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Major Grain Growers in Jiaojiang District, Taizhou City

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Abstract Based on the survey data of major grain growers in Jiaojiang District, we make a thorough inquiry into the current situation and various problems concerning major grain growers in this district, explore the factors that affect major grain growers' operation behavior, and set forth corresponding countermeasures for solving these problems and promoting further development.

Key words Major grain growers, Current situation, Development, Countermeasures

In recent years, with the implementation of the national policy of providing support to agriculture and benefiting farmers, the production enthusiasm of farmers in this district has been improved significantly. But with China's market economic development, the disadvantage of decentralized management also looms large, and the urban-rural income gap widens quickly. The rapid development of the city has attracted a large number of farmers who become migrant workers in droves. So in rural areas, the land is even abandoned and farmers' income is increasingly meagre. The emergence of major grain growers effectively alleviates this situation, who are generally "capable" in farming and management. It not only subjectively improves their own income, but also objectively frees a large number of farmers from the land, which contributes to the formation of multi-win situation of the state, farmers and major grain growers. In order to research the status, role and problems on major grain growers, we conduct a sampling survey of major grain growers in Jiaojiang District using questionnaires. Taking the operation status of major grain growers in the period 2008–2010 as the study object, we survey the age, education level, scale of operation and efficiency of household head, analyze the factors that affect major grain growers' operation behavior, and put forward the corresponding countermeasures and suggestions for further development.

1 Current situation of major grain growers in Jiaojiang District

1.1 Overall situation of major grain growers in Jiaojiang District In 2008, there were about 209 major grain growers with the planting scale above 1.33 hm² in Jiaojiang District; in 2009, there were about 243 major grain growers with the planting scale above 1.33 hm² in Jiaojiang District; there were a total of 231 major grain growers with the planting scale above 1.33 hm² in Jiaojiang District (Fig. 1). The area of land contracted or transferred was 1 068.2 hm², and the grain cropping area was 1 172.7 hm² in

2008, accounting for 15% of the entire region's grain cropping area; there were 23 major grain growers with planting scale above 6.67 hm², and 3 with cropping area of over 66.67 hm². In 2009, the area of land transferred experienced an increase of 94.5% over 2008; the multiple cropping area was 2.12 times that in 2008, 26 major grain growers of over 6.67 hm² and 2 of over 66.67 hm². In 2010, there were 231 major grain growers with the planting scale of over 1.33 hm²; the area of land contracted and transferred was 2 126.8 hm² and grain cropping area was 2782.5 hm², accounting for 39.5% of the entire region's grain cropping area (224.67 hm² of wheat and barley, accounting for 100 %; 569.73 hm² of rice, accounting for 98%. We see that the number of major grain growers shows an increasing trend and the food cropping index has increased annually (Fig. 2).

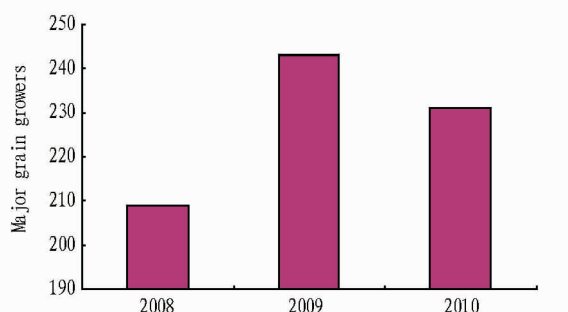


Fig. 1 Survey of the number of major grain growers with the planting scale of over 1.33 hm² in Jiaojiang District during the period 2008–2010

1.2 Major grain growers' land operation In 2010, there were 50 major grain growers with the operated land area of over 6.67 hm² in Jiaojiang District, a total of 1 085.21 hm² of land operated by them; the multiple cropping area was 1 571.24 hm², the output of food crops was 8 445 tons, and the annual grain income was 21.955 million yuan, but the cost reached 21.352 million yuan. Costs accounted for 97.2% of total income. For example, Liu Buling, a major grain grower, operated 44.33 hm² of land in 2010, with 69 hm² of grain cropping area, 378.5 tons of total output and 1.019 1 million yuan of annual income, but the cost was 1.000 2 million yuan, accounting for 98.1% of Liu Buling's an-

