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Agricultural production cooperatives and agricultural development: Is there a niche after all? Findings from an exploratory survey in China

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Abstract

Agricultural production cooperatives used to be the “stepchild” of the cooperative movement. Although they stem from a similar long tradition of agricultural service cooperatives, researchers such as Oppenheimer (1896) and Schiller (1969) observed early on that they were not attractive for farmers in villages characterised by family agriculture. In general, it was argued that they were not competitive at all with family farms, but also not corporate farms, thus having no role in agricultural development. Historically, agricultural production cooperatives were formed under specific conditions only. Most prominent were collective farms under the socialist regimes, which were often labelled “agricultural production cooperatives”, although these were by no means of a voluntary nature. However, in recent years, agricultural production cooperatives have been observed in villages characterised by family agriculture. In Chongzhou County (Sichuan Province, China) they cover more than half of the total utilized agricultural area. This research analyses the conditions under which farmers voluntarily join such production cooperatives and how they assess their membership in them. We suggest that agricultural production cooperatives have a role to play in agricultural development after all.

Keywords: agricultural production cooperatives, agricultural service cooperatives, agricultural development, empirical research, China

JEL Codes: Q13, O13, P13, Q15, Q18

1. Introduction

Globally, agricultural production is dominated by small-scale farming. In general, small-scale farms operate in isolation and lack adequate access to vital support services, precluding efficient production. Commodity prices can also be low and other market failures can be observed, such as opportunism by market partners and hold up situations (Cook, 1995). In such situations, it might be expected that small-scale farmers join hands and collaborate in order to overcome these deficiencies. In line with behavioural theory (March and Simon, 1961), individual people voluntarily unite if they perceive that they can achieve more together than individually. Self-determined individuals decide to form or join a group of mutual assistance if the total inducements (incentives) offered to them by this group exceed the contributions expected of them (Ringle, 1994). All over the world, small-scale farmers collaborate informally in loose groups with family members, neighbours and friends. However, at a certain stage of economic development, groups like these have to be formally registered to participate effectively in economic life.

Agricultural service cooperatives (ASCs) have a long tradition as self-help organisations that support small-scale farmers. Farmers keep their own farms as independent economic entities and patronage the common enterprise to improve their individual wellbeing. An alternative option is the formation of agricultural production cooperatives (APCs), which have a similar long tradition. In this case, farmers give up their independent farms and contribute all production factors to a common enterprise and do farming jointly (Schiller, 1969). However, this type of organisation has been regarded as uncompetitive against family farms on the one hand and corporate farms organised as investor-owned firms (IOFs) on the other. However, recent developments in China, a country dominated by small-scale farms, might provide a different perspective on their existence. Since the year 2007 particularly, a boom in new ASCs has been observed. In addition, APCs can be observed as a special sub-group under the umbrella of land shareholding cooperatives (LSCs).

In this exploratory analysis, we discuss whether APCs might play a special role in agricultural development and under what conditions they offer perspectives compared to alternative organisations of agricultural production. Our findings are based on an empirical survey carried out with cooperative members in Chongzhou County, Sichuan Province. Starting in 2011, 246 LSCs have been registered by now, which are managed like APCs formed on a voluntary basis. This paper contributes to examining the factors that are conducive for the development of APCs and how they are distinguished from ASCs in China. The paper is structured as follows: In the next section, we discuss cooperation

among small-scale farmers in general and the concept and experience of APCs. In the following section, the development of agricultural cooperatives in China over the last decade will be reviewed. In Section 4, the major factors leading to the establishment and development of APCs in the survey region will be analysed. Section 5 presents the findings of our own survey among members, with a focus on their socio-economic characteristics and an assessment of their memberships. The final section concludes this paper with a discussion of the key findings.

2. Cooperation among small-scale farmers and the role of agricultural production cooperatives

For more than 150 years, agricultural cooperatives provide a model for overcoming the disadvantages of small-scale farming. According to the International Cooperative Alliance, a cooperative is defined as "an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise" (ICA, 1995). While this definition is rather broad and leaves options for all types of activities, most empirical studies conclude that the primary motive for their set-up seems to be the attainment of economic advantages. They are aimed at reducing the transaction costs faced by small-scale farmers, making use of potential economies of scale, sharing risks and adding value through horizontal coordination and vertical integration (Laurinkari, 1994; Francesconi and Wouterse, 2015).

In principle, cooperatives are independent from any government interference. As the owners of their cooperative, members fulfil three roles, i.e. as users/beneficiaries, controllers or financiers (Golovina and Nilsson, 2011). As shareholders, they contribute paid-up shares and exercise voting rights based on their person and, different to IOFs, not on the volume of their capital investment. Cooperatives are non-profit organisations that aim to maximise income for their members. While there are many ways to differentiate agricultural cooperatives, we distinguish between ASCs and APCs. Worldwide, service cooperatives are, by far, the most popular type. Small-scale farmers unite to reduce transaction costs, but they keep their own farms as independent economic entities. They are aimed at maximising their individual farm profits with the support of the jointly owned cooperative enterprise.

APCs present an alternative model. When forming an APC, members are not only contributing their labour and capital (e.g. animals, machines, buildings),

but also their agricultural land. Different to ASCs, member farms do not exist anymore (Schiller, 1969). Therefore, a farmer joining an APC must be prepared to face far-reaching consequences. He must "give up his independence as a holder of a farm and must be prepared to change entirely his manner of work and in some cases also his way of living" (Schiller, 1969, p. 5). One particular significant consequence is the (at least partial) loss of ownership rights to land. In order to establish larger operational units, the land of the various farmers will have to be pooled. Once the large-scale plots have been set up, the land contributed by the individual farmer to the pool loses its identity and just exists in the land records. The individual plots can no longer be precisely identified. The feeling of personal ties to the soil, i.e. the personal tie to a particular piece of land, may be lost over time.

Although the maintenance of ownership titles gives the owner the assurance that he may, if necessary, revoke his decision to join the APC and regain full rights to his piece of land, he must be prepared that he will not get back exactly the piece of land he contributed. That plot may be right in the middle of pooled land, so he will get another plot of land of the same value somewhere else or be compensated in cash. Therefore, the maintenance of individual ownership rights of land will lose their practical importance over the course of time. In this respect, the nature of an APC will gradually change, since the maintenance of private ownership rights of land will not differ much from a share equivalent to the value of the contributed land, and to the respective members becoming shareholders of a common enterprise (Schiller, 1969).

APCs, like producer cooperatives in general, have a long tradition. However, the experience with this type of organisation during the 19th century led to the conclusion that it is not of a lasting nature (Beckmann, 1993). In general, it was thought that they would inevitably dissolve over time. This "Law of Transformation" described by Webb-Potter (1891) and Oppenheimer (1896) at the end of the 19th century held that producer cooperatives either collapse, if they exhibit a lack of competitiveness, or transform themselves into capitalist enterprises after a successful initial phase. In the field of agriculture, there were some experiments with APCs during the 19th century in the United Kingdom, although they relied entirely on the support of philanthropic noblemen. Nevertheless, it is still remarkable that Oppenheimer (1896) saw an option for APCs as a development tool early on. While he acknowledged that APCs would not be an attractive model for traditional farmers, he regarded this type of cooperative as a sensible way of solving agrarian issues of that time. In particular, he viewed land settlement schemes organised as APCs as a promising tool to productively integrate unemployed rural and urban workers in society.

