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Measuring the effectiveness of digital economy driving rural industry revitalization in Yunnan Province

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ABSTRACT

With the rapid development of digital technology and its wide penetration into various industries of economy and society, it has gradually become an important model of global concern in recent years. China's digital economy is playing an increasingly important role in the revitalization of rural industries. Therefore, an objective and scientific evaluation of the effectiveness of digital economy driving rural industry revitalization has important theoretical and practical significance for China's future economic development. However, in the past, most of the research on the effectiveness of digital economy driving rural industry revitalization was biased to theoretical research, and the research on how to measure the effectiveness of digital economy and rural industry revitalization was extremely rare, and there was a certain research gap. Based on previous studies on digital economy and rural industry revitalization by various scholars, this paper conducts research on the relationship between digital economy and rural industry revitalization, focusing on the rural industry revitalization in Yunnan from 2012 to 2021, and carries out analysis by means of empirical analysis through the construction of variable system. The conclusions are as follows: (1) From 2012 to 2021, the total factor productivity of rural industries in Yunnan Province is greater than 1 and is in a growing trend. Meanwhile, it can be found that the growth of total factor productivity mainly depends on technological progress. (2) Digital economy can promote the revitalization of rural industries, and through the coordinated development of digital technology and rural industries, promote the integrated development of rural industries, expand the market scale of rural industries and indirectly promote the revitalization of rural industries. Based on the above conclusions, the following political suggestions are put forward: (1) Accelerate the training of new rural industry management talents; (2) Improving the construction of digital infrastructure in rural areas; (3) Intensify research and development of rural industrial technologies

KEYWORDS

Digital economy; Rural revitalization; Rural industry revitalization; Data envelopment analysis; Yunnan region.

1. INTRODUCTION

As China wins the battle against poverty in 2020, the country is focusing on the major issue of how to achieve common prosperity for all its people. It can be seen that the development of rural industry is very important in rural revitalization. Since the reform and opening up, the rural industrial development of our country has made brilliant achievements, and after entering the new era, the existing rural industrial structure in today's rapid development has fallen at a disadvantage. Therefore, finding a new rural industrial structure has become the top priority, and the digital economy provides a new way of thinking. Today, the world has fully entered the era of digital economy, and the wide application of digital technology has a profound impact on the transformation and upgrading of

traditional industries, and has given birth to many new industries, new formats and new models. Since the 18th CPC National Congress, China has made remarkable achievements in the construction of digital economy: new technologies such as big data, artificial intelligence and cloud computing have accelerated innovation and become increasingly integrated into all fields and the whole process of economic and social development. China has now become a major digital economy country with obvious advantages in scale and leading industries.

In summary, what role does the digital economy play in revitalizing rural industries? How to measure the effectiveness of digital economy in driving rural industry revitalization? These are the issues that must be paid attention to in the revitalization of rural industries, and also the questions that must be considered to achieve the modernization of agriculture and rural areas, and the questions that must be answered to deal with the contradiction of unbalanced and inadequate development.

2. RESEARCH STATUS

In recent years, digital economy and rural industry revitalization, as a major strategic starting point for China to promote economic transformation from virtual to real, transform economic development mode, build a new development pattern, and comprehensively build a modern socialist country, have received continuous and extensive attention from academic and political circles at home and abroad, and produced a series of research results rich in theoretical and practical significance. They have provided reference for the in-depth promotion and integrated development of the two strategies. This section will sort out the domestic and foreign research results of digital economy and rural industry revitalization, and lay the foundation for the subsequent theoretical analysis and empirical test of this paper.

