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Impact of Rural fixed assets investment on Agricultural Economic Growth and Farmers' Income: Evidence from agriculture in China

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Abstract

As one of the "troikas" to promote agricultural economic growth, rural fixed assets investment plays an important role in increasing farmers' income and promoting rural economic development. This article selects agricultural data from various provinces in China during the 13th Five Year Plan period from 2016 to 2020 as the research object. Construct an agricultural economic performance evaluation system and calculate the comprehensive performance score through factor analysis. Then, on this basis, the panel is established to verify the impact of rural fixed assets investment on agricultural economic performance and farmers' income through multiple regression. The results show the use of pesticides and regional economic differences hurt the improvement of agricultural economic benefits and the increase of farmers' income. Therefore, we should strengthen the overall management and structural optimization of rural fixed assets investment, accelerate rural economic development, and improve the income level of farmers.

Keywords: *Rural fixed assets investment; Agricultural economic performance; Farmers' income.*

Introduction

Improving the income level of farmers is an essential issue in rural governance and development. However, in recent years, the Chinese economy has begun to decline due to the slowdown in global economic growth, and the growth rate of farmers' income has slowed (Wei, Luo, Xia, & Zeng, 2023). In addition, rural development also needs help with problems such as lagging infrastructure construction, lack of maintenance and management of agricultural water conservancy facilities, and low levels of public services, which further constrain the growth of farmers' income. Due to the limited personal funds of farmers, they need to rely on rural collectives to form a specific economic force to solve the problem (Zhao, 2021). Rural collective economy refers to the collective ownership of the main means of production by members of rural collective economic organizations, who work together and enjoy benefits. It is the core embodiment of a socialist public ownership economy in rural China (Jiang, 2021). Developing a collective economy can effectively avoid polarization in rural areas, improve farmers' income levels, and achieve shared prosperity (Chen, 2022).

The macroeconomic growth theory believes that investment is the foundation for promoting economic growth and income growth, and increasing rural investment is an

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effective way to increase farmers' income. Rural fixed assets investment is an important means to promote rural economic prosperity and an important indicator to reflect the operation of the rural economy. As one of the "troika" of agricultural economic growth, rural fixed assets investment plays an important role in increasing farmers' income (Fu, 2020). According to the different investment subjects, rural fixed assets investment can be divided into farmers' individual investment and rural collective investment, and rural collective investment accounts for a large proportion. Therefore, rural collective economic organizations are important subjects of rural fixed assets investment. In a market environment full of risks, rural collective economic organizations can effectively enhance the market competitiveness of farmers and increase their opportunities to integrate into the market (Ton & Biman, 2006; Trebbin & Hassler, 2012). They are the foundation for achieving modernization of agriculture and rural areas and rural revitalization, and the importance of collective economic organizations is increasingly prominent. However, at present, rural collective economic organizations still have problems in fixed assets investment, such as a lack of asset management system, backward concept, and unreasonable investment structure (Gu, 2019), which leads to the lagging development of rural economy and society, and the slow growth of farmers' income. Therefore, studying the impact of rural fixed assets investment on the agricultural economy and farmers' income and analyzing the differences brought by investment from the perspective of the direction of capital investment can provide a new perspective for developing and strengthening the agricultural economy and promoting farmers' income.

Literature Review and Research Hypothesis

The theory of public goods was inspired by British scholar Hobbes, and later Austrian and Italian scholars applied the theory of marginal effect value to their research (Liu, 2006), demonstrating the rationality and complementarity of government in a market economy, thus forming the theory of public goods (Fu, 2019). Products that satisfy collective needs through public sector supply are called public goods, with three essential characteristics: non-exclusivity, non-competitiveness, and indivisible utility. (Samuelson, 1954: Cai, 2023). In rural fixed assets investment, farmers need to purchase not only the corresponding crop seeds, fertilizers, agricultural machinery, and other means of production but also agricultural water conservancy facilities, power communication, transportation, storage, and other infrastructure, as well as scientific research, geological survey, social welfare, and other rural public services. Therefore, rural fixed assets investment can increase farmers' income, and the income increase effect has a significant positive effect (Zhang, 2016). The contribution rate of rural capital investment affects urban and rural incomes in both the short and long term, with a short-term negative impact on urban-rural income disparities and a positive long-term impact; The degree of urbanization affects urban and rural incomes only in the long run and has a negative effect in the long run (Zhang，Wang, 2022). The size and difference of the effect of fixed assets investment on economic development among regions, it is believed that the regions where fixed assets investment has the greatest impact on economic development are Beijing and Shanghai, most of the eastern coastal areas, and then the vast central and western regions (Zhu, 2019).

