

Organizational Competency Development for Farmer Professional Cooperatives: A Case Study of Bajie Town, Yunnan, P.R. China^{*}

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Abstract

This paper aims to study the situation of these cooperatives and the factors affecting their OC, in order to improve their OC and increase farmers' income. Organizational competency (OC) for Farmer Professional Cooperatives (FPC) is crucial to the standardized operation and high-quality development of cooperatives. Roses are traditionally eaten and processed in Bajie Town, Anning City, Yunnan, P.R. China, so farmers spontaneously organized and established rose cooperatives to develop rose industry. The target of this study was the cooperatives in the town. Respondents were persons in charge of FPCs and members in FPCs, in which 26 persons and 152 members were selected through simple random sampling technology. Data were collected using an interview form consisting of a structured questionnaire and an unstructured questionnaire as the primary research material to determine the current basic profile and organizational competency levels of the farmer. Regression analysis was used to analyse the factors influencing the competency of farmer professional cooperatives, including internal factors such as income distribution and organizational structure and external factors such as the location of the cooperative and the number of cooperatives.

Research findings:

1. The level of OC for FPC was mainly determined by cooperative skills and performance.

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2. The factors affecting OC were divided into internal factors and external factors, and internal factors were the main factors. Among the internal factors, reasonable income distribution of members, complete organizational structure, multiple ways to raise funds, and self-owned trademarks were significant and positive factors. For among the external factors, the distance between FPC and markets and external competition were main factors affecting the level of OC for FPC.

Keywords: Farmer Professional Cooperatives; Competency; Influencing factors

1. Introduction

Developing and expanding Farmer Professional Cooperatives (FPC) plays an important role in rural economic growth, so improving Organizational competency (OC) is crucial to standardization of operation of FPC. Capacity and relationships affected the governance structure of FPC in the eastern coastal areas in China were analyzed (Zhuhui et al., 2006, pp. 60-66). The benign operation of FPC improves the market competitiveness of agricultural products, guarantees the quality of agricultural products and improves the economic benefits of agricultural products, and helps farmers to obtain national support policies directly and effectively (Lin, & Liuyangming,

2020, pp. 233-240). The development of FPC is of great significance to the implementation of the national rural revitalization strategy (Hainan, Xiaoshan & Aizhao, 2018, pp. 20-25).

A famous tourist attraction Rose Valley was located in Bajie Town, and rose cultural festivals and other activities based on edible roses were held, because of suitable conditions and vast land for rose planting. As of March 2022, there were 130 FPCs in Bajie Town, accounting for 60% of FPCs in Anning City; there were 51 FPCs planting rose at Bajie Town, accounting for 39% of FPCs at the town. Forty-six FPCs planting rose were in operation, in which 17 had registered capital of 1 million yuan or more.

