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**The rise of new farmer cooperatives in China;
Evidence from Hubei Province**

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The rise of new farmer cooperatives in China; Evidence from Hubei Province¹

Abstract

Since the late 1990s, the number of farmer cooperatives in China has rapidly grown. The adoption of the national law on farmer professional cooperatives in 2007 has led to significant governmental support for the establishment and management of farmer professional cooperatives. This paper explores the organizational features of the newly established cooperatives as well as the services they provide to their members. Particular attention is given to the role of local entrepreneurs in grouping farmers and in acquiring support from local and regional state agencies. The paper is based on data about a group of 200 agriculture and aquaculture cooperatives in Hubei province, central China.

1. Introduction

Markets for agricultural products are rapidly changing in China. At least two major developments in agrifood markets are pushing for structural change in the agricultural sector, particularly affecting small producers (World Bank, 2006a: 13). First, increased consumer sophistication means that they are no longer content with a limited choice of products or seasonal availability and have a growing awareness of food safety issues. Second, the rise of supermarkets as major food outlets is resulting in supply chain restructuring, which may make it more difficult for small farmers to compete. These developments put small farmers at a disadvantage compared to large farmers, state-farming companies and foreign suppliers.

Economic collective action organizations can help small-scale farmers to pool resources in order to access the specific assets needed for production, achieve economies of scale and/or scope and gain bargaining power to negotiate with buyers (Holloway et al., 2000). In addition, producer organizations can provide technical assistance to their members, can make available market information and help their members in storing and transporting perishable products. In other words, producer organizations can reduce the transaction costs that are often problematic for small-scale farmers when they want to participate in high quality value chains. A number of authors have found that producer organizations, producer groups or cooperatives have been able to facilitate small farmer participation in high value supply chains, particularly in fresh produce markets (Roy and Thorat, 2008; Narrod et al.,

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2009; Blandon et al., 2009). However, this optimism is not shared by everyone, as agricultural producer organizations may have organizational features that hamper quality improvement (Francesconi and Ruben, 2007) or only lead to quality enhancement under particular institutional conditions (Hellin et al., 2009).

In China, for a long time economic producer organizations were almost absent. Since the centrally planned marketing system for agricultural products was abolished in the 1980s, most farmers sold their produce to small traders and small wholesalers. According to Huang et al. (2008), this is still the dominant situation for marketing of fruits and vegetables in most of rural China. While farmer marketing cooperatives started to appear in some parts of China in the late 1990s, due to local government initiatives to promote collective marketing initiatives, their number only began to increase nation-wide after the introduction of the 2007 law on promoting farmer cooperatives. This law has the explicit objective of strengthening the rural economy by supporting the establishment of marketing cooperatives. Such cooperatives can link small-scale farmers to traders, processors and retailers downstream in the value chain, including modern value chains catering to high-quality markets. In addition, these cooperatives can provide farmers with bargain power in increasingly concentrated food markets, thus furthering the equitable distribution of the benefits in the value chain.

State support plays an important role in establishing new marketing cooperatives. However, these new cooperatives are not necessarily state-driven or organized top-down. While organizing farmers in state-initiated and state-managed cooperatives has a long history of failure, particularly in Sub-Saharan Africa (Hussi et al., 1993), China is following a different model. In China the initiative to establish a cooperative comes from one or more entrepreneurial persons who have (access to) the financial capital, the human capital and the social capital needed to establish a successful marketing organizations. These entrepreneurs can be farmers, or they can be traders, extension officers, or managers of a processing company.

As one of the goals of state support for cooperatives is to establish linkages between farmer cooperatives and supermarkets, quality issues are crucial. Supermarkets generally have higher quality requirements than other market outlets. While supermarkets have been rapidly rising in China (Hu et al., 2004), small-scale farmers often have difficulty in complying with the quality standards that supermarkets require from their suppliers. Cooperatives, however, can be the intermediary organization that enables farmers to enhance the quality of their products.

