

Research on the Path of Efficient Agricultural Development Enabled by New Quality Productivity

-- Taking Anhui Province as an Example

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Abstract: The 20th National Congress of the Communist Party of China pointed out that the agricultural modernization plan will be realized in 2035. Digital new quality productivity is a combination of digital economy and new quality productivity. This project aims to explore how digital economy can be an important part of new quality productivity to help agricultural development. Some towns in Anhui Province will be taken as an example, with the improvement of rural digital economic infrastructure, the proportion of new talents, the development degree of digital agricultural trade, combined with the agricultural bureau and related data for empirical analysis. The verification of digital new quality productivity can improve the production efficiency of rural agriculture, reduce production costs and improve the quality of agricultural products, effectively safeguard the fundamental interests of the people, and promote the modernization of agriculture and the country.

Keywords: New Quality Productivity; Digital Economy; Agricultural Modernization; High Quality Development.

1. Research Background and Significance

The Party's 20th National Congress pointed out that agriculture and rural modernization should be realized by 2035, and the "two sessions" proposed to steadily promote rural agricultural reform. At present, China's agricultural modernization lags behind, agricultural production efficiency is relatively low, and agricultural comparative benefit is low. Therefore, it is an inevitable trend to introduce digitalization into villages and towns and drive the development of rural agriculture. New quality productivity will lead the development of modern agriculture, and realize the stage leap from traditional planting to modern agriculture through smart agriculture and digital agriculture.

This project is based on the digital new quality productivity in some areas of Anhui Province to help agricultural development, sort out the appropriate model of digital new quality productivity and agricultural development, and improve the utilization efficiency of production raw materials and reduce labor costs through new quality productivity. To improve the output and quality of agricultural products, increase agricultural income, promote the development of township economy, improve people's living standards and happiness of life, and effectively safeguard the fundamental interests of the people have important practical significance for the national socialist modernization and the promotion of agricultural modernization.

2. Research Status and Literature Review

From the literature consulting resources of CNKI, Wanfang, Weipu and other database resources, scholars have made certain achievements in exploring the digital economy and new quality productivity to help the development of agriculture, but there are still differences and shortcomings in their perspectives, mainly in the following aspects:

2.1. Research on Digital New Quality Productivity

Scholars' research on the impact of digital rural economy has gradually increased since 2019, and the term "new quality productivity" was first proposed in 2023. Scholars' research on digital new quality productivity is mainly based on the following aspects. Wang Wensheng (2019) proposed that based on the national conditions of agriculture in the new era, accelerate the promotion of digital transformation, further liberate and develop digital productivity, drive the development of rural economy integrating knowledge updating, technological innovation and data-driven, and drive and enhance the modernization of agriculture and rural areas as a whole. Zhou Qingxiang et al. (2022) proposed that digital economy can significantly promote high-quality agricultural development; Wen Tao et al. (2024) believe that rural digital finance should make breakthroughs from the aspects of technology, data, platform, product, village station and risk control, so that it can more effectively serve to accelerate the construction of an agricultural power and comprehensively promote rural revitalization. Zhang Zhenyu (2024) proposed that the construction of digital countryside is the basic requirement for rural revitalization and the basis for high-quality development of rural economy. New quality productivity has multiple implementation paths for rural construction, enabling digital rural construction through industrial upgrading, rural development and farmers' progress. At present, there are some problems in the construction of digital countryside, such as the intensification of the digital divide between urban and rural areas, the limitation of rural economic structure, the increase of regional external risks, the shortage of rural professionals, and the lack of regional infrastructure.

