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Institutional Evolution of China's Rural Land Property Rights and Sharecropping Contracts

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Abstract: The agricultural technological progress, along with agricultural mechanization and modernization, has given rise to the urgent requirement for large-scale farming. However, the contradictions between this requirement with the fragmented farmland and single-family production are becoming increasingly prominent. The confirmation of rural land contracting right and land transfer have provided institutional conveniences for large-scale farming. Nevertheless, the issue of "who will engage in farming ", that is, the cultivation of new-type agricultural business entities, is an urgent problem that needs to be addressed immediately. Given the inherent deficiencies of Chinese farmers in terms of funds, technology, management, and risk-bearing capacities, a"farmers + Agribusiness" sharecropping model is proposed, where both parties jointly assume the functions of a family farm.

1. Introduction

Since the founding of the People's Republic of China, the rural land institution has undergone four landmark stages: Land Reform, Collectivization, the Household Responsibility System, and the Separation of Three Rights Reform. Among them, except that the People's Commune System overstepped the development level of productivity and thus led to significant efficiency losses, these institutional evolution have generally aligned with the development level of agricultural productivity and promoted a significant improvement in agricultural production efficiency.

Currently, The agricultural technological progress, mechanization, and modernization have given rise to the urgent requirement for large-scale farming. However, the limitations of the fragmented farmland and single-family production are becoming increasingly prominent. While land contracting right confirmation and land transfer have institutionally addressed the land supply for large-scale farming, agricultural business entities and their organizational forms remain unsolved.

On the basis of the transfer and concentration of land management right, the construction of family farms is an inevitable choice to achieve large-scale farming and efficiency improvement. However, Chinese farmers currently face deficiencies in capital, technology, management capabilities, and risk-bearing capacities. They need to cooperate with agricultural enterprises to perform the functions of family farms. Therefore, this paper proposes a new type agricultural

business entity, "farmers+Agribusiness" sharecropping model, and further analyzes its efficiency advantages.

2. Literature review

Prior to the 1960s, classical economics used to regard sharecropping contracts as inefficient, arguing that their efficiency was inferior to wage contracts and fixed-rent contracts. Steven N.S. Cheung (1968) challenged this view in his doctoral dissertation “The Theory of Share Tenancy”, demonstrating that under certain conditions, sharecropping, fixed-rent tenancy and owner-cultivator systems achieve equivalent efficiency. Cheung emphasized that the choice of sharecropping contracts arises from risk-sharing, transaction costs, and institutional requirements in specific economic contexts. He further highlighted the endogenization process of contract formation, that is, the interactions of factors such as the rent rates, the amount of land, and the amount of labor determine the final form of the contract [1].

Joseph Stiglitz (1974) analyzed sharecropping and showed that when effective supervision of agricultural production is costly or impractical, sharecropping contracts provide both incentive and risk-sharing advantages, thereby offering efficiency gains [2]. Braverman and Stiglitz (1986) developed a dual moral hazard principal-agent model based on agricultural productions in developing countries. They proposed adjusting cost-sharing ratios to address production uncertainties and information asymmetry [3]. Yoram Barzel (1989) applied neoclassical economic models to land tenancy issues, arguing that if there is labor heterogeneity, fixed-rent or sharecropping contracts have an efficiency advantage because laborers will increase their efforts; while if there is land heterogeneity, wage contracts have an efficiency advantage because landlords will have appropriate incentives to maintain and improve their soil[4].

Wan Jianghong and Yang Liu (2018) proposed that the implementation of new agricultural operation models inevitably involves the signing of agricultural operation contracts between new agricultural management entities and farmers. These contracts cover aspects such as farmland leasing, agricultural operations, and agricultural services. Due to the unequal market positions of contracting parties and the inherent uncertainties in agricultural operations, these factors constitute the primary sources of instability in agricultural operation contracts, thereby triggering opportunistic behaviors among the contracting parties (particularly farmers)[5].Lei Lixia and Zhang Yingliang (2023) pointed out that when the ex-ante bargaining costs for fixed lease contracts become prohibitively high to the extent that reaching a fixed lease agreement between farmers and agricultural enterprises becomes nearly impossible, village enterprises tend to adopt sharecropping as an alternative. Generally speaking, the market struggles in vain to establish explicit pricing mechanisms for heterogeneous assets, thus resorting to indirect pricing mechanism through residual sharing[6].

3. Institutional Evolution of China’s Rural Land Property Rights

The Institutional evolution of China’s rural land property rights has always been deeply intertwined with the agricultural production requirements of different historical stages, exhibiting a distinct "state-led, problem-driven" characteristics[7]. Since 1921, the institutional evolution has gone through five critical phases (Figure 1), with its internal logic always revolving around two core propositions: how to liberate agricultural productivity through land property rights allocation, and how to balance the relationship among national strategy, farmers’ interests and market efficiency. Specifically, the institutional evolution of land property rights over the past century since the founding of the new China follows a specific historical logic: during the New Democratic Revolution Period (1921-1949), revolution was the key point; during the period of socialist

construction and exploration (1950-1978), the pursuit of equity was the goal; after the Reform and Opening-Up (1978–), efficiency was given top priority [8].

