

China's agriculture management and administration system

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This paper focuses on the evolution of the management and administration of agriculture business, the change to the social background, the management and administration system development and the cultivation of key agriculture players, i.e. core farm, in China, so as to provide a comprehensive discussion on the management and administration of agriculture business in China.

Keywords: system evolution, social background, system construction

1. Revolution of China's agriculture management and administration system

A brief overview of the history of China's agriculture management and administration system may be of help for readers to establish a background knowledge before we start our discussion.

Prior to 1949, lands were private, upon which family operation was based. Self-sufficient economy boosted a management and administration system. After the establishment of PRC, joint ownership of land came into place with collective production. Agriculture system adapted to the national industrialization strategy and the ideology of the governing party. At the early stage, agriculture producer's groups were formed where farmers provide temporary or regular farming aids to each other for the benefits of each participant. Normally a temporary helping group consisted of several farmer families who shared certain types of heavy workload during peak seasons, and dismissed when seasons ended. Regular groups, size ranged from seven to more than a dozen families, worked together on industry sidelines and small-scale water electricity, on top of basic agricultural work. Some even jointly processed assets. Mutual helping group hindered the rental of lands and the hiring of helpers. By 1950, 2.72 million groups were formed and by 1954 that number peaked at 9.33 million. With private land ownership, agriculture management and administration system at that time only came with a low-level common production.

Then came corporative system. On December 1953, the central government adopted *Resolution on Developing Rural Production Cooperatives*, which soon replaced mutual-aid group. There were two types of cooperatives: advanced and primary cooperatives, according to the level of common ownerships of production means. Primary production cooperatives did not require collective ownership of means. The land, farm animal, and agricultural machinery were used collectively by the cooperatives. Farmers received dividends according to how much

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they contributed these production means. Reward for manpower was usually higher than that for donating production means, and the manpower was translated and recorded as work points, which were later remunerated. Primary cooperatives was more advanced in socialism, compared with mutual-aid group. Yet, advanced production cooperatives based on a collective ownership of main production means: lands that once owned by farmers became public, without paying the landowners, and agricultural machinery and farm animals were half-sold and half-handed in to the operatives, not generating dividends any more. Total revenue, with taxes, production cost and public welfare funds and housing funds reduced, was shared among workers according to their labour contribution at production. Compared with primary ones, advanced cooperatives took another big step towards socialism. By 1954, a total of more than 114 thousand cooperatives were set up, amongst them 200 were advanced and the rest being primary and intermediate. By 1956, that number soared to 750 thousand, with 210 thousand primary, and 540 thousand advanced cooperatives, or 88% of the total farmer families across the country. Generally speaking, the level of collective landownership and collective production in cooperatives was low as to the agriculture management and administration system.

The next system on the stage was commune. Previously, there were once “big cooperatives”. In the winter of 1957 and in the spring of 1958, some cooperatives united for irrigation works. In march 1958, Political Bureau of the CPC Central Committee issued *Opinions on Uniting Small Agriculture Cooperatives to Large Cooperatives* at its Chengdu Conference. Large cooperatives and at some places, people’s commune emerged. In August 2014, the Political Bureau of the CPC Central Committee adopted the Resolution on *Setting up People’s Commune in Rural Area*. Starting from September, a wave was able to put People’s Commune on stage within just more than a month. By year end, 740 thousand cooperatives had been mingled into 26 thousand people’s commune, covering 120 million farmer families, or over 99% of all the farmer families in China. On the early stage, lands and production were collected and arranged by administrative village (or county, or town). As the disadvantages of such arrangements revealed, during and after the “Great Famine” period, the production was conducted by farmers from the same natural village.

Such change was effective, but the ultimate problem remained unsolved. Two decades later, the central government adopted “all-round responsibility system”, where lands were collectively owned by natural village, and production conducted by single farmer family. From 1980 to 1982 and then to 1984, the percentage of villages that run “all-round responsibility system” rose from 5.0%, to 80.9% and 99.1%¹ respectively. Ideological influence over the choice of agriculture operating system was once strengthened, then undermined, whilst the degree of land collective ownership and collective production went along the same path.