2.2. Research on Agricultural Development

Du Peilian (2000) believes that the development of agriculture and rural economy in China depends on strengthening agricultural capital construction with water

conservancy as the key, carrying out comprehensive agricultural development with ecological protection as the premise, adjusting and optimizing agricultural economic structure; Develop agricultural cooperative economy, To realize agricultural scale management and promote agricultural industrialization; Ma Yafei (2021) proposed to strengthen the publicity of modern agriculture and improve the behavior and attitude of farmers. Actively create a social atmosphere, give play to the demonstration effect of the surrounding crowd; Provide technical, financial and market information support to enhance farmers' control over modern agriculture; Vigorously cultivate and develop new types of agricultural management entities, and integrate small farmers into modern agricultural design differentiated policy support systems; Du Ruonan (2023) explained that rural development still has problems such as poor external environment, imperfect infrastructure, weak agricultural product market, and insufficient innovation in agricultural science and technology. It is necessary to further find the fundamental driving force for deepening the structural reform of the agricultural supply side, effectively improve the agricultural system and mechanism, adjust the agricultural industrial structure, strengthen the cross-regional circulation capacity of agricultural products and the innovation capacity of agricultural science and technology, accelerate the establishment of a modern agricultural production system, and promote the reform, development, transformation and upgrading of the agricultural sector, which will help achieve high-quality agricultural and rural development at an early date. Promoting rural revitalization; Zhang Zhongpeng (2024) explained that we should not only keep the red line and store grain in the ground, but also innovate and develop, and store grain in technology. To develop modern agriculture, the most fundamental driving force and source is to build a new farmer team with modern science and technology and management consciousness.

To sum up, the new quality productivity is a productivity that is more integrated and reflects new connotations in the digital era. Data, as a new production factor, and digital technology, as the core driving force, have a significant impact on the transformation of traditional production modes, making the digital economy and new quality productivity have a natural fit. Agriculture is gradually developing in the direction of digitalization, and there are few relevant studies on digital new quality productivity and agricultural development. This project studies the application of digital new quality productivity to rural agriculture, innovation-driven, advanced technology, optimal allocation of resources, improvement of total factor productivity, improvement of production efficiency and quality, and acceleration of innovation ecosystem construction, so as to achieve high-quality development.

3. Research Objectives and Contents

3.1. Research Objectives

By studying the impact of digital new quality productivity on agricultural development in Anhui province, this project collects data from agricultural departments and related departments, establishes a regression model for empirical analysis, and provides theoretical support for the comprehensive upgrading of agriculture, the steady growth of rural economy, the comprehensive development of rural residents, and gathers strength for the comprehensive

construction of a modern socialist country.

3.2. Research Content

The first part is the literature review. This part first introduces the research background of the project, and explains the purpose and significance of the research, which lays a foundation for the follow-up work; Secondly, the literature on digital economy, new quality productivity and agricultural development is sorted out, the research status is summarized, and the research premise is summarized.

The second part, Anhui agricultural development status. In recent years, Anhui Province has begun fruitful exploration in the aspect of smart agriculture, such as: the level of intelligent production, the level of network management, the level of efficient management, and the construction of expert system and personnel training. However, there are still some problems, such as the intelligent agriculture system needs to be improved, the shortage of modern composite talents, and the insufficient development of core technologies.

The third part, digital new quality productivity to rural agricultural development impact path. In order to facilitate the analysis of the impact of new quality productivity on rural agricultural development and the subsequent path analysis, this project will roughly divide the impact path into three aspects: first, the improvement degree of rural digital agriculture infrastructure construction, second, the proportion of new rural talents and talent support, and third, the development degree of rural agricultural digital commerce. Digital new quality productivity has the characteristics of integration, which is conducive to expanding the production boundary. Under the promotion of digital new quality productivity, agriculture and rural industry, commerce, tourism, culture and other integrated development can realize the integration of primary, secondary and tertiary industries. Open up the channels for obtaining means of production, accelerate the matching of supply and demand, expand sales channels, and promote the development of the entire agricultural industry chain.

