# Performance Evaluation of China's Agricultural Development Patterns using the Industry Convergence Model

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***Abstract* - This paper applies Industry Convergence model to evaluate the input-output efficiency of agricultural development from 2006 to 2008, measures and assesses whether the financial agricultural development input expands the coverage of local agricultural development according to the degree of economic and financial input into agricultural development. The study shows that the economic and financial input into agricultural development in a majority of areas in our country is not adequate, that the use of agricultural development fund is not reasonable, and that the financial input into agricultural development can seldom expand the coverage of local agricultural development. Finally, from facilitating economic development, increasing financial income, enhancing financial support for agricultural development, making reasonable use of agricultural development and expanding the coverage of agricultural development, the paper proposes the measure of increasing the input-output efficiency of agricultural development.**

***Keywords - Agricultural development; Input - output efficiency; Structure conduct performance***

## I. INTRODUCTION

Agricultural development is a basic system that ensures people's life and adjusts social allocation. The overall establishment of the agricultural development system covering urban and rural residents as well as coordination and facilitation of the construction of urban and rural agricultural development system is an important task in our country at present. With the economic and social development in China, financial input into agricultural development is also increasing. However, due to various historical and objective reasons, total financial input into agricultural development is still not adequate. Besides, there are remarkable provincial differences. Therefore, under the current situation, how to evaluate the input-output efficiency of agricultural development and whether the financial input into agricultural development gives into play effectively is always the focus that the academic circle and relevant practitioners are centering on. From the existing researches, it can be found that scholars mostly carry out studies from the perspectives of agricultural development expenditure [1-4], performance of agricultural development expenditure [5-6] and optimal scale of financial expenditure on agricultural development[7-10], etc. However, there are still few researches on the input-output efficiency of agricultural development. Moreover, in terms of methodologies, qualitative researches are in a large number with the focuses on theoretical exploration and little empirical analysis. Moreover, the evaluation on the input efficiency of agricultural development is an important reference indicator when government conducts decision-making. On the basis, the paper selects the degree of economic and financial input into agricultural development and whether the financial expenditure on agricultural development expands the coverage of agricultural development, applies the panel data in 30 provinces from 2006 to 2008, makes use of Industry Convergence method to evaluate the input-output efficiency of provincial agricultural development in China, and analyzes relevant affecting factors.

## II. RESEARCH METHODS AND DATA SOURCES

### *A. Industry Convergence Model*

Industry Convergence (Structure conduct performance) is a useful decision-making method with relative effectiveness that is adopted to evaluate similar departments or companies. The method is a systematic analysis method proposed by the famous American operational research experts, A. Charnes, W. Cooper and E. Rhodes based on the concept of "relative efficiency evaluation" in 1978 [11]. Basic Industry Convergence model mainly includes $C^2R$, $BC^2$, FG, ST and so on. The model that is the most widely applied is $C^2R$ model that is effective relative to the scale and technology. The basic principle is: Suppose that there are $n$ decision-making units DMU ($1\leq i\leq n$), every decision-making unit DMUi has $m$ input, $x_{1i}, x_{2i}, \ldots, x_{mi}$ and $s$ output $y_{1i}, y_{2i}, \ldots, y_{si}$ (In particular, $x_{ji}$ and $y_{ji}$ are larger than 0). Corresponding $v_1, v_2, \cdots, v_m$ and $u_1, u_2, \cdots, u_s$ are respectively the weight of $m$ input and $s$ output, noted down as:

$x_i = (x_{1i}, x_{2i}, \cdots, x_{mi})^T$ $\quad$ $y_i = (y_{1i}, y_{2i}, \cdots, y_{mi})^T$