After 1984, when “all-round responsibility system” was largely implemented, how organizational innovation could help build a more robust agriculture operating system came to

¹ Department of Rural Economic System and Management, Ministry of Agriculture, Editors of Contemporary China’s Agricultural Cooperatives: *The Rural Organization for Economic Cooperation and Development Conditions of Agricultural Production (1950-1991)*.

the top of the agenda of reform. The government set up a batch of pilot areas for rural reform. In 1994, the Central Rural Work Conference issued files, requiring to establish an “basic agriculture operating system”.

2. Background change related to basic agriculture operating system

With 30 years’ development, the environment changed greatly.

The way in which farm land resources were allocated for small scale, family-based contract-operation, though once played a big role in feeding millions of farmers, could no longer meet the need of agricultural development.

2.1. Less important rations field

The market for agriculture products developed, infrastructure improved and farmer’s income diversified: all these drove farmers to purchase grains, instead of growing their own. The system that rations field operated by farmer families while responsibility field by expert growers was no longer suitable nor important.

2.2. Increasing opportunity cost for farmers to continue farming

With advanced industrialization and urbanization, the percentage of farmers taking non-agricultural employment was rising. Non-agricultural employment become more stable and brought higher income, which made agricultural income less important to farmers, thus driving up the opportunity cost.

2.3. Lands are less important in supporting old-age living

Although currently lands are still an important source for old-aged farmers, this will ultimately be replaced by social pensions, as a consequence of economic development and an improving social welfare system in rural areas. Although it is fragile for the time being, the social welfare system in rural areas process great potential, and it is going to play a bigger role in replacing the land as the future resource in supporting farmers’ old-age living.

2.4. Separation of the production and capital function of farmland

Before the reform began, the contract right, operation right, production function and the capital function (in other words, the physical nature and capital nature) of farm lands were bounded together. As more farm land being transferred, the separation of production and capital function (or physical and capital nature) of land become prominent. The most direct solution to this change would be to translate farmer’s right of land into goods—a conservative government

may favour this solution.

The advantage being that conflict over land rights was reduced and it was unlikely to cause troubles. Disadvantage, however, was that land management and agriculture competitiveness can hardly be enhanced. Another method was to make shares out of land rights. China is one of the few countries that had collective ownership and thus met the pre-requisite for such reform. Aggressive government may go for this method. The good side about it would be that the core farmer families could enjoy more benefits and profits generated by better managing the land, and the land resource allocation could be optimized and competitiveness enhanced.

The negative side of it was that once there were unfair evaluation of the value added to the land, poor administrative supervision or lack of sufficient protect from the government, conflicts over the land rights, even major problems, would rise. In practice, it would be the farmers' decision on which method to chose, not by the government. The responsibility of the authority would be to enhance management over land evaluation, supervision at village-level and protection on related contracts.

2.5. Farmer and land

At the early stage of the reform, farmers were completely dependent on lands. Farmers worked on the land and lived on the land. As the contract right separates from the operation right, farmer and land became two different thing. Agricultural workforce transfer is far from finished. While the transferring is taking place, effective transfer of land right is a guarantee for effective agriculture operation. Therefore a reasonable rural land arrangement should be: farmers still take hold of the contract right, when the operation right is held in the hands of core farmers. For those who are willing and able to transfer land contract right, the government should support it but not haste to transfer it.

2.6. Ways of stepping into the market

There are a number of ways in which farmers join the market economy, but the government prefers the means of farmer cooperative. Actually, the less mature a market economy is, the more shortcomings it has and thus, the more important a farmer cooperative is, and vice versa for a more mature market economy. This is why farmer cooperative is becoming less vital in developed countries. For China, however, the focus should be on deepening reform for a better market economy, rather than to promote farmer cooperative for a incomplete market economy system.

In a fully developed market, farmer can choose to join farmer cooperative, work with agriculture company or deal with brokers. The competition is boosted by a variety of choices, which are indispensable. As such, it is imperative for China to establish a basic agriculture management and administration system that provides room for competition between different shareholders, not a system that paves way for farmer cooperative only.

In a word, the system before 1980 was to make use of left-over agriculture resources and

promote industrialization; after 1980, the system was to stimulate farmers initiative and meet the demand for food. Nowadays, the new system should encourage various organizations to compete with each other and create a space for agriculture technology advances and generate a more lucrative agriculture for farmers.

3. Basic agriculture management and administration system construction in China

Over the years, China has taken a series of methods to construct its basic agriculture management and administration system.