The objective of this paper is to describe and analyze the organizational characteristics and the functional activities of a group of newly established FPCs. One of our key questions related to the impact of organizational characteristics on quality improvement. We use a unique set of data from almost 200 cooperatives from Hubei Province, Central China. As the provincial Ministry of Agriculture, through its Supervision Office for Rural Professional Cooperative Organizations (SORC), is actively supporting the establishment of the new FPCs,

we were particularly interested in studying the impact of this state support. We found a positive correlation between state support and the application of food quality standards by the cooperatives.

The main contributions of this paper are the following. First, it provides a detailed description of a large group of newly established farmer marketing cooperatives in one of the important agricultural provinces of central China (Hubei Province). We explore the organizational characteristics of the new cooperatives, as well as the services these cooperatives provide to their members. Such description is, to our knowledge, not available in the English language literature. Second, we explore the role of the different entrepreneurs in establishing the cooperatives. These entrepreneurs have diverse backgrounds, but all have been able to establish good relationships with public officials. Third, we provide information on the type of state support the cooperatives are receiving, with particular attention for quality improvement issues.

The paper is structured as follows. Section 2 discusses the rise of new farmer cooperatives in China, with special attention to the supporting role of the new national law on promoting Farmer Professional Cooperatives (FPCs). In Section 3 we present our data and provide descriptive/correlation analysis on the organizational features of the new cooperatives, as well as on the services the cooperatives provide. Special attention is given to quality issues. Section 4 concludes with a discussion on our findings.

2. Agricultural cooperatives in China

In the 1980s, collective farming was gradually transformed into family-based farming. With the abolishment of the state run Unified Procurement and Sales System in 1985, markets were fully liberalized for fruits and vegetables, pork, sea-food, eggs, and other agricultural products (with the exclusion of cotton and grains). Different marketing channels developed for these products, with farmers themselves, government agencies, traditional cooperatives, state farms, and private traders all becoming marketing enterprises. Wet markets, which were under restriction during the planned economy, came back to life soon after the reform. In addition, wholesale markets and professional traders rapidly expanded their business, as interregional trade was fully liberalized.

Despite the reforms in China's agrifood markets and the establishment of efficient supply chains servicing wholesale and retail markets, the market position of the majority of small-scale farmers did not improve much. Most of the 200 million small-scale farmers in China continue to produce low-quality products using traditional production methods. The average size of the Chinese farm was 0.6 hectare in 2008 (Deng et al., 2010). Linkages between farmers and final consumers continue to be very weak, with farmers obtaining limited information on consumer demands. The vertical coordination needed for complying with increasingly stringent food quality and safety standards is still lacking (World Bank,

2006b). Most small-scale farmers have limited options to benefit from the increasing demand for high-value or specialty products by domestic middle-class and foreign consumers. In order to strengthen market access and quality improvement by small-scale farmers, the government began to promote farmer associations and farmer cooperatives at the end of the 1990s.

The first serious effort to promote farmer cooperatives come in 1998 (Deng et al., 2010). The State Council issued a Directive for governmental support for cooperatives that were voluntary organizations established by farmers themselves. In 2002 the Ministry of Agriculture developed a pilot project with 100 FPCs throughout China. These cooperatives received marketing information, technical assistance and management training. In November 2004, Zhejiang province passed the first provincial law regulating the operation of ‘farmer professional cooperative organizations’. The law, which took effect in January 2005, provides FPCs with legal status, puts them under the leadership of the Agricultural Bureau at the county level and above and requires that they register with the Industry and Commerce Bureau (World Bank, 2006a).

On October 31, 2006, the 10th National People’s Congress of the P.R. of China adopted legislation supporting FPCs. The law was later ratified as Order 57 by President Hu Jintao. Presidential Order 57 will become effective on July 1, 2007. Article 1 stipulates the reasons for developing this special law: “Its purpose is to facilitate and direct the development of farmer cooperatives, standardize organization and behaviors of them, protect legal interests of cooperatives and members, and foster growth of agricultural and rural economy.”