$v = (v_1, v_2, \cdots, v_m)^T$ $\quad$ $u = (u_1, u_2, \cdots, u_s)^T$ , we can get the fractional programming of $C^2R$:

$$\begin{cases} \max \dfrac{y_i^T u}{x_i^T v} \\ \dfrac{y_i^T u}{x_i^T v} \le 1 (1 \le i \le n) \\ v \ge 0 \\ u \ge 0 \end{cases} \quad (1\text{-}1)$$

According to Charnes-Cooper transformation [12], Formula (1-1) can be transformed to:

$$\begin{cases} \max y_i^T u \\ y_i^T u \le x_i^T v (1 \le i \le n) \\ x_i^T v = 1 \\ v \ge 0, u \ge 0 \end{cases} \quad (1\text{-}2)$$

We introduce non-Archime Industry Convergencen infinitesimal quantity ε (ε is a very small positive number) to test the validity of Industry Convergence model. The dual programming of formula (1-2) can be obtained:

$$\begin{cases} \min(\theta - \varepsilon(e_m^T s^- + e_s^T s^+)) \\ \sum_{i=1}^{n} \lambda_i x_i + s^- = \theta x_k \\ \sum_{i=1}^{n} \lambda_i y_i - s^+ = y_k \\ \theta,\ \lambda_i,\ s^-, s^+ \ge 0,\ i,k = 1, \cdots,\ n \end{cases} \quad (1\text{-}3)$$

Suppose the optimal solution to the linear planning (1-3) is $\lambda^*$, $s^{*-}$, $s^{*+}$ and $\theta^*$, we can draw the following conclusions:

(1). When $\theta^*$ =1, and $s^{*-}$ =0, $s^{*+}$ =0, it is considered that $DMU_i$ is effective in Industry Convergence. Under such a situation, the $i^{th}$ decision-making unit reaches the optimal state of "input-output". No adjustment is needed.

(2). When $\theta^*$ =1, and $s^{*-} \neq 0$ or $s^{*+} \neq 0$, it is considered $DMU_i$ is effective in weak Industry Convergence. Under such a situation, the $i^{th}$ decision-making unit can increase the output under the condition of maintaining the original input unchanged or maintain the output unchanged through reducing the original input. At this time, the economic activities are not optimal both in terms of technological efficiency and scale efficiency.

(3). When $\theta^* \neq 1$, and $0 < \theta^* < 1$, it is considered that $DMU_i$ is effective in non-Industry Convergence. It indicates that the $i^{th}$ decision-making unit has excessive input. It can be compressed according to a certain percentage.

(4). For decision-making units that are effective in non-Industry Convergence, we can improve the input or output through projection analysis so as to construct Industry Convergence effective decision-making units. Suppose that the input should reduce $\Delta x$ to maintain the output unchanged or that the output should increase by $\Delta y$ so as to maintain the input unchanged, then:

$$\begin{cases} \Delta x = (1 - \theta^*) x_j + s^{*-} \\ \Delta y = s^{*+} \end{cases} \quad (1\text{-}4)$$

In addition, generally the optimal value of $\lambda_i$ in $C^2R$ model can be used to judge the returns to scale. If there is a $\lambda_i^*$ (i=1, 2, …, n) that realizes $\sum \lambda_i^* = 1$, then DMU is unchanged returns to scale. If $\sum \lambda_i^* < 1$, then DMU's return to scale increases. If $\sum \lambda_i^* > 1$, DMU's return to scale decreases.

### *B. Source of Data and Selection of Variables*

Because of the limitations of data obtainment, this study selects the data in 30 provinces from 2006 to 2008 (excluding Tibetan). The sample data are from *Yearbook of China's Statistics* and *Yearbook of China's Labor Statistics* in relevant years. The paper also adopts the panel data from 2006 to 2008 to evaluate the input-output efficiency of overall agricultural development in the three years. The paper's evaluation is mainly divided into two parts: "economic and financial input – agricultural development" input-output evaluation as well as "financial input – coverage of agricultural development" input-output evaluation. When evaluating the input-output in "economic and financial input – agricultural development", we choose per capita GDP. The total financial expenditure is selected as the input variable because per capita GDP can reflect a region's economic