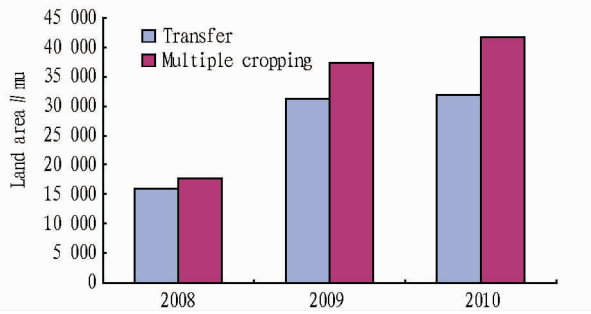


Fig. 2 The area of land transferred and multiple cropping area in Jiaojiang District during the period 2008–2010

nual income. It can be seen that the cost is universally too high and the input-output ratio is unbalanced in this district.

1.3 Statistics of education level and age of major grain growers To fully understand the age and education level of major grain growers in Jiaojiang District, we take 231 major grain growers with the planting scale of over 1.33 hm² in 2010 as samples for survey. There are 6 major growers aged over 70, accounting for 2.5%; there are 35 major growers aged between 65 and 70, accounting for 15.2%; there are 112 major growers aged between 60 and 65, accounting for 48.5%; there are 68 major growers aged between 50 and 60, accounting for 29.4%; there are 10 major growers aged below 50, accounting for 4.3% (Fig. 3). We can clearly know that most of the major grain growers aged 50 to 65 have accumulated rich knowledge and experience of the agricultural production.

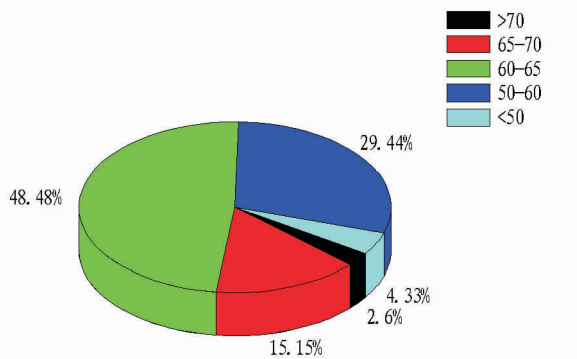


Fig. 3 Age composition of major grain growers in Jiaojiang District

In the process of survey, we found that there were 42 illiterate major grain growers, 142 with primary school education level (the vast majority), 37 with junior high school education level and 10 with senior high school education level (Fig. 4).

1.4 Major grain growers' input costs analysis In 2010, the input costs of 50 major grain growers with the planting scale of over 6.67 hm² were 21.352 million yuan, accounting for 97.2% of the total income (97.5% in 2009 and 96% in 2008). The high costs have been, to a certain extent, affected the enthusiasm for growing grain, which is the main reason for constrained development of food production. If the input-output ratio imbalances are not addressed timely and effectively, it will bring extremely nega-

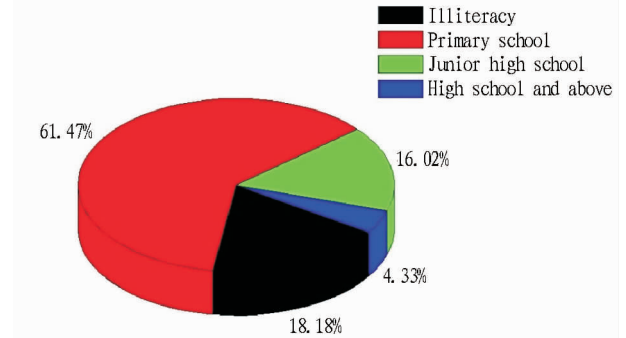


Fig. 4 Education level of major grain growers in Jiaojiang District

tive impact on food production. Taking Wang Qingyou's costs for example (Fig. 5), in 2010, his farmland rental cost was 209 700 yuan; labor cost was 288 000 yuan; the cost of means of agricultural production (pesticides and fertilizers) was 237 700 yuan; the cost of agricultural machinery operation was 106 000 yuan; grain drying cost was 79 000 yuan. His income in 2010 was 945 900 yuan, and the total costs were 920 400 yuan, accounting for 97.3%.