However, when looking back at the 20th century, there have not been too many examples of APCs based on voluntary memberships. As suggested by Oppenheimer (1896), this type of organisation did not seem to provide a prospective development path for small-scale farmers. Actually, in his comparative analysis of APCs, Schiller observes that "it is remarkable that after more than 100 years of intensive cooperative activities neither in Germany nor in other countries of Western Europe can any example be quoted for the transition of farmers of an old settled village to cooperative farming with joint use of land" (Schiller, 1969: 5-6).

However, various models of APCs could be observed, although specific conditions had to be met. The set-up of settlement schemes where land ownership rights are newly established has a long tradition. In general, settlers with strong religious, political or idealistic bonds claimed undeveloped areas and some still operate on the basis of equal sharing of all members. The spirit of the cooperative society provides the glue for their persistence, as is shown, for example, by the Kibbutz approach (Rosenthal and Eiges, 2014). In addition, APCs had been set up in connection with swift political changes leading to rather comprehensive land reforms. Large-scale farms were nationalised and the former agricultural workers became members of newly established APCs. However, most of them were given up since the working members were more interested in cultivating their plots individually, as experienced in Peru following the land reform program of 1969 (Hatzius, 1994). The most important model of APCs, however, has been the collectivisation of family farmers in the former Soviet Union, the former socialist countries in Central and Eastern Europe and in Asia. In general, these collective farms adopted the label of APCs, even though they were created with coercive means. Voluntary membership, autonomy of the enterprise and other essential characteristics of a true cooperative association were not found under this model (Schiller, 1969).

For a long period, the analysis of APCs was not high on the agenda of agricultural economists and social scientists. This changed with the regime change in Central and Eastern Europe and the dissolve of the Soviet Union during the late 1980s and early 1990s. The collective farms became obsolete and had to be transformed into farm units compatible with the market economic system. In a market economy, APCs have to compete with IOFs (large-scale corporate farms) on the one side, and individual (family) farms on the other. In Germany particularly, there was an intense discussion in the 1990s about whether even transformed APCs would be competitive with the other types of farm organisations. Most economists assumed that APCs would be dissolved and transformed into family farms (e.g. Schmitt, 1991, 1993; Beckmann, 1993; Johnson and Ruttan, 1994). Their main arguments were

based on transaction cost theory. APCs were not competitive with IOFs, as their organisational set-up leads to a complicated decision-making process and a lack of discipline among the working members. In addition, APCs were argued to be affected by a specific principal-agent problem. Due to their co-determination rights, the working members will enforce their individual self-interests against management and the economic interests of the cooperative enterprise. It was argued that, under conditions of uncertainty and risk, the coordination of agricultural activities could be better accomplished by hierarchical decision-making. However, compared to family farming, both APCs and IOFs were not seen as competitive, as large-scale farms are connected with extremely high transaction costs, especially in monitoring wage labour. These costs are not matched by economies of scale, as they only exist to a limited extent in agriculture. The recent experience of China and Vietnam following decollectivisation during the 1980s seemed to support these arguments. Another factor refers to risk reduction, as members, like in any producer cooperative, invest their financial capital in the same enterprise as their human capital (Dow, 2018).

However, contrary to these predictions, APCs based on voluntary membership can still be found these days, such as in Eastern Germany, Slovakia, the Czech Republic and Russia. In general, these are transformed former collective farms where the entitled shareholders did not want to take up farming themselves, but stayed as members contributing their individual agricultural assets to the APC. Most of these individual members are either former farm workers or had inherited shares, but they have no direct link to agricultural production anymore. In general, the hurdles of establishing family farms were quite high since individuals lacked the necessary human capital, access to the upstream and downstream sectors and financial services. In addition, the general economic situation during the early 1990s was quite bad in most transition economies (e.g. Wolz et al., 2009; Golovina et al., 2013). In 2016, even more than two and a half decades after regime changes in Eastern Germany, for example, there are still 925 APCs making up 3.8 per cent of all farms and cultivating 23.7 per cent of the utilised agricultural area (UAA) (BMEL, 2018).

But also in western countries, i.e. the areas which Schiller (1969) described as “old settled villages”, APCs can be observed in these days. However, as pointed out by Agarwal and Dorin (2017) cooperation in agricultural production by pooling land, labour and capital is not so common and hardly researched at all. Available statistics show evidence of the small amount of APCs in existence. In Western Germany, for example, 2018 statistics show that there were 102 APCs, making up a negligible share (not even 0.1 per cent) of farms and cultivating 0.1 per cent of the UAA (BMEL, 2018). In France as well, this type of

cooperation is becoming more and more popular. While group farming (i.e. GAECs, "*Groupements Agricoles d'Exploitation en Commun*") has a long tradition since the 1950s, it used to be mostly undertaken by close family members in order to gain access to certain subsidies. In recent years, however, this model has been applied by non-family members for joint farming as well. In 2010 (the year of the last French Agricultural Census), GAECs constituted 7.6 per cent of all farming enterprises in France, out of which one sixth are made up by non-family members. Hence, in total, a bit more than 1 per cent of all farms in France are organised as a type of APC (Agarwal and Dorin, 2017).

APCs do seem to have a presence in developing economies as well. In her analysis about group farming among women farmers in the two Indian states of Telangana and Kerala, Agarwal (2018) concludes that they significantly increased farm and household incomes. Under this approach, "small farmers voluntarily pool their resources (land, labour, capital and skills) to create a larger enterprise (but without forfeiting rights in any owned land), and cultivate it jointly, sharing costs and benefits" (Agarwal, 2018, p. 58). However, even though these groups operate in "old settled areas", they do not contribute their own land, but rent farmland from third parties for joint production. In this respect, they do not form APCs in a strict sense; they depend on landowners for renting out the land, but also on state support, both administrative and technical. Similarly, the state provides the necessary start-up capital (Agarwal, 2018). Therefore, it is worth knowing whether these groups would persist if and when the state support will be withdrawn.

3. Cooperative development in China

Today China's agriculture is characterised by small-scale farms. The country dissolved its collective farms in the early 1980s with a decollectivisation process guided by egalitarian principles of land distribution, leading to fairly equal farm areas among farm families. This aim of being fair to all recipients led to a severely fragmented farm structure. Unlike many countries of Central and Eastern Europe, decollectivisation in China did not include restitution, i.e. when farmers are returned (at least part of) the land that their families used to own before collectivisation. Today, the average farm size in China comes up to 9.8 mu[4] (0.65 ha) spread, on average, over five plots that are usually spatially quite dispersed (Zhang et al., 2018). While decollectivisation established the Household Responsibility System (HRS), the land ownership rights are still kept

[4] 15 mu equals 1 hectare.

by the rural collectives (villages). The farmers received land use rights and are cultivating their land themselves, but they may lease it to a third party. This land tenure system greatly inspired Chinese farmers' ambitiousness and significantly increased national food output and agricultural productivity during the early reform period (Lin, 1992; de Brauw et al., 2004).