status, while the total financial expenditure reflects a region's financial expenditure. In addition, financial expenditure on agricultural development, percentage of financial expenditure on agricultural development and per capita financial expenditure on agricultural development are selected as output variables to investigate how much economic and financial expenditure is used into the construction of agricultural development in each area and region. When evaluating "financial input – coverage of agricultural development", the paper chooses per capita financial expenditure on agricultural development as the input variable to measure per capita financial expenditure on agricultural development. In addition, the number of residents in urban pension insurance, percentage of urban pension insurance coverage, number of residents in urban medical insurance, percentage of residents in urban medical insurance, number of people in urban unemployment insurance, percentage of urban unemployment insurance, number of people in labor injury insurance, percentage of people in labor injury insurance, number of people in urban birth insurance and percentage of people in urban birth insurance are selected as output variables. Moreover, the study investigates into the absolute level and relative level of coverage of agricultural development as well as the level of absolute coverage, i.e., number of covered people. Level of relative coverage, i.e., scope of relative coverage, i.e., percentage of coverage. The paper does not choose rural pension, number of people in medical insurance and so on as output indicators. The main reasons as follows: First, city is the main direction of input into agricultural development. From the founding of China till now, China's major input into agricultural development is in cities. In the evaluation on the input-output efficiency of agricultural development, the urban data are representative. Second, rural pension and medical insurance have developed in recent years. In particular, the new agricultural insurance was launched in 2009, which indicates that output indicator of the rural agricultural development system is not representative. Moreover, many provinces lack the statistical data of rural agricultural development, which also restricts the possibility that rural agricultural development coverage is chosen as the output indicator.

## III. EMPIRICAL RESEARCHES AND RESULTS ANALYSIS

### *A. 'Economic and Financial Input – Agricultural Development' Input-Output Evaluation*

From Industry Convergence, we get the result of provincial "economic and financial input – agricultural development" input-output evaluation (Refer to Table 1 for details). The paper analyzes the result from four perspectives, i.e., pure technological efficiency, scale efficiency, common effectiveness of scale efficiency and pure technological efficiency and comprehensive efficiency.

(1). Analysis of pure technological efficiency. Pure technological efficiency refers to the efficiency of utilization of economic development and financial expenditure on agricultural development. If efficiency is "1", it means "effective", i.e., the utilization is reasonable. If efficiency is lower than "1", it means "invalid", i.e., the input is not fully utilized.

From Table 1, it can be seen that among 30 sample provinces, the efficiency of utilization of economic and financial input into agricultural development is valid in 19 provinces and cities, including Beijing, Liaoning, Shanghai and so on. The efficiency of utilization of input is invalid in other provinces, especially Gansu and Xinjiang. After analysis, we find that middle and eastern China make effective use of the economic and financial input into agricultural development. The invalid regions are mainly in western areas. The current situation is commonly caused by the different economic development levels, unreasonable utilization of financial input into agricultural development, etc.

(2). Analysis of scale efficiency. Scale efficiency mainly refers whether economic development level in each province and total financial expenditure on agricultural development satisfy each region's demand on agricultural development. If efficiency is "1", it means "effective", i.e., the region spends a large amount of economic and financial expenditure on agricultural development. The region's demand on agricultural development is satisfied. If efficiency is lower than "1", it means "invalid", i.e., the region spends a small mount of economic and financial expenditure on agricultural development. The region's demand on agricultural development cannot be satisfied.

From Table 1, among 30 sample provinces, only the total amount of input into agricultural development in Jilin, Heilongjiang, Zhejiang, Fujian, Shandong, Henan, Hubei, Guangdong, Sichuan and Qinghai satisfies the local agricultural development demand. However, the other 20 provinces' total input cannot satisfy the local agricultural development demand. The situation in Yunnan, Guizhou, Shanghai, Beijing, Guangxi and other regions is particularly severe. From this, it can be known that the economic development level and the financial expenditure on agricultural development are not inadequate. The region's agricultural development demand cannot be satisfied. There is a need to continue enhancing the support for economic and financial expenditure on agricultural development in each region.