The fourth part is the empirical analysis of the influence of digital new quality productivity on Anhui agriculture. The development of regional agriculture is set as the dependent variable and expressed by agricultural income (Y). The three influence paths are set as independent variables, which are: the improvement degree of rural digital agriculture infrastructure construction (X_1), the proportion of new rural talents and talent support (X_2), and the development degree of rural agricultural digital commerce (X_3). e_i is the residual term, which is the influence factor not covered by the three influence paths in this project.

Let the correlation regression model be $Y = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + e_i$

Data collection and integration will be carried out through the data released by the Agricultural Bureau and relevant departments. With the progress of the project research, the promotion path of digital new quality productivity on agriculture will be improved, the supporting role of digital new quality productivity on agricultural development will be verified, and the follow-up impact path will be paved. The fifth part, countermeasures and suggestions. In this part, from the selected representative areas, according to the later development situation, appropriate expansion of the scope. Digital new quality productivity helps agriculture make the most efficient use of digital economy, improve the utilization efficiency of production raw materials, and reduce labor costs;

Improve the yield and quality of agricultural products and increase agricultural income; Promote economic development, increase employment, improve living standards, and improve the level of regional development.

4. Research Methods

4.1. Inductive Summary Method

Collect and read literature through academic websites to sort out scientific understanding. Firstly, the definition of digital economy, new quality productivity, high-tech agriculture and development model are sorted out to form the definition basis of the project research. Secondly, three influence paths are determined, representative towns in Anhui Province are selected, relevant data are searched, and empirical analysis is carried out to form the basis of optimization project research methods. Finally, the integrated development path can provide scientific and reasonable theoretical support for other regions on the basis of local conditions.

4.2. Empirical Research Method

Because the development of each township and each village in the township is different, and the development is complicated, so the influencing factors are summarized and processed to facilitate further analysis. The first item: modern rural broadband access users, cable route length, mobile phone penetration rate, the number of government network websites at all levels, residents' disposable income, etc. These influencing factors are summarized as: the degree of improvement of the basic construction of rural digital economy (X_1). The second item: the education level of the township personnel, the size of the labor force, the number of artificial intelligence talents, whether it is next to the agricultural technology school, etc. These influencing factors are summarized as: the proportion of new talents and the support of talents (X_2). Item 3: The influencing factors such as production conditions, production scale, quantity of agricultural e-commerce, and sales channels of agricultural products are classified as (X_3): the development degree of township digital agricultural trade, which is added to X_4, X_5, \dots according to the advancement of project research Variables are studied.

4.3. Case Study Method

This project takes Anhui Province as an example, select some representative towns for analysis, respectively: Dawei Town, Anhui Hefei, Huaiyuan, Anhui Bengbu, Anhui Hefei Changfeng and so on. Digital new quality productivity has gradually entered all aspects of modern agriculture, for example: Anhui Dawei, the cultivation of tomato seedlings without soil, instead, the coconut husk is broken by the coconut shell and then processed to complete the coconut bran, is a new type of sodless cultivation, renewable, recyclable, the greenhouse is used in the Netherlands Wenluo greenhouse, the top of the use of scattered glass; Huaiyuan, Anhui, from the "seed, pipe, transport, drying, storage" of all links, all into the Internet of Things data platform, to provide enterprises with effective plastic basis to ensure the quality of agricultural products; Changfeng, Anhui, digital strawberry experiment greenhouse through the use of sensors, big data, artificial intelligence means, the collected data is transmitted to the big data center for data modeling and analysis. These are digital new quality productivity applied to agricultural

development.

5. Empirical Analysis

5.1. Dawei Town, Hefei, Anhui Province

Dawei Town, Hefei, Anhui province, belongs to Baohe District, Hefei City, Anhui Province, is located in the southeast of Baohe District. As of the end of 2019, the registered population of Dawei Town was 25,713. After 1949, it was Feixi County; March 2002, Baohe District; In April 2007, Dawei Township was changed to Dawei Town. As of June 2020, Dawei Town has jurisdiction over 15 administrative villages, and the town people's government is located on the north side of Garden Avenue. In 2019, Dawei Town has 17 industrial enterprises, of which 1 is above the scale, and 38 comprehensive stores or supermarkets with a business area of more than 50 square meters.

