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# Contradiction between the Modernization of Agriculture and the Protection of the Interests of Farmers

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**Abstract** Main modes of agricultural modernization in developed countries are summarized, as well as their impact on the interests of farmers. Among them, the America, Canada, Australia and other sparsely-populated countries adopt the labor force saving model based on large-scale mechanization during agricultural mechanization. Japan and other countries with many people and little land adopt the land saving model with high technology. And the Western European Countries use the intermediate model to exert the function of mechanization and technology. Interests security of farmers in rural land circulation is discussed, such as the unreasonable allocation of circulation rights, changing the land property and land use without authorization; undermining the long-term interests of farmers, and the unsolved social security problem of farmers. Interest guarantee of farmers during the process of agricultural industrialization is analyzed, pointing out that big household or leading enterprise usually occupies a favorable position in the cooperative. They use their advantages in share and management to raven the operation achievement of peasant households and to transfer risks. Due to the information asymmetry, farmers are at a weak position in the cooperation with leading enterprise. Interests protection of farmers in scale management is put forward, such as strengthening the subsidies for farmers, implementing a moderate scale management suitable for the situation of China, and establishing a fair and reasonable benefit affiliating mechanism among peasant household, cooperative and leading enterprise.

**Key words** Modernization of agriculture, Management on appropriate scale, Interests of farmers, Benefit affiliating mechanism, China

Economic reform in China started in rural areas, flourished in the coastal areas and cities, and returned back to rural areas at present. In the year 2010, urban-rural income ratio is as high as 3.3:1, while there are few countries in the world exceeding 2:1. In the year 2007, rural population with per capita net income below 1 067 yuan reaches 43 200 thousand in all, accounting for 4.6% of the total rural population in China. According to the international poverty line, there are 135 million people under poverty, about 10% of the total population. The 30 years' reform and opening up has obtained achievements at the cost of increasing poverty in rural areas and sacrificing the interests of farmers. The 17th National Congress of CPC points out that solving the problems of agriculture, farmer and rural area is related to the overall construction of a well-off society. Thus, we should reinforce the fundamental position of agriculture and take the road of agricultural modernization with Chinese characteristics. The Central Rural Working Conference emphasizes that we should effectively solve the problem of rural livelihood, especially the interests of farmers, and protecting the interests of farmers is the key to solving the problem of farmers' livelihood. There are essentially two problems to be solved in the development of reform of agriculture in China. One is to improve the production quality of agriculture, so as to realize the modernization of agriculture, and to improve the competitiveness and stable supply of agricultural products. The other is to solve the problem of farmers' income, in order to

make farmers become rich and live a better-off life<sup>[1]</sup>. Therefore, during the process of agricultural modernization, how to deal with the contradiction between rural development and farmers' interests is the key to the implementation of agricultural reform in China.

## 1 Selection of agricultural modernization mode

**1.1 Main mode of agricultural modernization in developed countries and its impact on the interests of farmers** Agricultural modernization is to use the advanced agricultural equipment and management mode to equip agriculture and to turn the backward traditional agriculture into the world's advanced agriculture. Realization of agricultural modernization is greatly determined by the land, labor force and industrialization level at that time. There are several representative models of agricultural modernization in the world. For instance, sparsely-populated countries should firstly carry out reform on production tools and develop mechanization in order to save labor force. However, countries with too many people and little land should accordingly input more labor force and make full use of land in order to improve unit yield.

In the America, Canada, Australia and other sparsely-populated countries, they start from the mechanization of agriculture and carry out specialized operation with peasant household as the basic production unit and achieve a high degree of commercialization of products. Large-scale management of land is the most significant feature of the American model of agricultural modernization. Farm is the basic organization of the production of American agriculture, which is divided into family farm,

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joint-stock farm and company farm. Among them, family farm accounts for more than 90% of the total farms and its sales volume of agricultural products occupies more than 70% in the America<sup>[2]</sup>. Under the impact of agricultural modernization in the latter half of the 19th century, American farmers are differentiated into different classes of big farmer, tenancy farmer, and agricultural salary earner. In the late 19th century, monopolistic capital begins to control agriculture through the commercial channel of farmers with the determination of the dominant position of monopoly capital in the American national economy, as well as the development of agricultural commercialization and mechanization. Thus, the socioeconomic status of farmers is rapidly deteriorated due to the control of monopoly capital. Moreover, land policy, fiscal policy, monetary policy and tax policy implemented by the federal government ensure the interests of all kinds of capitalists by sacrificing the interests of farmers, which further aggravates the overall decline of socioeconomic status of peasant class in the America and leads to the peasant movement for one to two decades after the Civil War<sup>[3]</sup>.

