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Marx's Agricultural Intensive Management Thought and Its Guiding Significance

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Abstract Through analyzing Marx's agricultural intensive management thought, this paper points out that the existence and development of agricultural management mode experience historical course and the development of agricultural intensification depends on many objective conditions. On the basis of this, it discusses the guiding significance of Marx's agricultural intensive management thought to China's agricultural development. It is required to fully realize basic current situations of China's agriculture, widely popularize agricultural mechanization and electrification, speed up artificial transformation of soil structure, promote chemical application of agriculture, make rational use of water resource, and spread improved seeds.
Key words Marx's thought; Agricultural intensification; Level of intensification of agriculture

Agricultural intensive management is a management mode of intensive cultivation to increase gross agricultural products by investing intensively more means of labour and labour hours in a certain area of land, and using new technology and management methods. It is not only the inevitable trend and advanced form of agriculture development, but also the unique path and basic road for agricultural development. China has a large population but very limited average arable area per capita. This special national condition determines that the development of China must depend on intensive management to improve land productivity. Therefore, increasing the level of agricultural management is of great significance to acceleration of the agricultural modernization and even the development of the entire national economy.

1 Marx's agricultural intensive management thought

1.1 The existence and development of agricultural management is a historical course Firstly, agricultural production has two development modes, namely, extensive management and intensive management. Marx stated that " in economics, the intensive farming refers that capital is centralized on the same piece of land, rather than scattered on several pieces of adjacent land. "[1] Secondly, the development of those two agricultural management modes was directly related to the social production mode. Before agriculture became a capitalistic mode of production, people used to adopt the extensive management mode for the following reasons: the land area for extensive farming was very large; means and science for using social productive forces were insufficient; and the population in the society was small, which means limited demands for agricultural products. " As long as the climate conditions were not so bad, the newly reclaimed lands, which were never cultivated before and were relatively not so fertile, had accumulated lots of soluble plant nutrition at least on the surface soil, so that people can reap for a long time with just extensive cultivation and without use of fertilizer. "[1] Finally, agricultural extensive management would disappear gradually. With the change of natural conditions and population, as well as the development of science and technology, the possibility of agricultural extensive management would not exist forever, and would disappear gradually. Under the condition of capitalistic mode of production, agriculture managers, subject to law of surplus value and law of competition, began to put in money in improving soil conditions, use agricultural machines, construct irrigation and drainage projects, fertilize and implement a rotation system, so agricultural production gradually abandoned extensive management and developed towards intensive management, which finally became the main mode. It is thus clear that extensive management of agricultural production is a primitive backward agricultural management mode, while intensive management of agricultural production is the inevitable trend and advanced form for agricultural production.

1.2 The development of agricultural intensification depends on many objective conditions

1.2.1 Limited arable lands. The land area available for reclaiming is limited in any country, and with development of population and every cause, arable land area per capita will also decrease gradually. Limited arable land determines that agricultural development can not mainly depend on enlarging arable land area, but should depend on intensive management to increase land productivity, just as Marx pointed out " what plays the decisive role here is not the quality but the quantity of land. "[1]

1.2.2 Fixed location of land. Arable land in any country is regional and scattered, which is an unchangeable objective fact. No matter what effect does land location produce on land income, land can not be moved and centralized at random, but only can be changed through improving means of transportation. Based on this attribute of land, land income only can be

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increased by increasing investment and labor hours, and improving production and transportation conditions.

1.2.3 Changeability of land fertility. There are two kinds of land fertility: natural fertility and artificial fertility. Natural fertility is the natural attribute of land itself, which depends on physical, chemical and biological natures of land, so it is extremely limited. Artificial fertility is decided by social economic conditions and enhanced by human. Just as Marx said " the advantage of land is that continuous investment can bring benefits rather than make previous investment useless. "[1] As long as people continue increasing investment and labor hour, the land fertility and agricultural products yield can be improved. Changeability of land fertility provides objective possibility for agricultural intensification.

1.2.4 Agricultural intensive management is bound to be restricted by social relations of production. To fully realize agricultural intensive management, investment and labour hours should be increased continuously, which is bound to encounter many obstacles in the capitalist system. The capitalist private ownership of means of productions decides that the goal of capitalist production is to gain maximum surplus value, so that capitalist agricultural intensification can only develop under the precondition of ensuring maximum profits for agricultural capitalists. Otherwise, agricultural capitalists would never increase investment and labor hours. Meanwhile, during agricultural crisis, agricultural capitalists were bound to layoff workers, reduce farming land areas and improve quality of partial lands so as to gain profits through this kind of predatory management. In this case, not only the agricultural productivity itself was destroyed, but also the maintaining and improving of land fertility was greatly restricted, just as Marx stated " any progress of capitalist agriculture is not only progress of the trick of robbing laborers, but also progress of the trick of robbing lands. In a certain period, any progress of improving land fertility is also the progress of destroying the lasting source of land fertility. "[2] On the contrary, under socialist system, where state ownership and collective ownership by working people has been established for agriculture, and a series of preferential policies for speeding up agricultural development has been made by the government, agricultural intensive management has been provided with very favorable objective conditions. By taking a wide view of the development course of agriculture in China, it can be seen that intensive management is the fundamental way of agricultural development in China.

2 Guiding significance of Marx's agricultural intensive management thought to agriculture in China

2.1 Fully realizing basic current situations of agriculture in China Basic current situations of agriculture in China are as follows: firstly, small arable land area per capita; secondly, backward technology and equipment; thirdly, lack of development capitals; fourthly, low scientific farming level; and finally, low unit yield of crop. Based on these present situations, for the development of agriculture in China we must adhere to a series of policies made by the state government, follow natural and economic laws, increase continuously science and technology input, improve gradually the infrastructure and technology conditions of agricultural production, enhance knowledge and skill levels of agricultural producers and provide effective prerequisites for agricultural intensive management in China.

