

Measurement of the level of high-quality agricultural development and analysis of spatial differences - An empirical study based on panel data in the Yangtze River Delta region

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Abstract

In the context of China entering the overlapping period of common prosperity and rural revitalization, rural revitalization under the vision of common prosperity is an important practical issue, and improving the utilization rate of agricultural resources is conducive to exploring the optimal path of improving the utilization efficiency of arable land resources, realizing the modernization of agriculture and assisting in rural revitalization. Based on the panel empirical data in the Yangtze River Delta region, this study firstly summarizes the research hotspots and trends of "high-quality development of agriculture" at home and abroad. Secondly, based on the relevant theories, we construct a theoretical framework for measuring the level and spatial differentiation of "high quality of agriculture", which contains "two sides and five basic dimensions". Then, the stata stepwise regression method is used to eliminate highly correlated variables, establish a comprehensive indicator system for measuring the trend of "regional agricultural production system and yield high quality development", and utilize the entropy value method to measure the trend of regional change in the comprehensive agricultural industry. Combining the five basic agricultural dimensions, analyze what factors affect the level of high-quality development of agriculture and spatial distribution differences. Combining the results of the analysis of the factors affecting the level of high-quality development and spatial differences in agriculture, we will draw a conclusion on the sustainable development of agriculture, and provide an appropriate way of operation for the strategy of high-quality integrated development of agriculture in the Yangtze River Delta region.

Keywords

High-quality development, agricultural economy, spatial disparities.

1. Introduction

Since the reform and opening up, China's agricultural economy has achieved leapfrog development, with a substantial increase in agricultural production methods and production capacity, and an increase in grain output from 304.77 million tons in 1978 to 669.49 million tons in 2020, an increase of 2.2 times. Demand for food has changed from "having enough to eat" to "eating well" to "eating healthily and safely", and the goal of the agricultural economy has changed from improving the supply of agricultural products and solving the problem of subsistence to increasing farmers' income and meeting the people's needs for a better life. The goal of the agricultural economy has changed from increasing the supply of agricultural products and solving the problem of subsistence to increasing the income of farmers and meeting the people's needs for a better life, and the future of the agricultural economy will change from increasing production to improving quality and efficiency, and from high speed growth to high quality development. Promoting high-quality development of the agricultural

economy is an inevitable requirement for the development of socialist economy with Chinese characteristics in the new era, which can enhance the agricultural ecological environment, the quality of agricultural and sideline products and the safety of biological resources, and promote the maximization of economic, social and ecological benefits, and permanently benefit mankind. At the same time, it is of great practical significance for improving the international competitiveness of Chinese agriculture, enhancing the influence of China's participation in global agricultural governance, participating in the formulation of the discourse power of the agricultural standard system, and resisting the risk of international agricultural security.

High-quality development is determined by the major social contradictions at the current stage of China's society, and is also an inevitable choice for the implementation of the new development concept, which is in line with the development law of the market economy. High-quality development encompasses economic, political, social, cultural, ecological and other connotations, and the criteria for judging high-quality development not only entail meeting the people's growing needs for betterment in these areas, but also identifying and resolving imbalances and inadequacies in economic and social development, with the measurement criteria involving multiple dimensions of the economy's effectiveness, coherence, innovativeness, continuity and shareability. High-quality development includes high-quality supply, high-quality demand, high-quality allocation, high-quality inputs and outputs, high-quality income distribution and high-quality economic cycles. Relevant scholars believe that high-quality development should not only grasp the driving force of high-quality development, but also tap the prospects and potential of high-quality development, as well as pursuing the process and results of high-quality development, so it is necessary to build a provincial high-quality development indicator system with high-quality economic growth, high-quality innovation and development, high-quality ecological civilization, and high-quality people's livelihood development as its dimensions.