Article 8 of the new law states that the state shall boost the development of FPCs by adopting measures regarding the support with state financial revenue, tax preferential treatment, financial support, technical support, as well as guidance in industrial policies. Governmental agencies at decentral level (province, county, district) shall set up agricultural administrative departments to give guidance, support and service to the construction and development of FPCs. In other words, local authorities are expected to take an active role in the establishment of new FPCs.

One of the key provisions of the new law deals with tax reduction. Cooperatives do not have to pay VAT when selling inputs to their members. In addition, customers buying from cooperatives pay 16% less tax (on the condition that these buyers are registered companies).

Although the national law on FPCs was designed after the experiences and structures of cooperatives in Europe and North America, some major deviations were introduced. One of the interesting features is allowing non-farmers to become member of the cooperative. Although at least 80% of all members should be farmers, the non-farmer membership may include citizens, enterprises, institutions and social bodies which carry out production and operation activities in direct connection with the business of the FPC. Governmental agencies are not allowed to become member of an FPC. The rationale for allowing non-farmers to

become members of a cooperative lies in the common interest farmers and their business partners have in building integrated supply chains and modernizing agriculture.

The law states that each member has at least one vote. At the same time, the law also allows individual members who account for a large share of the capital contribution or of the volume of transaction with the FPC to enjoy additional voting rights. The maximum voting rights one member can have is twenty percent of all votes. Thus, the classical cooperative principle of one-member-one-vote does not apply.

Detailed figures on the number of cooperatives China are scarcely available. Deng et al. (2010) conclude that in 2008 more than 20 percent of all villages and county capitals in China had at least one FPC, which implies a total number of more than 210 thousand FPCs, providing services to 24 million farmers. Deng et al. (2010) also report a rapid increase in the number of villages with cooperatives, from 5 percent in 2004 to more than 10 percent in 2007 and almost 21 percent in 2008. They attribute this rapid increase in recent years to the adoption and implementation of new national legislation on FPCs.

Data on the number of FPCs in China must be interpreted with care because not all cooperatives are formally registered (while a part of the formally registered cooperatives are not active). From the total number 212,000 cooperatives in 2008, around 12 percent were not formally registered (Deng et al., 2010).

3. Survey data and descriptive analysis

Data on 198 marketing FPCs in the province of Hubei was collected in July 2009. Our sample is not a random sample of cooperatives in Hubei. The cooperatives surveyed were attending training sessions organized by the Hubei Supervision Office for Rural Professional Cooperative Organisation (SORC). We interviewed representatives (mainly chairpersons) of FPCs. In these personal interviews we used structured questionnaires.

To get acquainted with the organization and functions of newly established marketing cooperatives in rural Hubei province, the authors visited ten different cooperatives in April 2009. During these visits, information was collected by observation and personal interviews with chairmen and other leaders of cooperatives. According to Hubei Supervision Office for Rural Professional Cooperative Organization (SORC), Hubei Province had 4357 FPCs registered by June 30, 2009².

² Presentation by Zhang Qinglin, director of the HuBei Supervision Office for Rural Professional Cooperative Organisation (SORC), October 2009.

3.1 Main products

The total number of 198 marketing cooperatives represented a broad spectrum of agricultural and aquacultural products (Table 1). One fifth of all cooperatives were in vegetable production and other fifth were in fish production (including turtles and salamanders). Table 1 also shows the number of member. While the average for all cooperatives is 237, there are quite large differences per product category. The cooperatives marketing arable crops are the largest, with an average membership of 561 farmers. Also the fish cooperatives and the vegetables cooperatives are quite large in membership. If we compare these membership figures with the average for all China as calculated by Deng et al. (2010), we see that the cooperatives in our sample are twice the national average (237 versus 111).