Dual economic structure refers to the long-term coexistence and development of traditional agriculture and modern industry in developing countries, where industrial sector income is higher than agricultural sector income(Lewis, 1954; Kang, 2017). Based on balanced development in the industrial and agricultural sectors, the dual economic development concept of transferring surplus agricultural labor has been further improved (Fei & Rains, 1964). Agricultural production activities bring less profits and a single source of income, mainly from operating income. However, the industrial system has substantial capital, and workers can obtain higher remuneration through labor production

(Xing, 2014). China's agricultural economic development level is still far from that of industrial development, and the dual economic structure is still evident (Liu, Zhang & Deng, 2017). The level of agricultural economic development is generally influenced by relevant indicators such as urbanization rate, pesticide use, cultivated land and irrigation area of crops, rural electricity consumption, and labor force. Many scholars use principal component analysis to select the influencing factors of the agricultural economy from four aspects: mechanization degree, government finance, labor force status, and planting status. They extracted two principal components, crop sowing area, and yield, and analyzed the countermeasures to promote agricultural economic development (Sun, 2022). Researchers have also used principal component analysis to analyze the development trend of rural e-commerce in China and identified the main factors affecting the development of rural e-commerce (Liu, 2020). Therefore, this article proposes the following assumptions:

H1: The capital expenditure of agriculture, forestry, animal husbandry, and fishery in rural fixed assets investment plays a significant positive role in improving agricultural economic development and increasing farmers' income.

H2: The use of pesticides has a significant negative impact on improving agricultural economic development and increasing farmers' income.

H3: Regional economic disparities have a significant negative impact on improving agricultural economic development and increasing farmers' income.

Research methods

The data in this article mainly comes from the "China Rural Statistical Yearbook." Based on the collected data, relevant data on rural investment and rural economic development in 22 provinces in China's 13th Five-Year Plan from 2016 to 2020 were compiled for research, excluding the five autonomous regions, four municipalities directly under the central government, and the Shenzhen Special Economic Zone.

This article selects agricultural economic performance and rural resident income as the dependent variables.

1)Agricultural economic performance（F）

The need for comprehensive development of agricultural quality and the characteristics of China's agricultural development, three primary and nine secondary indicators were selected, covering aspects such as agricultural economic development level, rural residents' income and consumption status, and rural social welfare. A comprehensive evaluation index system of agricultural economic benefit was built, and the total score of agricultural economic benefit was calculated using the factor analysis method. (Fan，2009).

2)Farmer income（Income）

Scholars have their views on defining farmers' income, but they are generally similar. Some scholars believe that farmers' income refers to all cash and income earned by rural households within a year (Yang, Ding, & Deng, 2019). Some scholars believe that farmers' income refers to the total income they receive from engaging in production and business activities or providing services (Wang&Gao, 2017). This article defines farmers' income as the total income they receive through various channels within a year. The official statistical data uses the "rural resident income" caliber and does not explicitly distinguish between farmers and nonfarmers. The main source of rural resident income is the income of farmers. Although there are slight differences between the two, they still reflect the overall income situation of farmers (He, 2021). Therefore, this article regards the per capita disposable income of rural residents in that year as farmers' income.

This study selected agriculture, forestry, animal husbandry and fishery (A1), manufacturing (A2), construction (A3), transportation, storage and postal services (A4), real estate industry (A5), resident services and other service industries (A6), and other expenditures (A7) as independent variables.

Table 1. Summary of Fixed Asset Investment by Rural Residents from 2016 to 2020.