In recent decades, China witnessed very rapid growth of its industrial and service sectors. Farm incomes stagnated and searching for non-farm and off-farm activities for employment and income became more and more attractive. The young and better educated inhabitants began to move to the urban areas. Children and the older generation remained behind. By 2015, it was estimated that almost half of the rural population was already living in urban areas (Su et al., 2018). However, the agricultural land over which the family keeps the land use rights is still a significant form of social and economic security. In times of economic downturns and rising unemployment, migrant workers can return to their villages and survive as farmers given that alternative, more formal forms of social security are not available (Cheng and Chung, 2018).

However, while farmers have secured their land use rights for long-term periods that have been extended by the government over time, they could not be totally sure that they will be left with the same size of land and the same plots in the long run. Most rural communities have engaged in periodic reallocations of plots in order to equalise household acreage on a per-capita basis. When a household adds a family member either by birth or marriage, they may be entitled to a larger area, while in the case of death or permanent outmigration the opposite may be true. These periodical reallocations because of demographic changes were regularly undertaken up until the late 1990s. The central government rendered these forms of land redistribution as illegal. However, the rules were not that precise and allowed local officials to exercise their discretion. While the number of land reallocations has declined significantly since the early 2000s, it is still more practiced in the inland provinces, like, for example, Sichuan, than in the coastal provinces (Kong and Unger, 2013; Cheng and Chung, 2018).

Rural-urban migration often leads to the situation of the remaining family members no longer farming their land anymore. In general, that land will be leased to other parties that have an interest in farm production. During recent years, these options have been improved as the land use rights have been secured more strongly by the government. Leasing of farmland increased rapidly during the last years. While in 2008 about 8.7 per cent of farmland had been leased out, that share increased to about 26 per cent in 2013, amounting

to about 340 million mu (or 22.6 million hectares) (Day and Schneider, 2018[5]. Nevertheless, it can be observed that many rural families have quit farming and that agricultural land is not being cultivated anymore and remains idle (Su et al., 2018). The major reasons seem to be that the remaining family members are no longer in a position physically to cultivate their land or that the urban family members earn enough money so there is no need for earning a farm income or providing subsistence food for the family. In addition, there seems to be the problem of writing contracts that preserve the long-term quality of the land. The leaseholder might look for his short-term profits if he thinks that he cannot use the respective piece of land for longer periods, as the migrant worker might return unexpectedly for whatever reason. Therefore, when a potential lessor expects that an alternative use of his land is too damaging, it can be expected that he is inclined to leave his land voluntarily idle instead of renting it out (Cheng and Chung, 2018).

3.1. Government policies promoting agricultural development

The Chinese government is actively encouraging the transfer of land to more efficient producers as part of its agricultural modernisation strategy. The high fragmentation of farmland limits economies of scale and a more efficient mode of farm production. China's government is committed to increasing national food security and food safety, and has sought out feasible ways to make the most productive use of farmland. Although the first steps in this direction were taken during the 1980s, the government has implemented various programmes since the mid-2000s. They cover land consolidation (Zhang et al., 2018), but also a better integration of small-scale farmers in the value-added food chains through specialised entrepreneurial "large-holders" (*dahu*), commercial family farms (*jiating nongchang*) and agribusinesses, as well as cooperatives (to be discussed below). Leading agribusiness companies ("dragon heads") are supported via subsidies, cheap loans and tax benefits to vertically integrate small-scale farms, via contracts, with the upstream and downstream sectors. It is estimated that by 2014, about 40 per cent of farm households were linked to one of the agribusiness companies (Day and Schneider, 2018).

In addition, in subsidising land rental costs, the government supports leaseholders in renting farmland from small-scale farmers. In China, the

[5] Figures are not consistent. Chen (2016) is more modest in his analysis. He claims that, in 2013, about 15 per cent of the farmland in China had been leased. On the other side, Sun et al. (2018) state that, in 2016, about 35.1% of the farmland, or about 31.3 million hectares, were leased.

average annual land rent ranges from 200 yuan to 800 yuan[6] per mu. In a survey carried out in the Jiangsu Province, where land rents are on the higher end, it was found that sub-district governments were provided subsidies of up to 300 yuan per mu[7]. Hence, lessors saved quite a share of cash expenses (Shen and Shen, 2018).

3.2. Role of agricultural cooperatives

While small-scale farmers were eager to collaborate, a national cooperative law was missing. In line with the modernisation strategy, China's government passed the cooperative law ("Law of Professional Farmers' Cooperatives"), effective 1 July 2007. Since then the government has made substantial efforts to promote their development by providing financial and operational support. These organizations are a mixture of "economic rationale and political will" (Jia and Huang, 2011, p. 656). Since then, China has witnessed a boom in agricultural cooperatives. By July 2017, almost two million agricultural cooperatives had been registered. More than a 100 million farmers had become members, accounting to about 46.8 per cent of the total farmers. The average membership is relatively small, but has increased over time, having risen to 58 members in July 2017 (Huang and Liang, 2018).

ASCs in China show specific characteristics that are only to some extent similar to the "classic" cooperative principles, i.e. user benefits, user ownership and user control. In general, cooperatives are not set up by ordinary farmers ("bottom-up"), but are formed by local government officials, traders, large farmers or agribusiness companies ("dragon firms") in a "top-down" manner. It is estimated that about 90 per cent of them were established in a top-down way (Day and Schneider, 2018). A major reason seems to be that someone has to take the initiative and become the leader, which not only requires special skills, but is also time consuming. Therefore, membership is heterogeneous to a certain extent, as two main groups can be distinguished: There is a small group of "core members" who have initiated the cooperative and manage it. Another group comprises the "common members" who join later and for whom the cooperative is important as the buyer of their products and supplier of necessary inputs. The core members must be relatively good at management and marketing and should have good links to the upstream suppliers and downstream buyers and processors (Liang and Hendrikse, 2013; Yu and Nilsson, 2018).

[6] 2018: 1 USD equaled 6.62 yuan (RMB) (Source: https://fxtop.com, 24 July 2019).

[7] Chen (2016) reports that, in his survey in Jiangsu Province in 2010, the annual rent per mu came up to 550 yuan.

Nevertheless, the management of ASCs is not very professional. In general, just one or several core members perform the managerial tasks themselves; they do not recruit professional managers from outside the organisation. Therefore, many of them may lack detailed knowledge of markets. This explains, to some extent, why membership size is limited, as the managing core members cannot handle larger volumes of production effectively. In general, common members are not involved in management and decision making (Liang and Hendrikse, 2013). This corresponds to the fact that, in general, the core members sign up a major part of the cooperative share capital, while the common members just buy a small amount (Ma and Zhu, 2018). In their analysis of ASCs in Zhejiang Province, Liang and Hendrikse (2013) report that, in some cooperatives, one share can be bought by several members together if they lack the necessary cash. The volume of one share ranged from 500 yuan ($77 USD) to 2,000 yuan ($308 USD) at that time; it is more a type of "entry fee" so that they can benefit from the activities.

While the quick rise in numbers seems very impressive, a closer look reveals that ASCs do not play such a big role in input supply and marketing as anticipated. It is estimated that about 80 per cent of the registered cooperatives have no or limited business activities (Yu and Nilsson, 2018). The major reason seems to be that cooperatives are just being set up in order to get access to government subsidies. Subsidies are important in the start-up phase particularly, as, in general, core members do not raise sufficient capital. In addition, cooperatives are eligible for tax reliefs and have access to technical trainings, extension services and product promotions (Liang and Hendrikse, 2013). Another reason seems to be that the government policy is focused on increasing the number of cooperatives. Therefore, local officials want to signal success to their superiors and encourage their set-up even if local response is weak (Yu and Nilsson, 2018).