Social undertaking

Education: At the end of 2011, there were 8 kindergartens in Dawei Town, with 633 children in the kindergarten and 45 full-time teachers; 3 primary schools, 1356 students, 102 full-time teachers, primary school age children enrollment rate of 100%; There is a junior high school with 1250 students and 109 full-time teachers. The enrollment rate of the population of junior high school age, the enrollment rate of primary school students and the coverage rate of nine-year compulsory education all reached 100%. In 2011, about 2.44 million yuan was budgeted for education, accounting for about 8% of total government expenditure on education (including urban education surcharges). Science and technology: At the end of 2011, Hefei Agricultural Commission set up a municipal food quality and safety monitoring center and an animal disease prevention and control monitoring center. Social security: In 2011, Dawei Town had 79 households, 79 people, and an expenditure of 556,800 yuan, an increase of 4.28% over the previous year. The number of minimum living allowance households in rural areas is 274. The number of people was 606, and the expenditure was 1.7672 million yuan, an increase of 87.22% over the previous year. Urban medical assistance provided 125 people, with an expenditure of 692,300 yuan, an increase of 61.89 percent over the previous year. The state provided subsidies to 30 entitled groups of various types, and spent 160,700 yuan on such subsidies, an increase of 3.6 percent over the previous year. A total of 22,700 yuan was spent on temporary relief for 52 rural households. One nursing home for the elderly with 200 beds, adopting 90 people from rural five guarantees. A total of 2,050 people were newly employed, 50 laid-off workers and 10 people who had difficulty finding jobs were re-employed, and the registered urban unemployment rate was 4.50 percent. 13,000 people participated in basic medical insurance for non-working urban residents, an increase of 1,700 over the end of the previous year.

infrastructure

Water supply and drainage: At the end of 2011, the penetration rate of tap water in Dawei Town was 100%. Power supply: At the end of 2011, there were two substations (stations) of 220 kV and above in Dawei Town, and four main transformers, with a total capacity of 2.86 megavolt-ampere. There are 14 high-voltage transmission lines with a total length of 126 kilometers and a power load of 622,000 kilowatts, which is one of the 15 key power grids determined by the State Grid Corporation. Annual sales of electricity to

complete 250 million KWH, comprehensive voltage qualified rate of 97.8%, power supply reliability rate of 99.8%. Landscaping: As of 2011, Dawei Town has 1 park, with an area of 97 hectares and a landscaping area of 47 hectares, including 25 hectares of public green space, with a green coverage rate of 48%.

5.2. Huaiyuan, Bengbu, Anhui Province

Huaiyuan County, under the Anhui province Bengbu city. Located in the north of Anhui Province, the middle reaches of the Huaihe River, the southern end of the Huaibei Plain. As of October 2022, Huaiyuan County has jurisdiction over 3 streets, 17 towns, 1 township, and 1 farm and 1 development zone. By the end of 2022, the permanent population of Huaiyuan County is 938,000. In 2022, Huaiyuan County achieved a regional GDP of 35.72 billion yuan (current price), of which: the added value of the primary industry is 8.7 billion yuan, the added value of the secondary industry is 7.07 billion yuan, and the added value of the tertiary industry is 19.95 billion yuan. The ratio of three industrial structures is 24.4:19.8:55.8. The per capita GDP was 38,086 yuan (based on permanent population).

