

Performance Evaluation of Farmland Circulation Mode

—A Case Study of Zaozhuang City

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Abstract—Farmland circulation is an inherent requirement to achieve the appropriate scale of land management, develop modern agriculture, increase farmers' income, and optimize the allocation of rural resources. According to the difference between the main body and the contribution of farmland circulation, this paper divides the existing farmland circulation pattern into government-led farmland circulation mode and farmer-led farmland circulation mode. At the same time, the paper analyzes the operation performance of two kinds of farmland circulation modes in accordance with the principle of consent consistency. The conclusion is that the operation performance of farmer-led farmland circulation mode is much better than government-led farmland circulation mode; it will become the main mode of farmland circulation in the future.

Keywords—Farmland Circulation Mode; Farmer-led Farmland Circulation Mode; Government-led Farmland Circulation Mode; Consent Consistency Principle; Performance Evaluation

I. INTRODUCTION

Farmland circulation mode refers to the contract connection between rural land and different market subjects, is the way of farmland circulation with Chinese characteristics under the restriction of specific land system. [1] There are different kinds of farmland circulation modes in the process of farmland circulation, such as sublease, subcontract, lease, exchange, land joint-stock etc. In order to make the study clear and convenient, the existing land circulation mode is divided into two different forms: farm-led and government-led based on the differences of circulation subject and contribute.

II. THE GENERATION OF DIFFERENT FARMLAND CIRCULATION PATTERNS

A. The mode of farmland circulation dominated by farmers

The farmland circulation dominated by farmers is the transfer of the use right of the farmland in accordance with the market mechanism or the geographical (blood) relationship. The agricultural use of farmland in the process of farmland circulation does not change. The agricultural land inflow party shall bear the corresponding economic obligations or social

obligations in accordance with the contract. The prerequisite for the farmer-led circulation mode is that the farmland outflow is completely out of agricultural production or cannot continue to be engaged in agricultural production because of the lack of labor force, but the farmland inflow has surplus labors but lacks sufficient land to engage in agricultural production.

Farmer-led farmland circulation mode has appeared very early. Since the 1980s, the household contract responsibility system has been made to accelerate the development of agriculture and raise the farmer's income. At the same time, it has made great contributions to safeguarding national food security and has given the birth of land allocation mode dominated by farmers. In addition, because of the rapid development of city economy, a large number of rural labor transfer to non-agricultural industries, changed the rural labor structure, made some rural households were unable to complete normal farming because of labor outflows. At the same time, there were some farmers who cannot transfer into non-agriculture lack enough farmland to cultivate, therefore farmers have spontaneously generated the original form of farmland circulation in order to increase the rural household income, improve the efficiency of land use. But along with the advancement of marketization of urban and rural resources, the cooperation mechanism between land resources and labor resources have gradually collapsed, farmers with the comparative advantage of agricultural management began to rent land from farmers who were not good at agricultural management through monetary means, and gradually formed the agricultural land circulation under the market mechanism.

B. The mode of farmland circulation dominated by government

This mode refers to the rural land circulation pattern which is promoted by the government through the order, the leading authority and the state administrative power. The administrative intervention of the government, while breaking the progressive path of farmer-led farmland circulation, led to the expansion of the national administrative power from the city to the countryside.

Central Document No. 1 in 2009 explicitly proposed to establish and improve "the rural land transfer market", so the local government began to intervene and participate in farmland circulation activities, and ultimately to promote the gradual expansion of the scale of circulation. In the process of farmland circulation, both sides need to have a stable expectation to engage in economic activities. [2] A clear system can guarantee the smooth progress of agricultural land circulation and effectively reduce transaction costs; therefore, as a supplier of public goods, government's intervention in farmland circulation is essential. However, when the government promotes farmland circulation as the main body of the economy, it is bound to lead to the emergence of some new characteristics of the farmland circulation. First of all, in the process of traditional farmland circulation, the government is in a neutral position. The occurrence of farmland circulation is based on the exchange of information on both sides to complete the transaction. However, the government is playing a role of seeking information and providing trading platform in the government-led farmland circulation mode, and through government intervention and active guidance to attract agriculture-related enterprises or promote the establishment of professional cooperatives to speed up the scale and speed of farmland circulation. Secondly, in the mode of government-led farmland circulation, because of the large amount of farmland and farmers involved in circulation, local governments or rural collective organizations often participate directly or even replace farmers to negotiate and sign contracts with land inflower. Thirdly, in order to help the farmland inflower to reduce the production cost and business risk, the government will provide certain preferential policies and the agricultural subsidies which did not exist in the market environment of farmland circulation. Fourthly, under normal circumstances, the transfer of farmland is the expression of the wishes of farmers, is the market behavior of both sides, but for the government-led farmland circulation mode, farmers' willingness to transfer the land is obviously passive. [3]