Based on this information, it can be concluded that ASCs are mostly top-down affairs formed by a core group of members due to the heavy government support for these set ups. Many of them just exist "on paper" to get access to these incentives. If they are operational, small farmers just join them as common members. Therefore, most of these cooperatives do not correspond with the basic cooperative principles as acknowledged by the ICA. There are no equal membership rights. They might ensure a user-benefit to all members. Indeed, if cooperatives are operational, they contribute to farm income for their member-farmers (e.g. Ito et al., 2012; Ma and Abdulai, 2017; Zheng et al., 2011). However, user-ownership and user-control rights rest in the hands of the core members only. Therefore, common members might not feel obliged to patronage their cooperative if there are better alternatives, or to put it

differently “cooperative membership does not necessarily mean choosing the cooperative as the marketing channel. Not all members deliver their products to the cooperative…” (Hao et al., 2018, p. 55). Hence, their competitiveness and economic relevance is rather low. Most cooperatives are seen as “fake cooperatives” (Day and Schneider, 2018, p. 1236; Huang and Liang, 2018, p. 56) or “shell cooperatives without member farms” (Shen and Shen, 2018, p. 247). The operating ones can be described as “hybrid cooperatives” (Ma and Zhu, 2018, p. 22) providing services similar to traditional cooperatives in Western countries, while following a governance structure similar to investor-owned firms.

3.3. Agricultural production cooperatives as a subgroup of land shareholding cooperatives

Besides the option of forming ASCs, the Cooperative Law also provides the legal basis for setting up another type of cooperative that comes under the label of land shareholding cooperatives (LSCs)[8]. Already during the 1990s, China’s government encouraged the formation of “land cooperatives”, although at that time the focus had been to give the farmers an option of participating in the rising land prices due to booming construction needs (Yep, 2015). However, this type of cooperative model has become more popular as the government has been committed to modernising farming and ensuring national food security, while, on the other hand, more and more small-scale farmers were giving up farming but keeping their land fallow. The major goals are to make optimal use of underutilised or idle farmland in achieving economies of scale and greater efficiency. In principle, small-scale farmers are passing their individual land use rights to a common unit that is, in general, registered as an LSC (Chen, 2016; Cheng and Chung, 2018).

Although Chen (2016, p. 837) states that, in his survey on LSCs in the Jiangsu Province, he did not find any two LSCs “which were of exactly the same type”, two major groups of LSCs can be distinguished (Chen, 2016; Liu et al., 2016; Huang and Liang, 2018). In the more common version, the plots of the individual farmers are agglomerated and the land-use rights are converted into LSC shares. Farmers become LSC members but are not involved in agricultural production itself anymore. The LSC rents its total land to a third party for cultivation on a long-term basis. It manages the rental income. The individual

[8] Chen (2016) applies the term “Shareholding Land Cooperatives” (SLCs, *tudi gufen hezuoshe*). He distinguishes them from “Cooperatives of Shareholding Economy” (CSEs, *gufen jingji hezoushe*). The latter type is not the topic of this discussion. Huang and Liang (2018) apply the term “Land Shareholder Cooperatives”.

members might get two forms of income. They are entitled to the fixed annual lease payment and, in some cases, they may also receive a share of the cultivator's profits, which might fluctuate over the years. In this type, LSCs act as coordination platforms or bargaining cooperatives that bring many farmers together with one cultivating company. The second type of LSC differs from the first one in the fact that the cooperative operates the pooled land itself. The members plan the production activities jointly and, if possible, some of them work on the pooled land. This model represents the APC set up on a voluntary basis as discussed by Schiller (1969). Instead of leaving their land fallow, land users earn rent, if the LSC is profitable, dividends and some might earn a wage income as farm labourers (Chen, 2016).

While LSC development has been discussed in the literature, there are not many facts about them available. Huang and Liang (2018) report that by the end of 2015, there were 85,222 LSCs registered all over China. At that time, they made up 6.4 per cent of all agricultural cooperatives. However, there are no detailed figures about the two subgroups, although it seems that the first type of LSCs, i.e. operating as a broker for third parties, is the more popular one. This is confirmed by Chen (2016) in his analysis of the Jiangsu Province, where the operating companies focus on grain production. Alternatively, Huang and Liang (2018) conclude from their survey in the Zhejiang Province that LSCs entrust their land to third parties if the land is fertile enough for high-value crops. Members of LSCs are more inclined to operate their land themselves if they are focused on grain production. They conclude that LSCs' limited access to financial services limits their options to self-operate. This does not seem to be a limiting factor elsewhere. From their survey among farmers in the Jiangsu Province, Shen and Shen (2018) report that vegetable and fruit farmers especially formed the second type of LSCs, with the average number of members amounting to about 200. The main advantage of joint production is the option to follow a "unified order-scale system before and after production" (Shen and Shen, 2018, p. 248) and serve the demand of nearby Nanjing City in time.

In some cases, LSCs were organised by the villagers spontaneously, but, in general, like ASCs, the government and local government officials play an important role in promoting their set-up. In most cases, the government officials are necessary in their formation and in getting technical and financial support. Local governments might provide subsidies from their budgets and facilitate better access to local banks. However, Chen (2016, p. 830) argues that "village authorities and cadres, at least in principle, ought not to or are not explicitly encouraged to have a heavy hand in the management and development" of LSCs. Since the submitted land of each member is almost of

the same size, they have almost the same value of shares and, therefore, of voting rights. In this way, the decision-making power and authority of village cadres is curbed, although he admits that, in reality, this might not always be the case. Nevertheless, he emphasises that LSCs provide the option for a greater degree of farmers' democratic participation or village autonomy (Chen, 2016).

That aspect concerns the question of the willingness of farmers to join an APC and contribute agricultural land and other farm assets. As Schiller (1969) points out, farmers will lose their bond to a specific piece of land over time. In China, the findings are not conclusive, so far. Chen (2016) states that since farming is a burden, coupled with insecurity and income uncertainty in a volatile market economy, many farmers might prefer this joint use of land or "recollectivisation". Their emotional links to a specific piece of land has not grown over generations, but has only been established with the introduction of the HRS during the early 1980s. The time of a close connection to a specific piece of land just lasts about one generation (Chen, 2016). In addition, particularly up until the 2000s, there was the permanent likelihood that land might be reallocated (Cheng and Chung, 2018). On the other side, there are reports that farmers have developed very strong emotional bonds to specific pieces of agricultural land. Su et al. (2018) emphasise that leasing of land is not only an economic issue of expected returns and opportunity costs, but also involves a psychosocial component. Very often, farmers are emotionally attached to their farmland. Therefore, they might be reluctant to lease their farmland to any alternative user. While the social security aspect will be met regardless of the actual use of a specific plot of land, the strength of the emotional bond seems to depend on the duration of possession, and the individual character of the farmers.