economy

Summary: In 2022, Huaiyuan County achieved a gross regional product of 35.72 billion yuan (current price), calculated at comparable prices, an increase of 1.7% over the previous year. Among them, the added value of the primary industry is 8.7 billion yuan, that of the secondary industry is 7.07 billion yuan, and that of the tertiary industry is 19.95 billion yuan. The ratio of the tertiary industry structure has been adjusted from 22.9:23.6:53.5 in 2021 to 24.4:19.8:55.8, with the proportion of the primary industry increasing by 1.5 percentage points, the proportion of the secondary industry decreasing by 3.8 percentage points, and the proportion of the tertiary industry increasing by 2.3 percentage points. The per capita GDP was 38,086 yuan (based on permanent population). In that year, there were a total of 11,023 new market entities in four categories. There were 90 newly established domestic enterprises, 1,876 private enterprises, 8,909 individual industrial and commercial households, and 148 specialized farmers' cooperatives. By the end of 2022, the total number of the four types of market entities had reached 72,316, including 59,640 individual industrial and commercial households, 12,371 enterprises, and 2,305 specialized farmers' cooperatives. In 2022, the added value of the private economy in Huaiyuan County was 22.09 billion yuan, down 2.9% from the previous year, accounting for 61.8% of the GDP.

Primary industry

In 2022, the total output value of agriculture, forestry, animal husbandry and fishery in Huaiyuan County was 14.39 billion yuan, an increase of 5.3% over the previous year. Specifically, the output value of agriculture was 7.05 billion yuan, up by 3.5%; Forestry output value was 420 million yuan, down 9.5%; The output value of animal husbandry was 4.16 billion yuan, up by 8.2%; The output value of fishery was 1.74 billion yuan, up by 7.0%; The total output value of agriculture, forestry, animal husbandry and fishery services was 570 million yuan, up 14.6 percent. Agriculture: In 2022, the planting area of grain crops in Huaiyuan County will be 3,394,400 mu, an increase of 0.6%; Total grain output was 1.607 million tons, an increase of 1.38 percent. Among them, wheat was 690,700 tons, an increase of 1.6%; Rice was 324,600 tons, an increase of 1.9 percent. In 2022, the

vegetable planting area of Huaiyuan County is 228,000 mu, an increase of 2.6% over the previous year; The total output of vegetables was 665,000 tons, an increase of 4.8% over the previous year. Animal husbandry: In 2022, 579,000 pigs were raised in Huaiyuan County, an increase of 4.4%. The output of poultry eggs was 20,000 tons, an increase of 18.8 percent. The output of aquatic products was 50,000 tons, an increase of 3.5%. Production conditions: By the end of 2022, the fertilizer application amount (reduced) in Huaiyuan County was 101,000 tons, down 0.95%. The use of agricultural film was 3,128 tons, up 2.4%. Pesticide use was 1,565 tons, down 1.6 percent.

Secondary industry

Industry: In 2022, the industrial added value of Huaiyuan County was 5.30 billion yuan, down by 12.0%. Industrial production and marketing were well connected, and industrial economic performance steadily improved. The production and sales rate of industries above designated size was 98.9 percent, and the operating income of those industries above designated size was 15.32 billion yuan, up 21.8 percent year-on-year. The total profit reached 730 million yuan, an increase of 7.4 times. By industry, the food manufacturing industry above designated size grew by 1.4 times; the computer, communications and other electronic equipment manufacturing industry above designated size grew by 36.2 percent; the electrical machinery and equipment manufacturing industry above designated size grew by 18.3 percent; the general equipment manufacturing industry above designated size grew by 18.3 percent; and the gas production and supply industry above designated size grew by 7.6 percent. Ferrous metal smelting and pressing industries above designated scale increased by 1.6%. By the end of 2022, there were 215 industrial enterprises above designated size in Huaiyuan County, and 29 new industrial enterprises above designated size were added. There are 44 enterprises in strategic emerging industries, the output value of which accounts for 38.6% of the total output value of industries above designated size. Construction industry: In 2022, Huaiyuan County has 59 qualified construction enterprises in the library, an increase of 14 over the previous year, achieving a total output value of 2.14 billion yuan, an increase of 29.8%. The total added value of the construction industry was 1.78 billion yuan, up by 15.9%.