2.1. Foreign research status

(1) Research on digital economy

With the continuous iteration of information technology, the digital economy has developed rapidly, becoming a "new engine" to hedge the downward pressure on the traditional economy and promote economic growth. The earliest reference to digital economy comes from Don Tapscott (1996)in his book Digital Economy: Hope and Risk in the Age of Intellectual Connectivity. In 1997, the Japanese Ministry of International Trade and Industry began to use the concept of "digital economy", and then the US Department of Commerce issued the Emerging Digital Economy, which equated the digital economy with the new economy and pointed out that the essence of the "new economy" was a revolution of the emerging information economy over the traditional agricultural and industrial economy. In 1998, The US Department of Commerce released the document The Emerging Digital Economy, judging the arrival of digital economy from the perspective of the government, and began to design measurement indicators, collect data, and include digital economy in official statistics. Since then, it has released The Emerging Digital Economy II and Digital Economy 2000, and the concept of "digital economy" has been widely used in the whole society. Since 2002, the World Economic Forum has released the Global information technology report every year. Since the first report, "digital economy" has appeared in the main body, and even appeared in the subtitle of the 2016 report. The OECD has also measured the digital economy for many years, using the name directly in the title of several reports. Since 2010, the concept of digital economy has included the ICT industry, e-commerce and digital content industries. Among them, the most representative are the Organization for Economic Co-operation and Development (OECD) and the US Bureau of Economic Analysis (Bureau of Economic Analysis).Ahmad and Ribarsky (2018) define the digital economy not from the perspective of traditional production or product, but from the perspective of transactions connecting production and consumption, and consider a transaction to BEA digital economy if it satisfies the characteristics of "digital ordering (e-commerce)" or "digital delivery". This definition highlights the most obvious manifestation of the current digital economy and is easy to be applied in practice. The

current consensus definition of digital economy was put forward by the G20Initiative on Digital Economy Development and Cooperation signed at the 2016 G20 Hangzhou Summit, which states that the key production factor of the digital economy is the sum of a series of economic activities that use digital information and knowledge to improve efficiency and optimize economic structure through the effective use of modern networked technologies and information and communication technologies.

(2) Research on the revitalization of rural industries

Throughout the world, the world's major developed countries have carried out the exploration and reform practice of rural socio-economic development, and achieved certain results, forming a typical experience on the development of rural industries.

Among them, Japan and South Korea, as the representatives of Asian countries, from the 1940s to the 1950s, after the end of the Second World War, the defeated Japanese rural agricultural production was stagnant, and the cultivated land area was small and scattered. To improve the utilization rate of land and improve the organization of farmers became the goal of agricultural development in Japan during this period. From 1960s to the end of the 20th century, in order to speed up the completion of industrial modernization with urban as the core, Japan separated urban from rural areas, resulting in increasingly serious unbalanced development of industry and agriculture. In this regard, Japan enacted the Basic Law of Agriculture in 1961. The main purpose is to promote agricultural production, ensure agricultural output, with the differentiation of rural labor force, transfer and policy adjustment, in 1999 issued a new agricultural basic law - "food, agriculture, rural Basic Law", establish the multi-functional development of agriculture, sustainable development and rural revitalization concept. At this point, the rapid development of Japanese agriculture, the modern agricultural model has been initially built, based on Japan's rural industry practice, the development of Japanese rural industry is actually based on the "six industrialization" development oriented, combined with supporting policies and measures to jointly promote the development of rural industry. South Korea's national conditions are roughly similar to Japan, in the 1950s, affected by the Korean War, South Korea's economy was hit hard, in the 1960s, South Korea in order to promote economic recovery, the implementation of two five-year economic development plans, making South Korea's agriculture on the right track. However, the gap between rural and urban areas in South Korea has gradually widened, and the rural population has moved to the city on a large scale. Therefore, in the 1970sand 1980s, the South Korean government launched the "New Village Movement". The orderly organization, scientific planning and powerful policies of the "New Village Movement" effectively promoted the development of rural industries. Because Japan and South Korea are similar to China in many aspects, such as similar cultural heritage, the basic national conditions of large population and small land, they have a very good reference

2.2. Domestic research status

(1) Research on digital economy

China's digital economy has its own development characteristics. It started late in the early stage and developed slowly. Compared with developed countries, it is in a backward position. However, with the rapid expansion of the digital economy in recent years, China has gradually realized the curve of overtaking, and even in some aspects has been in the world's leading level