Table 1. Main products of the cooperatives in the survey

Main products	# of coops in survey	%	Average # of members
Vegetables	39	20	318
Arable crops	29	15	561
Fruits	15	8	131
Mushroom	7	4	92
Others plants	2	1	79
<i>Total plant products</i>	<i>92</i>	<i>46</i>	
Fish	37	19	240
Pigs	25	13	96
Poultry	23	12	111
Cattle	8	4	47
Rabbit	8	4	79
Bees	5	3	152
<i>Total animal products</i>	<i>106</i>	<i>54</i>	
Total	198	100	237

3.2 Initiators of the new cooperatives

Most of the cooperatives in our survey were established recently, with the largest numbers established in 2007(76 FPCs) and 2008 (85 FPCs). This development is in line with the nation-wide trend of rapid grow in the number cooperatives as described by Deng et al. (2010). We also asked about the growth in number of members, and found that all of the cooperatives have experienced substantial growth in membership soon after their establishment. While the average number of members at the establishment of the cooperative was 52, at the time of the survey (July 2009), the average number of members was 237.

In China the initiative for establishing a marketing cooperative can come from many different persons or even companies. Table 2 provides details on who took the lead in establishing the new marketing cooperatives in Hubei province. Besides producers themselves, who took the initiative in 19 percent of all cooperatives in our sample, initiators for new marketing cooperatives in Hubei province were rural official (22%), brokers and

traders (22%), processors of farm products (15%) and technical advisors (10%). Given that technical advisors are (or were) also state employees, one third of all new cooperatives in our sample were initiated by a governmental officials.

Table 2. Initiator of establishing the cooperative

Initiator	Percentage of all cooperatives (n=198)
Rural official	22
Broker/trader	22
Producer	19
Processor	15
Technical advisor	10
Other	9

Looking at the relationship between type of product and who took the initiative, we found that fish marketing cooperatives were relatively more often established by traders, while arable crop cooperatives were relatively more often established by owners or managers of a processing plant. Both were significant relationships. The dominance of the traders in initiating fish cooperatives could be explained by the crucial role of traders in the value chain to keep the time between catch and consumption as short as possible, as fish is a highly perishable product. The involvement of the processors in arable crop cooperatives can be explained by the need for these companies to collect their raw material from a large number of small producers. Also the tax reduction can be attractive for these processors.

In addition, we found an almost significant relationship between the category vegetables/fruits/mushrooms and rural official as initiator. This could be explained by the administrative pressure on officials to improve fresh produce supply chains, such as supplying to supermarkets or even to foreign markets.

Not all new cooperatives are established from scratch. We found that 32 percent of all new FPCs had a predecessor that was handling the same product. The new cooperatives are substantially larger than their predecessors. While the original farmer association had on average 110 members, the succeeding cooperative has on average 448 members.

3.3 Functions / assets

The key function of any agricultural cooperative is to provide services to its members. These services support the on-farm activities of the members (in the case of technical assistance and provision of inputs) or facilitate the sales of the members’ products (in the case of sorting, grading, marketing and processing). Also indirectly a marketing cooperative supports on-farm activities as the producer can specialize in farming activities and does not have to spend time and effort on marketing of its products. While almost all of the cooperatives in our sample were engaged in marketing of the members’ products, marketing was not necessarily their main activity. A substantial number of FPCs listed technical assistance as their primary

function. This is in line with the results found by Deng et al. (2010), who found that 91% of all FPC provide technical assistance to their members. As Table 3 shows, marketing and technical assistance are the main services the Hubei cooperatives provide to their members. In addition, a substantial number also provide inputs. A much lower number of cooperatives are engaged in (or attribute great importance to) sorting, quality grading, storage, and packaging of members' products.

The marketing function can be executed by the cooperative in two ways. First, the cooperative may act as a commissioner which means that the cooperative sells on behalf of the farmer and receives a commission (in other words, charges a fee) for this service. This type of marketing can be found among all products, although it happens relatively more often in fresh produce. Second, the cooperative may purchase the products from the farmer, carry out some kind of sorting and/or processing activity, and then (re)sell the product. Under this arrangement, the farmer does not have to deal with developments and requirements of the final market, as the cooperative is basically its final customer. In our sample, in three quarters of all cooperatives producers sell to their cooperative, while in one quarter the cooperative acted as a commissioner brokering between farmer and customer.