Tertiary industry

Domestic trade: In 2022, the total retail sales of social consumer goods in Huaiyuan County was 21.17 billion yuan. By industry, the sales volume of wholesale industry was 11.46 billion yuan, up by 14.1%; Retail sales were 16.56 billion yuan, up by 3.8%; The turnover of the accommodation industry was 180 million yuan, an increase of 8.7%; The turnover of the catering industry was 1.96 billion yuan, an increase of 9.2%. Foreign economy: In 2022, the total import and export volume of Huaiyuan County was 200 million US dollars, an increase of 30.5% over the previous year. Among them, the export was US \$160 million, an increase of 14.5%; Imports reached US \$40 million, up 2.5 times. Investment promotion: In 2022, Huaiyuan County will have 55 investment promotion projects, with a total investment of 37.57 billion yuan.

Social undertaking

Science and technology: In 2022, Huaiyuan County has a net increase of 24 high-tech enterprises, and a total of 89 high-tech enterprises. There are 7 engineering (technology) research centers above the provincial level in the county. The

turnover of technical contracts was 462,000 yuan, an increase of 7.1 times over the previous year. The number of invention patents granted in the county was 43. By the end of 2022, Huaiyuan County had 524 effective invention patents, including 175 high-value invention patents. The number of invention patents per 10,000 people reached 5.5. Education: As of the end of 2022, there are 3 secondary vocational education schools in Huaiyuan County, including 2 general secondary schools and 1 adult secondary schools; There are 701 basic education schools, of which 69 are general middle schools (9 high schools, 60 middle schools), 250 primary schools, 381 kindergartens, and 1 special education school. Cultural undertakings: In 2022, Huaiyuan County Cultural Center and township comprehensive cultural Service Center held 22 exhibitions, organized more than 1,422 cultural activities, held 82 training courses, and completed 22,179 trainings. The total volume of public libraries is 898,000. There are 902 pieces (sets) in the collections of cultural relics protection and administration institutions, of which 169 pieces (sets) are of Grade III or above. In 2022, the museum received 29,000 visitors, including 16,000 young people, and provided 96 free explanation services for enterprises, institutions, groups and individuals to visit the museum. Social security: In 2022, 7,599 new jobs will be created in urban areas of Huaiyuan County, 6,357 unemployed people will be re-employed, and 10,123 new rural labor force will be transferred. The registered urban unemployment rate at the end of the year was 3.1%. By the end of 2022, the number of people covered by the five social insurances of basic pension, unemployment, medical treatment, work-related injury and maternity in Huaiyuan County was 89,000, 39,000, 1.141 million, 47,000 and 47,000 respectively, of which 1,074,000 were covered by the medical insurance for urban and rural residents and 733,000 by the old-age insurance for urban and rural residents. Pensions for enterprise retirees and unemployment benefits for the unemployed are paid in full and on time. By the end of 2022, Huaiyuan County has a total of 45 pension institutions of various types in normal operation, and 3,303 beds of various pension institutions.

5.3. Changfeng, Hefei, Anhui Province

Changfeng County, affiliated to Hefei City, Anhui Province, is located in the middle of Anhui Province, between the Jianghuai River. As of midnight on November 1, 2023, the permanent population of Changfeng County is 833,000. By the end of 2022, Changfeng County has jurisdiction over 12 towns and 2 townships. In 2023, the GDP of Changfeng County reached 94.643 billion yuan, an increase of 14.3 percent year on year at constant prices.