The Emerging Digital Economy, translated by Jiang Qiping (1998), is the earliest reference to the emergence of digital economy, which tells that information will determine the development of new economy and information technology will change the mode of economic operation. This report aroused great attention of people from all walks of life and triggered a series of researches. Wang Junling et al. (2001) believe that digital economy is a new economic form and an inevitable outcome of the progress of digital technology. In addition, digital economy and information economy are equivalent, and its biggest challenge lies in the reserve of human resources. Liu Jianping (2001)

believes that the digital economy is a new type of network economy based on the Internet, driven by digital technology and supported by human development. Zhang Xinhong (2016), Lin Yueqin (2017) et al proposed that digital economy provides developing countries with a huge opportunity to overtake on a curve, while China's digital economy has the largest advantage of the scale of Internet users and the advantages of system and policy guarantee.

(2) Research on the revitalization of rural industries

Until the end of the 1970s, China was a country with a very high proportion of agricultural population in the total population and a very high proportion of agricultural GDP in the three industries of the national economy. Agricultural and rural development determined the level of China's development. Therefore, many domestic scholars have carried out research on the revitalization of rural industry. Wen Fengan (2020) pointed out that the integrated development of rural revitalization strategy and agricultural modernization governance is a key link to make up for the shortcomings of agricultural and rural development and realize agricultural and rural modernization. The integrated development of the two will not only help to realize the modernization of agriculture and rural areas, but also play an important role in enhancing the international competitiveness of agriculture and stimulating the vitality of rural development. Kong Xiangzhi (2019) pointed out that in the long run, the implementation of the rural revitalization strategy will inevitably show three major trends, namely, priority development of agriculture and rural areas, supply-side structural reform and comprehensive development of agricultural and rural modernization.

Therefore, to a certain extent, the modernization of agriculture and rural areas is not only the final landing point of the comprehensive implementation of the rural revitalization strategy, but also the key measurement standard to test the implementation effect of China's rural revitalization strategy. Based on this, Wei Houkai et al. (2020) believe that the period of the "14th Five-Year Plan" is not only the development period of the rural revitalization strategy, but also the key period for the transition from a comprehensive well-off society in rural areas to a comprehensive implementation of the rural revitalization strategy. With the realization of the goals of an all-round well-off society and poverty alleviation, the focus of China's "three rural areas" work will gradually shift to the comprehensive implementation of the rural revitalization strategy. Promoting the modernization of agriculture and rural areas is a major task for comprehensively building a modernized socialist country. The central government attaches great importance to the modernization of agriculture and rural areas and has made a series of strategic arrangements and major decisions. On November 12, 2021, The State Council issued the 14th Five-Year Plan for Promoting the Modernization of Agriculture and Rural Areas (hereinafter referred to as the Plan), putting forward the ideas, goals and key tasks for the modernization of agriculture and rural areas in the next five years.

3. EMPIRICAL ANALYSIS TO MEASURE THE EFFECTIVENESS OF DIGITAL ECONOMY-DRIVEN RURAL INDUSTRY REVITALIZATION IN YUNNAN

3.1. Research methods and data sources

3.1.1. DEA model

DEA (Data Envelopment Analysis) is a non-parametric efficiency analysis method to compare the relative efficiency of each decision making unit (DMU). It does not need to set the specific form of production function or evaluation criteria, and only relies on the input-output data to evaluate the input-output efficiency of the unit. It is a non-parametric method proposed by Charnes et al in 1978, which is combined with linear programming and used to evaluate the same type, multi-input and multi-output DMU. DEA method can greatly simplify the calculation steps, and has more obvious advantages than the past statistical measurement methods. It only needs input and output indicators

to measure its production efficiency. Its efficiency evaluation methods include: CCR model, BCC model, two-stage and three-stage DEA model, DEA model of non-expected output, super efficiency model and other methods. Based on the input-oriented variable returns to scale BCC model, this study evaluated the efficiency of rural industry revitalization driven by digital economy in Yunnan Province from 2012 to 2021, in which comprehensive efficiency = technical efficiency × scale efficiency.