4. Major factors for the establishment and development of agricultural production cooperatives in Chongzhou County[9]

Chongzhou County, which is part of the Chengdu City Region in Sichuan Province, is representative of the general situation of Chinese agriculture. The average farm size just comes up to 3-4 mu. More and more young people have taken up non-farm jobs in the region, implying seasonal and often permanent migration to the urban areas, while the older generation stayed behind. Farm

[9] This chapter is based on regular informal interviews with government officials, cooperatives leaders and members since 2014.

income became more and more a marginal source of household income. Land was often used for subsistence production, but fallow land became more common. However, the county government, along with their counterparts all over China, was under pressure to follow the national policy goals of attaining food security. Thus, the local government took various steps to fulfil these goals. This included land consolidation options, improvement of extension services, development of local public branding and better linking agricultural producers with wholesale and processing companies. This was followed by several reform measures to foster land use rights beginning in 2008, including a major step of stricter certification of individual land use rights. The option of transferring (renting) their land use rights but also using these rights as collateral for bank credit was also included. In addition, farmers were entitled to production subsidies amounting to 400 yuan per mu and year when their land is double-cropped with cereals.

4.1. The basic model of agricultural production cooperatives

These policy measures gave farmers in the region security in that they could decide on their own what to do with their land without having to fear the loss of their land use rights. Thus, through these measures, a favourable institutional environment for developing LSCs in Chongzhou County was provided for. Basically, this model was driven by both farmers' limited options of making effective use of their land and the political will of ensuring food security. The aim was to consolidate the individual farm plots, to make use of modern farm technologies and to keep the farmers involved.

The LSC-model in this county falls under the second subtype, i.e. APCs based on a voluntary membership. Farmers are free to join but can exit freely if they so wish. The farmers contribute their farmland. In general, members do not sign any share capital in cash, but the size of the land contributed is understood as share capital. One mu of contributed land equals one share, although there might be some adjustments depending on soil fertility. Since farmers provide land of a relatively equal size, membership is—different to ASCs—fairly homogeneous. There is no differentiation between "core" and "common" members. Concerning joint production, farmers share the benefits, but also the risks.

The cooperative structure comprises general assembly, management and supervisory boards, with the members of both boards being elected by the general assembly. The management board is responsible for overseeing the daily operations and recruiting staff for executing the operational side of business, i.e. agricultural production managers (see next chapter). In many

cases, the management board is supported by an advisory planning council that helps the board fine-tune production activities. Members of this council are experienced senior farmers who are elected by the general assembly. In this way, the co-determination rights of the individual members are strengthened.

4.2. Role of professional agricultural managers

The consolidation of land plots under joint management is just one step in achieving high efficiency and modernising farm production. Well trained farm managers are needed as well. Skilled and experienced farmers are first nominated by village officials, and then screened and tested at the county level by the agricultural development bureau. Those who pass the test are invited to attend systematic training courses. At the end of these training courses, applicants who pass a test will receive certificates, which are classified “A”, “B”, and “C” depending on their grades. Every year, these levels are re-assessed by the county officials. The screened individual can attend follow-up courses, but might also be assessed on their work performance. Over time, a pool of professional agricultural managers has been set up, and today that pool comprises about 1,600 individuals.

The actual recruitment is done by each cooperative individually; there is not a clear-cut pattern. In general, there is at least one professional agricultural manager at each APC. However, depending on size, some APCs have recruited several managers, of which one will act as the managing director (CEO), while in other cases one manager is looking after two, or even more, APCs. On average, each cooperative employs about four managers. In 2018, 983 agricultural professional managers were under contract. In some cases the managers might be ordinary members of their respective cooperative, but in general external professionals are recruited. The manager recruits additional permanent and seasonal staff to execute the daily activities. In general, these are individuals who are cooperative members. The contracts signed between cooperatives and agricultural professional managers specify the production targets of the crops grown, cost control, performance related awards and penalties. For the day-to-day management, the managers can act relatively independently from the management boards. Hence, their competence and performance has a direct impact on members’ benefits. In general, there are fixed-term contracts only, running from one to several years.

The Chinese government not only organises the development of the professional agricultural managers, but it also subsidises their salary costs by covering half of their social security contributions. In addition, specific interest costs on farm credits are subsidised. As stated above, the managers receive a

certification grade ranging from “A” (highest/best grade) down to “C”. Depending on their grade, managers are entitled to agricultural credits which they invest in the APC operations, amounting to 300,000, 200,000 or just 100,000 yuan respectively. Half of the respective credit costs are covered by the local government.

The professional agricultural managers are supposed to fully identify with “their cooperative”. Hence, their payment system is based on success. In general, the managers do not receive a fixed salary, but are entitled to a share of the overall surplus at the end of the cropping season, which is fixed in their individual employment contracts. Depending on whether the members receive a fixed rent or not, there are two basic formulas. In cases where members receive a fixed rent, the remaining surplus will be divided as follows: About 50-60% will be given to the managers, about 20-30% as dividends to the members and 10% will be allocated to the reserve funds. In cases where the members are fully involved in the production risks, the distribution formula is more in favour of the members: About 60-70% of the overall surplus (profits) is allocated to the members, 20-30% to the managers and 10% to the reserve funds. In some cases, APCs have set up a special welfare fund, to which about 10% of the surplus is devoted.

4.3. Government support in strengthening agricultural production cooperatives

While the government is heavily involved in supporting the network of professional agricultural managers, it is particularly focused on the provision of a smoothly running supporting service system (“rural socialised service system”). A full range of services, consisting of support in technology transfer, access to financial and marketing facilities, is offered to facilitate the modernisation of agricultural production. The government is investing in rural infrastructure (e.g. feeder roads, irrigation channels, etc.) to ensure that larger machines have easy access to the various consolidated plots. To improve the extension network, the government has united all advisory services and linked them with provincial research organisations for a one-stop advisory centre (“expert workshops”). This centre serves as a platform for information exchange and technology transfer where the managers can exchange with the experts about their on-farm problems and needs and hire experts to give technical trainings and on-site instructions. These experts are specialised in a variety of agricultural topics, such as seed selection, planting, soil analysis, pest control and management, and technology. Through the advisory centre, the provincial research organisations can establish close cooperation with the

APCs, such as collaboration for jointly conducted experiments and testing and promotion of new varieties.

The modernisation of agricultural production and increased yields require capital-intensive production systems and, hence, heavy investments. However, access to financial services is a severe problem among agricultural cooperatives in China (Ma and Zhu, 2018). Therefore, the government tried to smoothen this bottleneck and improve the institutional environment. Along with supporting professional agricultural managers in gaining access to a certain volume of subsidised credit, the government decided that APCs could use the contributed land of their members as collateral for bank credit. In this way, the creditworthiness of the APCs improved tremendously. In addition, there is the option that members can invest in their cooperative directly. The APCs will pay back investors over time with interest as agreed in the investment contract; a part of the interest payment may be subsidised by the local government.

Finally, the government also provides direct subsidies. Next to the direct grain production subsidies to the member-farmers, there are direct investment subsidies, e.g. for machines and/or buildings. An interesting aspect of these subsidies is the fact that they are booked as if this investment has been financed by all members equally. This implies that these subsidies are converted into capital shares of the members. Members are entitled to annual capital dividends of these shares. Therefore, members can have two types of shares: (1) land shares based on the amount of area contributed to the cooperative, and (2) share capital based on the respective subsidies. Over time, land shares, as already assumed by Schiller (1969), might be converted into capital shares.