3.1. To develop core farms through land right transfer¹

China, for the time being, has 229 million farmer families that have contracted operation on farm land. Over 85% of the total farmer families took contract of less than 10 *mu* of farm land. Limited space imposed difficulty for farmers to grow modern agriculture, except for some high-labour density, capital density and high value-added types, vegetable, flower, or fruits for instance. As a result, some farmers switched to some non-agriculture work in rural areas at first,² then to cities. With more efflux of farmers into the city and more steady employment, contracted land operation right transferred via contracts.

From Figure 1, it can be referred that by 1992, the area of transferred farm land merely accounted for less than 1% of total contracted land by farmer families. The percentage reached 3.6% in 2005, up by 0.2 percentage point a year or 2.7 percentage points in total over that 13 years. That number stood at 26% in 2013, which means that from 2005 to 2013, an another 22.4% of farm land was contracted, or 2.8 percentage points ever year, showing a much faster transferring rate. This phenomenon was more clearly observed in eastern areas, and the percentage reached 60.1% in Shanghai, 48.2% in Jiangsu and Beijing and 42.9% in Zhejiang³.

At first, operation rights of land were transferred mainly between relatives and friends at a low cost. In recent years, however, the demand for farm land exceeded the supply, pushing high the transfer fee. The rights then went for those core farms, a new micro operation organization, who were able to provide higher offer. New micro operation organization, such as core farms, developed.

¹ Family farm is a broad concept. In the United States, family farms refer to those entities with an yearly production or sales output of over 1000 USD, despite the fact that the country is abundant with land resources. Family farms in China refer to core farms, or registered farm families. To avoid misunderstanding, it is suggested to be called core farms, instead of family farms.

² As the reform in cities lagged behind that in rural areas, coupled with the employment issue of young city citizens who returned to cities after the culture revolution, cities did not have the capacity to accommodate farmers. The policy at that time was that farmers could work on non-agriculture sectors but had to stay in rural areas—a leap forward compared with the policy the once fixed farmers to agriculture chores.

³ Basic data comes from Ministry of Agriculture.

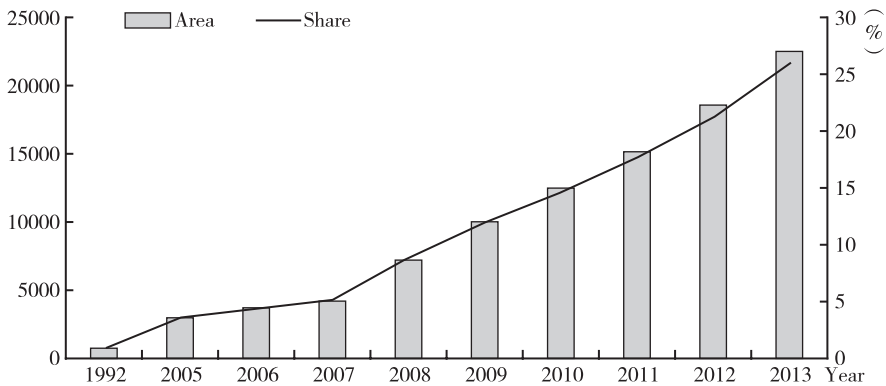


Figure 1. Percentage of land with transferred land right to the total contracted farm land

Source: Ministry of Agriculture.

3.2. From division of labor to expert growers

Many farmers who choose to work in cities do not want to lose their operation right on farm land. Therefore, they hire other farmers to help them plough, seed, apply pesticide, and harvest, which is a big driver for professional farmers. From Table 1 we can see that, by 1990, total income of farmer with machineries was 59.3 billion yuan, and 260.6 billion yuan in 2005, then 447.9 billion yuan in 2012. The first 15 years saw an increase of 13.4 billion yuan while the later 7 years came with 26.8 billion yuan more-this displays a much faster income growth.

Table 1

Income of farmers with agriculture machinery (Unit: 100 million Yuan)

Year	Income of farmers with agriculture machinery	Year	Income of farmers with agriculture machinery	Year	Income of farmers with agriculture machinery
1990	593.0	2003	2269.7	2008	3466.5
1995	1036.8	2004	2421.5	2009	3894.1
2000	2000.0	2005	2606.1	2010	4247.9
2001	2040.0	2006	2811.0	2011	4509.0
2002	2150.0	2007	2986.0	2012	4779.0

Source: Ministry of Agriculture.