Resource endowment in Japan has the characteristics of many people and little land and poor resources. Cultivated land in Japan only accounts for 0.4% of the total cultivated land area in the world, but its population occupies 2.2%. Besides, scale of land management is hard to be enlarged due to the scattered farmland. The feature of agricultural modernization is to use biotechnology to improve unit yield, to promote the productivity development of agriculture, to increase the exports of agricultural products and to realize the modernization of agriculture. Japanese government pays attention to the development and popularization of high-tech biotechnology, sets up Rural Technology Development Zone mainly by the national agricultural research institutions, uses complete facilities to carry out pioneering, integrated and basic development and research, and conducts integrated study on the enhancement of production environment, the utilization of agricultural machinery, the improvement of variety and cultivation method of crops. Result shows that agricultural modernization, on the one hand, leads to the old age and the female being the main labor in agricultural production. In the year 2000, labor forces engaged in agricultural production are 3 890 thousand people in Japan, among which, more than 50% of the labor forces are above the age of 65. Few young people in rural areas are willing to work in the field of agriculture. Most women are not only housewives, but also the main labor of agriculture. About 60% of the agricultural workers are women, which results in the low quality of agricultural labor force and the insufficient development of agriculture in Japan. On the other hand, agricultural association has encountered difficulties in the development. Due to the insufficient development of agricultural labor force, organizational foundation for agricultural association is weakening. At the same time, members of agricultural cooperatives have an obvious trend of non-agriculture, due to the reduction of agricultural population, the increase of non-agricultural population in rural areas, and the rapid promotion of rural urbanization, which has weakened the mass base of peasant association<sup>[4]</sup>.

Unlike the labor force shortage of America or the cultivated land shortage of Japan, Western European Countries pay attention to not only the equipment improvement of agriculture by modern industry during the process of agricultural modernization, but also the popularization and promotion of modern science and technology, and the joint progress of mechanical technology and biotechnology. Irrigation, biochemistry, mechanization, informatization and improved variety should have equally important position, in order to enhance the objectives of labor productivity and land productivity.

## 1.2 Selection of agricultural modernization mode in China

Realization of agricultural modernization can adopt the American way of labor force saving model based on large-scale mechanization, in order to improve the level of per capita cultivated land and to let agricultural capitalists control the agricultural production. Meanwhile, the Japanese land saving model can also be adopted, if the land concentration is low, the cultivated land area per capita is few, and the agricultural associations and social service activities play a leading role in the agricultural production. Besides, the intermediate model in Western European Countries can be used to exert the function of mechanization and technology, to guide the farmers to establish and improve the cooperative organizations, to make full use of the technology and funding advantages in agricultural cooperation, and to achieve the dual effects of modernization and farmer' interests.

China has many people and little land with less than 0.1 hectare of cultivated land per capita, which is 3 times less than the world per capita arable land (0.37 hectare). Thus, large-scale mechanized farming is hard to be implemented. And the labor force transfer in agricultural modernization has increased the difficulty of large-scale mechanization. Since the reform and opening up, China has implemented the household contract responsibility system in rural areas. Land is allocated according to the population or labor force, so that every household has roughly the same area of land. Then, it is divided into many land blocks and each block is less than 0.067 hectare. Thus, small-scale decentralized management structure is formed, which is rare in the world. Moreover, China has weak foundation and is lack of funds. Since the reform and opening up, China has adopted the price scissors difference between industrial products and agricultural products. A large amount of fund has been invested in industry but agricultural construction stands still. At present, science and technology are at a low level in China and the agricultural modernization has not adopted the high-tech equipment. Besides, after entering the WTO, Chinese agriculture is facing more severe challenges. International agricultural production has the advantage of low production cost, which may have crowding-out effect and substitution effect on the production of traditional agriculture in China. Meanwhile, China has the Large Country Effect to a certain degree in the international agricultural market. Price fluctuation of international agricultural products is positively related to the price of agricultural products in China. For instance, at the end of the year 2009, price fluctuation of soybean in international market has

tremendous impact on the price of edible oil in China.