With respect to marketing, the government also provides special support. As ASCs, APCs are encouraged to develop their own “brands” in order to become more visible in the markets. These brands are financially supported. In addition, the government promotes direct marketing by supporting the set-up of “agricultural service supermarkets” close to the offices of the extension services. Not only are these supermarkets a link to consumers, but they are also used as centres for organising input supply. In addition, they act as training centres for rural individuals who might want to work as part-time workers in APCs. In this way, they help rural people to earn an extra income.

4.4. Development of agricultural production cooperatives in Chongzhou County since 2010

In 2010, the first APCs had been set up (Table 1). While many farmers were hesitant to join at the beginning, there was a "boom" within less than two years. By now, there are about 250 APCs comprising about 95,000 members. Similarly, the average number of members increased rapidly, rising to almost 400 by now, which is more than six times higher than the average number of members in ASCs. In addition, the average farm size of APCs increased rapidly, rising to about 1300 mu, or about 85 hectares. However, not all members liked this approach and some of them revoked their membership. In those few cases, these individuals did not get their original land returned, as analysed early on by Schiller (1969), but were compensated with land from the edge of the consolidated plots. When it comes to cultivated area, APCs have become the dominant organisation of agricultural production in Chongzhou County by now. More than half of the total UAA is now farmed by them.

Table 1 - Development of agricultural production cooperatives in Chongzhou County, 2010-2018

Year	Number	Total number of members	Average number of members	Total area (mu)	Average farm size (mu)	Share of land cultivated in district (%)
2010	2	78	39.0	300	150.0	0.05
2011	43	6589	153.2	9100	211.6	1.57
2012	142	43,613	307.2	82,500	581.0	14.22
2013	186	63,452	341.1	226,000	1215.1	38.97
2014	206	78,920	383.1	280,600	1362.1	48.38
2015	218	84,013	385.3	299,600	1374.3	51.66
2016	224	86,963	388.2	310,660	1386.6	53.56
2017	246	94,909	385.8	316,000	1284.6	54.48
2018	246	94,909	385.8	316,000	1284.6	54.48

Source: Chongzhou Bureau of Agricultural and Rural Development (various years), *Annual Reports*; Chengdu Statistical Office (various years), *Statistical Yearbook*.

At this stage, there seems to be a consolidation of APCs, since the potential for further expansion is relatively limited. Nevertheless, the local officials of the Agricultural Bureau see this approach as a full success. Up until the early 2000s, they had promoted the approach of consolidating agricultural land and renting it in bulk to agricultural companies ("dragon firms"). But many farmers were complaining that the companies were not treating them well. Some managers

of these companies reportedly did not care about their commitments, leading to local officials looking into alternative models. They admit that APCs have reached their peak by now. In the future, the efficiency of agricultural production will need to be improved even further, but at present it is also important to diversify activities. This could not only include, for example, diversification of crops and a better integration with the added-value chain (e.g. processing and better branding of products), but also a diversification into non-farm activities, like the promotion of rural tourism in the form of restaurants and boarding facilities. The cooperative managers interviewed agreed that it would have been impossible to establish APCs without government support. However, they are confident by now that, if government support was drying up, they could manage on their own and will go on.

5. Socio-economic characteristics and assessment of agricultural production cooperatives by ordinary members

So far, there is not much knowledge about the ordinary members themselves and why they voluntarily join APCs. In our exploratory analysis, we developed a standard questionnaire in order to better understand farmers' opinions and their assessments. Due to financial and time constraints, the research team approached eight APCs located in four different townships. In total, more than 70 half-hour-long interviews were executed in 2015, i.e. at a time when APCs were still expanding. 66 of these interviews were valid for further analysis. The questionnaire covered the following aspects: Alongside the basic socio-economic characteristics of the member households and the financial benefits of membership, members' opinions, i.e. whether they were satisfied with this type of cooperative, had trust in the management and will continue to stay on in the future, were also assessed.

5.1. Socio-economic characteristics of member households

The major characteristics of the interviewed farmers are summarised in Table 2. About two-thirds (or about 62 per cent) of the farmers are male. The average age of the respondents, 57 years old, is relatively high. More than one third is older than 65, but about one fifth younger than 45 years of age. Most of the members are relatively poorly educated, with more than 60 per cent having just attended primary school or less, and fewer than 14 per cent having high school diplomas or higher. In general, it can be stated that the older the members are, the less educated they are. However, it has to be acknowledged that we only asked the household heads as members, thus have no information

about the educational level of the other, particularly younger, household members.

Table 2 - Summary of descriptive statistics of whole sample (N=66)

Variables	Measurement	Mean	Median	Min	Max	SD*
Sex	1=male, 0=female	0.62	1	0	1	0.49
Age	years	57.14	60	20	81	13.08
Educational level	1=elementary school, 2=junior middle school, 3=high school, 4=above high school	1.55	1	1	4	0.77
Labour size of family	number	3.08	3	0	11	1.60
Agricultural labour size of family	number	1.71	2	0	5	1.08
Total farmland	mu	4.03	4	0.98	10	1.71
Farmland contributed to APC	mu	3.25	3	0.75	8	1.69
Household income from APC	yuan	1492.67	1350	0	6000	1084.14
Total household income	thousand yuan	95.6	90.0	10.0	160.0	38.0
Satisfaction with family income	1=not at all 2=not so satisfied 3=middle 4=relatively satisfied 5=fully satisfied	2.77	2	1	5	0.94

* standard deviation

Source: Authors' survey

On average, each family comprises about five members of which more than three are stated to be working members. More than half of the working members are classified as agricultural labour force. However, this relatively large share does not mean that these persons are working in agriculture full-time, anymore. Based on our field observations and in-depth interviews, we suggest that the respondents include almost all family members, particularly themselves, as working in agriculture, regardless of its extent. This shows that the respondents are still emotionally highly attached to farming and identify themselves as farmers. Those working members classified as not working in agriculture anymore are, in general, working in an off-farm job outside of the village.

On average, their land use rights cover 4.03 mu, with the largest farms coming up to just 10 mu. In this respect the farm sizes are relatively egalitarian. However, not all farmers contribute all their farmland to the APCs—just about 60 per cent of all farmers do. Many farmers keep a certain share for themselves for home production. On average, they submit about 80 per cent of their farmland, or about 3.25 mu. In general, one mu is converted into one share of the respective APC. This shows that membership is highly egalitarian.

On average, members earn about less than 1,500 yuan (or 1,492.7 yuan) annually from their membership, which comes up to about 460 yuan per mu. However, large variances in earnings can be observed. The income from their APCs, which is made up by land rents and dividends in general, ranges from zero up to about 6,000 yuan annually. In principle, there is the option that APC members work for their respective cooperative. However, our findings show that very few members actually worked there and the income effect is just marginal. Therefore, we suggest that the main benefit refers to labour-substitution effects, as members now have more time to specialise in off-farm activities and earn higher incomes.

In addition, the farmers still receive the production subsidy from the county government, amounting to 200 yuan per season or 400 yuan annually. Even assuming that there is some income from the plots used for home production, the average family income from agriculture in total would be about 4,000 yuan annually. This source of income is quite modest when compared with the average farm income in the region. In 2014, the average farm income in Chougzhou County stood at 15,684 yuan, while it came up to 18,533 yuan in Chengdu Region (Chengdu Statistical Office, 2016).