Since 1996, specialized farmers with combined harvest spent more than a month, instead of 7-10 days a year in the past, harvesting wheat from south to north. With higher usage rate, specialized farmers can increase their income without charging more. Cross-area operation like this has been extended to harvest of rice, corn and other production processes. In 2013, more than 70 thousand corn harvesters operated across major grain production areas, with an average area

of 915 *mu* each, which generated more than 40,000 yuan¹ each for a unit price of 80–100 yuan per *mu*. Nevertheless, lack of large drying yard limited farmers to expand their production. The demand for dryers increased rapidly, though the poor-quality of post-drying products still remain a big headache.

3.3. To establish agriculture companies and upgrade the industry

Agriculture company fits three agriculture areas. The first is facility farming and large-scale cultivation. Compared with other bulky products, these can be standardized, require more investment and yield better economic returns, thus with higher potential. The second is food processing industry, including rice and oil processing, livestock and poultry processing, fruit and vegetable processing and other special food processing. This is a major method to add value to agriculture products. The third is production service industry, such as seeding, chained sales, modern agriculture logistics, and information services. These are potential industries that receive special support from the government.

The pork takes up 64% of the meat consumption in China. With that, the author would like to illustrate how large-scale livestock raising can be conducted by agriculture company. Till the end of the last century, over 90% of pigs were kept by farmer families. The recent decade has seen fast development in large-scale livestock raising. By 2005, over 38% of pigs slaughtered were raised by specialized farmers who raised and slaughtered more than 50 pigs a year; by 2010, that was almost 65%,² and around 70% in 2013. Same case can be found with cow raising. By 2012, over 40% of pastures keep more than 100 cows, and 30% of them with more than 300 cows. The large-scale development is even faster with poultry industry.

4. Development of new agriculture organizations

New agriculture operations are core farms, specialized farmers, specialized farmer cooperatives and agriculture companies. They should have a higher average net income than part-time farmers,³ be able to make a profit, not relying on government subsidies (not including those with subsidies for creating environmental values), and follow all related rules and regulation, i.e. their productions should be legal and meet the market and social requirement.

¹ Zhao Jie, Machine harvest rate of corn in China rose by over 6% for five consecutive years, *Farmers Daily*, 2013.12.4.

² Xu Mengqin, Pig cultivation in China now transforming, *News for China Husbandry and Veterinary*, 2013.9.23.

³ Some studies have categorized part-time farmers into two types: part-time farmers I are those with agriculture income as the main source of income, part-time farmers II are those with non-agriculture income as the main source. Two types of full-time farmers are: full-time farmers I are those with average income lower than part-time farmers I, full-time farmers II are those with average income no less than part-time farmers II. Full-time farmers I are traditional farmers and full-time farmers II are core farmers.

4.1. Core farms

With more transfer of rights, core farms¹ developed rapidly. As a survey conducted by the Ministry of Agriculture in March 2013 shows, by end 2012, the total number of core farms was 877 thousand in 30 provinces and cities across the country (not including Tibet), covering 176 million *mu* of arable land, or 13.4% of the total. The average number of workers per core farm was 6.01, amongst them 4.33 were family members and 1.68 were hired on a long-term basis.

In all core farms, 409.5 thousand are plantations, or 46.7% of the total; 399.3 thousand, or 45.5% are livestock or poultry growers; 52.6 thousand of them, or 6%, work on both, the rest 15.6 thousand of them work on other sectors, taking up the rest 1.8%. 484.2 thousand core farms, 55.2%, take care of no more than 50 *mu* area; 189.8 thousand core farms, 21.6% of the total, work on an area between 50 *mu* and 100 *mu*; 170.7 thousand core farms work on 100 *mu* to 500 *mu* area and occupies 19.5% of the total, 15.8 thousand work on 500 *mu* to 1000 *mu*, or 1.8% of all the core farms whereas 16.6 thousand core farms process a land of over 1000 *mu*, taking up 1.9%. The total revenue of core farms in China reached 162 billion yuan, or 184.7 thousand yuan each in 2012.²

4.2. Specialized farmers

Specialized farmers refer to those who work on a specific segment of agriculture production and generate more than 80% of the family income. It is expected that the percentage is less than 5%, most of them being core farms families.