Agricultural modernization in China is carried out under the background of industrialization and urbanization. Township enterprises and the secondary and tertiary industries have better development, a large amount of agricultural labor forces are transferred since the non-agricultural income of farmers is more stable. After the transfer of agricultural labor force, contracted land allocated according to human head becomes a burden. Thus, farmers want to give up the contracted land and big households who are willing to and good at the operation of land are produced. On the one hand, increase of non-agricultural population needs the supply of food by farmers; development of new industrial enterprises needs a more adequate raw materials provided by agriculture. On the other hand, industrialization and urbanization lead to the constraint reinforcement of "resource-based bottleneck" during agricultural development. Agricultural production has rigid dependence on land, water, climate and other natural factors. Industrialization and urbanization will result in the deterioration of agricultural land, weather condition and water condition. Based on this, the Third Plenary Session of the Party's 17th Central Committee has pointed out that we should unswervingly adhere to the rural basic management systems at this stage, transfer the land contract management right under the principles of legitimacy, willingness and compensation in the forms of subcontract, lease, exchange, transfer, and joint-stock cooperative, and develop management in a moderate scale and various forms.

## 2 Interests of farmers in the moderate scale management

### 2.1 Interests security of farmers in rural land circulation

Land circulation is the key to agricultural scale management. Rural land circulation can absorb more capital into the rural areas, carry out agricultural modernization and industrialization construction by leasing or purchasing land, improve the efficiency of market transactions of agricultural products, and reduce the market cost of agriculture. At the same time, farmer stayed at rural areas becomes a share holder of agricultural enterprises by land contract right, so as to obtain land rental and dividend incomes. However, there are still some phenomena infringing upon lawful rights and interests of farmers in land circulation.

**2.1.1 Unreasonable allocation of circulation rights.** The primary land circulation is usually carried out among peasants, having neither irregular contract nor clear benefit sharing. With the inflow of large capital, rural land usually transfers to a small number of agricultural enterprises. Some grass-root cadres implement land circulation by force since they have the executive power and are the representatives of land owners. In contract issuing, collective economic organization carries out public bidding without being in line with the provisions. Rural cadres deal privately with the lesser, and even finalize bid to fool the masses, which has seriously damaged the land contract right of farmers. Besides, areas near the city have unique geographical advantages. And farmers can maintain a good life by plant-

ing vegetables and economic crops. Therefore, lop-sided stress on scale management not only damages the interests of farmers, but also reduces the income of farmers. Especially when the economy is underdeveloped and the land is their basic livelihood, farmers are unwilling to give up land. Thus, large-scale management of land should allow flexibility and should be pushed forward step by step in the areas or villages with matured condition.

**2.1.2 Changing the land property and land use without authorization;** undermining the long-term interests of farmers. With the expansion of city, boundary between urban land and suburb agricultural land changes constantly. A large amount of cultivated land is also occupied by commercial land in urban areas illegally under the name of public welfare. Nature and use of land are changed randomly and the compensation standard for peasant is relatively low. Thus, the huge income of land transaction falls into the hands of others. In rural areas, local governments in some townships are eager to attract investment. When signing the land contract with investors, governments have not standardized the land use type. Thus, some investors establish plant or other permanent buildings on the cultivated land, which damages the inherent attribute of cultivated land. And the land can not be cultivated even when taken back<sup>[5]</sup>. During the agricultural scale management, illegal using farm land for the construction of livestock and poultry farms, permanent agricultural management and living facilities, and leisure farm all affect the stable development of agriculture and the safety of production, and cause many hidden social troubles due to the pollution of land construction.

**2.1.3 The unsolved social security problem of farmers.** Land is the chief productive material for most farmers in China. Under the imperfect social security system, land, as a substitute for social security, offers basic social security for farmers<sup>[6]</sup>. Under the urban-rural dual structure in China, rural social security system is imperfect with little security fund and small coverage, which is far from guaranteeing their basic living. Under the promotion of urbanization and agricultural scale management, many farmers lost their land and social security is difficult to be effectively maintained. Among these people, most are illiteracy with no skills. If not treated correctly, they may probably become the urban refugees with no land, no work and no low security, which will inevitably lead to a series of social problems and will affect the construction of harmonious society in China.