Table 3. Main functions/services of the cooperatives (N=198)

Function	Mean¹	Percentage of all cooperatives giving a score
Marketing	1.8	98
Technical assistance	1.9	98
Providing inputs	2.7	88
Storage	3.5	38
Packaging	3.8	50
Sorting and quality grading	3.9	63

1. On a scale from 1 (most important activity) to 6 (least important activity)

Cooperatives can own different assets. As said above, the cooperatives established under the new cooperative law are legal persons that can own assets and enter into contracts with other parties. Table 4 shows the relative importance of different types of assets. An administration building is the key asset these cooperatives own. A second important type of asset is equipment, such as machinery for tillage, spraying, and harvesting as well as for sorting and packing the products (the low numbers for storage, sorting and packaging assets could be explained by the fact that respondents see those assets as equipment). Quite a number of cooperatives had joint facilities for the production of starting material such as seedlings for plant production and young animals for animal production.

Table 4. Assets owned by the cooperative (N=198)

Assets	Percentage of coops
Administration building	95
Equipment	54
Facilities for the production of seedlings and young animals	43
Storage facilities	37
Sorting and packing station	35
Research and laboratory	24

3.4 Organizational issues

The cooperatives in our survey apply the governance rules as set by national and provincial legislation on cooperatives. They all have a general assembly of members, which convenes several times a year. There is a board of directors (often called the council) and there may be a board of supervisors. The average size of the board of directors is 5.5 members; the average size of the board of supervisors is 3 members. According to the law on cooperatives, the chairman of the board of directors (or council president) may also act as the manager of the cooperative. Decision-making in the board of directors uses a one-person-one-vote system.

Agricultural cooperatives in China are allowed to have non-farmers as members. In our sample about one third of all cooperatives (64 out of 198) have members that are not producers. These non-producer members are often salesmen or traders (22 cases), technical advisors (20 cases), administrator (11 cases) or processors (7 cooperatives)

An interesting feature of FPCs is the relationship between shareholders and members. Not all members have to be shareholders. This means that the equity capital of the cooperative is provided by a subset of the membership. In our sample, 87% of all cooperatives issue shares. Almost all cooperatives (97%) restrict shareholding to members. The distribution of these shares over the different groups of members is rather skewed. On average, 28% of all shares were held by the chairman of the cooperative, while 61% of all shares are held by the founding members. This group of founding members is only a small part of the total membership. Thus, share-ownership is concentrated in the hands of the founding members, with the chairman being the largest shareholder. These findings for Hubei province are in line with the findings of Hu et al. (2007) on Zhejiang province.

The distribution of shares among the different groups of members is relevant for the distribution of profit. Among the 114 cooperatives for which we received information on the distribution of the profit, the average distribution is as follows: 52% of profit is distributed according to deliveries; 36% of profit is distributed according to shares; 11% of profit goes into the reserve fund.

3.5 Quality issues

We measured a number of performance indicators. Common economic performance indicators like profit turned out to be unreliable. We asked about the price difference between what the cooperative pays and what alternative buyers would pay. A majority of the cooperatives (70%) allows their members to sell outside of the cooperative. As we assumed that producers have primarily become member of the cooperative for obtaining a better price for their products, we asked the difference between the price members receive from their cooperative compared to the price they would receive when selling outside the cooperative. The difference in price is on average 7 percent (in favor of the cooperative).

Another performance indicator is the type of quality standard the cooperative applies. We asked the cooperatives what quality and food safety standards they apply. Table 5 shows that 75% of all cooperatives apply the pollution free standard, which is the lowest standard for food products; 22% apply the Green standard; and only 5% sell under the organic standard, which we consider the highest food quality standard.

