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Management Models and Development Strategies of the Farmers' Professional Cooperatives in the Western Poor Counties and Regions of China: A Case Study of Long'an County, Guangxi

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Abstract In the new era, an important task is how farmers' professional cooperatives to better adapt to new development environment and effectively solve the problems that "who will cultivate land" and "who does agriculture depend on" in the future. In this paper, model and development direction of farmers' professional cooperatives in Long'an County of Guangxi are analyzed and studied based on realistic development background of Guangxi.

Key words Farmers' professional cooperative, Management model, Healthy development

1 Introduction

In recent years, in implementing process, cooperatives face not only challenges from the internal management and technical level but also a variety of external threats. Therefore, a national-level poverty county—Long'an County in west Guangxi is taken as research object, to fully analyze development trend of farmers' professional cooperatives in Long'an County, propose countermeasures and suggestions for the development of farmers' specialized cooperatives in Long'an County, and promote healthy and orderly development of farmers' specialized cooperatives in Long'an County.

2 Current situation of the development of farmers' professional cooperatives in Long'an County, Guangxi

Long'an County is administrated by Nanning City, Guangxi Zhuang Autonomous Region, and total area is 2 277 km². Since the *Farmers' Professional Cooperative Law* was implemented since 2007, farmers' professional cooperatives in Long'an County gradually develop from disorder to order and standardization. By the end of 2018, there were 257 farmers' professional cooperatives in the county, dominant by planting and breeding. According to the survey data, two main development models in Long'an County are "large household + cooperative + farmer" and "company + cooperative + farmer" (Fig. 1).

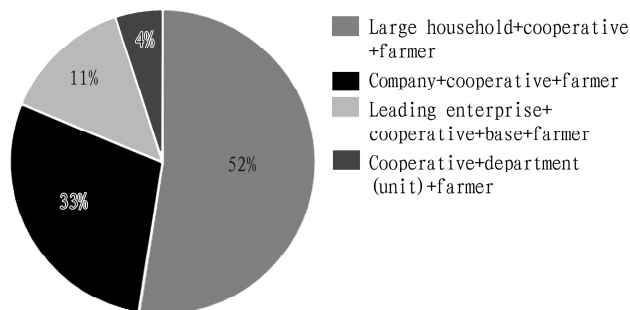


Fig. 1 Development model of farmers' professional cooperatives in Long'an County

3 Main models of farmers' professional cooperatives in Long'an County

Development models of farmers' professional cooperatives in Long'an County could be divided as below (Table 1).

3.1 "Large household + cooperative + farmer" The model is mainly composed of local farmer entrepreneurs with certain economic strength or large-scale farmers. These key members are not only the leaders of the cooperatives, but also the core of the development of the cooperatives^[1]. The overall starting point of agricultural economy is relatively lower in Long'an County, and many cooperatives are established on some large production and sale households, such as Lushuijiang Banana Professional Cooperative. In 2008, with planting scale of banana continuously enlarged in Natong Town and its surrounding areas, Lushuijiang Banana Professional Cooperative was established by 8 farmers. After the cooperative was established, the industrialization management model of "five unifications" was implemented, and a series of production processes from land to market were strictly controlled, which greatly improved banana quality, declined production cost, and realized production and marketing docking. After years of development, Lushuijiang Banana Professional Coopera-

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tive has established banana planting base, and 120 000 t of high-quality bananas are produced every year. Moreover, "Lushui-jiang" has also been rated as a high-quality brand of banana in China for many times.

3.2 "Company + cooperative + farmer" This model of cooperatives are organized by the companies. They use farmers' technology to develop industry, and help members to carry out production, develop and expand cooperatives^[2]. This organization model of industrial modernization is mainly manifested in the farmers' professional cooperative of Yimi red-heart pitaya production and marketing in Dingdang Town of Long'an County. Guangxi Jinfu Agriculture Co., Ltd is a local leading enterprise, and is mainly engaged in seedling sales, cold-chain transportation, storage, processing, packaging, sales and other businesses, which realizes the industrial supporting development from production to sales, and forms industrialization and collectivization development pattern of integrated development and service. The characteristics of the company are that it organizes farmers in the form of village groups and orders to develop pitaya industry. Meanwhile, using its farmers' professional cooperative of Yimi red-heart pitaya production and marketing in Dingdang Town of Long'an County, and development of planting technology, packaging production, sales service and other related industries, all kinds of problems of farmers in the process of planting and selling are effectively solved.

3.3 "Leading enterprise + cooperative + base + farmer" The model is mainly based on the joint-stock cooperation system to carry out unified production, processing, sales and management, and

realize intensive production and standardized management^[3]. In recent years, Suimixiang Rice Planting Professional Cooperative in Yanjiang Town, Long'an County takes base as demonstration and science and technology as development core, to promote the rapid development of rice-based crops, and 266.7 ha of planting base has been built. Meanwhile, leisure agriculture, breeding (duck, fish, shrimp co-breeding) and others are taken as secondary industries. Then, a clean and efficient green rice planting demonstration base is constructed through brand building.