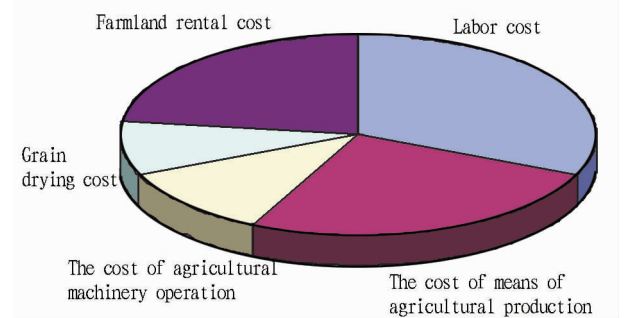


Fig. 5 The major grain grower Wang Qingyou's costs

Fig. 5 shows that labor costs, the cost of means of agricultural production and farmland rental cost are the top three costs, accounting for most of the costs, while the cost of agricultural machinery operation occupies a small proportion, in stark contrast with the labor costs, indicating that the low level of agricultural mechanization will inevitably lead to high labor costs.

1.5 The application of advanced agricultural technology in the process of planting Major grain growers in Jiaojiang District also apply and adopt advanced agricultural technology in the process of planting, to increase food production capacity, such as using fine varieties, high yield cultivation technique, pest and disease control. The application of these techniques to some extent, improves the grain production capacity.

1.6 Subsidies and incentives for growing grain The implementation of national policy of supporting agriculture and benefiting farmers has played a positive role in promoting the region's grain production, improving the enthusiasm of major grain growers, and enhancing their confidence to act as the main force of the rural economy. The major grain grower Yang Dengcong got net income of 519 700 yuan in 2010, including subsidy for growing grain

as high as 308 700 yuan. The results show clearly that the national policy of supporting agriculture and benefiting farmers with the grain subsidy as the main means, has effectively alleviated the contradictions between high production costs and low incomes, and also improved farmers' enthusiasm for growing grain.

2 Problems in the process of development of major grain growers in Jiaojiang District

2.1 Too high production costs For major grain growers, the primary factor responsible for high production costs is the labor costs. Although this makes significant contribution to solving the rural surplus labor force, it also causes tremendous pressure to the major grain growers. The second factor is the high farmland rental cost. The farmland rental cost will not vary too much in the short term, which is the cost the major grain growers must pay. If we want to curtail the spending, there is no choice but to increase the productive capacity of land and relatively decline the rental cost^[1]. The third factor is too high cost of means of agricultural production. The cost of means of agricultural production includes the cost of agricultural fertilizers and pesticides, but the development of fertilizer industry and pesticide industry is not synchronized, which will inevitably cause pressure to the grain production.

2.2 Weak science and technology strength Agricultural science and technology is important support to the development of modern agriculture, high-efficiency agriculture, as well as the improvement of the core competitiveness of agriculture. The major grain growers in the region have not yet come out of the stereotype of traditional agriculture to usher in the spring of modern agriculture. This is the main reason for high input and low return. First, the major grain growers' education level is low, and they pay insufficient attention to agricultural science and technology. Second, it lacks grass-roots agricultural science and technology personnel, and the structure, quantity and quality of professional technical personnel are unreasonable. Third, the practical application does not match the actual local situation, and transformation of scientific and technological achievements is not obvious.