(Unit: 100 million yuan)

Year	Total	A1	A2	A3	A4	A5	A6	A7
2016	8607.3	1788.9	119.4	34.2	216.2	6103.7	52.5	292.4
2017	8217	1742.1	90.2	189.3	221.8	5574.1	49.1	350.4
2018	8716.4	1837.5	123.2	66.3	263.1	5887.4	61.7	477.2
2019	8077.2	1814.6	132.2	101.8	237.5	5295	57	439.1
2020	7169	2119.3	116.2	57.5	441.5	4205.6	62.9	166
合计	40786.9	9302.4	581.2	449.1	1380.1	27065.8	283.2	1725.1

Data source: 2016-2020 China Rural Statistical Yearbook

From Table 1, it can be seen that the highest cumulative expenditure from 2016 to 2020 was on real estate projects, with a cumulative expenditure of 2706.58 billion yuan, followed by agricultural, forestry, animal husbandry, and fishery projects, with a cumulative expenditure of 9032.4 billion yuan. Ranked third in other expenses, with a cumulative expenditure of 172.51 billion yuan.

Table 2. Rural Household Fixed Asset Expenditure Indicators from 2016 to 2020

Variable	Sample	Min	Max	Mean
A1	110	4.000	315.400	84.567
A2	110	0.000	42.500	5.284
A3	110	0.000	92.100	4.083
A4	110	0.000	107.400	12.546
A5	110	11.400	749.800	246.053
A6	110	0.000	20.300	2.575
A7	110	0.000	127.10	15.683

Table 2 showed the average expenditure on real estate ranks first, followed by expenditure on agriculture, forestry, animal husbandry, and fishery. The third place is for other expenses.

This article selects agricultural ecological environment and economic region as control variables.

1) Agricultural ecological environment

With the continuous progress and development of society, the agricultural economy in various regions has also experienced unprecedented development and improvement. The variety of agricultural and sideline products has become increasingly diverse, and farmers' income has continued to increase. On the other hand, the deteriorating agricultural environment threatens agricultural production and the normal life of farmers and greatly affects the development of the agricultural economy in different regions. It seriously threatens the coordinated development of the rural ecological environment. This study selected Agricultural fertilizer usage (Afu) and Pesticide usage (Pu) as control variables to measure agricultural ecological environment factors.

2) Economic area（Ea）

This article refers to the 2011 National Bureau of Statistics' "Classification Method for East-West Central and Northeast Regions," which divides China's economic regions into four major regions: East, Central, West, and Northeast. Among them, "1"- East; "2"- Central; "3"- West; "4"- Northeast.

Due to the influence of numerous factors on agricultural economic performance, this study first constructs an agricultural economic performance evaluation model to make the analysis more relevant to economic reality. It calculates its comprehensive performance score through factor analysis. Then, we will study the relationship between agricultural, forestry, animal husbandry, fishery, manufacturing, construction, transportation, warehousing, postal, real estate, residential services, and other service industries, as well as other expenditures and the comprehensive score of agricultural economic performance and farmer income. At the same time, we will introduce two control variables, resources, environment, and economic region, into the model. This article uses inter-provincial panel data from China. In order to incorporate both regional and temporal effects into the analyzed econometric model, the following panel data model is established:

$$F_{it} = \alpha+\beta_1 A_{1it} +\beta_2 A_{2it} +\beta_3 A_{3it} +\beta_4 A_{4it} +\beta_5 A_{5it} +\beta_6 A_{6it} +\beta_7 A_{7it} +\beta_8 Afu_{it} +\beta_9 Par_{it} +\beta_{10} Ea_{it}+ \eta_i +\lambda_t +\varepsilon_{it} \quad (1)$$

$$Income_{it} = \alpha+\beta_1 A_{1it} +\beta_2 A_{2it} +\beta_3 A_{3it} +\beta_4 A_{4it} +\beta_5 A_{5it} +\beta_6 A_{6it} +\beta_7 A_{7it} +\beta_8 Afu_{it} +\beta_9 Pu_{it} +\beta_{10} Ea_{it}+ \eta_i +\lambda_t +\varepsilon_{it} \quad (2)$$

Where: "i"- Various provinces in China; "t"- time dimension; "ηi"- Regional fixed effects that do not change over time; "λt"- Time fixed effects that do not vary with geography; "εit"- Regression residual term; "α、 βi (i=1,2......10)"- Estimated parameters.

Results and Discussion

This study is based on the requirements of high-quality agricultural development and the characteristics of national agricultural development. Three primary indicators and nine secondary indicators are selected from the aspects of agricultural economic development level, rural residents' income and consumption status, and rural social welfare to construct a comprehensive evaluation index system for agricultural economic performance(Fan, 2009).