3.1.2. Malmquist index

DEA-Malmquist model is a dynamic index model introduced by Caves(1982)to make up for the fact that the traditional static DEA-BBC model can only carry out static analysis. It divides the causes of productivity change into technological change and technological efficiency change: technological change is the movement of the production front; Technological efficiency change is the utilization efficiency of production technology, and the distance change between the production frontier and the actual output. The advantage of this model lies in the introduction of time element, which can dynamically analyze different time stages

The change of production efficiency. Malmquist index was first proposed by Sten Malmquist, a famous Swedish economist, and then Fell and others proposed non-parametric linear programming algorithm on this basis to popularize this index method. Among them, the measurement results of Malmquist index are expressed by total factor productivity, which is the product of technological progress and technical efficiency, and technical efficiency is the product of pure technical efficiency and scale efficiency.

3.1.3. Source of data

This paper takes 16 prefectures (cities) of Yunnan Province as the research object, and the research time span is 2012-2021. The reason is that many relevant statistical data of digital economy were gradually enriched and improved after 2010, so it is more feasible, fuller and more reliable to select data after 2010, which is conducive to the construction of an appropriate indicator system. The total output value of agriculture, forestry, animal husbandry and fishery (RMB 100 million), per capita disposable income of rural residents (RMB) are selected as output items, and the digital financial coverage breadth index, digital financial coverage breadth index and digitalization degree index are selected as input items. The data were sourced from China Statistical Yearbook, Yunnan Provincial Statistical Yearbook, Peking University Digital Financial Inclusion Index and official data.

3.2. Results and analysis

This section uses DEA model to study the comprehensive efficiency, technical efficiency and scale efficiency of rural industry in 16prefectures (cities) of Yunnan Province from 2012 to 2021. As shown in Table 1, we intercepted the comprehensive efficiency, technical efficiency and scale efficiency of rural industries in 16 prefectures (cities) of Yunnan Province in 2012, 2017 and 2021, and analyzed the efficiency of rural industry revitalization driven by the digital economy in Yunnan Province through the data of these three years.

3.2.1. Comprehensive efficiency analysis

A comprehensive efficiency of 1 indicates that the rural industrial production efficiency allocation is effective, that is, DEA is effective; A comprehensive efficiency less than 1 indicates that DEA is invalid.

It can be seen from Table 1 that among the 16 prefectures (cities) in Yunnan Province in 2012, 4 of the prefectures (cities) with effective DEA (equal to 1) are Qujing, Puer, Lincang and Diqing, accounting for one quarter, indicating that the input and output of these 4 prefectures (cities) have reached the optimal state under the existing management level, technical level and resource input. There are 12 regions whose comprehensive efficiency is below 0.9

The average comprehensive efficiency of Yunnan Province in 2017 was 0.844, which was slightly higher than that of 2012. Only 3 states (cities) with DEA effective (equal to 1) are Kunming, Qujing and Yuxi, Pu 'er, Lincang and Diqing have changed from DEA effective to DEA ineffective, 3 of them have Baoshan, Lincang and Xishuangbanna with comprehensive efficiency of 0.9-1.0, and 11 regions with comprehensive efficiency below 0.9.

The average comprehensive efficiency of the states (cities) in Yunnan Province in 2021 is lower than that in 2017, but slightly higher than that in 2012, which is 0.835. There are 3 states (cities) with effective comprehensive efficiency (equal to 1) in Kunming, Qujing and Yuxi, 3 states (cities) with comprehensive efficiency of 0.9-1.0 are Honghe, Xishuangbanna and Dali, and those with comprehensive efficiency below 0.9 become 11 regions.

