based on the actual situation of tobacco production in South Anhui tobacco-growing area, the paper analyzes several major constraints, and discusses several aspects such as tobacco production human resources, production of large-scale cultivation, science and technology service providers, the standardized production management and production security system. The countermeasures and suggestions for sustainable development are also put forward to provide a reference for the sustainable development of tobacco-growing area in South Anhui.

Key words Tobacco-growing area in South Anhui, Tobacco, Sustainable development

In recent years, based on the actual development of local tobacco production, the tobacco-growing area in South Anhui implements large-scale cultivation, gives full play to the advantages of institutional mechanisms, persists in reform and innovation, and creates a new development model of tobacco production in the relatively developed regions. However, due to the constraints of existing natural environment, social resources, facility construction and other conditions, the development of tobacco-growing area in South Anhui has encountered new problems, and the contradictions brought by the development of the industry are also gradually exposed. In 2014, National Tobacco Acquisition and Modern Tobacco Agriculture Construction Meeting was held in Xuancheng, bringing a historic opportunity for the development of tobacco-growing area in South Anhui. The sustainable development of agriculture is the foundation of sustainable development of the entire national economy and society, and like other agricultural production types, tobacco production must take the road of sustainable development^[1]. With the tobacco-growing area in South Anhui as the object of study, based on the actual situation of production of modern tobacco agriculture, this paper reveals the main constraints on sustainable development currently in the area, explores the root cause of problems and sets forth recommendations, in order to provide ideas for the realization of sustainable development in the tobacco-growing area in South Anhui.

1 Overview of the development of tobacco-growing area in South Anhui

The tobacco-growing area in South Anhui includes Wuhu, Xuancheng, Huangshan and Chizhou, located in the hilly areas of southern Yangtze River Plain. It has a middle subtropical humid monsoon climate, and soil parent materials mainly include residual slope sediments, Quaternary clay, alluvium and proluvium, with loose texture and good permeability. The soil is reddish and slight-

ly acidic, suitable for the growth of high quality tobacco. It is the area most suitable for the tobacco production in Anhui Province. Since the initial planting in 1974, Anhui has increased support for tobacco production in southern Anhui, and the planting scale of flue-cured tobacco has been expanded year by year. In 2013, the planting area of tobacco reached 12000 hm² and tobacco acquisition amounted to 21500 t. In recent years, the quality of tobacco in southern Anhui has been significantly improved, and the quality of tobacco has been praised by industrial enterprises outside the province. Currently, Wannan Tobacco Company has established stable and cooperative relations with Shanghai Tobacco Group, China Tobacco Hunan Industrial Co., Ltd., China Tobacco Zhejiang Industrial Co., Ltd., China Tobacco Anhui Industrial Co., Ltd., and other domestic famous tobacco industrial enterprises.

2 The main constraints on sustainable development of the tobacco-growing area in South Anhui

2.1 Low quality of growers and lack of labor With the adjustment of rural industrial structure and accelerated rural urbanization process, the employment opportunities are gradually increasing while the tobacco growers are gradually decreasing. Planting tobacco has high technical requirements and high risk, resulting in unstable income, so the number of tobacco growers is declining and especially the young adults are reluctant to grow tobacco. Most farmers, with conservative thinking, have low scientific and cultural quality, and their ability to accept new things, new policies and new technology is poor. As a large number of migrant workers choose to work elsewhere, there are few labor forces engaged in farming and growing tobacco. Low quality of tobacco growers and serious shortage of labor make it difficult to improve the quality of tobacco and ensure the benefit while making the total amount remain unchanged.

2.2 Contradiction between sustainable industrial development and ecological environment The environmental conditions and the quality of tobacco are important factors determining the sustainable development of tobacco-growing area^[2]. The good

ecological environment in the tobacco-growing area in South Anhui is the prerequisite for cultivating South Anhui tobacco brands, but the extensive cultivation methods are commonly used in many areas, and the cropping index of some arable land is high. There is no implementation of the rotation system, causing a serious imbalance in soil nutrients, soil compaction, and poor permeability. In the tobacco production, the soil requirements for tobacco growth are ignored, and there is the use of excessive chemical fertilizers and banned pesticides, seriously affecting the growth and quality of tobacco. Meanwhile, the plastic film and pesticide pollution is serious, which not only brings down the current quality of tobacco, but also inflicts adverse effects on future generations' demand for land.

2.3 Service levels failing to meet the development requirements Services and technologies are of the same importance to the development of ecological tobacco agriculture. However, the production service system is still not perfect in the tobacco-growing area in South Anhui, and the lag of information services hampers the promotion and implementation of new technologies and professional services of ecological tobacco agriculture. The contradiction between tobacco farmers' growing demand for services and the shortage of tobacco station services becomes increasingly prominent. Due to the shortage of personnel and low quality of personnel, there may be flaws in the tobacco production and management.