Before the Land Revolution, rural land in China was highly concentrated in the hands of landlords. Excessive land consolidation and exorbitant rents severely constrained agricultural productivity. The land reforms in 1927 and 1949 abolished feudal landlord ownership and established peasant land ownership, which significantly stimulated farmers' production incentives and agricultural efficiency. The total national grain output surged from 113.18 million metric tons in 1949 to 163.92 million metric tons in 1952, a growth of 44.8% .

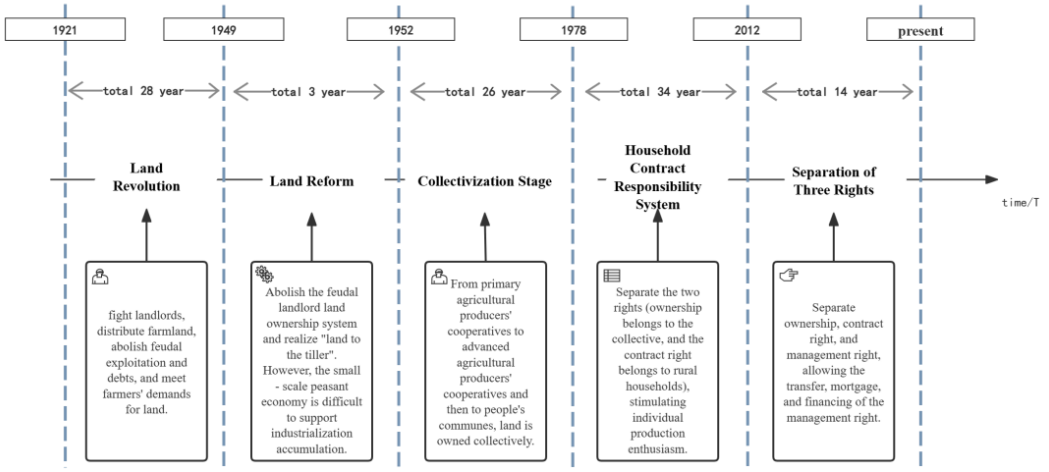

Figure 1: institutional evolution of rural land property rights in China

After 1953, China's land policy shifted toward collectivization, gradually establishing a collective land ownership. Although there were problems such as overhasty implementation, this process enabled centralized allocation and planned utilization of land resources, transforming rural economies from fragmented small-scale peasant economy to collective and scaled operations. This laid the foundation for industrialization accumulation and modernization. In 1978, the Household Responsibility System was implemented. Through the institutional innovation of separating ownership from contracting rights, under the framework of collective ownership, the contracting rights of farmers were effectively established, solving the incentive problem of the collective ownership system and driving a leap in agricultural production efficiency.

In the process of rapid industrialization and urbanization, massive rural-to-urban migration led to widespread farmland abandonment and declining land-use efficiency. Concurrently, the fragmentation of land operations under the traditional HRS increasingly conflicted with the requirements of large-scale, intensive and mechanized agricultural production, which have severely constrained agricultural productivity growth. To address this problem, since 2012, the "Three Rights Separation" reform was steadily promoted, which clarified the rights structure of collective land ownership, farmers' contractual rights and new agricultural entities' management rights. By confirmation of rural land contracting rights and transfer, it released the free flow and rational allocation of rural land resources, thus meeting the requirements of large-scale agricultural production.

4. New agricultural operation entities "farmers +Agribusiness" sharecropping model

The development of agriculture in China needs to take the path of large-scale operation, which is also the key to improving agricultural efficiency, ensuring national food security and promoting sustainable agricultural development. Reforms such as the Three Rights Separation, Land

Contractual Rights Confirmation, and Land Transfer have cleared the institutional obstacles for the efficient allocation of land resources. However, cultivating new agricultural business entities to address the urgent issues of "who will farm the land and how" has become an immediate problem to be addressed.

Allen & Lueck (2002) categorized agricultural business entities in developed countries into three main types: family farms (relying on family labor), corporate farms (hiring labor and being capital-intensive), and cooperate farms (member-owned systems). They argued that family farms achieve the highest efficiency due to "low supervision costs and flexible decision-making" [9]. According to the Food and Agriculture Organization of the United Nations “2023 Statistical Yearbook on Food and Agriculture”, there are more than 608 million family farms globally, occupying 70-80% of farmland and producing 80% of the world’s food by value.

Family farms, which can integrate the advantages of traditional household operations with modern large-scale agriculture, will become the primary organizational form of China’s agricultural modernization. However, at the current stage, there are certain innate deficiencies in the development of agriculture in China: First, low levels of education among farmers restrict their ability to understand and adopt advanced agricultural technologies. Second, financial constraints hinder farmers from leasing large plots, purchasing high-quality seeds, adopting modern equipment, or improving land quality. Third, deficiencies in managerial and risk-bearing capacities make it difficult to achieve refined, standardized farm management or respond effectively to natural disasters and market volatility. Finally, the lack of socialized services, such as agricultural insurance and financial support, leave farmers without risk mitigation mechanisms or funding channels. Under these conditions, it is very difficult for farmers to grow into family farms spontaneously on their own. It needs to be completed through cooperation between farmers and agricultural enterprises.