Table 3. Comprehensive Rating Index System for Agricultural Economic Performance

Primary indicators	Secondary indicators	Symbol
Rural economic development level	Total power of agricultural machinery (unit)	TI
	Total output value of agriculture, forestry, animal husbandry, and fishery (100 million yuan)	T2
Income and consumption status of rural residents	Per capita disposable income of rural residents (yuan/person)	T3
	Consumption level of rural residents (yuan/person)	T4
	The proportion of education, culture, and entertainment expenditure (%)	T5

Rural Social Welfare	Healthcare expenditure (%)	T6
	Number of rural elderly care services	T7
	Number of adoptions at the end of the year (person)	T8
	Township cultural stations (number)	T9

This research data is sourced from the "China Rural Statistical Yearbook" from 2016 to 2020, which collected relevant data for 22 provinces in China from 2016 to 2020 in the 13th Five-Year Plan. The missing values of township cultural stations in 2017 and 2018 were calculated based on the proportion of township cultural stations in 2017 and 2018 compared to 2016.

Conduct factor analysis on the data from 22 provinces for five consecutive years. Table 4 shows that KMO was 66.4%, greater than 60%, and $p<0.05$; the Bartlett sphericity test indicates that the research data is suitable for factor analysis.

Table 4. KMO and Bartlett's Test

KMO		0.664
Bartlett sphericity test	χ^2 chi-square	833.404
	df	36
	p	0.000

Table 5 shows that a total of three factors were extracted from factor analysis, and the explained variances after rotation were 34.531%, 29.271%, and 18.912%, respectively. The cumulative explanatory variance is 82.714%.

Table 5. Variance explanatory rate

No.	Eigenvalue			Interpretation rate of variance before rotatio			Interpretation rate of variance after rotation		
	E	V	A	E	V	A	E	V	A
1	3.858	42.865	42.865	3.858	42.865	42.865	3.108	34.531	34.531
2	2.628	29.198	72.063	2.628	29.198	72.063	2.634	29.271	63.803
3	0.959	10.651	82.714	0.959	10.651	82.714	1.702	18.912	82.714
4	0.529	5.878	88.593	-	-	-	-	-	-
5	0.414	4.601	93.194	-	-	-	-	-	-
6	0.329	3.652	96.846	-	-	-	-	-	-
7	0.159	1.770	98.616	-	-	-	-	-	-
8	0.088	0.972	99.588	-	-	-	-	-	-
9	0.037	0.412	100.000	-	-	-	-	-	-

"E"- Eigenvalue; "V"- Variance Interpretation Rate%; "A"- Accumulated%.

According to Table 6, establish the relationship equation between factors and research items as follows.

$$F1 = -0.073\times T1+0.012\times T2+0.304\times T3+0.317\times T4+0.279\times T5+0.217\times T6+0.042\times T7 -0.002\times T8-0.104\times T9$$

$$F2 = -0.188\times T1-0.008\times T2+0.027\times T3+0.106\times T4-0.090\times T5-0.133\times T6+0.386\times T7 +0.406\times T8+0.369\times T9$$

F3 = 0.693×T1+0.453×T2-0.089×T3-0.194×T4+0.026×T5+0.209×T6-0.135×T7 -0.146×T8-0.096*T9

Comprehensive score of rural economic performance:

F = (34.531 × F1+29.271 ×F2+18.912× F3)/82.714

Table 6. Component score coefficient matrix

Symbol	Component analysis		
	F1	F2	F3
T1	-0.073	-0.188	0.693
T2	0.012	-0.008	0.453
T3	0.304	0.027	-0.089
T4	0.317	0.106	-0.194
T5	0.279	-0.090	0.026
T6	0.217	-0.133	0.209
T7	0.042	0.386	-0.135
T8	-0.002	0.406	-0.146
T9	-0.104	0.369	-0.096

In model (1) of this study, the comprehensive score of rural economic performance is used as the dependent variable. Construct a panel model with agriculture, forestry, animal husbandry and fishery, manufacturing, construction, transportation, warehousing and postal services, real estate, residential services, and other service industries, and other expenditures as independent variables, and agricultural fertilizer application, pesticide use, and economic region as control variables.

Table 7 validates the model to determine the optimal model. Research has shown that the Hausman test for p=null is not significant, indicating that the RE model is superior to the FE model. Secondly, in the F-test and BP test, p=0.000 indicates a significance level of 5%. However, the F-test found that F (21.79)=55.645, telling that the FE model is superior to the POOL model. They obtained in BP test χ 2 (1)=55.692, indicating that the RE model is special to the POOL model. Based on the above analysis, this article will adopt the RE model as the optimal research model.