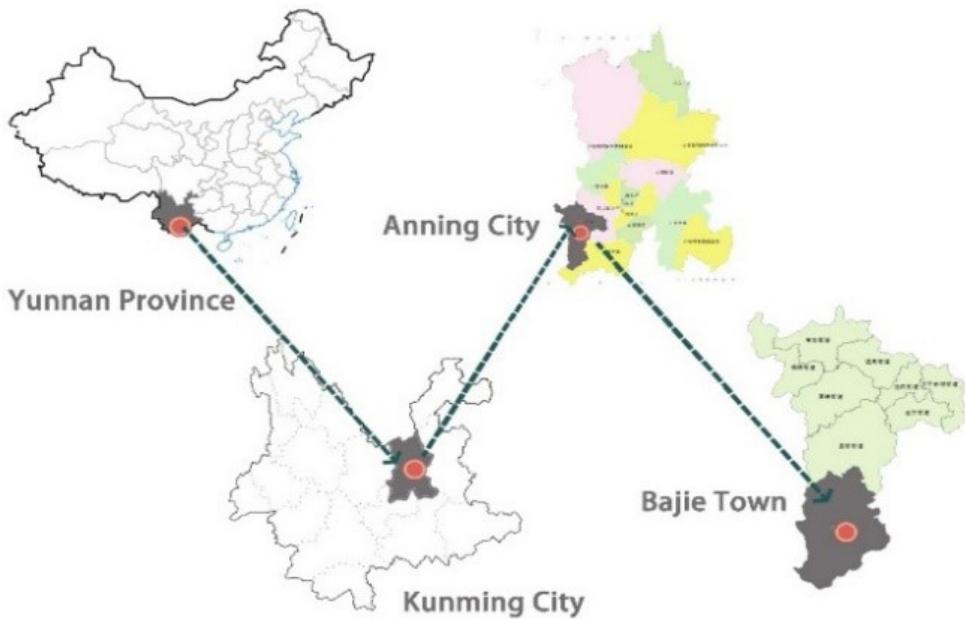


Figure 1 Location of Bajie Town, Anning City, Yunnan Province, P.R. China

Though many FPCs were established in the town, there was a lack of evaluation on the internal management, work performance and organizational competency of FPC. Therefore, it is very important for Bajie Town Government to evaluate the level of OC for FPC and to analyze the influencing factors. Many scholars tried to explain the influence of various influencing factors, such as basic personal information, product sales skills, product cost control, income distribution of members, integrity of organizations, self-owned trademarks and ways of raising funds, on the development of FPC (Feng,

Shiguo & Qi, 2016, pp. 79-87; Zongdong, Rong, & Fei, 2019, pp. 295-304; Xiaofeng & Chengju, 2016, pp. 23-29; Hengshan, Zhigang and Ruiyao, 2016, pp. 72-83), but factors influencing OC for FPC had not been studied. The purpose of this study was to identify the factors that affecting OC for FPC, so as to improve social efficiency and performance of FPC, and ultimately increase farmers' incomes. The research project designed indicators of farmer professional cooperative competence by using Organizational Competency Theory in terms of four dimensions: information, performance, skills and culture.



2. Objectives of the Study

1. To study the level of farmer professional cooperatives competency
2. To study the factors effecting farmer professional cooperatives competency.

3. Methodology

Location of the Study. Bajie Town is located in the south of Anning City, adjacent to Erjie Township of Jining County in the east, Shuanghe Township and Xiyang Township of Jining County in the south, Longquan Town of Yimen County in the west, and Xianjie Town in the north, 35 kilometers from Anning City, 67 kilometers from Kunming City, with a total area of 340.29 square kilometers. It is located in the low latitude and high altitude area of the central subtropical zone, with an average annual temperature of 14.9 °C and an average annual precipitation of about 1000 mm. Bajie Town has a large agricultural population, with 21 villagers' committees and 1 community residents' committee, and 23 ethnic minorities including Yi, Miao, Bai and Tibetan (Work Report at Bajie Town, 2020).

Data collection. In 2020 and 2021, a questionnaire survey on 26 FPCs planting rose in 21 village committees in the town

and 152 members in those FPCs was conducted with the random sampling method.

Research tool. Questionnaires consisted of four parts was used as research tools. The first part of the questionnaires involved the basic information survey of the interviewees, mainly including personal and family survey. The second part was about the survey of the respondents' views, mainly about understanding the internal and external environment and OC of FPC; The internal and external environment mainly consisted of four parts: geographical location, operation mechanism, overall situation and internal management; OC mainly consisted of basic information, performance, skills and culture. The third part was interview with the respondents, which is mainly used to understand the respondents' attitudes and views on the current situation and future development opportunities of FPC. In the second part, the Likert scale with a five-point scale (1 for strongly disagree, 2 for relatively disagree, 3 for average, 4 for relatively agree, and 5 for strongly agree) was used to determine the respondents' attitudes and opinions, and the reliability and validity of the questionnaire data from the Likert



scale were analyzed.