3 Recommendations for the sustainable development of the tobacco-growing area in South Anhui

3.1 Improving the human resources for tobacco production

The human resources support system is a prerequisite for sustainable development of the tobacco industry. The human resources for tobacco production mainly include tobacco grower resources and technical and management personnel resources^[3]. To achieve sustainable development and improve labor productivity, the tobacco production not only needs the experienced tobacco farmers but also needs some technical and management talents. In the context of low overall quality and great age of tobacco growers in the area at present, on the one hand, it is necessary to strengthen the knowledge, technology update and quality enhancement for the old tobacco farmers; on the other hand, it is necessary to make great efforts to develop young farmers, and strive to cultivate a number of educated and skilled new tobacco farmers who can adapt to the development needs of modern tobacco agriculture. Tobacco production technology and management personnel are important forces to promote the level of tobacco production. Continuously improving the overall quality of the tobacco workers can effectively enhance the level of tobacco growing for the majority of tobacco growers^[4]. The management of tobacco technicians is still relatively extensive, and the assessment index is not very scientific. The educational level of some tobacco technicians is very low, and the knowledge structure is irrational. There is an urgent need to improve the technical guidance for the technical team, and en-

hance business management and technological innovation capacity.

3.2 Promoting the scale of planting Moderate scale cultivation of tobacco is the basis of promoting tobacco agricultural modernization^[5]. Scattered tobacco cultivation is not conducive to the technical staff's technical guidance for farmers, as well as the promotion and application of new technologies, thereby affecting the improvement of the overall quality of tobacco. Only by using the large scale planting pattern and batch production methods in tobacco production can we adapt to the development needs of market economy^[6]. This requires local governments to establish the appropriate land transfer system, use policies and increase input to integrate the tobacco field resources. It is necessary to entitle the family farm to long-term land use rights, in order to make the family farm become truly self-financing, self-development, and self-restraint market competitor. It is also necessary to give play to the scale planting efficiency and promote the industrialization of tobacco production. Meanwhile, there is a need to make good use of supporting national funds for tobacco and water conservancy, and establish the basic farmland protection system for tobacco planting.

3.3 Increasing the technology support and services The key to the development of tobacco agriculture lies in the mechanization and modernization of science and technology^[7]. From the degree of mechanization, only arable land, ridging and fertilizer application have been mechanized in the tobacco-growing area in South Anhui. Few of professional machines are adopted for tobacco planting, harvesting and knitting with great labor intensity, and it requires the accelerated research and development in accordance with the actual production of the tobacco-growing area in South Anhui. It is necessary to further improve the agricultural structure adjustment, and optimize the tobacco planting layout. In addition, there is a need to establish the farming system featured by scientific crop rotation and intercropping, return the stalks or straw to field to improve the soil physical and chemical properties and increase soil organic matter, and strengthen the awareness of ecological agriculture and optimize soil environment, thereby protecting land resources. In addition, we need to strengthen the tobacco field pest forecasting network construction, and guide farmers to carry out tobacco pest control to ensure efficacy and quality of tobacco; establish the tobacco production services team, develop the unified service model and standards, expand the scope and scale of services, and improve the professional service level in tobacco production.

3.4 Implementing the standardized tobacco production management Standardization of tobacco production is an important feature of modern tobacco agriculture, and an important part of modern tobacco agriculture management science^[8]. With the rapid development of modern agriculture, constant adjustment of rural economic structure and accelerated urbanization, the traditional planting model can not adapt to the requirements of modern agricultural development. The standardized tobacco production is based on advanced, scientific and comprehensive quality manage-

ment theory. The establishment of *Good Agricultural Practice for Tobacco (GAP)* is an effective way for the tobacco industry to strengthen management^[9]. In early 2005, some tobacco-growing areas in Yunnan introduced the PMI global "GAP" management model, and promoted GAP in the flue-cured tobacco production, which was acclaimed by the international tobacco industry^[10]. GAP involves the tobacco quality process control and requirements of environmental protection and safe production. On the one hand, it places demands on the resources, technology, management processes and product quality of tobacco production enterprises; on the other hand, it also provides code of conduct for the industry management. It can simplify operating procedures, reduce labor intensity, reduce production costs, optimize the allocation of tobacco production resources, and ensure ecological safety, so as to effectively solve the drawbacks of traditional production and achieve sustainable development in the tobacco-growing area.

3.5 Establishing the tobacco production security system

Tobacco production is greatly influenced by natural conditions, and a variety of disasters directly affect the income level of farmers. Especially for the major tobacco growers, the impact of disasters can be devastating. With the increase in the number of major tobacco growers, in order to make the tobacco-growing area in South Anhui embark on a road of sustainable development, it is necessary to establish the tobacco production security system. Government, business and farmers should jointly offer funds to implement joint disaster insurance for tobacco production or establish the tobacco production guarantee fund, with the purpose of reducing economic losses due to natural disasters, enhancing farmers' ability to withstand natural disasters, and effectively protecting the economic interests of farmers, thereby ensuring the sustainable development of tobacco production.

4 Conclusions

The sustainable development is a national strategy, and in terms of ecological protection, agricultural infrastructure construction and

production technical services, the sustainable development of tobacco industry can be directly integrated into the overall national strategy for sustainable development. In the course of promoting sustainable development of the tobacco-growing area in South Anhui, there is a need to continue to stick to the tobacco brand building in accordance with the local conditions, and find a suitable development path for the tobacco-growing area.

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