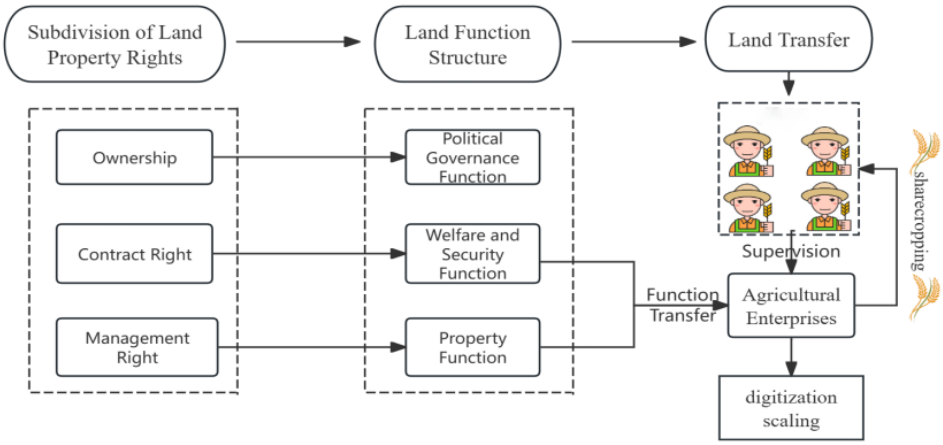

Figure 2: Relationship diagram of new agricultural business entities

As shown in Figure 2, the functions of family farms are fulfilled through a "Farmers+Agribusiness" sharecropping model. Given the fragmented nature of rural land in China, landowners lease small plots for fixed rents without directly engaging in farming. Family farms lease large tracts of land from external sources (scattered landowners) at the market rental rate, and then invest in productive inputs such as land rent, seeds, and fertilizers to carry out large-scale agricultural production. Farmers and Agribusinesses collaborate under a sharecropping contract, sharing risks and profits, with inputs and outputs distributed according to the agreed sharing ratio.

The efficiency advantages of sharecropping contracts are mainly reflected in the following four aspects: First, there is a saving in supervision costs. Agribusinesses basically do not need to supervise farmers. Second, the level of farmers' efforts is enhanced. Output sharing effectively

solves the problem of motivating. Third, there is complementary advantages. Farmers contribute high labor engagement, while Agribusinesses provide technological, informational, and managerial expertise. Finally, risk sharing. Climate risks and market price risks are proportionally shared between parties, reducing losses borne by a single entity. Additionally, Agribusinesses can leverage agricultural insurance and big data analysis to strategically manage and transfer risks.

Although the "farmers+Agribusiness" profit-sharing cooperation model can achieve "complementary advantages, cost sharing, risk sharing, and profit sharing" ,it also has the following disadvantages. First, there is no unified standard for setting the sharing rate. Basically, agricultural enterprises dominate the contract and judge from experience, and then adjust it year by year through negotiations between the two parties. This often leads to the instability of the contract relationship, and there is also an adjustment rigidity for the farmers' sharing rate, which means it can only increase, not decrease; Second, relying on their market, capital, and technological advantages, agricultural enterprises occupy a dominant position in the distribution of interests. Since farmers are in a relatively disadvantaged position, they may be exploited by enterprises, which will dampen their enthusiasm for cooperation; Third, the cooperation lacks a long-term and stable mechanism. Bad climate conditions, a sharp rise in input costs, and significant fluctuations in agricultural product prices can all have a serious impact on the cooperative interests, and may even lead to the interruption of cooperation.

5. Cases and Conclusion

Shandong Guohe Technology is an agricultural service company, who has started large-scale grain cultivation since 2019 through a "farmers+Agribusiness" sharecropping model. Currently, each farm covers about 600 acres and adopts a two-season rotation system of "spring wheat and autumn corn," with the profit-sharing ratio agreed to be 50% for both parties. Guohe Technology manages inputs and profits using the "Good Hand" digital farm management system, which establishes a foundation of trust for the profit-sharing contract. Guohe Technology has introduced many advanced agricultural technologies to the farms, including accurate soil testing and analysis, efficient water-saving irrigation, and intelligent pest and disease monitoring, to improve the yield and quality. It reduces costs through centralized procurement of agricultural supplies, improves efficiency through large-scale mechanized operations, and ensures stable quality through unified standard processes. In response to natural risks, it mitigate uncertainties through big data analysis and agricultural insurance.

The "farmers+Agribusiness" sharecropping model may be a suitable form of production organization for agriculture in developing countries, and is applicable to the basic national conditions of China's agriculture with "inherent deficiencies" at present. Under this sharecropping system, both parties can utilize each others advantages. By linking efforts with benefits, farmers will be more dedicated to managing their farms, while agricultural enterprises can provide more scientific planting techniques and market services. The trust between enterprises and farmers is strengthened over long-term cooperation, reducing friction and costs arising from supervision, thus achieving an efficiency advantages.

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