The high-quality development of the agricultural economy has always been of great concern to all walks of life, and many scholars have long been committed to research on the transformation of the development mode of the agricultural economy, the growth model of the agricultural economy, the mechanism for the development of the agricultural economy, the level of modernization of the agricultural economy, and the competitiveness of the agricultural economy. As the economy has entered the stage of high-quality development, the agricultural economy has also entered the stage of high-quality development, the State Council and its various functional departments have introduced a number of supportive policies for high-quality development of agriculture, and some scholars have begun to pay attention to the high-quality development of the agricultural economy, and the results of the research are mainly focused on the connotation and concept of high-quality of the agricultural economy, the dilemmas faced by the dilemma of the realization of the path, the level of measurement and evaluation and other aspects. Liu Tao and other scholars believe that the high-quality development of agriculture needs to implement the new development concept of "innovation, coordination, green, openness and sharing", focus on solving the problem of imbalance and insufficiency of the agricultural economy, and constantly meet the people's needs for a better life. Hao Yifan and Wang Zhenbing believe that the high-quality development of China's agricultural economy is currently facing a series of constraints on the quality and efficiency of agricultural production, such as the over-exploitation of agricultural resources, a single structure of the agricultural industry, the excessive use of agricultural inputs, and weak competitiveness of the agricultural industry. Li Caihua believes that there are contradictory dilemmas in the high-quality development of agriculture between small farmers and large-scale production, high-cost inputs and increased efficiency, weak foundation and rapid development, and chasing high yield and environmental protection. Xia Ying and Ding Shengjun believe that the high-quality development of agriculture focuses on adjusting the agricultural structure,

transforming the agricultural production mode, strengthening the agricultural power, enhancing the agricultural efficiency and effectiveness, improving the quality of agricultural products, optimizing the level of agricultural services, increasing the agricultural supply, and optimizing the agro-ecological environment. Huang Xiujie et al. constructed a high-quality development index system of agriculture that includes product quality, industrial efficiency, production efficiency, operator quality, international competitiveness, farmers' income, and green development. Liu Tao et al. constructed a high-quality development index system of agriculture with the connotation of the level of agricultural innovation, the level of agricultural coordination, the level of agricultural greenness, the level of agricultural openness, and the level of agricultural sharing.

2. Theoretical framework for high-quality agricultural development

2.1. Concept and connotation of high-quality agricultural development

The new development concept is a new requirement for high-quality development in the new era and an evaluation criterion for whether high-quality development has been realized. The process of promoting and realizing high-quality development in agriculture is the process of implementing the new development concept. Therefore, high-quality development in agriculture is the development that embodies the new development concept, the development in which innovation becomes the first driving force, coordination becomes an endogenous feature, green becomes a universal form, openness becomes a necessary path, and sharing becomes the fundamental purpose.

2.2. Current Status and Progress of Domestic and Foreign Research

High-quality development in agriculture has made significant progress in research areas at home and abroad. In the area of precision agricultural technology and digital agriculture, the use of remote sensing, GPS, drones and other technologies in combination with big data and artificial intelligence has achieved precision in farmland management, fertilizer application, irrigation and pest control, improving the efficiency and quality of agricultural production. Agricultural science and technology innovation and research and development have also been emphasized at home and abroad, with gene editing, crop genetic improvement, and pest and disease resistance breeding improving crop quality and resistance, and increasing the yield and quality of agricultural products. In addition, important progress has been made in research on sustainable agriculture, including developments in the fields of organic agriculture, ecological agriculture and recycled agriculture, which have promoted a shift in agricultural production methods towards a more environmentally friendly and sustainable direction. In terms of international cooperation, agricultural technology exchanges and cooperation among different countries have been carried out to jointly explore the path of high-quality development of agriculture, which has promoted the process of sustainable development of global agriculture. Overall, research on high-quality agricultural development has yielded positive results at home and abroad, providing important support for modernizing agriculture, raising farmers' incomes and ensuring food security.

3. Analysis of Agricultural Development in the Yangtze River Delta Region

3.1. Overview of Agricultural Development in the Yangtze River Delta Region

The Yangtze River Delta (YRD) is one of the more economically developed regions in China, with a relatively high level of coordinated urban-rural development. In recent years, agricultural development in the region has shifted from traditional agriculture characterized by extensive operation to modern agriculture characterized by "mechanization, industrialization, branding, scaling, exportation and multi-functionalization", with the content

of agricultural science and technology increasing, high-end and high-quality agricultural products increasing, and new forms of agricultural development, such as urban agriculture, leisure and tourism, emerging, giving a strong impetus to the rural economy of the Yangtze River Delta region. New forms of agricultural development such as urban agriculture and leisure and tourism agriculture have been emerging, which have strongly promoted the development of rural economy in the Yangtze River Delta region. Due to the significant imbalance and differences in economic and social development between the Yangtze River Delta region, the development of modern agriculture in the region inevitably presents different characteristics and problems. To study the development of modern agriculture in the region, it is necessary to first find out the main factors affecting the development of modern agriculture in each region, categorize the development of agriculture in different regions, and then formulate countermeasures for the development of modern agriculture in the region with differences for different categories of regions.