Table 5. Quality and food safety standards applied by the cooperative

Quality standards	Ranking of standard	All cooperatives (n=198)
Pollution Free	Low	75%
Green	Medium	22%
Organic	High	5%

Cooperatives help their members to improve product quality by providing different services. Table 6 lists those services for the plant production cooperatives. As can be expected, technical assistance and training is the most important service that cooperatives can provide to their members. Second in importance is the provision of market information, particularly on the quality requirements of the main customers. This issue of information exchange is particularly important from the perspective of linking (small) farmers to supermarkets as the latter usually apply company-specific quality requirements.

Table 6. How does the coop help its members to improve plant product quality? (N = 92)

Activity	Number of coops (%)
Provide technical assistance and training	97
Provide information on quality requirements of buyers	90
Supply of seeds / seedlings	80
Product sorting and grading	68
Supply of improved inputs (fertilizers, pesticides, etc.)	61
Product storage	43

Does support from the cooperative to its member for improving product quality lead to a better performance, by the cooperative or by the members. We tested the following hypotheses:

1. The more quality improving services the cooperative offers to its members, the higher the price the members will receive for their products.
2. The more quality improving services the cooperative offers to its members, the higher the quality standard the cooperative applies.

Hypothesis 1 was confirmed ($r=0.292$, $p=0.009$).

Hypothesis 2 was partly confirmed, as more quality improving services had a positive effect on applying the Green standard ($r=0.226$, $p=0.033$).

Another research question related to the impact of governmental support on quality improvement. In other words, does government support to the cooperative lead to higher product quality. Cooperatives receive several types of support from governmental agencies. Table 7 shows that technical support is the most important type of support these cooperatives receive from governmental agencies. Also almost half of all cooperatives receive managerial support.

Table 7. Type of support cooperatives receive from the government

Type of support	All cooperatives (n=198)	Only plant cooperatives (n=92)
Technical support	59%	63%
Managerial support	48%	48%
Financial support	42%	40%
Quality management support	38%	30%

We tested the hypothesis that more governmental support leads to the application of a higher quality standard (for plant cooperatives). We found that more governmental support for the cooperative (Table 7) is positively related to the quality standard the cooperative applies ($r=0.258$, $p=0.014$). Individually, technical support, managerial support and financial support had a positive impact on the weight of the quality standard.

4. Conclusion

Farmer cooperatives may provide the missing organizational link between smallholder farmers and modern retail markets. In 2007, the Chinese government enacted national legislation on promoting farmer professional cooperatives as a major tool to strengthen the agricultural and rural economy. The law stipulates that state agencies at provincial and district level actively support the establishment and development of marketing cooperatives. In the central Province of Hubei, our study area, the Department of Agriculture is actively

promoting the development of farmer professional cooperatives. Our paper presents results of a survey among 198 agriculture and aquaculture marketing cooperatives in Hubei Province. Detailed information on the organization, assets, activities and performance of newly established cooperatives in China has not been published before.

Although one of the basis organizational features of a cooperative is that it is governed by its members, some groups of members may be more influential than others. In the newly established cooperatives in Hubei Province, the chairman often is an entrepreneurial person with a background in trading, food processing or extension services. These entrepreneurs have shown that they possess both the social and human capital needed for establishing a cooperative. The social capital relates to their ability to negotiate with district officials about administrative hurdles and about the kind and level of public support the cooperative will receive. The human capital represents both their knowledge about production and marketing as well as to their ability to convince large groups of farmers to become member of the organization they are managing.

Cooperatives in China issue shares, which can be held by members but also by non-members. We found that the chairman of the cooperative is often the dominant shareholder (on average 28% of shares). Thus, the entrepreneur has substantial financial capital to become a major investor in the new cooperative.

The newly established cooperatives have shown rapid increases in their membership. The membership rose from an average of 47 at the establishment (in 2007, 2008 or 2009) to an average of 237 in July 2009. Such rapid increase in membership size raises the question how the process of becoming a member is organized, and what role rural officials play in this process. Unfortunately, we have no information on answering this question.

As to the quality performance of cooperative and members, our results provide preliminary evidence that state support to cooperatives is positively related to higher quality standards, and that cooperative support to its members leads to better member performance, both in price and quality.

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