The inadequacy of input is quite severe in Beijing and Shanghai. However, despite sound economic development in Beijing and Shanghai, they put a little amount of financial expenditure on agricultural development. Qinghai and Hainan are under-developed economically. However, their total financial and economic expenditure on agricultural development can satisfy the local agricultural development demand. It shows that economic development level is negatively correlated to the total amount of input into agricultural development. The reasons for the seemingly contradictory situation include: (1) Beijing and Shanghai are economically developed with a large economic quantity. Although financial input into agricultural development is in a large amount, it is still not enough for the base economic quantity. (2) Although Qinghai and Hainan are under-developed economically with a small economic quantity, our domestic agricultural development sticks to the principle of "wide coverage and ensuring basis". The central government spends a large amount of financial

expenditure specifically on the under-developed regions so that the total amount of input into agricultural development in the regions can satisfy the local agricultural development demand.

(3). Analysis of common effectiveness of pure technological efficiency and scale efficiency. If a region's scale efficiency and pure technological efficiency are commonly valid, it indicates that the economic and financial expenditure on agricultural development and fund utilization ratio in the region are both effective.

From Table 1, we can see that among the 30 sample provinces from 2006 to 2008, only the pure technological efficiency and scale efficiency in Jilin, Zhejiang, Fujian, Shandong, Henan, Hubei, Guangdong, Hainan, Sichuan and Qinghai are commonly valid. However, although the scale efficiency in Heilongjiang and Hainan is effective, fund utilization ratio is invalid, implying that the two regions should make reasonable use of the local economic development and financial input into agricultural development.

(4). Analysis of comprehensive efficiency. Comprehensive efficiency represents a region's total financial input into agricultural development.

From Table 1, it can be seen that the comprehensive efficiency in Jilin, Zhejiang, Sichuan and other provinces, totaling up to 10 is valid, indicating that these regions' economic and financial input to agricultural development is very reasonable and remarkably effective. On the contrary, the economic and financial input to agricultural development in Guizhou, Yunnan and other regions demonstrates many problems which require urgent solution.

From comparative analysis, it can be found whether a region's economic and financial input into agricultural development is effective or not is closely related to the region's economic development level, total financial expenditure on agricultural development and utilization ratio of financial expenditure on agricultural development. In the rest 17 provinces, only Tianjin, Heilongjiang and Xinjiang demonstrate invalid pure technological efficiency, which indicates that the three regions focus on making use of the local economic development and improving the utilization ratio of financial expenditure on agricultural development. The last 14 provinces, on the one hand, provides best agricultural development that ensures advanced economic development and increases the input into agricultural development, on the other hand, improves the utilization ratio of financial expenditure on agricultural development.