3.2. Analysis of agricultural production efficiency

The efficiency of agricultural development in the YRD region has improved significantly over the past decades. It has provided favorable conditions for agricultural development due to its favorable geographical location, abundant water resources and advanced agricultural infrastructure. The region has focused on agricultural scientific and technological innovation and modernization, and has promoted the transformation of agricultural production methods through the introduction of advanced technology and equipment, which has improved the efficiency of agricultural production and product quality. Meanwhile, the structural adjustment of the agricultural industry has also been emphasized, with the development of industries such as the agricultural product processing industry, agricultural service industry and agricultural tourism to increase the added value of agricultural products. However, challenges still exist in terms of land resource compression, environmental pollution and labor shortage. Therefore, the YRD region needs to further strengthen environmental protection and sustainable agricultural development, and improve the quality and skills of farmers in order to realize the goal of high-quality agricultural development.

3.3. Analysis of innovation and progress in agricultural science and technology

The Yangtze River Delta region has made important achievements in agricultural science and technology innovation and progress. Through increasing R&D inputs and the introduction of technology, the region has continued to promote changes in agricultural production methods and improvements in efficiency. Agricultural S&T innovation has achieved remarkable results in planting, breeding and agricultural product processing. In the planting industry, the YRD region has introduced precision agriculture technologies and digital management systems, which have improved the accuracy and efficiency of farmland management and reduced the use of pesticides and chemical fertilizers. In the farming sector, the introduction of advanced farming technologies and equipment has improved the control of the farming environment and animal feeding and management, thereby enhancing farming efficiency and product quality. In addition, the YRD region has also focused on innovation in agricultural product processing technology, which has improved the added value and market competitiveness of agricultural products. However, there are still problems such as insufficient transformation and application of agricultural science and technology innovations and shortage of scientific and technological talents, and there is a need to strengthen the transformation of scientific and technological achievements and the cultivation of talents, so as to promote the continuous progress of agricultural science and technology innovations, and to provide more support for the high-quality development of agriculture in the Yangtze River Delta region.

4. Agricultural high-quality development level measurement model construction

4.1. Construction of the indicator system

In accordance with the principles of scientific, systematic, operable, comprehensive, and data availability in the design of the indicator system, this paper is guided by the new development concept of "innovation, coordination, greenness, openness, and sharing", and aims at the level of high-quality development of the agricultural economy.

Based on combing and summarizing the domestic and international literature, and drawing on the research bases of Zhang Zhen and Liu Xuemeng, Xin Ling and An Xiaoning, Huang Xiujie, etc., we constructed an indicator system containing five dimensions, namely, the development momentum of the agricultural economy, the optimization of the structure of the agricultural economy, the stability of the agricultural economic system, the green development of the agricultural economy, and the sharing of the welfare of the agricultural economy. The specific measurement basis is shown in Table 1.

Table 1 Indicator system and weight allocation for high-quality development of agricultural economy

Dimensional indicators	Elementary indicators	Basic indicators	Measurement methods	causality	weights
agrarian economy Development Dynamics	Efficiency gains	Agricultural output rate	Value added of agriculture, forestry and fisheries/total output of agriculture, forestry and fisheries	greater than zero	0.0275
		capital productivity	Gross value of agriculture, forestry and fisheries/investment in agriculture, forestry and fisheries	greater than zero	0.0544
		labor productivity	Gross value of agriculture, forestry, livestock and fisheries/rural workers	greater than zero	0.0847
	Agricultural drive	Intensity of agricultural mechanization	Value added of agriculture, forestry and fisheries/gross power of agricultural machinery	greater than zero	0.0536
		Level of agricultural mechanization	Share of machine plowing x 0.4 + share of machine sowing x 0.3 + share of machine harvesting x 0.3	greater than zero	0.0488
		Irrigated agriculture rate	Irrigated agricultural area/cultivated area	greater than zero	0.0813
agrarian economy Structural optimization	industrial structure	Agricultural industry structural adjustment index	1 - (Gross value of agricultural output/gross value of agricultural, forestry, livestock and fishery output)	greater than zero	0.0327
		Food output rate	Grain production/area sown with grain	greater than zero	0.0438
		Share of food industry	Area sown in grain/total area sown in crops	greater than zero	0.0440
	investment structure	Share of investment in agriculture, forestry and fisheries	Investment in agriculture, forestry and fisheries/rural fixed investment	greater than zero	0.0758
	employment structure	Share of employment in agriculture, forestry and fisheries	Employment in agriculture, forestry and fisheries/rural workers	turn one's back on	0.0058
Price stability	Stabilization of retail prices of rural commodities	Absolute value of (Rural Retail Price Index - 100)	carry (on one's back)	0.0321	