economy

In 2022, the GDP of Changfeng County was 82.383 billion yuan, at constant prices, an increase of 3.7% over the previous year. Among them, the added value of the primary industry was 8.726 billion yuan, up by 3.8%; The added value of the secondary industry was 39.355 billion yuan, up by 13%; The value added of the tertiary industry was 34.302 billion yuan, down 4.6%. The structure of the three industries was adjusted from 10.7:43.3:46 in the previous year to 10.6:47.8:41.6. The share of industrial added value in GDP increased from 33.4% in the previous year to 36.2%, of which the share of manufacturing added value in GDP increased from 32.3% to 35.5%. According to the registered population at the end of the year, the per capita GDP was 101,119 yuan (US \$15,034), an increase of 7,197 yuan over the previous year. In 2022, the

fixed asset investment in Changfeng County increased by 46.1% over the previous year; Industrial investment grew by 115.3%; Investment in technological upgrading increased by 36.8%. The primary industry grew by 4.9 percent, the secondary industry by 115.3 percent, and the tertiary industry by 8.5 percent. By industry, investment in manufacturing grew by 123.8 percent. Investment in transportation, warehousing and postal services increased by 94%; Investment in electricity, heat, gas and water production and supply increased by 28.4%. In 2022, the fiscal revenue of Changfeng County was 8.388 billion yuan, an increase of 8.1% over the previous year, of which the general public budget revenue was 5.49 billion yuan, an increase of 10.1%. Government expenditure is 12.7 billion yuan, up 43.5%.

Primary industry

In 2022, the sown area of grain crops in Changfeng County was 172.94 million mu, an increase of 0.1 percent over the previous year. Among them, the planting area of rice is 1,061,200 mu; Wheat planting area of 514,900 mu; The planting area of corn is 48,600 mu. The planting area of beans is 50,200 mu. The area of oil was 125,600 mu, an increase of 22,500 mu over the previous year. The vegetable area was 204,700 mu, an increase of 0.35 mu over the previous year. China's total grain output was 655,500 tons, an increase of 0.6 percent over the previous year. Among them, the output of rice was 448,100 tons; Wheat output 168,300 tons; The output of maize was 17,700 tons; The output of pulses was 0.55 million tons. Oil production 24,100 tons, an increase of 21.8%; The output of vegetables was 356,800 tons, up 2.4 percent. By the end of 2022, Changfeng County had 307,300 live pigs; A total of 503,300 pigs were raised in the year. The total output of meat in the year was 94,900 tons, an increase of 3.4%, of which the output of pig, beef and mutton was 45,600 tons, an increase of 4.8%. The output of poultry eggs was 49,000 tons, an increase of 4.8%. Milk production was 22,200 tons, an increase of 6.6 percent. The output of aquatic products was 45,400 tons, an increase of 4.3 percent. At the end of the year, the total power of agricultural machinery was 1.1051 million kilowatts, an increase of 1.0% over the previous year. 54,000 agricultural tractors, down 8.1% drop; The annual fertilizer application (reduced) was 50,300 tons, down by 6.0%. Rural electricity consumption was 270 million KWH, up 5.6%. The total output value of agriculture, forestry, animal husbandry and fishery was 12.834 billion yuan, up by 4.2% at comparable prices.

Secondary industry

By the end of 2022, 98 industrial enterprises above designated size in Changfeng County exceeded 100 million yuan. The total output value of industries above designated size increased by 18.8%, of which the output value of strategic emerging industries decreased by 1.2%. Calculated at comparable prices, the added value of industrial enterprises above designated size increased by 16.4 percent over the previous year. By economic type, the value added of state-owned holding enterprises fell by 17.5 percent, that of joint-stock enterprises by 14.1 percent, and that of enterprises invested by foreign investors, Hong Kong, Macao and Taiwan businessmen by 41.3 percent. In 2022, the added value of the construction industry in Changfeng County was 9.535 billion yuan, an increase of 16.1%. The county included 258 general contracting and professional contracting construction enterprises with construction industry qualification level in the scope of statistics, with a total output value of 18.362 billion yuan, an increase of 10% over the previous year.

Housing construction area was 4.738,100 square meters, down 32.5%; The completed area of housing was 2.3749 million square meters, down 32.8 percent.