TABLE 1. 'ECONOMIC AND FINANCIAL INPUT – AGRICULTURAL DEVELOPMENT' INPUT-OUTPUT EVALUATION

| | Comprehensive Efficiency | Pure Technological Efficiency | Scale Efficiency | Common Effectiveness | Rank of Comprehensive Efficiency |
|---|---|---|---|---|---|
| Beijing | 0.884 | 1.000 | 0.884 | drs | 13 |
| Tianjin | 0.860 | 0.902 | 0.954 | drs | 14 |
| Hebei | 0.945 | 0.979 | 0.965 | irs | 7 |
| Shanxi | 0.966 | 0.969 | 0.997 | irs | 4 |
| Neimenggu | 0.903 | 0.907 | 0.995 | irs | 11 |
| Liaoning | 0.992 | 1.000 | 0.992 | drs | 2 |
| Jilin | 1.000 | 1.000 | 1.000 | - | 1 |
| Heilongjiang | 0.914 | 0.914 | 1.000 | - | 10 |
| Shanghai | 0.837 | 1.000 | 0.837 | drs | 17 |
| Jiangsu | 0.950 | 1.000 | 0.950 | dra | 6 |
| Zhejiang | 1.000 | 1.000 | 1.000 | - | 1 |
| Anhui | 0.930 | 0.992 | 0.937 | irs | 9 |
| Fujian | 1.000 | 1.000 | 1.000 | - | 1 |
| Jiangxi | 0.936 | 1.000 | 0.936 | - | 8 |
| Shandong | 1.000 | 1.000 | 1.000 | - | 1 |
| Henan | 1.000 | 1.000 | 1.000 | irs | 1 |
| Hubei | 1.000 | 1.000 | 1.000 | - | 1 |
| Hunan | 0.972 | 1.000 | 0.972 | irs | 3 |
| Guangdong | 1.000 | 1.000 | 1.000 | - | 1 |
| Guangxi | 0.886 | 1.000 | 0.886 | irs | 12 |
| Henan | 1.000 | 1.000 | 1.000 | - | 1 |
| Chongqing | 0.992 | 1.000 | 0.992 | irs | 2 |
| Sichuan | 1.000 | 1.000 | 1.000 | - | 1 |
| Guizhou | 0.808 | 1.000 | 0.808 | irs | 18 |
| Yunnan | 0.797 | 0.998 | 0.799 | irs | 19 |
| Shaanxi | 0.952 | 0.962 | 0.990 | irs | 5 |
| Gansu | 0.844 | 0.891 | 0.947 | irs | 15 |
| Qinghai | 1.000 | 1.000 | 1.000 | - | 1 |
| Ningxia | 0.972 | 0.992 | 0.980 | irs | 3 |
| Xinjiang | 0.840 | 0.879 | 0.955 | drs | 16 |

*B. 'Financial Input – Scope of Agricultural Development Coverage' Input-Output Evaluation*

Through Industry Convergence, we get the result of "financial input – scope of agricultural development coverage" input-output evaluation in provincial agricultural development (Refer to Table 2 for details). The paper analyzes the result from four perspectives, i.e., pure technological efficiency, scale efficiency, common effectiveness of scale efficiency and pure technological efficiency and comprehensive efficiency.

(1). Analysis of pure technological efficiency, i.e., evaluate whether the utilization ratio of financial expenditure on agricultural development is helpful for expanding the scope of agricultural development coverage.

From Table 2, it can be seen that he efficiency of utilization of economic and financial input into agricultural development is valid in 8 provinces and cities, including Beijing, Liaoning, Shanghai and so on. The efficiency of utilization of input is invalid in other provinces, especially Qinghai, Inner Mongolia and Jilin. It can be seen that the regions with effective pure technology are mostly in the eastern part, which is because these regions have relatively complete agricultural development management system, make reasonable use of them, and reflect the input into agricultural development effectively in the expansion of agricultural development coverage. Moreover, many middle and western provinces should improve the utilization ratio of agricultural development fund so that more people can get access to agricultural development and expand the coverage of agricultural development.

(2). Analysis of scale efficiency, i.e., evaluate whether the total input into agricultural development is enough to expand the local agricultural development coverage.

From Table 2, it can be seen that only the scale efficiency in Jiangsu, Zhejiang and Guangdong is effective. The total financial input into agricultural development is not enough to expand the agricultural development coverage in the provinces, which is because the three provinces are developed economically with a large economic quantity. Moreover, people have a strong awareness of agricultural development. The total financial input into agricultural development is large. As a result, more people can be included in the agricultural development system. Moreover, Beijing, Shanghai and other places with developed economy demonstrate low scale efficiency, which may be because the regions do not have enough input into agricultural development although they have indeed carried out financial input into agricultural development.