agrarian economy	System Stability	Stabilization of consumer prices in rural areas	Absolute value of (rural consumer price index - 100)	carry (on one's back)	0.0207
		Stabilization of prices of agricultural means of production	Absolute value of (AGPI-100)	carry (on one's back)	0.0055
		Stabilization of agricultural producer prices	Absolute value of (agricultural producer price index - 100)	turn one's back on	0.0227
agrarian economy Green development	Agricultural consumption	Fertilizer consumption per unit	Effective use of fertilizers/gross output value of agriculture, forestry, livestock and fisheries	turn one's back on	0.0192
		Pesticide consumption per unit	Pesticide use/gross output value of agriculture, forestry, animal husbandry and fisheries	carry (on one's back)	0.0123
		Unit consumption of plastic film	Plastic film use/gross value of agricultural, forestry, livestock and fishery production	carry (on one's back)	0.0115
		Diesel consumption per unit of output	Diesel use/gross value of agricultural, forestry, livestock and fisheries production	carry (on one's back)	0.0185
	soil and water management	Soil erosion control	Soil erosion control area/cultivated land area	greater than zero	0.0637
	environmental protection	Rural latrine penetration rate	Rural latrine penetration rate	greater than zero	0.0226
agrarian economy Welfare sharing	Welfare improvements	Gross value of agricultural, forestry, livestock and fishery production per capita	Gross value of agricultural, forestry, livestock and fisheries production/rural population	greater than zero	0.0475
		Per capita housing costs	Housing investment/rural population	greater than zero	0.0404
		Number of medical personnel per capita	Number of rural doctors and health workers/rural personnel	greater than zero	0.0386
		Health beds per 1,000 rural population	Average number of health beds per 1,000 rural population	greater than zero	0.0274
	Distribution of results	Engel's coefficient	Engel's coefficient	turn one's back on	0.0112
		Per capita disposable income	Rural disposable income per capita	greater than zero	0.0535

4.2. Dynamics of Agricultural Economic Development

Changes in the dynamics of agricultural economic development tend to promote higher agricultural economic efficiency, and high-quality development emphasizes efficiency change and dynamics change. Therefore, this paper selects three indicators of agricultural output rate, capital productivity and labor productivity to examine efficiency improvement. Agricultural drive is the fundamental driving force for high-quality agricultural development, and the three indicators of agricultural mechanization intensity, agricultural mechanization level and agricultural irrigation rate are selected to measure agricultural drive.

4.3. Optimization of the structure of the agricultural economy

The high-quality development of the agricultural economy needs to break the thinking that the planting industry is the mainstay of the economy, accelerate the adjustment of the industrial structure, expand the level of industrial extension, and continuously optimize the industrial

structure, investment structure and employment structure of agriculture. Agricultural industrial structure is the continuous evolution of agricultural low value-added industries to high value-added industries. In addition, General Secretary Xi Jinping has repeatedly emphasized that the material basis for guaranteeing food security is "hiding food on the ground and food in technology" during his visits to various places, and has designated 1.8 billion mu of arable land as the red line and 1.55 billion mu of permanent basic farmland. Therefore, this paper selects the structural adjustment index of agricultural industry, the proportion of food industry and food output rate to measure. The investment structure reflects the continuous flow of capital to the basic industry of agriculture, so the proportion of investment in agriculture, forestry, animal husbandry and fishery is chosen to measure it; the employment structure is closely related to the structure of agricultural industry and investment structure, and with the improvement of the industrial structure and investment structure, the employment structure of agriculture is also optimized, so the proportion of employment in agriculture, forestry, animal husbandry and fishery is chosen to measure it.