**2.2 Interest guarantee of farmers during the process of agricultural industrialization** Agricultural industrialization is the only way to realize the transformation from traditional agriculture into modern agriculture in China. It develops the social productivity in rural China, represents the most fundamental interests of the masses, and is the realistic option for the sustainable development of rural economy in China. In the aspect of industrialization management, cooperative economic organization should be established and improved. After entering the 21st century, competition between domestic and foreign agricultural products has become more intense, and the groups in a weak position are inevitably under attack in the market. Peas-

ant Cooperative is an effective organizational carrier for the weak to pursue cooperative income through economic combination under market economy, as well as a strong support for the realization of farmers' interest. At present, cooperatives have mainly three forms. The first form is the shareholder of all villages. Villages become the shareholder according to the area of land. Then, shareholder representative is selected and the management organization is established. Thus, the cooperative with share cooperation system is formed. The second form is the collective form of big household and peasant household. Rural collective converts the share according to the established infrastructure and the public means of production. Big household purchases agricultural machinery; and management organization, as well as its corresponding rights and obligations, is formed according to the proportion of share. The third is the form of company and peasant household. Leading enterprises in agricultural industrialization or non-agricultural enterprises provide salary for the management and technical service personnel, who service for the cultivated land and agricultural production base and offer ploughing service to the villages around.

Among all the cooperation forms, big household or leading enterprise usually occupies a favorable position in the cooperative. They use their advantages in share and management to raven the operation achievement of peasant households and to transfer risks. Due to the information asymmetry, farmers are at a weak position in the cooperation with leading enterprise. Meanwhile, due to the delayed and inaccurate information, farmers usually easily carry out blind production and arrange management without plans, which cause the vulnerability and disorder of market equilibrium, lead to the alternation of surpluses and shortages of agricultural by-products, and seriously affect the stable increase of farmers' income. Moreover, leading enterprises usually use special technology to control the peasant households. In the cooperation with leading enterprises, peasant households must invest in the special physical capital and human capital in order to win the appreciation of leading enterprises and to obtain supply contracts. However, the more farmers invest in special technology, the more they are dependant on leading enterprises. Once the leading enterprises can not carry out a contract due to a certain reason, peasant household will suffer from great losses since their special investment is of no use. In fact, these peasant households have been deeply "trapped" in this enterprise. In this case, leading enterprise may raise harsh requirements to maximize their benefits<sup>[7]</sup>. After contracting cultivated land, enterprises provide adequate security for farmers, although the income of farmers becomes more than ever. According to China's property law, land contract management right of farmer is defined as property right, indicating that once enterprise goes bankrupt, farmers will lost their land and their ultimate security of life. For instance, the "Lantian Storm" event occurred in the year 2002 is the centralized reflection. After its establishment in Honghu City, Hubei Province, China, Lantian Co., Ltd. vigorously implemented the "enclosure movement". Under the help of local government, the company carried out requisition of 333. 33

hectares of land by force. After the bankrupt of company, more than 7 000 farmers are jobless and become the laid-off workers. Their production and life get into an extremely difficulty, which causes many contradictions and conflicts<sup>[8]</sup>. Some local leaders have not learned from this event. Grass-roots cadres never consider risks and uncertainties of future market driven by the interests. They sublet a large area of farmers' land to the enterprise or big household for a long period of time. Thus, in the areas of Guangdong, Jiangsu, Zhejiang and so on, land dispute has replaced the problem of farmers' burden and become the main reason of Colony Event in rural areas.