(3). Analysis of common effectiveness of pure technological efficiency and scale efficiency.

From Table 2, we can see that among the 30 sample provinces from 2006 to 2008, only the pure technological efficiency and scale efficiency in Jiangsu, Zhejiang and Guangdong are commonly valid. Only in the three regions, financial input into agricultural development and fund utilization are helpful for expanding their agricultural development coverage. In Beijing, Liaoning, Shanghai, Guangxi and Xinjiang, the pure technological efficiency is valid, but the scale efficiency is invalid, indicating that the five provinces should increase the input into agricultural development so as to expand the agricultural development coverage.

(4). Analysis of comprehensive efficiency. Comprehensive efficiency represents the relationship between a province's financial input into agricultural development and expansion of agricultural development coverage.

From Table 2, it can be seen that the comprehensive efficiency is Jiangsu, Zhejiang and Guangdong is valid. Particularly, the comprehensive efficiency in Inner Mongolia and Qinghai is low, indicating that the financial input into agricultural development in the two provinces fail to well expand the agricultural development coverage. It is mainly because the two regions are underdeveloped economically and the total input into agricultural development is in a small amount, and the expenditure on agricultural development is not made reasonable use of. Therefore, the central government should enhance the effort in transfer payment, improve the utilization ratio of agricultural development fund, and actually establish the agricultural development system of "wide coverage".

By analyzing the return to scale, we can find that the return to scale in Beijing, Tianjin, Liaoning and other provinces, totaling up to 6 is decreasing. The return to scale in Jiangsu, Zhejiang and Guangdong remains unchanged. The return to scale in other provinces increases, which implies that the scale of agricultural development input in Beijing and other provinces cannot expand the agricultural development coverage, but other provinces should continue increasing financial input into agricultural development in hope to expand the agricultural development coverage.

TABLE 2. FINANCIAL INPUT – SCOPE OF AGRICULTURAL DEVELOPMENT COVERAGE" INPUT-OUTPUT EVALUATION

| | Comprehensive Efficiency | Pure Technological Efficiency | Scale Efficiency | Common Effectiveness | Rank of Comprehensive Efficiency |
|---|---|---|---|---|---|
| Beijing | 0.385 | 1.000 | 0.385 | drs | 18 |
| Tianjin | 0.378 | 0.573 | 0.660 | drs | 19 |
| Hebei | 0.502 | 0.702 | 0.716 | irs | 9 |
| Shanxi | 0.353 | 0.427 | 0.828 | irs | 22 |
| Neimenggu | 0.292 | 0.344 | 0.847 | irs | 27 |
| Liaoning | 0.331 | 1.000 | 0.331 | drs | 23 |

| | | | | | |
|---|---|---|---|---|---|
| Jilin | 0.328 | 0.375 | 0.875 | irs | 24 |
| Heilongjiang | 0.481 | 0.485 | 0.993 | drs | 10 |
| Shanghai | 0.305 | 1.000 | 0.305 | drs | 25 |
| Jiangsu | 1.000 | 1.000 | 1.000 | - | 1 |
| Zhejiang | 1.000 | 1.000 | 1.000 | - | 1 |
| Anhui | 0.450 | 0.726 | 0.620 | irs | 11 |
| Fujian | 0.692 | 0.897 | 0.772 | irs | 3 |
| Jiangxi | 0.525 | 0.667 | 0.786 | irs | 8 |
| Shandong | 0.871 | 0.954 | 0.913 | irs | 2 |
| Henan | 0.657 | 0.787 | 0.835 | irs | 5 |
| Hubei | 0.435 | 0.554 | 0.785 | irs | 12 |
| Hunan | 0.403 | 0.559 | 0.721 | irs | 14 |
| Guangdong | 1.000 | 1.000 | 1.000 | - | 1 |
| Guangxi | 0.568 | 1.000 | 0.568 | irs | 7 |
| Henan | 0.398 | 0.473 | 0.840 | irs | 15 |
| Chongqing | 0.293 | 0.446 | 0.657 | irs | 26 |
| Sichuan | 0.412 | 0.497 | 0.828 | irs | 13 |
| Guizhou | 0.636 | 0.952 | 0.668 | irs | 6 |
| Yunnan | 0.372 | 0.546 | 0.682 | irs | 20 |
| Shaanxi | 0.355 | 0.419 | 0.847 | irs | 21 |
| Gansu | 0.390 | 0.467 | 0.835 | irs | 16 |
| Qinghai | 0.208 | 0.232 | 0.896 | irs | 28 |
| Ningxia | 0.386 | 0.456 | 0.847 | irs | 17 |
| Xinjiang | 0.674 | 1.000 | 0.674 | drs | 4 |