C. The changing characteristics of different farmland circulation mode

1) *The two modes show the relationship between center and periphery in spatial distribution.* From the perspective of spatial distribution, the farmland circulation in urban villages or urban suburbs and the surrounding is dominated by government, farmer-led farmland circulation mode are mainly concentrated in rural areas. Among them, the government-led "circulation ratio" is positively correlated with the urban radiation force, and the farmer-led "circulation ratio" is increasing with the weakening of urban radiation.

2) *Two farmland circulation modes are integrated with each other.* The turning point of the evolution of the two different modes of farmland transfer is 2009. Before 2009, the two modes of agricultural land transfer had a natural and unwritten consensus on the boundary of circulation. The land circulated by government is mainly involved in public welfare and infrastructure land, ecological protection forest land and part of small town construction land, almost not involved in the circulation of agricultural land. After 2009, the

government began to carry out all-round control of farmland circulation. The game of farmland circulation right is becoming more and more intense among different circulation subjects. At present, the government-led farmland circulation mode is gradually becoming the main mode of farmland circulation in economically developed areas that is affecting the farmers' willingness to transfer farmland.

3) *The government-led farmland circulation is developing too fast.* In fact, the government-led farmland circulation often exceeds the level of farmers to bear on the circulation scale, circulation speed and circulation strength. Through the field investigation and study, the author knew that for the rural households with 3 rural labor forces, the land areas that they are willing to cultivate is generally not more than 10 acres. Compared with the hundreds of acres of farmland circulation concept which is advocated by government, there is at least 10 times difference even more. It can be seen that farmers' awareness of the modest scale of farmland management is very different from the concept of moderate scale management of farmland which is currently advocated by the local government.

4) *Different circulation patterns have different circulation income.* Due to the differences in the concept of the farmland circulation under different modes of farmland circulation, there are different pricing mechanisms. For the farmer-led farmland circulation mode, circulation behavior is related to geographical or kinship, which is repeated game of the social affection. The cost of transfer is not high. The government-led farmland circulation belongs to the administrative market (referred to as mixed type), which is a one-off game in the non acquaintance society, and the transfer cost is much higher than that generated by the farmers' dominant circulation. From the point of view of the payment of the transfer fee, the method of payment of farmland circulation dominated by government is generally a combination of physical rent and currency rent, but the method of payment of the farmer-led farmland circulation mode is variety that can be one-time payment or batch payment. [4]

III. PERFORMANCE EVALUATION OF DIFFERENT FARMLAND CIRCULATION MODES

A. Determination of performance evaluation criteria

The evaluation of a thing belongs to the normative analysis, which is based on a certain value judgment. [5] Due to the different position and angles, the analysis results may have great difference. In this paper, because the performance evaluation of farmland circulation involved many interest subjects make normative analysis of it becomes very complex, so it is necessary to set a evaluation standard before the performance evaluation.

Consent consistency is a basic evaluation principle of farmland circulation mode. "Agree" means that through the cost - income calculation, the parties believe that circulation to

achieve the allocation of resources is beneficial to him, or at least harmless. "Disagree" means that this deal is detrimental to his interests. To evaluate the performance of farmland circulation mode with the principle of consent consistency means that farmland circulation which based on the principle of consent consistency is efficient.

B. Performance evaluation of farmer-led farmland circulation mode

First of all, farmer-led farmland circulation mode is that farmers transfer the land use rights through the subcontract, commissioned, rent and other forms to solve problems of uneven distribution of farmers' income aroused by uneven allocation between human resources and land resources. It is independent of farmland circulation pattern that is not affected

by external interference, in line with the principle of "consent consistency", and has been the main modes of farmland circulation for a long time. Although many scholars have shown that firstly there is no sign of a written contract for farmer-led farmland circulation so it is prone to disputes. [6] Secondly, it is thought that this kind of circulation occurred in the native land, is commissioned cultivated among family and friends, which is not conducive to the long-term investment of land. [7] But through the on-the-spot investigation, the author found that firstly although farmland circulation between farmers have not signed a written circulation contract, also did not make clear on the circulation period, but it is a kind of practical wisdom of the institutional arrangements. The implementation of farmland circulation is the effective (as shown in table 1).