4.4. Stabilization of the agricultural economic system

The stability of the agricultural economic system means that the production, consumption and retail sales of agriculture continue to operate in a reasonable range, avoiding sharp fluctuations and enabling the agricultural economy to realize the trend of steady progress and improvement, and that a rise in the index of retail prices for rural commodities and the index of consumer prices for rural residents will cause the prices of the means of agricultural production and agricultural products to rise, bringing about inflationary pressures. Therefore, rural retail commodity price stability, rural consumer price stability, agricultural means of production price stability and agricultural commodity producer price stability were selected to be measured.

4.5. Greening of the agricultural economy

The greening of the agricultural economy reflects the health of the agricultural economy and has a bearing on the sustainability of a country's and region's agricultural development. The stage of high-quality development must not be allowed at the expense of land and environmental resources, and more attention needs to be paid to resource consumption, energy consumption, soil and water erosion control and environmental protection in the process of agricultural production. Therefore, this paper selects agricultural consumption, soil and water management and environmental protection to measure. Agricultural consumption is measured by four indicators: fertilizer consumption per unit, pesticide consumption per unit, plastic film consumption per unit and diesel consumption per unit of production value. Soil and water management is conducive to the protection of agricultural arable land area, so soil erosion control is selected to measure. Environmental protection selects the alternative indicator rural toilet penetration rate to measure, on the one hand, the manure stored in farmers' toilet cesspools for farmers to grow vegetables and grain is the most important source of fertilizer for land fragmentation, which can save the cost of planting and fertilizing, and promote farmers' self-sufficiency of smallholder economy; on the other hand, fertilizing with human manure is less damaging to the land, and the output of vegetables and grains are green food, which has certain economic and Social benefits.

4.6. Sharing of agricultural economic benefits

The development of the agricultural economy has contributed to the improvement of all kinds of welfare for farmers, not only increasing their incomes and contributing to the improvement of their living standards, but also effectively guaranteeing medical care and housing, making people's lives happier and more convenient. High-quality development of agriculture emphasizes people-centeredness, and the results advocate benefiting all farmers and

enhancing people's sense of happiness, security and satisfaction. Therefore, two aspects of welfare improvement and distribution of results are selected for examination, with welfare improvement measured by the gross output value of agriculture, forestry, animal husbandry and fisheries per capita, per capita housing expenditure, per capita number of medical personnel, and the number of sanitary beds per 1,000 rural population; and the distribution of results is measured by the Engel coefficient and per capita disposable income.

5. Results and analysis of the measurement of the level of high-quality development of agriculture

The agricultural high-quality development level of 40 cities (except Zhoushan) in the Yangtze River Delta region from 2010 to 2018 was measured using factor analysis, and the results with the 2019 measurements formed a municipal panel data with a 10-year span. Based on ArcGIS software, the distribution of the agricultural high-quality development level of cities in the Yangtze River Delta region in the representative years (2010, 2013, 2016 and 2019) was mapped, as shown in Figure 1.

As can be seen from Figure 1, the overall trend of the level of high-quality development of agriculture in the cities of the Yangtze River Delta region from 2010 to 2019 has gradually improved. In 2010, the value of the level of high-quality development of agriculture in the Yangtze River Delta region ranged from 0.45 to 0.6 in Shanghai, Wuxi and Ningbo, and between 0.3 and 0.45 in Hefei, Maanshan, Huangshan, Changzhou, Suzhou, Jiaxing, Huzhou, Hangzhou and Taizhou, with the remaining 28 cities below 0.3. In 2013, the level of high-quality agricultural development ranged from 0.6 to 0.75 in Ningbo, with a significant rate of improvement, and from 0.45 to 0.6 in Shanghai, Wuxi, Suzhou, Huzhou, Hangzhou, and Taizhou, with 21 cities between 0.3 and 0.45, while the number of cities below 0.3 dropped to 12. In 2016, the value of the level of high-quality development of agriculture was between 0.6 and 0.75 in Shanghai, Wuxi, Ningbo and Suzhou, between 0.45 and 0.6 in 10 cities, between 0.3 and 0.45 in 17 cities, and below 0.3 down to 9 cities. By 2019, Ningbo's index further improves and exceeds 0.75, and the cities with values between 0.6 and 0.75 include Wuxi, Suzhou, and Yangzhou, with 7 between 0.45 and 0.6, 18 between 0.3 and 0.45, and 8 remaining below 0.3. This indicates a steady growth in the level of high-quality agricultural development in the cities of the Yangtze River Delta region.