The reliability and validity of the questionnaire data were firstly analyzed with SPSS 26 analysis software. Then the correlation between the variables and determines was analyzed to determine whether the variables are suitable for regression analysis. Finally, based on the results of the correlation analysis, the comprehensive scores of the four dimensions were used as the dependent variable for multiple linear regression to determine their influencing factors with State 17 measurement software (Xiaoyan, Yinjun & Yan, 2020, pp. 187-195).

4. Results

Organizations Competency Level for FPC at Bajie Town

The weight scores of 4 dimensions (basic information, cooperative performance, cooperative skills, and cooperative culture) graded by 152 members from 26 FPCs were calculated with the entropy weight method (EWM), then the level of OC for FPC were measured (Tab.1). The mean value of the level of OC was 0.8094, which indicated that the whole level was relatively satisfactory. The three cooperatives with higher ranking were YJN Cooperative, HR Cooperative and HPX Cooperative. The three cooperatives with lower rankings were QL Cooperative, ZYNY Cooperative and ZYMG Cooperative, and the mean value of these cooperative was 0.5715. There was a polarization of the level of OC, so research on the improvement of the level of OC for FPC was imperative.

Table 1 Measurement results of the level of OC for FPC

Sequence	FPC	Weight Score	Ranking
1	GH cooperative	0.6040	23
2	MY cooperative	0.8731	10
3	XH cooperative	0.6770	21
4	LGY cooperative	0.8163	14
5	LY cooperative	0.8880	9
6	MPCY cooperative	0.8283	12
7	NSY cooperative	0.6060	22
8	YJNY cooperative	0.9999	1



Sequence	FPC	Weight Score	Ranking
9	RJH cooperative	0.8233	13
10	RJGS cooperative	0.9244	7
11	JH cooperative	0.9917	4
12	AWS cooperative	0.7831	16
13	SYL cooperative	0.8392	11
14	JQ cooperative	0.7386	20
15	ZYMG cooperative	0.5852	25
16	HS cooperative	0.9862	5
17	ZYNY cooperative	0.5857	24
18	HR cooperative	0.9352	6
19	JSTH cooperative	0.9999	1
20	YH cooperative	0.8003	15
21	FXSF cooperative	0.7704	19
22	XR cooperative	0.7735	18
23	HX cooperative	0.8982	8
24	QL cooperative	0.5437	26
25	HPX cooperative	0.9999	1
26	YXNM cooperative	0.7739	17

Analysis on the Factors Affecting OC for FPC at Bajie Town

According to the correlation test, X1 (education level) and X2 (time spent in agricultural production) were not significantly correlated with the dependent variable, so they were not studied in the

next empirical study. The internal factors and external factors were regressed separately (Yan, S. & Pingping, 2016, pp. 107-118; Jiong, 2022, pp. 51-58), and then they were regressed together. Results: (1) The regression of internal factors showed that the reasonable distribution of members' income, complete



structure of FPC, various ways of raising funds and self-owned trademark had a significant positive effect on the improvement of OC for FPC; (2) The regression of external factors showed that economic development, natural resources, distance between location of FPC and markets and external competition were important

factors affecting the level of OC for FPC; (3) Comprehensive regression of internal factors and external factors showed that except for the three factors X4, X8 and X9 were not significant, the remaining factors were not much different from the results of regression of internal factors or external factors.

Table 2 Results of multiple regression analysis

Explained variables VARIABLES	organizational competency (Y)		
	Result 1	Result 2	Result 3
X3 reasonable distribution of members' income	0.278 *** (0.0640)		0.221 *** (0.0641)
X4 Standardized internal management	0.0833 (0.0917)		0.0762 (0.0919)
X5Complete structure of FPC	0.178 ** (0.0765)		0.170 ** (0.0726)
X6 various ways of raising funds	0.134 *** (0.0362)		0.103 *** (0.0365)
X7 self-owned trademark	0.133 *** (0.0432)		0.0811 * (0.0427)
X8 economic development		0.153 *** (0.0516)	0.000948 (0.0474)
X9 Abundant in natural resources		0.135 ** (0.0635)	0.0332 (0.0533)
X10 distance between location of FPC and markets		0.0910 ** (0.0397)	0.0976 *** (0.0342)