In the survey, we also asked respondents about their total household income for the last year. On average, it stood at 95,600 yuan. Even assuming an

agricultural income of about 4,000 yuan, this shows that this source of income is marginal with respect to total household income. The bulk of family income is made up of off-farm sources, including work in Chongzhou County and Chengdu City, as well as remittances from other regions in China. This is in line with the findings of another survey recently carried out in Sichuan Province focusing on the low-income regions of the province. They reported an average per-capita income of 10,120 yuan for 2016, but the share of farm income just made up about 20 per cent (Liu et al., 2019). These first findings show that respondents emotionally still regard themselves as farmers, even though farming has become a marginal source of employment and income. When asked about the level of satisfaction with the level of family income, respondents voted for a medium position on a 5-point Likert scale. They were neither very satisfied nor very dissatisfied with their level of family income.

5.2. Members' involvement in decision-making, their satisfaction and future perspectives

In the second part of the questionnaire, members were asked about their involvement in their cooperative, their satisfaction with decision-making, their level of trust in cooperative management and their opinion about future membership (Table 3). Concerning the question whether they as ordinary members felt that they are involved and can participate in decision-making, almost one half of the respondents stated they feel so. This fact is quite remarkable as it shows that ordinary members make much higher use of their co-determination rights compared to what is reported from ASCs. A large share of members is actively involved in their cooperative. Different to those cooperatives, APCs are not characterized by a clear dichotomy between a small group of "core members" and a large group of "common members". Here, a large share of members cares about what is going on in their cooperative. Most prominently, they care about the decisions how risks and benefits of joint production are distributed among members and the managers. They discuss the mode of benefit distribution jointly at the general assembly meetings and they as individuals have a say in the final decision. Nevertheless, just more than half of respondents stated that this issue was decided by cooperative management without any member involvement. These members are more passive. Once they have decided to join they seem to be happy to leave all decision-making to the management.

Table 3 - Members' involvement and satisfaction with their membership (N=66)

Variables	Measurement	Mean	Median	Min	Max	SD*
Decision making	1=involved 2=not involved	1.45	1	1	2	0.50
Internal disputes	1=yes; 2=no	1.92	2	1	2	0.27
Trust in management	1=extreme distrust 2=relative distrust 3=middle 4=relative trust 5=full trust	3.83	4	2	5	0.65
Members' satisfaction with decision-making	1=satisfied 2=dissatisfied	1.15	1	1	2	0.36
Future membership	1=yes; 2=no	1.11	1	1	2	0.31

* standard deviation

Source: Authors' survey

This is reflected in the statement about whether there are or have been any disputes with respect to the decisions taken. In general, there are not many disputes or conflicts within the APCs. About 92 per cent of the respondents state that there had been no conflicts at all and that the relationship between ordinary member and management is quite harmonious. Just a small share of members report of disputes. The major reasons are that members feel unfairly treated when it comes to the distribution of cooperative income. In addition, there are complaints that the cooperatives are not paying rents and dividends in time.

Furthermore, members were asked to express their level of trust in management on a 5-point Likert scale. The average value of 3.83 shows that management is highly trusted by the members. More than 70 per cent of the members have "relative trust" or even "full trust" in their management. Due to this high level of trust, members are willing to follow the decisions of the management boards. Although members have the option to be involved in decision-making and many do so, most of the day-to-day decisions are taken by the management immediately. This is recognised by the members. In addition, most of the ordinary members go out for off-farm work after they have contributed their land to the cooperative for operation. They do not participate in the daily operation of the cooperative. However, as shown above, many of them do not feel bypassed by the management decisions, but make use of their co-determination rights. For them it is most relevant that the cooperative

managers can ensure them a stable land income. Hence, they agree with the decisions made by the managers.

In general, members, about 85 per cent, are very satisfied with the decisions made by management. There is only a slight difference between the subgroup which states that decisions are mostly taken by the management alone and the one stating that decisions are taken after open discussions by the general assembly. The latter subgroup seems to be a bit more satisfied. The findings show that, in general, the decisions are recognised as valid by the members. Just about 15 per cent of the respondents are still not satisfied. However, we could not analyse this issue more deeply, so far.

Finally, members were asked whether they would like to continue their membership in the future. About 90 per cent of the respondents state that they definitely want to stay on. Nevertheless, there is a respectable share of 10 per cent of respondents who are open to the idea of leaving their cooperative in the future if the economic performance is not satisfactory. This group shows that the APC-model is not always running perfectly, particularly in cases when no economic surpluses could be achieved. Therefore, cooperative leaders are required to make every effort to run their cooperatives better and develop reasonable ways for income distribution through an atmosphere of open and transparent decision-making.

6. Discussion and conclusions

While ASCs can look back at a long and successful tradition of more than 150 years, APCs formed on a voluntary basis have just played a niche role in agricultural development. They could only be observed in specific land settlement schemes and land reform experiments; they were never formed in "old settled villages" dominated by small-scale farming (Schiller, 1969). Following neo-classical and neo-institutional reasoning, (agricultural) economists concluded that APCs were neither competitive with investor-owned firms (e.g. plantations or corporate farms) on the one hand, and particularly, with family farms on the other. While a few APCs formed on a voluntary basis can be observed in old settled villages these days in countries like Germany and France, for example, they seem to have become more popular in specific regions in China. APCs form a subgroup under the overall umbrella of LSCs. While there are no detailed figures available for the whole country, APCs cover more than half of the total UAA in Chongzhou County in Sichuan Province and, thus, have become the most important type of farm

organisation within a few years. In this analysis, we wanted to identify the major reasons why small-scale farmers voluntarily agreed to this type of farm organisation and why APCs seem to be persistent. In this discussion, we divide the reasons into two categories: Government support and incentives on the one side and farmers' motives on the other.

The Chinese government has a strong interest in keeping all agricultural land in production and making farm production more effective. In the past it adopted various approaches, like land consolidation. Likewise, LSCs were encouraged, whereby the individual plots were bundled and rented together to private companies for cultivation ("dragon firms"). However, the experience was not very promising, including in places like Chongzhou County, and the local government looked for alternative models that gave farmers a fairer share in agricultural production. We distinguish between three major levels of influence: legal, financial and organizational levels.

At the legal level, the local government strengthened the individual land use rights so that farmers did not have to fear that they might lose them regardless of who they went into an agreement with and how their land would be used. In addition, the land use rights could be used as collateral for farm credit even when contributed to a cooperative. Most importantly, the government supported APCs as a sub-model of LSCs whereby the contributing farmers became shareholders of their respective APC. Membership is voluntarily and joining farmers still have the right of exit if they are not satisfied with how things develop.

At the financial level, like for ASCs and private farm companies, the government provided investment and credit subsidies. However, in this county, the government ensured that these subsidies were rebooked as individual share capital of the members. In other words, these subsidies were booked as if the members themselves had equally financed the respective investment. Members are entitled to dividends on these investments. In this way, members do not see these investments as gifts, but are personally more committed to their current utilisation.

Closely linked to the financial level is the government involvement at the organisational one. In general, ASCs were not that successful as anticipated due to their lack of professional management. In Chongzhou County, APCs were only registered if they had recruited a professional agricultural manager. The government provided support in selecting and training these managers, while the recruitment itself was left to the respective cooperative. The government supports the social security contributions of the managers and opens them a

special line of credit with interest costs that are subsidised as well. In addition, the government provides annual evaluations and ongoing training sessions. All training and extension services are centralised at one-stop advisory centres. These centres serve as platforms for information exchange and technology transfers. So far, the focus of the APCs has been on grain production, but the government is already supporting options in alternative activities.