## IV. CONCLUSION

Based on the above analysis, the study mainly draws the following conclusions:

Firstly, the economic and financial input into agricultural development is low. The return to scale of "economic and financial input – agricultural development" input-output is effective only in 10 provinces, including Jilin, Heilongjiang, Zhejiang, Shandong, Henan, Hubei, Guangdong, Sichuan and Qinghai. The economic and financial input into agricultural development in other 20 provinces cannot satisfy the local demands on agricultural development. In particular, the economic and financial input into agricultural development in other western provinces still needs expanding.

Secondly, the financial input into agricultural development in some provinces is not made reasonable use of. The pure technological efficiency of "economic and financial input – agricultural development" input-output is invalid in 11 provinces, Shaanxi, Qinghai and so on, especially Gansu and Xinjiang, indicating that these regions need to improve the utilization ratio of economic and financial input into agricultural development.

Thirdly, the financial input into agricultural development in a majority of provinces is not enough to expand the local agricultural development coverage. Only the agricultural development input in Jiangsu, Zhejiang and Guangdong can expand the local agricultural development scope. It indicates that the rest provinces should continue increasing the financial input into agricultural development. For the middle and western provinces with underdeveloped economy, the central government should enhance the financial transfer payment in these regions so as to actually set up the agricultural development that benefits everyone.

Fourthly, the utilization ratio of financial input into agricultural development in a majority of provinces is low. The input cannot expand the agricultural development coverage. Only in eight provinces including Beijing, Liaoning and so on, the financial input into agricultural development can be made effective use of and can expand the agricultural development coverage. The majority of middle and western provinces should continue improving the utilization ratio of agricultural development fund so that more people can get access to agricultural development and expand the agricultural development coverage.

Based on the above conclusions, we put forward that the domestic input-output efficiency of agricultural development input should be improved from the following perspectives.

Firstly, accelerate the regional economic development and increase regional financial income. The economic development level is an important guarantee of one

country's and region's agricultural development. For the purpose of ensuring agricultural development, economic development is of peculiar importance. As long as the economic development is sound, financial income can increase. The financial input into agricultural development can possibly increase correspondingly.

Secondly, continue enhancing the financial input into agricultural development. In general, the domestic agricultural development is not adequate. Although some provinces develop quickly and the financial income increases year by year, the growth rate of financial expenditure on agricultural development cannot keep pace with the increasing demand on agricultural development. The financial expenditure on agricultural development is still limited. A majority of provinces' financial expenditure on agricultural development cannot satisfy the local agricultural development demand. Therefore, the financial input into agricultural development should still be consolidated.

Thirdly, improve the utilization ratio of financial expenditure on agricultural development. The study finds that the input into agricultural development in many provinces is in a large amount. However, it cannot expand the region's agricultural development coverage. To delve into the reasons, it is because of the inappropriate use of fund on agricultural development. Thus, some fund is idle and wasted. For this reason, it is also of great importance in expanding the agricultural development coverage to set up a complete agricultural development fund management and utilization system as well as make reasonable and effective use of the fund.

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