Explained variables	organizational competency (Y)		
VARIABLES	Result 1	Result 2	Result 3
X11Number of FPC		0.391 *** (0.0578)	0.156 *** (0.0560)
Constant	-1.598 *** (0.0988)	-1.377 *** (0.114)	-1.598 *** (0.0988)
Observations	152	152	152
R ²	0.569	0.410	0.623
F	38.54 (0.000)	25.54 (0.000)	26.10 (0.000)

Note: Result 1, result 2 and result 3 were from regression of internal factors, regression of external factors and comprehensive regression of the two kinds of factors, respectively. Standard errors in parentheses, *** p<0.01, ** p<0.05.

5. Discussion

There was significant difference in the level of OC of 26 FPC at Bajie Town, Anning City, which was the result of interaction of different influencing factors. Based on a comprehensive multiple regression model analysis of internal and external influencing factors, it was found that out of the 9 variables that passed the correlation test, 6 variables were significantly correlated with OC, while the other three influencing factorsinternal management norms, economic development and abundant natural resources failed the significance

test. These factors are specifically discussed as follows:

Income distribution—Income distribution had a significant positive effect on the level of OC. The variable of increasing farmers' income is the most important goal of cooperatives (Yajie and Chuang, 2022, p. 714). Reasonable income distribution can directly improve the enthusiasm of members and encourage them to work harder in agricultural production (XvXvchu, 2018, p. 1). Farmers at Bajie Town hoped to increase their income by joining FPC, bring a sense of honor and belonging, and get more



opportunities to receive education and often travel.

Organization—Organization had a significant positive effect on the level of OC. The sound development of FPC requires standardization of registration, organization and financial management (Yuying & Qianqian, 2022, pp. 56-65). Most rose FPC at Bajie Town had complete bylaws, standardized establishment procedures and regular member meetings. Villagers were willing to participate these FPC, and the government gave a lot of policy support to them, so they had a fast growth in operating income.

Raise funds—Raise funds had a significant positive effect on the level of OC. There are some problems in the development of FPC, such as lack of talents and difficulty in raising funds, and broadening the channels of raising funds accelerates the development of FPC (Wan, 2014, pp. 63-66). Some rose FPC at Bajie Town were underfunded in planting and selling, which required financial support from the government. On the other hand, FPC should think of more ways to raise funds through multiple channels for themselves.

Own trademark—Own trademark had a significant positive effect on the

level of OC. The FPC's own trademark has an impact on the level of development of FPC (Guoxing and Chen, 2017, pp. 41-43). Trademarks are the main sign of distinguishing agricultural products among FPC. Trademarks with high recognition bring benefits to FPC and enhance the influence of FPC. According to this investigation, it was found that the president of a rose cooperative in Bajie Town registered his name and his daughter's name as the trademark of the cooperative.

Location of FPC—Location of FPC had a significant positive effect on the level of OC. In the continuous development of FPC, FPC should give full play to our own advantages (Jun, 2022, pp. 83-85). Bajie Town is located in the south of Anning City, 35 kilometers away from the downtown of Anning and 67 kilometers away from the downtown of Kunming (the capital city of Yunnan Province). Its transportation infrastructure and facilities are good. FPC near the transportation highway should make full use of the location advantage to reduce the cost of rose products; while FPC far away from the highway use logistics, cold chain and other facilities to improve the market competitiveness of cooperatives.



Number of cooperatives—Number of cooperatives had a significant positive effect on the level of OC. Most of FPCs in Anning City were established from 2013 to 2018. By 2022, the proportion of FPCs engaging in the cultivation, processing and sale of roses at Bajie Town was about 60% of FPCs in the city (Government Work Report, 2022). On the one hand, the government vigorously supported the development of cooperatives because of the large number of rose FPC. On the other hand, the market was well-informed, which was conducive to sales and large-scale production of rose FPC. It should also be noted that there is fierce competition among FPC (Junhe, 2022, pp. 39-40; Zhijun, Haiyan & Xiuying, 2022, pp. 65-75).