TABLE I. A COGNITIVE TABLE OF THE FARMLAND INFLOWER FOR THE CIRCULATION PERIOD

| Cognition Period | Can terminate | | Bilateral consultation | | Cannot be terminated | | Total | |
|---------------------------|---------------|------------|------------------------|------------|----------------------|------------|--------|------------|
| | Sample | Proportion | Sample | Proportion | Sample | Proportion | Sample | Proportion |
| <i>Unspecified period</i> | 12 | 13.95% | 35 | 40.70% | 39 | 45.35% | 86 | 36.59% |
| <i>1 year</i> | 15 | 28.84% | 19 | 36.53% | 18 | 34.61% | 52 | 22.12% |
| <i>2-5 years</i> | 31 | 33.69% | 45 | 48.91% | 16 | 17.39% | 92 | 39.14% |
| <i>6-10 years</i> | 3 | 60% | 2 | 40% | 0 | 0 | 5 | 2.12% |
| <i>More than 10 years</i> | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Total</i> | 61 | 25.95% | 101 | 42.97% | 73 | 31.06% | 235 | 100% |

Data sources: field survey

Secondly, due to the irreversibility of investment in land, farmers are very cautious in investment of rural land. Yao Yang believes that farmers will lose the enthusiasm for long-term investment of land if they lose the long-term use of land; [8] He Lingyun, Huang Jikun argued that the more stable the right to use farmland, the greater the possibility of long-term investment of land of farmers. In view of this, the long-term investment behavior of farmers mainly depends on the stability of the right to use the land, the stronger the stability of the right to use the land, the longer the investment behavior of farmers on the land, and vice versa. [9] In the author's view, the farmland circulation between farmers that most occurred in the village is the repeated game in the society of acquaintances, more likely to help inflower form stable

expectations about land use right. In addition, the social characteristics in rural communities such as reputation, for long-term good neighborly relations expectations, lack of liquidity make actions that damage the interests of others excluded, so farmers who inflow farmland did not significantly reduce the investment of the land. With the use of fertilizer as an example, it was found that there was no significant difference in the amount of fertilizer used between farmers' own land and circulated land. Not only that, with the expansion of land management area and the popularity of agricultural machinery and equipment, there is a slight upside on the farmland straw returning rate, some big grain production households' straw rate even reached 100% (as shown in table 2).

TABLE II. LIST OF LAND INVESTMENT BEHAVIOR OF FARMERS

| Mode | Data | Quantity | Area | Fertilizer use (kg/mu) | | Straw returning rate (%) | |
|--|-------------|----------|-------|------------------------|-----------------|--------------------------|--------|
| | (household) | (block) | (mu) | Own farmland | Inflow farmland | Before | After |
| Farmer-led farmland circulation | 128 | 374 | 261.8 | 100 | 96 | 86% | 89.80% |

Data sources: field survey

Therefore, this paper argues that the farmer-led farmland circulation mode that is spontaneous and autonomous mode of farmland circulation is consistent with the reality of rural society in our country, is not only the most economically

efficient but also in accordance with the "consent consistency" principle. It is an effective farmland circulation mode.

C. *The performance evaluation of government-led farmland circulation mode*

For the government- led farmland circulation mode, the government not only make related policies towards farmland circulation but also take part in the process of the circulation. Besides this, the government support the relevant parties involved in circulation by supplying resources, financial help and so on. It can't be denied that the government-led farmland circulation mode has promoted the agricultural production to realize the scale management, but also has brought the profound influence to the society.