3.4 "Cooperative + department (unit) + farmer" In this model, farmers and government units jointly set up cooperatives. It sufficiently plays support and leadership of the government and party organizations, and works with other units to serve cooperative members, such as inviting professional and technical personnel to give lectures and guide, organizing members to communicate and study, and optimizing the combination of land, capital, talent and technology^[4]. West Guangxi Cattle Breeding Cooperative sufficiently plays the leading and exemplary role of departments and units, and drives more than 3 000 households in 10 surrounding towns to develop beef cattle breeding, forming 32 beef cattle breeding communities and 400 million yuan of output value. The scale and organizational development of party organizations in cooperatives could be promoted by party members demonstration and capable people driving, and the enthusiasm of the surrounding people for creating wealth is fully mobilized, and it becomes a new driving force for farmers to get rid of poverty and become rich.

Table 1 Characteristic analysis of main management models in cooperatives of Long'an County

Management model	Advantages	Disadvantages
"Large household + cooperative + farmer"	The information of large cultivation and breeding households is more flexible, and the market operation experience is more abundant. They are also relatively familiar with the production, processing and circulation of agricultural products, and have a profound understanding on the importance of brand operation.	The decision-making and control powers of cooperative leaders are too centralized, which is easy to cause monopoly.
"Company + cooperative + farmer"	The model is well planned and has contractual constraints. Moreover, company has stronger adaptability, and could make timely judgment in the stage of high market risk.	Cooperatives rely too much on enterprises, once enterprises have a crisis, cooperatives will also be in trouble.
"Leading enterprise + cooperative + base + farmer"	This model can effectively achieve the optimal combination of land, labor, capital, technology and other production factors, which is conducive to standardized and scientific production.	Leading enterprises tend to ignore the interests of farmers and bases, which will affect the enthusiasm of farmers to participate in cooperatives.
"Cooperative + department (unit) + farmer"	Via union with the government, the model could effectively combine the labor force, technology, production and other aspects, so as to further expand advantageous industries and effectively develop cooperatives.	The interest subjects are complex, and the cost of coordination and management is high. The management of cooperatives is mainly composed of farmers, whose general cultural level is low, and their organization is loose.

4 Main problems faced by the development of farmers' professional cooperatives in Long'an County

At present, farmers' professional cooperatives in Long'an County are still in the primary stage of development, and there are still some problems to be solved in operation.

4.1 External development environment not loose At present, there is a certain gap between the expected functions of the government by farmers' professional cooperatives in Long'an and the actual functions. The root causes are as follows: (i) the func-

tion of local government changes slowly, and the supervision is not in place. Seen from policies related to cooperatives issued by Long'an local government, the role of local government in Long'an County is not clear. In actual management process, the functions of cooperatives, such as management, coordination and service, are still in the hands of agricultural technology departments. The excessive intervention of local government has restricted the development of farmers' professional cooperatives. (ii) The local government has little education and training for farmers, and the ac-

ceptance of farmers is not high. At government level, since there are more farmers in Long'an County, the local government does not have a unified organization to manage and classify the farmers who need training. The government's agricultural scientific research institutions and agricultural related institutions lack coordination and cooperation with farmers' professional cooperatives, and experts from agricultural institutions less provide technical support to farmers.

4.2 Poor operation and management mechanisms of cooperatives There are some defects in the operation and management mechanism of most farmers' professional cooperatives in Long'an County. The survey displays that there is unreasonable organization in the cooperatives of Long'an County, and its proportion is 42%. In terms of democratic decision-making, 30% of cooperatives think that their current responsibilities are not clear, and most members do not understand the project and cannot make reasonable and democratic decisions.

4.3 Single agricultural production structure causing increase of crops yield but not income Agriculture is the foundation of national economic development in Long'an County. The development of cooperatives in Long'an County is mainly based on the traditional model, and its integration with other industries is not deep. The model is relatively single, with less innovation. Planting is the key of Long'an County, and the development of other industries is neglected in development process of Long'an, causing unbalanced development among industries. According to the survey, among more than 200 farmers' professional cooperatives in Long'an County, the proportion of planting industry is more than 50%. The proportion of planting industry is larger, and planting area is more, causing land shortage, and planting area of other crops and cash crops is not improved. Additionally, since high-quality rate of agricultural products in Long'an is low, there lacks competitiveness in the market, causing that price of agricultural products in Long'an declines. Although crops' yields increase, farmers' benefits decrease.

4.4 Low overall development level of farmers' professional cooperatives In recent years, the number of Long'an cooperatives is growing rapidly. According to survey, in the registered cooperatives in Long'an County, many cooperatives lack brand and innovation awareness due to limitation of the person in charge's own ability. In the surveyed cooperatives, less than 40% of the cooperatives have their own brands, and only a few have introduced new technologies and varieties. Additionally, at the aspect of food safety, less than 20% of cooperatives in Long'an County have agricultural product quality tracking and whole process tracking management, and it is difficult for consumers to rest assured of Long'an agricultural products in the process of consumption. In general, the number of better developed farmers' professional cooperatives in Long'an County is relatively less. It is a very important work to improve the overall development level of farmers' professional cooperatives in Long'an County.