4.3. Specialized farmer cooperatives

By the end of 2013, registered farmer cooperatives, either on a professional basis or by share, accounted to 950.7 thousand across the country, covering 72.21 million farmer families, or 27.8%. There are more than 5,600 cooperatives and 2,554 associations. By the end of February 2014, that number soared to 1.0388 million, with total investment of 2.04 trillion yuan.³ With the policy support, farmer cooperatives have become a trend and helped farmers manage market risk and increase their incomes.

4.4. Agriculture companies

The number of industrialized operation organizations, led by key companies, is more than

¹ Criteria for core farms: operators have their household registered in rural area, family members as the main labor, agriculture income contribute most of the incomes and the scale is up to the level set by agriculture authority at town level.

² Dong Jun, The number of core farms reached 877 thousand, http://news.xinhuanet.com/xiangtu/2013-06/05/c_124814602.html

³ Data comes from State Administration for Industry and Commerce.

of 300 thousand, which link with 120 billion farmer families, who make an extra 2800 yuan a year on average after joining the scaled operation. Pilot areas for industrialized agriculture are booming and have become the driving force for economic development in rural areas. There are more than one million profit-making service organizations, which are playing an ever important role in machinery usage, crop disease prevention and curing and animal plague prevention.

5. Challenges faced by new agriculture organizations

There are, however, some problems emerging over the years. First, land right transfer is not stable enough to support new organization's expansion. Second, lack of effective operating mechanisms as a result of low efficacy, irregular money transactions and limited contracted business. The third problem is the lack of policy support for a stronger and better new agriculture organizations.

5.1. Challenges for core farms and specialized farmers

Recently, latency in land right transfer, coupled with lack of support in technology, finance services, information services and production facilities, is causing headaches for core farms and specialized farmers. In the long run, economic development and change of mindset would be an obstacle for core farms and specialized farmers to pass their skills onto the next generation. Large-scale plantation, intensive livestock industry and industrialised fishing industry would introduce an overhaul in agriculture organizations, putting core farms and specialized farmers at a disadvantageous position.

5.2. Challenges for farmer cooperatives

In the short run, farmer cooperatives suffer from intervenes from local governments, and problems such as practices that go against farmer's willingness. Large farmer families take over the control of cooperatives, resulting in unfair distribution of profits for small farmers, due to the lack of demography in such cooperatives. Some rely on the government funds. To look far, farmer cooperatives would become less important as the market economy matures.

5.3. Challenges for agriculture companies

Stronger agriculture companies help to optimize resource allocation for plantations and animal raising. It scales up the industry, enhances the efficiency, boosts technology advances, cultivates industry chain and facilitates cooperations. However, it might replace farmer familiar while helping them. When the social welfare system in rural areas is not strong enough, such replacement would hinder farmers employment and income increase. Cooperative enjoys tax

exemption on VAT, corporate income tax and stamp duty. Many agriculture companies register themselves as both company and cooperatives. In the near future, whether or not the government would continue to tolerate its side-effect on farmers' employment and income increase remains a question. Those who cannot survive without rent seeking would be forced to reform.

6. Focusing on core farmers

Profound change is taking place in rural China. Marketization, specialization, de-agriculturalization, and urbanization are tearing down the traditional agriculture operation that once lasted for thousands of years. Three things are being replaced: self-sufficient agriculture is being replaced by new agriculture that grows commodity products; labor exchange between neighbors and relatives is taking place between strangers; community rules are being replaced by market rules. This indicates that after decades of fast-track development, pre-requisites for a modern agriculture in China have been achieved. Agriculture management and administration system and mechanism should adapt to the above three changes.

In industrialization and urbanization, the dropping in the number of farms is unavoidable. One may not neglect the fact that the number of farms would stay stable as the industrialization and urbanization finish. For instance, in the United States, that number dropped from 5.7 million in 1900 to 2.2 million in 1990. In 1950s, 168.5 thousand farms disappeared every year, 101.3 thousand in the 1960s, 51 thousand in the 1970s and 29.4 thousand in the 1980s. When it came to 1990s, the number almost stood still at 2.2 million till now. China's agriculture workforce will continue to migrate for a long period of time, which justifies the diminishing of farms. This is, on the other hand, a basic condition to increase farmer's income and expand agriculture operations.