The government took the initiative to intervene in microeconomic activities, to affect the cost - income allocation of circulation parties by means of financial subsidies, to decide the negotiations between the two sides of the farmland circulation as the landowner. It should be said that the approach is a kind of intervention of government on the market. But it can't be denied that the government's administrative intervention can improve the efficiency of resource allocation in many rural areas where the market mechanism is weak. Therefore, the government intervention in the process of rural land circulation has a positive practical significance. For example, Hongzeng Potato Planting Cooperative that lies in Xijiang Town, Shanting District was founded in April 2009, registered capital is 300 thousand Yuan, while involved the transfer of land of 420 acres. The misjudgment of the sponsor of the cooperative resulted in the cooperatives' operating difficulties in 2011-2012, a large number of investment costs can't be recovered, gradually lost the ability to continue operations and repayment, then a series of problems such as the abandonment of land, the damage of the interests of farmers and credit risk are bringing bad influence to the society. Therefore, Shanting District and XiJi Town, the two level local governments began to actively explore solutions. First of all, the township government of XiJi invested more than 120 thousands Yuan to improve production conditions of the farmland. Secondly, to strip of the original creditor's rights and debts guaranteed by township government of XiJi. Finally, the local government organized the secondary circulation of the farmland. At the end, the farmland was took over by two plant professional investors with the price of 800 Yuan per mu, the inflow of land are mainly used for seedling cultivation and traditional Chinese medicinal materials planting, avoiding the abandoned land and protecting the farmers' interests.

In view of this, the government-led pattern of agricultural farmland circulation put forward higher demands on the government's ability, especially administrative management ability, financial support ability and the ability to resist risks. First of all, the local government with a weak administrative capacity is not dominant on the investments, is difficult to attract agro - linked enterprises to inflow farmland. Secondly, when the government led the farmland circulation, the government is not only providing financial subsidies for the related parties, but also give monetary help if necessary. For example, when the farmland inflowers are unable to pay land rent and worker salaries, the government have to help the inflower to solve the funding problem through financial and other means to ensure the smooth farmland circulation.

Because agricultural activities are usually faced with the dual risks from nature and the market, the government is required to support as a strong back-up in the prevention and response of two major risks. All in all, the government-led farmland circulation mode is equivalent that the government to establish a guarantee mechanism between the two sides, on the one hand, it is beneficial for farmers to obtain stable circulation income, on the other hand, for the inflowers, it may seek financial or policy support from the government in the event of unfavorable business or excessive market volatility. The farmland circulation led by government can improve the efficiency and utility of circulation and improve the economic income of both sides, while to promote the process of agricultural modernization more effectively. However, it must be noted that the government-led farmland circulation is the contest of three parties that farmer as land outflow, cooperatives as land inflower, the government acts as the coordinator of both. The specific circulation effect depends not only on the transfer behavior of the two parties, but also on the comprehensive ability of the government, and put forward higher requirements to the local economic development level. Therefore, the application of this mode should be strictly limited.[10] Besides this, the large number of farmers that involved in farmland circulation leads to higher contracting costs resulted in the decline of the efficiency of farmland circulation. In addition, in the process of large-scale farmland circulation, it is inevitable that some farmers will not be willing to circulate farmland for their own preferences or cost-benefit analysis, so that local governments often force the farmers to transfer the land with the attitude of the land owner, contrary to the principle of "consistency of consent".

IV. RESEARCH ENLIGHTENMENT

The reform of farmland circulation system is essentially a top-level design of the rural land system under the new situation of social economy, is the optimal choice of land system development to a certain stage. Taking into account the vast territory of China, the difference of the level of economic development, there is no "universal" agricultural land circulation mode, this paper selected Zaozhuang City, Shandong Province as a research area, in order to draw a targeted research conclusion.

In the future, the spontaneous, autonomous farmland circulation between farmers is still the main mode of farmland circulation. The farmer-led farmland circulation mode is closely related to the non-agricultural income of farmers, the higher the non-agricultural income, the more willing the farmers tend to turn out the land. The impact of land property rights and transaction costs towards farmland circulation is not obvious. According to the principle of consent consistency, the efficiency of the mode is the higher. So it will be the dominant mode of farmland circulation in the future.

The government-led farmland circulation mode puts forward higher requirements for the government's comprehensive ability and economic development level. In addition, the large scale farmland circulation under the mode resulted in the farmers' willingness to transfer significantly passive, violated the principle of consent consistency and reduced the efficiency of farmland circulation transfer. With

the further implementation of the national urban and rural development strategy, as well as the contradiction between man and land, the arable land can only be restricted by the appropriate scale management; the function of local government in the process of farmland circulation will be changed from intervention to service. As a result, the government-led farmland circulation mode will gradually decline in the future.

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