Table 7. Summary of Inspection Results (n=110)

Type	Test aims	Test value	Test Conclusion
F-test	FE model vt. POOL model	F (21,79)=55.645, p=0.000	FE model
BP-test	RE model vt. POOL model	χ2(1)=55.692, p=0.000	RE model
Hausma-test	FE model vt. RE model	χ2(9)=null, p=null	RE model

Table 8 shows that the agricultural fixed assets investment expenditure on agriculture, forestry, animal husbandry, and sideline fisheries has passed the 5% significance test. The regression coefficient is 0.002, indicating that the expenditure on agriculture, forestry, animal husbandry, and sideline fisheries will positively improve agricultural economic benefits. The regression coefficient value of pesticide usage is -0.000 and has passed the 1% significance test, indicating that pesticide usage has a negative effect on improving agricultural economic benefits. The regression coefficient value for economic regional differences is -0.342 and has passed the 1% significance test, indicating that economic regional differences will have a negative impact on improving corporate performance. H1, H2, and H3 have been accepted.

Table 8. Intermediate Process Values of RE Model

Term	Coef	Std. Err	t	p	95% CI
Intercept	1.272	0.375	3.390	0.001**	0.536 ~ 2.007
A1	0.002	0.001	2.351	0.021*	0.000 ~ 0.003
A2	0.007	0.005	1.538	0.127	-0.002 ~ 0.016
A3	0.001	0.002	0.444	0.658	-0.003 ~ 0.005
A4	0.003	0.002	1.819	0.072	-0.000 ~ 0.006
A5	-0.000	0.000	-0.962	0.338	-0.001 ~ 0.000
A6	0.008	0.007	1.014	0.313	-0.007 ~ 0.022
A7	0.003	0.002	1.762	0.081	-0.000 ~ 0.006
Afu	0.002	0.001	1.815	0.073	-0.000 ~ 0.004
Pu	-0.000	0.000	-6.306	0.000**	-0.000 ~ -0.000
Ea	-0.342	0.125	-2.739	0.007**	-0.587 ~ -0.097

$\chi 2(10)=90.207, p=0.000$

R 2=-0.733,R 2(within)=0.638

* p<0.05 ** p<0.01

In Model 2 of this study, farmer income was used as the dependent variable. In contrast, agriculture, forestry, animal husbandry and fisheries, manufacturing, construction, transportation, warehousing and postal services, real estate, residential services, and other services, as well as other expenditures, were used as independent variables. Construct a panel model with fertilizer application, pesticide use, and economic region as control variables.

Table 9 validates the model to determine the optimal model. Research has shown that the Hausman test for p=null is not significant, indicating that the RE model is superior to the FE model. Secondly, in the F-test and BP test, p=0.000 indicates a significance level of 5%. However, the F-test found that F (21.79)=51.985, telling that the FE model is superior to the POOL model. They were obtained in BP test χ 2 (1)=49.747, indicating that the RE model is special to the POOL model. Based on the above analysis, this article will adopt the RE model as the optimal research model.

Table 9 . Summary of Inspection Results (n=110)

Type	Test aims	Test value	Test Conclusion
F-test	FE model vt. POOL model	F (21,79)=51.985, p=0.000	FE model
BP-test	RE model vt. POOL model	$\chi 2(1)=49.747$, p=0.000	RE model
Hausma-test	FE model vt. RE model	$\chi 2(9)$=null, p=null	RE model

Table 10 shows the regression coefficient of agricultural, forestry, animal husbandry, and sideline fishery expenditure in agricultural fixed assets investment, which is 0.002. The 1% significance test shows that agricultural, forestry, animal husbandry, and sideline fishery expenditure will have a positive role in improving farmers' income. The regression coefficient value of pesticide usage is -0.000 and has passed the 1% significance test, indicating that pesticide usage has a negative effect on improving agricultural economic benefits. The regression coefficient value for economic regional differences is -0.000 and has passed the 1% significance test, indicating that economic regional differences will have a negative impact on improving corporate performance. H1, H2, and H3 have been accepted.