Table 1. Comprehensive efficiency of rural industry in 16 prefectures (cities) of Yunnan Province in 2012, 2017 and 2021

州（市）	2012				2017				2021			
	Overall ε	Technical	Scale eff	Returns t	Overall ε	Technical	Scale eff	Returns t	Overall ε	Technical	Scale eff	Returns t
Kunming	0.896	1.000	0.896	drs	1.000	1.000	1.000	-	1.000	1.000	1.000	-
Qujing	1.000	1.000	1.000	-	1.000	1.000	1.000	-	1.000	1.000	1.000	-
Yuxi	0.915	1.000	0.915	drs	1.000	1.000	1.000	-	1.000	1.000	1.000	-
Baoshan	0.873	0.893	0.978	irs	0.916	0.991	0.924	irs	0.867	0.973	0.891	irs
Zhaotong	0.866	1.000	0.866	irs	0.817	1.000	0.817	irs	0.759	1.000	0.759	irs
Lijiang	0.609	0.664	0.918	irs	0.725	0.930	0.780	irs	0.759	0.935	0.812	irs
Pu ’er te	1.000	1.000	1.000	-	0.859	0.974	0.882	irs	0.844	0.990	0.852	irs
Lincang	1.000	1.000	1.000	-	0.920	1.000	0.920	irs	0.881	1.000	0.881	irs
Chuxiong	0.899	0.906	0.992	drs	0.860	0.988	0.871	irs	0.842	0.966	0.871	irs
Red River	0.778	0.804	0.968	irs	0.897	0.979	0.916	irs	0.904	0.977	0.925	irs
Wenshan	0.890	0.989	0.900	irs	0.824	1.000	0.824	irs	0.806	1.000	0.806	irs
Xishuangb	0.720	0.733	0.981	drs	0.908	0.971	0.935	irs	0.938	1.000	0.938	irs
Dali	0.795	0.801	0.991	drs	0.894	0.976	0.916	irs	0.907	0.988	0.918	irs
Dehong	0.626	0.705	0.887	irs	0.756	0.937	0.807	irs	0.707	0.959	0.737	irs
Nujiang F	0.445	0.868	0.513	irs	0.504	0.962	0.524	irs	0.506	0.995	0.508	irs
Diqing	1.000	1.000	1.000	-	0.647	0.963	0.672	irs	0.647	0.971	0.666	irs
Mean valu	0.832	0.898	0.925		0.844	0.980	0.860		0.835	0.985	0.848	

3.2.2. Technical efficiency analysis

In 2012, the average technical efficiency of Yunnan Province was 0.898, and the comparative comprehensive efficiency was improved, among which the technical efficiency of Kunming, Qujing, Yuxi, Zhaotong, Pu 'er, Lincang and Diqing reached the effective state of DEA (equal to 1). In addition to the states (cities) whose comprehensive efficiency is 1, the technical efficiency of Kunming, Yuxi and Zhaotong has reached the DEA effective state, but the scale efficiency DEA is ineffective, indicating that the input volume of these three regions is in a small state under the current output level. If the input volume continues to increase, the output will not increase. Therefore, realizing the digital operation of rural industry is an effective way to improve the comprehensive efficiency.

In 2017, the average technical efficiency of Yunnan Province was 0.980, which was higher than the comprehensive efficiency, and the technical efficiency of Kunming, Qujing, Yuxi, Zhaotong, Lincang and Wenshan reached the effective state of DEA (equal to 1). In addition to the states (cities) whose comprehensive efficiency is 1, the technical efficiency of Zhaotong, Lincang and Wenshan has reached the effective state of DEA.

In 2021, the average technical efficiency of Yunnan Province is 0.985, and the comprehensive efficiency has been improved, among which the technical efficiency of Kunming, Qujing and Yuxi has reached the DEA effective state (equal to 1). There are 13 states (cities) with ineffective DEA, and the lowest one is Nujiang, where the technical efficiency is only 0.508.High technical efficiency means that more outputs can be obtained under the premise of less input of digital elements. From the comparison of various data in 2012, 2017 and 2021, it can be seen that the technical efficiency of

each state (city) in Yunnan Province shows an upward trend, which indicates that the input factors have been reasonably allocated under a certain input of production factors.

3.2.3. Scale efficiency analysis

In 2012, the scale efficiency of Qujing, Pu 'er, Lincang and Diqing in Yunnan Province was 1, indicating that the input and output of these four prefectures (cities) had reached the optimal state, that is, there were economies of scale and there was no need to adjust them. However, the returns to scale efficiency of the other states (cities) is less than 1, indicating increasing or decreasing returns to scale. In 2012, there were 9 states (cities) in which both technical efficiency and scale efficiency were invalid, indicating that some input sin these regions were not properly utilized, belonging to high input and low output. Reducing the input of related production factors would not reduce output.