Internal management norms—Internal management norms did not have positive effect on the level of OC. According to the survey data, the mean value of options of internal management norms of FPC was 3.96, indicating that the current internal management of FPC was at a reasonable standard level.

Economic development and abundant natural resources—Effects of economic development and abundant natural resources on the level of OC were not

significant. In summary, these two factors were external factors. The regression analysis of these two factors combined with internal factors revealed that the positive effect of these two factors on the level of OC was not significant, as both were external factors, and compared to external factors, internal factors were the main factor affecting the level of OC.

In summary, the level of OC of 26 FPC at Bajie Town, Anning City, was greatly affected by internal factors, which was also in line with the past research result (Zuhui, Xuchu & Guansheng, 2002, pp. 13-21) and our expectations. There were certain limitations in the determination and selection of specific influencing factor index and sample survey research, so there may be some deviations when using relevant data for analysis. In order to better study the level of OC of FPC and its influencing factors of cooperative organizations in a certain region, it is necessary to organize and obtain systematic, complete, and high-quality data, and attempt to use the mean index for statistical analysis.

6. Suggestion

In order to improve the OC of FPC at Bajie Town, the following suggestions are



made to the government and FPC:

1. Attention should be paid to internal factors affecting the competence of FPC. It is necessary to establish a sound organizational structure and a reasonable income distribution system for FPC at Bajie Town. First of all, the head of FPC should optimize the income distribution of the members according to the actual situation, so that the members get more income after joining FPC. Secondly, in the development of FPCs, in order to solve the problem of shortage of funds, FPCs should broaden financing channels and strengthen their ability to absorb funds, so as to ensure sufficient development funds. FPCs, for example, take advantage of government support policies to obtain loans. Finally, FPC should have their own trademarks. Cooperatives without registered trademarks should design and apply for trademark registration according to the characteristics of rose cake, rose vinegar, rose wine and other products so as to form their own marketing model and brand.

2. Attention should be paid to external factors affecting the competence of FPC. The government of Anning City and Bajie Town should improve the agricultural logistics system. For example, by building

fast rural roads, establishing trading centers for rose products in locations where FPC are concentrated, and establishing cold chain centers in conjunction with logistics companies, unnecessary links in the circulation process can be reduced. Rose FPC should cooperate with rural logistics outlets and urban logistics outlets to expand the marketing channels for rose products. For example, FPCs should develop rose product series to extend the industrial chain. They should also sell products online besides offline, and take into account the common development of offline and online.

3. Based on the combination of internal and external development conditions and the full use of policies, emphasis should be placed on skills training especially in online marketing of agricultural products for members in FPC. This study revealed that OC of FPC at Bajie Town cannot be separated from the improvement of the professional skills of the members, so it is important to train members. And the necessary network marketing training should also be carried out besides of the training of agricultural production skills and marketing methods, because FPC should use Internet means to create online

promotion models in various aspects such as e-commerce sales platforms, official accounts and online short videos.

7. Knowledge Assets

The level of OC for FPC at Bajie Town was mainly reflected in the skills and performance. Among the internal factors, reasonable income distribution of members, complete organizational structure, multiple ways to raise funds, and self-owned trademarks had significant positive effects on the level of OC for FPC. While among the external factors, the distance between location of FPC and markets, and external

competition were important factors improving the level of OC. Therefore, these FPCs should promote the reasonable distribution of members' income, improve the organizational structure, flexibly raise cooperative funds, and create their own trademarks. While paying attention to internal factors, these FPCs also consider external factors such as the distance between location of FPC and markets and the mutual competition between cooperatives. Solving these problems well will be conducive to the development of these FPCs and increase farmers' income.



Figure 2 Knowledge assets for FPCs and increase farmers' income



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