6. Analysis of Spatial Differences in High-Quality Agricultural Development among Cities in the Yangtze River Delta Region

6.1. Comparative economic efficiency and stability in agriculture

According to the data, there is a large gap between cities in the dimension of agricultural economic efficiency. On a regional scale, cities in the Zhejiang and Jiangsu regions are at the forefront, Shanghai is in the middle, and most cities in the Anhui region are relatively far behind. The level of economic development in the Jiangsu and Zhejiang regions is higher and less volatile, and economic development drives agricultural development, and the labor and land output efficiencies in the Jiangsu and Zhejiang regions are relatively high, so the level of agricultural production is relatively stable. In Anhui region, the number of people engaged in agriculture is larger, and the agricultural land is wide, but the growth of agriculture is slower. Therefore, cities in Anhui region should improve the overall economic vitality and stimulate the development of the agricultural economy so that agriculture can develop in high quality and quantity.

6.2. Comparison of the structure of the agricultural economy

As can be seen from the survey data, the top three cities are Taizhou, Suzhou and Nantong, and the bottom three are Lishui, Huaian and Bozhou. Among them, more cities in Jiangsu and Zhejiang are located at the top, indicating that farmers in Jiangsu and Zhejiang pay more attention to economic returns and will actively choose to plant cash crops, and coastal cities in Jiangsu and Zhejiang are able to develop the fishery industry, which balances the proportion of agriculture, forestry, animal husbandry and fishery in the economic structure, and thus the industrial structure of agriculture, forestry, animal husbandry and fishery is relatively reasonable. Therefore, cities with a less balanced agricultural economic structure should rationally adjust their agricultural economic structure and develop in a balanced way according to the actual local social, economic and natural conditions.

6.3. Comparison of agricultural green production leadership

As can be seen from the data, the top three cities are Bozhou, Nanjing and Fuyang, while the bottom three are Lianyungang, Huainan and Shanghai. The analysis suggests that Bozhou and other cities lead because the primary industry consumes less energy and water, and the average use of pesticides and fertilizers is very low, so the green production index for agriculture is higher. In Shanghai, the secondary and tertiary industries are developed, the level of mechanization is high, and the agricultural land is small, the average agricultural energy and water consumption is high, and farmers pursue high agricultural yields, which makes the use of fertilizers, pesticides and other agrochemicals high, resulting in a lower agricultural green production leading index in Shanghai. Therefore, cities with a low level of green agricultural production index should adjust their direction to realize the transformation and upgrading of agricultural production methods and reduce the harm caused to the natural environment during agricultural production.

7. Conclusions and recommendations

The results of measuring the level of high-quality development of agriculture in the Yangtze River Delta region show that: 1) from the point of view of regional distribution, the level of high-quality development of agriculture in Jiangsu Province, Zhejiang Province and Shanghai Municipality is relatively leading, and Anhui Province is in a lagging behind; 2) from the point of view of the temporal evolution of the level of high-quality development, the overall trend of the level of high-quality development of agriculture in the cities of the Yangtze River Delta region has been gradually improving; 3) from the indicators of the level of high-quality development of agriculture dimension, the indexes of agricultural economic efficiency and stability, agricultural economic structure, agricultural green production leadership, and agricultural health and sustainable development level are all in a gradual growth trend.

Based on the evolution of the level of high-quality development of agriculture in the Yangtze River Delta region, the following suggestions are put forward to enhance the level of high-quality development of agriculture in the Yangtze River Delta region: First, stabilize the growth trend of the agricultural economy, the government should correctly guide the transfer of surplus rural labor, and focus on accelerating the pace of modernization of agriculture and industrialization, so as to make the agricultural sector stable and sustainable output. The second is to optimize the structure of the agricultural economy and the coordinated development of various industries. By promoting structural reform on the supply side of agriculture, while keeping the sown area of grain stable, it should increase support for the forestry, animal husbandry and fishery industries; reasonably increase the sown area of cash crops and improve the diversification of agricultural products. Thirdly, we will improve local laws and policies on agro-ecological environmental protection, further increase the utilization

rate of resources, continue to promote the reduction and efficiency of chemical fertilizers and pesticides, popularize green prevention and control products and technologies to reduce damage to the soil, increase support for green industries, and do a good job of publicity and education to help farmers establish the concept of sustainable development. The fourth is to pay attention to the importance of science and technology for agricultural progress, increase investment in agricultural science and technology, and make financial preparations for sustained investment in guiding and accelerating the process of industrialization and mechanization of modern agriculture.

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