2.3 Low level of mechanization The low level of mechanization is the main cause of high labor costs, which not only reduces the efficiency of production, but also increases labor costs. It is an important factor restricting the healthy development of major grain growers. The factors affecting the major grain growers' level of mechanization in this region are as follows: (i) The financial difficulties. Major grain growers, plagued by cost burden, are reluctant to spend too much money on the purchase of advanced farm machinery. (ii) Shortage of technical personnel. The promotion and development of advanced farm machinery is inseparable from the promotion technical staff, but there is a shortage of professional technical personnel in the region, and the existing staff can not assume the important task of using and repairing advanced farm machinery. (iii) Obvious problems in the existing farm machinery. The existing transplanter can not transplant the late hybrid rice.

(iv) The grass-roots farm machinery service institutions still need to be improved.

2.4 Generally low education level and irrational age structure Through the survey, we find that the major grain growers with primary and secondary education level account for 58%. Most of the major grain growers have no good knowledge background, and do not receive professional agricultural knowledge education, which fundamentally restricts the growth and expansion of major grain growers. Age structure is also unreasonable. The major grain growers aged above 50 account for 74%, indicating that the team is aging, lacking follow-up development capacity. Those knowledgeable, skilled and enterprising young people did not actively join the cause of growing grain.

2.5 Weak infrastructure and poor ability of agriculture to resist risks The farmland infrastructure used by major grain growers in the region is in a state of disrepair, with poor ability to withstand natural disasters, and grain cultivation is greatly affected by natural disasters. For example, Yang Dengcong was affected by natural disasters in 2009 which caused economic losses of 400 000 yuan. Most of the irrigation and water conservancy facilities now being used were built 10 years ago or in the last century. They have been in a state of disrepair, increasing the cost of agricultural irrigation, and the number can not meet the needs of major grain growers for water conservancy facilities, making it impossible to get rid of typhoons and storms.

3 Recommendations for solving problems in the process of production and operation for major grain growers

3.1 Establishing the coordination mechanism for the cultivation of major grain growers is important guarantee to tackle tough problems Departments at all levels should raise awareness of the important role of major grain growers, strengthen the leadership over major grain growers, consolidate the functions of agricultural technology service for major grain growers, and establish effective measures and mechanisms for improving the development of major grain growers on the basis of optimizing the environment for agricultural development. The agricultural departments should strengthen research on the actual situation of major grain growers, and improve the system of production technology, agricultural operation and market information service; increase project funding support and strive for the policies of supporting agriculture and benefiting farmers more favorable to major grain growers; implement direct subsidies for growing grain and purchasing agricultural machinery, to improve production and operation conditions for major grain growers. It is necessary to strengthen coordination and communication between many departments, to pave the way for the major grain growers' operation. The price department, commercial and industrial department, and department of quality and technical supervision should strengthen supervision and regulation over the agricultural materials market, and resolutely crack down on fake and shoddy fertilizer, pesticide and other materials,

to maintain the interests of grain growers; strengthen efforts to provide credit preference for major grain growers^[2].

3.2 Continuing to increase government investment is an important means to improve the production capacity of major grain growers From the macro level, government's input to agriculture has an important role in increasing food production for major grain growers. Research has shown that government expenditure on agriculture, basic agricultural building spending, and science and technology funds, play a significant role in boosting food production. The research data show that for each additional 1% of government expenditure on agriculture, the grain yield will increase by 0.405 2% ; for each additional 1% of science and technology expenditure, the grain yield will increase by 4%^[3]. Therefore, the government should continue to increase investment, and pay more attention to optimizing the internal structure of financial support for agriculture.

3.3 Setting up special support funds is the major way to protect major grain growers' enthusiasm for production

Some places issue a series of incentive and subsidy policies to encourage the development of major grain growers, and the effect is very obvious. The experience is worth thinking and learning. But since food production is a welfare problem in a large measure, the government should play a major role in this problem. When faced with financial difficulties, the financial department should set up special projects to solve the source of funds. In addition, we can integrate funds from the comprehensive development of agriculture and water conservancy construction.