Table 10. Intermediate Process Values of RE Model

Term	Coef	Std. Err	t	p	95% CI
Intercept	27756.428	2365.262	11.735	0.000**	23120.600 ~ 32392.256
A1	19.079	5.437	3.509	0.001**	8.423 ~ 29.735
A2	29.416	34.415	0.855	0.395	-38.037 ~ 96.868
A3	5.577	16.163	0.345	0.731	-26.102 ~ 37.256
A4	13.065	11.931	1.095	0.276	-10.319 ~ 36.450
A5	-4.887	2.884	-1.695	0.093	-10.540 ~ 0.765
A6	18.625	55.773	0.334	0.739	-90.688 ~ 127.938
A7	6.299	12.108	0.520	0.604	-17.432 ~ 30.031
Afu	8.075	6.947	1.162	0.248	-5.540 ~ 21.690
Pu	-0.126	0.020	-6.233	0.000**	-0.165 ~ -0.086
Ea	-3624.641	767.599	-4.722	0.000**	-5129.108 ~ -2120.174

Conclusion

Based on the theory of public goods and dual economy, this paper selects the agricultural-related data of provinces during the "13th Five Year Plan" period from 2016 to 2020 as the research object. Then, it uses the multiple regression method to verify the relationship between rural fixed assets investment with different investment directions, agricultural economic benefits, and farmers' income. The research results indicate that increasing expenditure on agriculture, forestry, animal husbandry, and fishery can improve agricultural economic benefits and increase farmers' income. However, the use of pesticides cannot promote economic development and income growth, and regional economic differentiation also affects farmers' income. Based on the actual situation in China and the results of this study, the following four policies can further promote and develop China's agricultural economy and improve the income level of farmers.

Optimize the structure of farmers' fixed assets investment and refine the investment destination. Firstly, expand investment in agriculture, forestry, animal husbandry, and fisheries while reducing investment in the real estate industry and further implementing diversified investment. Secondly, it further improves the environment for agricultural fixed assets investment, the primary agricultural production conditions such as transportation, communication, and energy, and the investment absorption capacity of agricultural fixed assets in the region. By strengthening investment in agricultural technology, agricultural technology's content and quality level can be improved. Thirdly, improve the regional structure of rural fixed assets investment. The allocation of rural fixed assets investment among the three major regions in the east, west, and east is extremely unreasonable. Due to the good geographical location and rapid economic development in the east, the amount of rural fixed assets investment is far higher than that in the central and western regions, which also leads to the further expansion of the income gap among rural residents. The government departments at all levels should take corresponding measures to allocate fixed assets investment funds reasonably between urban and rural areas and regions, ensure the effective growth rate of rural fixed assets investment, and significantly increase rural fixed assets investment in the central and western regions. Finally, the total amount and structure of rural fixed assets investment are very different among regions, leading to regional differences in farmers' income. We should reasonably adjust the allocation level of rural fixed assets among areas, promote the balanced development of rural fixed assets investment among regions, and finally realize the balanced development of farmers' income.

Among the many causes of agricultural pollution, excessive use of fertilizers, pesticides, agricultural films, veterinary drugs, and inadequate management of animal manure generated in large-scale livestock and poultry farming are all important factors. The increase in pesticide use will inevitably affect agricultural economic performance and farmer income. Suggest starting from the essence of agricultural ecosystems and establishing new production methods to achieve sustainable agricultural development. Continuously apply comprehensive environmental protection strategies to prevent pollution throughout the entire agricultural production process. At the same time, developing environmentally friendly agricultural production technologies to replace existing ones, encouraging farmers to voluntarily or through government reward and punishment measures to promote the adoption of new technologies; Develop and implement restrictive agricultural production technology standards in important water source protection areas and watersheds, such as crop rotation in farmland; By regulating the amount, time, variety, and method of fertilization, the amount of pollution at the source can be reduced; Using scientific methods for harmless treatment of livestock and poultry manure, effectively controlling its organic or inorganic pollution to water, soil, and other environments from the source.

It is recommended that each province tailor its agricultural policies to local conditions, provide more preferential and favorable agricultural policies, and create a stable, transparent, and predictable policy environment for agricultural investors. At the same time, through training and other means, we can improve the quality and quantity of agricultural labor resources, enhance the professional skills and production efficiency of the labor force, further narrow economic regional differences, and improve agricultural financial performance and farmer income.

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