China should save no efforts in developing core farms and make them the pillar for agriculture development, but small farms will continue to exist. In the United States, big farms are the main suppliers of food, but still there are quite a number of small farms with yearly output of 1,000 to 10,000 US dollars.¹ China should keep this in mind and avoid overhastiness.

The above example is to prove that only some farmers, not all, would become the operating body of new agriculture organizations. To develop a new agriculture operating system, focuses should be put on those farmers so as to provide the easier pathway for reforming agriculture operations.

The 18th CPC National Congress report has made clear that the goal is to improve the basic agriculture operating system for an intensified, professional, organizational and socialized² new

¹ According to analysis, there are three reasons that small farms with 10-100 million US dollars output still exit in the United States: non-agriculture income, averaged at 74,999 US dollars in 2004, is the dominant sources of income for such families and is times of that from agriculture sector; loss in operating farms can be included in personal income calculation and offset part of personal income tax; small farms received subsidies from CRP and WRP. Statistics show that CRP provides a funding of 12.8 billion US dollars, over 80% of them went to small farms, and that number was 180 billion US dollars and 82%.

² The author believes that "socialized" is not accurate, "marketized" is a better expression.

agriculture operating system. The number one central government document in 2013 and the Third Plenary Session of the 18th Central Committee of CPC stated that the establishment of a new agriculture operating system and the cultivation of new agriculture operating body is the foundation for a modern economy. The 2014 “Number One Central Document” elaborated more on this issue.

To encourage the transfer of operation rights of land towards new operation parties and boost diversified scale operation, it is imperative to cultivate a market where land operation rights can be transferred effectively; a deposit system that fights against risks when companies transfer rights over farm land, subsidy or funds could be provided; to implement the current sales services for products by innovating market-oriented agriculture service system, encouraging cooperation, order and trustee service mode. To encourage mixed-ownership leading enterprises, the government should set aside certain percentage of construction land for the use of infrastructure and supporting facilities for new agriculture operation bodies. Guarantee companies that help financing for agriculture with investment from local governments and social groups are encouraged so as to provide loans. Education and training should be further developed for new farmers and leaders of new agriculture organizations. Government should support, by means of procurement of services, qualified profit-making agriculture organization to fulfill their social responsibility, and so on.

The main tasks are to develop market, improve system and cultivate core farmers. Reasons are as follows: (a) to give modern agriculture opportunities to core farmers who choose to stay in rural areas, not to entrepreneurs who made their first fortune in non-agriculture sector, who’d then invest into agriculture and hire farmers. (b) Core farmer are those who can survive in the market by running the organization with entrepreneurship, their management is as effective as entrepreneurs. (c) With core farmers as the main body for modern agriculture, the agriculture operation would be organized, standardized, scaled up and branded in a better way, agriculture economy and society would enjoy higher stability. (d) How advance a country’s agriculture, including product safety, international competence, and sustainability, largely depends on how well core farmers cope. Suggestions for cultivating core farmers are:

(1) The government should encourage separation of operation rights and contract rights of land by allowing land transfer and taking shares out of farm land operation, so as to help core farmers develop.

(2) Government should create space for core farmers to grow by offering services on technology, information, talent and farmer cooperation, and develop service markets for pre-, mid- and post-production so that the production cost could be reduced and revenues could be increased.

(3) The government should encourage innovation in agriculture management and administration system and create foundations for intensified, professionalized, scaled and organized agriculture, where core farmers’ advantages in scale, efficiency, technology and marketing can come into full play.

(4) The government should allow enterprises and social organizations to set up business in rural areas so as to support core farmers.

7. Conclusions

The evolution of agriculture management and administration system in China shows that the ideology once placed a heavy influence over the choices before fading away. Collective ownership of lands and collective production were once at a high degree before lowering.

The system before 1980 was to gather the agriculture surplus and to quicken the industrialization. After 1980, the modified system was to encourage millions of farmers to work hard and produce enough grains to feed the population. Nowadays, the system is one that encourages competition among agriculture participants, to remove the restriction of small-scale production on technology development and the hindering factor resulted from low income level.

Rations field and pension-from-land are not as important as before. The production function and the capital function were separated. The opportunity cost of continuing working in agriculture was increased. All these have made small-scale family-based resource allocation methods obsolete. Therefore, this essay tries to prove that the core farms are the most important new agriculture operation body, which come into being with three requirements.