2.2 Vigorously promoting agricultural mechanization and electrification Marx pointed out that " the progress of agriculture itself is always reflected as the relative increase of the constant capital part as compared with the variable capital part. "[1] Modern agricultural technology and equipment is the fundamental guarantee for increasing agricultural productivity. Since the founding of the People's Republic of China, the equipment level of agricultural mechanization and electrification has increased greatly, but on the whole, there is still a very large space for development. In future, the following work of agricultural mechanization and electrification should be carried out actively as necessary and to the greatest extent possible. First, make a priority of realization of agricultural mechanization and electrification for those urgently needed regions and sections, better conditions and significant increase of productivity. Second, accelerate research and development of small and medium-sized agricultural machines and tools urgently needed in the countryside, improve the quality of small and medium sized machines and tools, and ensure their supply. Third, develop vigorously small hydro power in rural regions where conditions permit to improve the power supply in the countryside.

2.3 Accelerating artificial transformation of soil structures Marx pointed out that " Carrying out artificial transformation of soil structures, or even just changing farming methods could have the same effect. "[1] Practice has proven that agricultural productivity depends much on soil quality and fertility level. In China, not only the arable lands are limited, but also saline-alkali land, red soil and slop land account for large proportion. In addition, there is relatively a great quantity of low yield farmlands. Therefore, in addition to cherishing and making rational use of lands, transforming of various poor quality lands must be carried out to increase yield per unit area.

2.4 Promoting actively the development of chemical application of agriculture Marx pointed out that " on various pieces of land with the same natural fertility, to what extent the natural fertility can be utilized depends on development of agricultural chemistry on the one hand, and on development of agricultural machinery on the other hand. "[1] Chemical application of agriculture includes using chemical fertilizer, chemical herbicides and chemical drugs for preventing and treating agricultural pests. Chemical application of agriculture can not only increase the artificial fertility of soil, but also cause great progress of agricultural cultivation technology, and thus increase land productivity. Statistics shows that half of the agriculture increasing amount is obtained through using fertilizer. At present, the production of fertilizer and agricultural chemicals is far from meeting the demands of agricultural development, and the production scale should be expanded. Meanwhile, composition of

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agricultural catastrophe vulnerability in Sichuan Province is high, so the compensation of agricultural catastrophe risk fund for losses arising from agricultural catastrophe risk in Sichuan Province should be higher than that in developed eastern coastal provinces. For the specific products such as rice, they are staple and basic agricultural products, closely related to the national economy and the people's livelihood, making great contribution to agriculture, so once these agricultural products such as rice suffer catastrophe, there will be huge loss, and the agricultural catastrophe vulnerability is high. In summary, in terms of rice in Sichuan Province, agricultural catastrophe risk management should be considered to force farmers to buy insurance, but the premium rate should be reduced, and the government at all levels should bear the major catastrophe losses. When there is over-compensation in the insurance company, the agricultural catastrophe risk fund should bear the part in excess of compensation.

5 Conclusions

Through the establishment of assessment indicator system of agricultural catastrophe vulnerability, we quantify the establishment and operation principles of agricultural catastrophe risk fund to some extent. The assessment scores can be used to judge the degree of enforcing establishment of this type of agricultural products; the assessment scores can also be used to determine the proportion of disaster losses borne by the government, insurance company and peasant households prior to the occurrence of catastrophe, so that the limited agricultural catastrophe risk fund can be used for agricultural losses, needing compensation most, caused by disasters; the efficiency in operation of agricultural catastrophe risk fund is promoted.

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chemical fertilizer should be ameliorated; fertilizer application technology improved; and fertilizer efficiency increased.

2.5 Exploit and utilize water resource rationally Marx pointed out that " capitals can be fixed on lands, that is invested on land, partially for a short term, such as for amelioration of chemical properties, fertilizer application *etc.*, and partially for a long term, such as for building water channels, construction of irrigation projects, land leveling, construction of management buildings, *etc.*"[1] Since national liberation, tens of thousands of large and medium-sized water conservancy projects have been constructed in China, which is of great use for the increase of agricultural production in China. But it must be noted that water resources in China are neither distributed rather unevenly, nor developed and utilized sufficiently and rationally. In some regions, people's production and livelihood are greatly affected by lack of water resources. In order to change the current situation, irrigation and drainage projects should be vigorously constructed to improve land productivity and agricultural economical benefits. Meanwhile, farmland water conservancy construction must be carried out to improve irrigation conditions and methods, and water must be used scientifically to improve utilization rate of water resources.

2.6 Popularizing improved seeds according to local conditions Increase of intensification level is closely related to using improved seeds and changing farming systems. Experience proves that economical benefits can be greatly increased by adopting improved seeds, reasonable rotation, appropriately enlarging multiple-cropping area. Therefore, improved seeds must be cultivated and popularized, and multiple-cropping area appropriately enlarged, to obtain more agricultural products from nature.

3 Conclusion

Marx's agricultural intensification thought is a historical evolution process to transform traditional agricultural production methods into modern scientific production methods under the guidance of sustainable Scientific Outlook on Development. Based on the characteristics of agricultural industrialization management, it is an organization form of large-scale socialized production, an innovation of agricultural management mode and organization system, an operating mechanism based on the mutual benefits of all participants in agricultural industrialization management. Therefore, Marx's agricultural intensive management thought is of great practical guiding significance to agriculture in China.

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