3.4 Improving management system is a necessary prerequisite for eliminating the obstacles to major grain growers

There is a large number of major grain growers in the region, and a sound management system plays a very important role in improving the application effect of funds for supporting agriculture. So the responsible departments must meet the two requirements: one is to have sound organizational system, able to extend the feelers to each major grain grower in the region; the other is to have the ability to provide technical support to major grain growers, and guide major grain growers to rationally use subsidy funds. From

the current situation, the agricultural department of the district is an ideal choice. The difficulties facing the development of major grain growers are multifaceted, so one department alone is difficult to address the situation. For example, the production technical services, dry field and warehouse construction, water conservancy infrastructure, field roads, food production and food processing, need many departments to solve^[4], so in the long run it is necessary to establish collaborative mechanisms and institutions, to support the development of major grain growers.

3.5 Increasing the input of science and technology is an effective way to alleviate the too high costs for major grain growers Technological factor scarcity is the main reason for the high cost of food production, and the lack of high-tech agricultural personnel causes high labor costs. If the major grain growers in Jiaojiang District want to free themselves from the costs distress, they must take the road of labor-intensive cultivation and rational fertilization. To do this it is necessary to inject technological factors. The technological factors mainly include two aspects: one is science and technology talents and the other is science and technology. It is necessary to vigorously introduce agricultural science and technology extension talent, rely on science and technology to improve and enhance agricultural production technology, and rely on scientific management to improve and enhance the agricultural management.

References

- [1] CHEN J. Development of the large-scale grain planter; the current situation and solution——based on survey of Anhui Province peasants[J]. Journal of Anhui Agricultural University (Social Science Edition), 2008(4): 4–6. (in Chinese).
- [2] CHEN J, LUO D. The development of the major farmers; their own actions, policies support and market boundary[J]. Reform, 2010,(12): 5–29. (in Chinese).
- [3] YUAN QQ. Analysis on the effect of agriculture-aid investment by government on grain production[J]. Public Finance Research, 2011,(7): 31–33. (in Chinese).
- [4] MENG SH. The development status, problems, support and cultivating policies of Guangxi major farmers[J]. Journal of Guangxi Agriculture, 2010,(1): 76–78. (in Chinese).
- [11] LIU Y. An empirical study on the relationship among entrepreneurial environment, entrepreneurial strategy and entrepreneurial performance[D]. Changchun: Jilin University, 2007. (in Chinese).
- [12] SCHUMPETER J. Capitalism, socialism, and democracy[M]. New York: Harper & Row, 1934.
- [13] ZHANG YL. Analysis on the present situation of entrepreneurship research and ascension of achievements in the application process[J]. Foreign Economics and Management, 2010, 32(1): 1–7. (in Chinese).
- [14] BROOKS A. Social entrepreneurship: modern approach to create social value[M]. Translated by LI HJ. Beijing: Machinery Industry Press, 2009. (in Chinese).
- [15] ZHAO GB, MEI Q, WAN W. The empirical study on the relationships between dynamic entrepreneurial environment, entrepreneurial traits and entrepreneurial resources identification—In the perspective of industrial cluster[J]. Science of Science and Management of S&T, 2010(8): 90–98. (in Chinese).
- [16] GRANOVETTER M. The strength of weak ties[J]. American Journal of Sociology, 1973, 78(6): 1360–1380.
- [17] HUANG J, CAI GN, MAI YY. Who has more influence on entrepreneurial opportunity recognition of returning migrant workers: strong links or weak links? [J]. Agriculture Technology Economy, 2010(4): 28–35. (in Chinese).
- [18] GAO J. The global entrepreneurship monitor China report(2007)—business transformation and employment effect[M]. Beijing: Tsinghua University Press, 2008: 12. (in Chinese).
- [19] CHEN WL. An empirical study on encouraging and supporting migrant peasant workers to start business upon returning home[J]. Journal of Northwest A & F University (Social Science Edition), 2010(5): 12–20. (in Chinese).

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