### 3 Protection of the interests of farmers in scale management

**3.1 Implementing a moderate scale management suitable for the situation of China** China has a vast territory. Agricultural production conditions are different among areas, as well as the economic development level, which determines that the forms of moderate scale management are not exactly the same. Therefore, agricultural scale management in China is multilevel and multiform. Due to the unequal distribution of agricultural production factors and the difference in production condition, management scales are not equal in different areas. According to the longitudinal development, agricultural management scale can be divided into primary, intermediate and advanced scales. Primary scale is established based on the agricultural economy of individual peasant household, which already has certain farming machinery, land scale and reproduction capacity. Its economic benefit is basically close to the income level of urban industrial workers. However, intermediate and advanced scales are a management form based on land centralization, which take a certain area of land as the reference, introduce modern production technology and equipment to form a comprehensive industry integrating agriculture, industry and trade. According to the horizontal development, agricultural scale management has the forms of family farm, agricultural specialized cooperative, and joint-stock cooperative economy. Among them, family farm is an existing system based on the household responsibility system. The main links of production operation are finished by the family members with machine. When the management area achieves a reasonable cluster structure, it is suitable to establish cash crop growing areas with intensive labor forces. The forms of agricultural specialized cooperative and joint-stock cooperative economy are the necessary products when city economy develops to the certain phases. Cooperative management can turn the dispersed family contract management into the intensive management or scale management. Thus, cooperation of rural economy is realized based on specialization division; and scale management will bring scale benefit. The scattered and potential factors of production are changed into centralized, optimized and real productivity in order to obtain centralized capital, manpower and material resources, to promote the development export-oriented economy and leading industry. Therefore, scale management can not be achieved simply by the concentration of

land. China should learn from the experiences of America, respect the subject position of farmers, and protect the interests of farmers during the process of agricultural modernization. During implementing specialized cooperation and industrialization management and offering agricultural social service, government should respect the willingness and the subject position of farmers, protect the economic interests of farmers, ensure their income increase, establish a benefit mechanism with mutual benefits, and take the road of agricultural scale management with Chinese characteristics.

**3.2 Establishing a fair and reasonable benefit affiliating mechanism among peasant household, cooperative and leading enterprise** An important aspect to improve the socialist production relations in agriculture is to develop the vertical integration of cooperatives and to enhance the organization degree for farmers' entering the market. The most primary purpose of establishing the cooperative indicates that members are at the central position in cooperative organization and that the starting point and the fundamental purpose of all activities are to meet the needs of members and to improve the service level for members. At present, China is implementing the management mode of mainly household contract responsibility system. Farmers are a relatively weak group in market economy. Only when farmers are united in the production, processing, marketing and so on, can they change the production mode, improve the quality of products, bring into play the technological advantage, turn the specialized production into reality, and change the individual inferiority into group superiority.

Company is an important contract connection form joining the farmer and market. Farmers improve the technology content of their products, expand the sales channels and ensure their income through order agriculture, contract connection form, or other organization forms. Through their transactions with enterprises, farmers have obtained technology, have improved the value of their products, and have learned how to make their products meet the market demand, and how to follow the rules of market. At the same time, the social responsibility of an enterprise is improved. The enterprise has established a relatively equal partnership with the farmer, has protected the interests of farmers, has helped the development of local community when obtaining economic benefits. Thus, a win-win situation is formed<sup>[9]</sup>. When realizing the interest linkage mechanism of the farmer, cooperative and enterprise, we should fully exert the function of democratic management of cooperative, improve the democratic institutions, enhance the self-responsibility of farmers, stimulate the enthusiasm of farmers to develop cooperative economy, and increase the strength of cooperatives. During the development of cooperative, China should learn from the experiences of Japanese agricultural cooperative, and avoid the changes in the property under the control of big household and enterprise, which poses a threat to the interests of farmers.

**3.3 Strengthening the subsidies for farmers** At the period of Roosevelt's New Deal in the 1930s, the America offered strong support for agricultural development and farmers' in-

come, carried out infrastructure construction in agricultural areas, promoted the popularization of agricultural technology and research results, and provided agricultural credit and insurance service for agricultural products. At the same time, government established Agricultural Credit Corporation, implemented agricultural price support program, prevented the sharply fall of agricultural prices, encouraged exports and restricted imports, and helped the farmer to expand domestic and international markets. Since the 1980s, Japanese government has granted financial subsidies for agriculture at about 4 trillion Japanese yen. Agricultural budget in the year 1985 accounted for 5.1% of the total budget expenditure of government and 22.8% of the gross agricultural output value. In recent years, China has increased agricultural support and subsidy, but agricultural infrastructure is still outdated due to historical reasons. Therefore, Chinese government must firstly take measures to support the infrastructure construction of agriculture, to improve the varieties of crops, and to promote the development of agricultural mechanization and agricultural science and technology. Secondly, government should establish risk prevention mechanism for agriculture, set up agricultural insurance system and agricultural credit system to guard against various types of natural disasters and market risks, and make sure the specific measures are fully implemented when raising subsidies for farmers. Therefore, governments at all levels should strengthen the supervision and management in order to bring more tangible benefits for the people during the implementation of subsidy.

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