5 Some suggestions on promoting the development of farmers' professional cooperatives in western poor counties and regions

According to the problems existed in farmers' professional coopera-

tives of Long'an County, some countermeasures and suggestions are proposed, to impel healthy and sustainable development of farmers' professional cooperatives of Long'an County.

5.1 Improving the function of local government, and strengthening management and guidance At present, farmers' professional cooperatives of Long'an County are still at the primary stage of development. Government departments should transform from "management" to "service", effectively supervise local cooperatives of Long'an within the scope of their own rights and responsibilities, and provide effective support for farmers' professional cooperatives of Long'an County. Meanwhile, local government should correctly understand properties of the nature of the cooperatives, accurately grasp development situation of farmers' professional cooperatives, and timely regulate and make targeted development policies^[5].

5.2 Strengthening the publicity and education work, and improving the scientific and cultural quality of cooperative members It should establish education and training institutions and committees, lead and arrange education and training work in a unified way, and record the information of trained farmers. The committee is composed of famous people in the agricultural industry and excellent agricultural enterprises. The committee should guide farmers' technical training, and set assessment system, thereby realizing standardization and unification of farmer training. Moreover, corresponding rewards can be given according to the assessment results by the committee^[6]. New media technology should be used to build a new education platform for farmers' professional cooperatives in Long'an County, to provide more mutual-communication opportunities for farmers, and farmers can choose to carry out online theoretical course training at home. It should use the platform to issue vocational training vouchers to subsidize farmers' education, and weaken the main body of training, making farmers become the masters of training, stimulating the initiative of farmers' learning, and realizing the innovation of training concept^[7].

5.3 Innovating the operation model of cooperative, and perfecting its management mechanism According to development demand of new situation, the cooperatives should innovate operation model, and establish representative meeting, board of directors, board of supervisors, *etc.* according to law. On the basis of fulfilling their respective responsibilities, each organization should cooperate closely and coordinate operation, and the procedures and requirements for the selection and appointment of persons in charge of cooperatives should be standardized. It should perfect democratic centralized decision-making mechanism, open all links in the process of producing cooperative leaders, enhance the transparency of nomination work, and realize the democratic management of cooperatives^[8].

5.4 Strengthening the power of industrial integration, and innovating the management model of agricultural professional cooperatives According to industry development trend and development trend of agricultural modernization in Long'an County, agricultural industry in Long'an County is oriented as leisure agriculture with the main line of "ecological agriculture and forestry, leisure and Long'an". That is to say, based on characteristic farming

culture, traditional agriculture and folk customs in Long'an, it should rely on the existing tourism industry cluster and highly integrate with the goal of new rural construction. Meanwhile, it should concern and support characteristic industry, such as Yanjiang rice rich in selenium, Nanning banana with Long'an as the core, pitaya (a rapidly developing new industry). According to regional characteristics, it should combine the characteristics of agricultural development, to promote the coordinated development of local characteristic industries and leading industries^[9].

5.5 Guiding the union, and strengthening professional and technical guidance It should guide the establishment of large union of farmers' professional cooperatives, to enhance the ability of self-regulation in response to market changes. Through "going out" and "bringing in" and other ways, it should innovate the establishment of large union of farmers' professional cooperatives, making Long'an County realize "strong cooperatives leading weak cooperatives". In certain region, farmers' professional cooperatives with joint business can expand vertically, such as planting and breeding. Planting industry could produce grain and straw, which could be transformed into fodder required by breeding industry to feed animals, while dung produced by breeding industry could be transformed into organic fertilizer required by planting. Additionally, the combination of supply and marketing cooperatives and e-commerce companies could enlarge the brand promotion of local characteristic agricultural products, help cooperatives to create regional high-quality agricultural products, form culture of agricultural products with Long'an characteristic, and enhance the competitiveness of Long'an agricultural products in the market. It should integrate various resources, gradually prolong industrial chain in the region, and form a good situation of mutual benefit, to

provide solid guarantee for rural revitalization in the poor areas of western China^[10].

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land production factors caused by land transfer, changes in farmers' subjective willingness, and poverty alleviation policy system's disallowing migrant workers to give up the organic use of land. Second, the area and productivity of land of households with migrant workers were both lower than those of households without migrant workers. The differences in the land utilization of households without migrant workers were smaller than those of households with migrant workers. The marginal return of land productivity of households without migrant workers was closer to zero. Third, through land transfer, the land abandoned by the households with migrant workers was utilized more efficiently by the households without migrant workers, and great benefits were obtained. On the one hand, a larger number of farmers could be lifted out of poverty. On the other hand, due to the income brought by land transfer, the annual per capita net income of households without migrant workers was comparable to that of households with migrant workers.

Aiming at the above conclusions, the following suggestions are put forward to achieve a win-win situation between land utilization and targeted poverty alleviation. First, strategic attention should be paid to the contract and management issue of land left behind by households with migrant workers. Second, in terms of specific measures, compensation mechanism for farmland with-

drawal needs to be established. Finally, in terms of promotion method, it is suggested to conduct land transfer to scale up agricultural production and promote the intensive use of land.

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