While government support is vital for APC development, resources would be wasted if there were no specific reasons on the side of farmers as well. One basic reason is that, while members emotionally regard themselves as farmers and their land use rights form a vital source of social and economic security, farming provides just a marginal source to total household income and employment. On average, its share just adds up to less than five per cent. Therefore, farmers do not have to "change their way of living" (Schiller, 1969) at all. In addition, their emotional link to a specific piece of land does not seem to be that strong. They received their land use rights during the early 1980s with no link to any previous land possession from the pre-collectivisation period. Furthermore, up until the early 2000s, farmers in this region had to live under the constant threat of re-allocation of land. As farmers, they want to see their land productively used, but if they do not have enough manpower anymore, they leave their land fallow. They voluntarily join and, as such, we doubt that the term "re-collectivization" is a proper expression for APC development. It is up to the members themselves to stay loyal, as they have the option of exiting.

Along with the government support and the specific reasons among small-scale farmers, it seems to be that the APC model itself is unique in comparison to other types of agricultural cooperatives in China. Although average membership is six times higher than ASCs, members' involvement and satisfaction is quite high. The APCs in Chongzhou County are of a highly egalitarian nature, with no differentiation between a small group of "core" members and a large group of "common" members. The distribution of farmland is fairly homogeneous, which is reflected in the amount of shares of each member. We suggest that this homogeneity is a major reason why ordinary members show a much higher interest in their APC's decision-making. While the management boards and the professional agricultural managers still have quite a few liberties when it comes to decision-making, ordinary members are relatively heavily involved. In general, they have a high level of trust in their managers and the far majority of them want to continue their membership. Just a small share of members does not seem to be that happy with their membership.

From the members' point of view, their APC membership provides them with various advantages. Since agricultural production is only a small source of total household income, they are open to the idea of a third party cultivating their land. Since they have land use rights that have been strengthened by the local government, they are ensured that they can still keep their land as a form of social security. The APCs put their land into productive use again. In addition, they, as members, have some co-determination rights. They can earn a higher income from agriculture in the form of land rents and dividends, and a few members might earn wage income through their cooperative, compared to a situation of cultivating their land as smallholders themselves or just leaving their land fallow. Most importantly, however, land owners can concentrate on pursuing better-paid off-farm employment opportunities.

Finally, there is the question of whether this model of APCs can be replicated in other countries or regions dominated by small-scale farming. As discussed above, there are similar approaches in other provinces in China. However, a national overview is missing. Nevertheless, we assume that this model of APCs could be relatively easily replicated in other regions of China because the basic framing conditions are quite similar. In Chongzhou County, this approach is regarded as quite successful. As the APC managers reported, the set-up and first running of APCs would not have been possible without the start-up support from the government. However, after a couple of years in operation, they were confident that they could proceed even if the financial support of government dried up. This shows that APCs can play a vital role in agricultural development when certain pre-conditions are fulfilled.

When looking at other regions of the world dominated by small-scale agriculture, we doubt whether this approach can be easily transferred. The basic requirements are financial support from the government, a low share of farm income in total household income among members, a fairly homogeneous farm size and a highly transparent decision-making process within the APCs that is open to members' participation. For the time being, it is difficult to identify regions elsewhere where all these pre-conditions are met. Nevertheless, the findings show that, under specific conditions, as provided in Chongzhou County, APCs formed voluntarily by farmers have a role to play in agricultural development.

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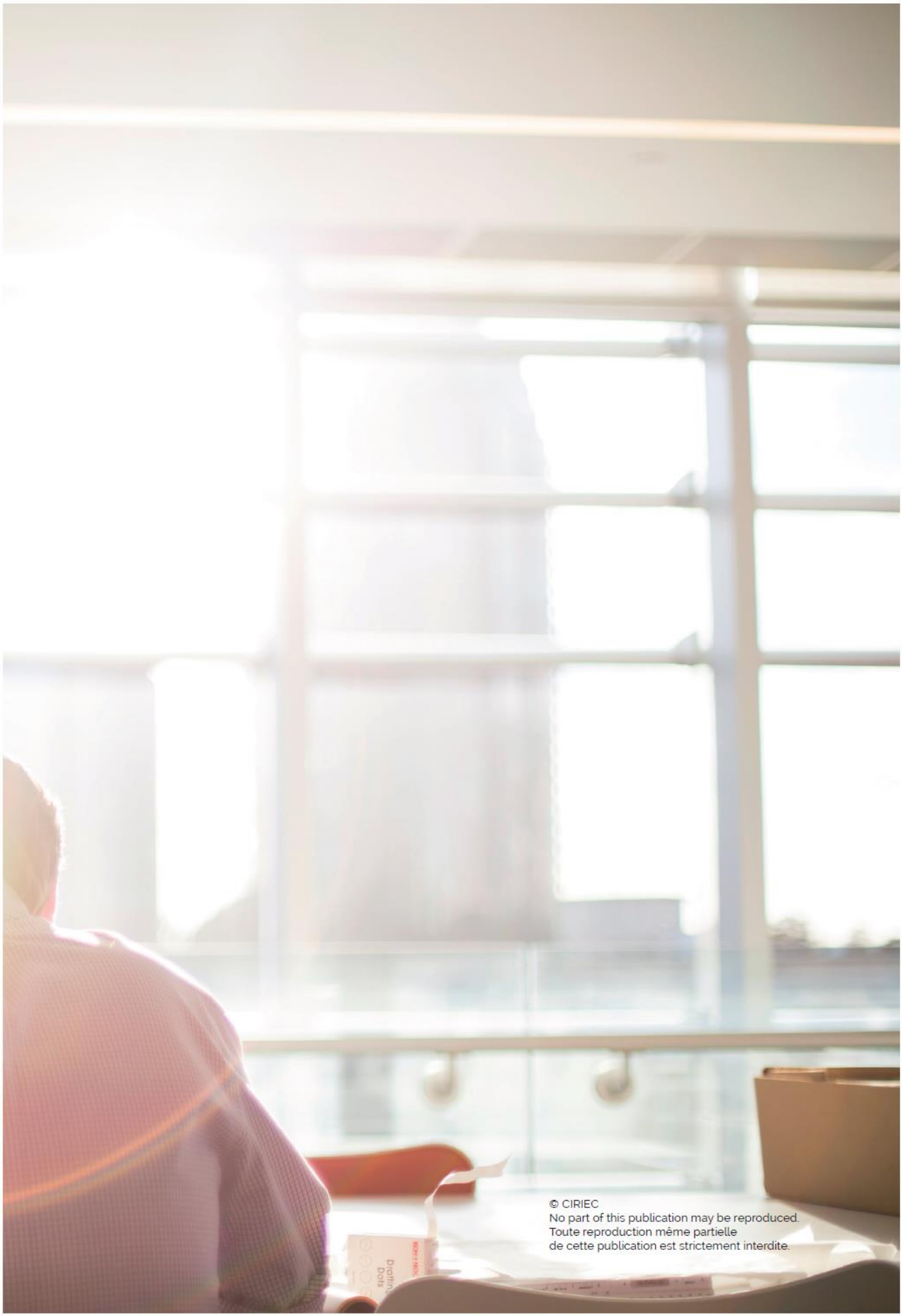

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