Tertiary industry

In 2022, the added value of wholesale and retail industry in Changfeng County was 7.019 billion yuan, down 8.2% from the previous year; The added value of transportation, warehousing and postal services was 5.454 billion yuan, down 0.7%; The added value of the accommodation and catering industry was 786 million yuan, down 4.2%; The added value of the financial industry was 3.201 billion yuan, up by 8.5%; The added value of the real estate industry was 5.876 billion yuan, down 19.8%; The added value of other service industries was 11.746 billion yuan, up by 3.1%. The operating income of service enterprises above designated size fell by 14.8 percent. In 2022, the number of domestic tourists in Changfeng County was 3.88 million, an increase of 2.1% over the previous year; Domestic tourism revenue reached 1.42 billion yuan, up 11.8 percent over the previous year. There are 7 tourist attractions above grade A in the county, of which 2 are 4A tourist attractions and 5 are 3A tourist attractions. In 2022, the total retail sales of consumer goods in Changfeng County reached 34.113 billion yuan, an increase of 1.8% over the previous year. In terms of consumption patterns, retail sales of commodities reached 31.71 billion yuan, up by 1.9%; The revenue of catering industry was 2.403 billion yuan, up by 0.3%. In terms of enterprise size, the retail sales of enterprises above designated size reached 13.352 billion yuan, down 0.3%, of which the online retail sales of enterprises above designated size reached 11.609 billion yuan, up 0.9%. In 2022, the total import and export volume of Changfeng County was 2.147 billion US dollars, an increase of 19.2% over the previous year. Among them, exports were 1.939 billion US dollars, an increase of 20.8% : imports were 2.08.

Social undertaking

Education: By the end of 2022, Changfeng County has 37 ordinary middle schools with 41,200 students; There are 6 secondary vocational education schools with 12,800 students. 59 primary schools with 58,600 students; There are 157 kindergartens with 31,200 children in them. The enrollment rate of primary school children in the county is 100%, and the enrollment rate of junior high school graduates is 100%. **Cultural undertakings:** By the end of 2022, Changfeng County has 34 professional troupes, 1 library with a collection of 293,100 volumes, and 14 cultural radio and television stations. **People's life:** In 2022, the per capita disposable income of permanent residents in Changfeng County was 35,519 yuan, an increase of 6.6% over the previous year, 2.9 percentage points faster than the GDP growth. The per capita disposable income of urban residents was 45,432 yuan, up by 5.6%; The per capita disposable income of rural residents was 27,587 yuan, up by 7.2%. The urban-rural income ratio was 1.65, 0.02 percentage points lower than the previous year. **Social security:** By the end of 2022, Changfeng County had 21 residential social welfare institutions with 5,318 beds. The county has established 110 home care service stations. Charitable organizations raised 2,931,900 yuan.

6. Conclusion

According to the analysis of relevant agricultural bureau and regional data, under the promotion of new quality

productivity, the popularity of digital agriculture is getting higher and higher, the proportion of educated people in rural areas and the proportion of higher educated people are increasing, and the development level of rural digital commerce has also been improved. Because the empirical analysis is carried out on the basis of the relevant agricultural bureau data and the method of induction and summary is adopted, the degree of 1-10 is used to express the three representative regions five years ago in 5 respectively, and the data at the end of 2022 and the beginning of 2023 is taken as the analysis endpoint, and the data five years ago is taken as the benchmark to express the respective values of the three places.

In terms of agricultural income (Y). The three influence paths are set as independent variables, which are: the improvement degree of rural digital agriculture infrastructure construction (X_1), the proportion of new rural talents and talent support (X_2), and the development degree of rural agricultural digital commerce (X_3). e_i is the residual term, which is the influence factor not covered by the three influence paths in this project.

Let the correlation regression model be $Y = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + e_i$, put the relevant data into the relevant model for simple analysis, and obtained that β_1 , β_2 and β_3 are all greater than zero. Therefore, the new quality productivity promotes the development of agriculture and enables the efficient development of agriculture in the aspects of the improvement of rural agricultural infrastructure, talents and agricultural digital business.

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