In 2017, the scale efficiency of Kunming, Qujing and Yuxi in Yunnan Province was 1, indicating that the input and output of these three prefectures (cities) had reached the optimal state, and the expected return of these cities would be maximized when the return to scale was unchanged. In 2017, the returns to scale of 13 prefectures (cities) of Baoshan, Zhaotong, Lijiang, Pu 'er, Lincang, Chuxiong, Honghe, Wenshan, Xishuangbanna, Dali, Dehong, Nujiang and Diqing increased.

In 2021, the scale efficiency of Kunming, Qujing and Yuxi in Yunnan Province is 1, which indicates that the input and output of the three prefectures (cities) no longer need to be adjusted, and the scale efficiency of Honghe, Xishuangbanna and Dali is higher, which can increase the input of production factors in these regions.The comparison of various data in 2012, 2017 and 2021 shows that the scale efficiency of Yunnan Province shows a downward trend, which indicates that Yunnan Province also needs to increase the input of digital production factors in each prefecture (city) and pay attention to the rational allocation of all factors.

3.2.4. Malmquist index analysis

In order to further reflect the research on the effectiveness of digital economy driving rural industry revitalization in Yunnan Province, the input and output data of Yunnan Province from 2012 to 2021 are analyzed, and the results are shown in Table 2.

Table 2. Malmquist index and its decomposition of rural industrial production efficiency in 16 prefectures (cities) of Yunnan Province

State (ci	Technical	Technical	pure techn	Scale ef	Total factor
Kunming	1.000	1.069	1.000	1.000	1.069
Qujing	1.000	1.119	1.000	1.000	1.119
Yuxi	1.000	1.066	1.000	1.000	1.066
Baoshan	1.000	1.050	0.985	1.016	1.050
Zhaotong	0.983	1.061	1.000	0.983	1.043
Lijiang	1.010	1.064	1.027	0.983	1.075
Pu ’er te	0.992	1.036	1.000	0.992	1.028
Lincang	0.987	1.036	1.000	0.987	1.023
Chuxiong	0.990	1.058	1.008	0.982	1.047
Red River	1.000	1.048	0.993	1.006	1.048
Wenshan	1.004	1.059	1.000	1.004	1.064
Xishuangb	1.030	1.056	1.030	1.000	1.087
Dali	1.007	1.061	1.021	0.987	1.069
Dehong	0.988	1.033	0.954	1.035	1.020
Nujiang F	1.008	1.044	1.029	0.980	1.053
Diqing	1.011	1.042	1.032	0.979	1.054
Mean valu	1.001	1.056	1.005	0.996	1.057

As can be seen from Table 2, the total factor productivity of 16prefectures (cities) in Yunnan Province is greater than 1, and they are all in a state of growth, among which Kunming, Qujing, Lijiang, Xishuangbanna and Dali rank relatively high in the province, and the growth of rural industrial productivity is mainly driven by technological progress and technical efficiency. The technical efficiency of rural industries in other regions is relatively low and needs to be driven by technological progress, which may be due to the decrease of output caused by excessive industrial input, resulting in negative growth.

From the perspective of the total factor productivity of rural industries in Yunnan Province, the technological progress is all greater than 1; From the perspective of technical efficiency, there are 5 states (cities) in Yunnan Province are lower than 1; The technical efficiency can be divided into two parts: pure technical efficiency and scale efficiency. The average values of pure technical efficiency and scale efficiency of 16 prefectures (cities) in Yunnan Province are 1.005 and 0.996, both of which are near 1, indicating that the input and output of some regions are relatively reasonable.

4. CONCLUSIONS AND SUGGESTIONS

4.1. Conclusions

This paper analyzes the status quo of rural industry development and rural digital economy development in Yunnan by measuring the effectiveness of digital economy-driven rural industry revitalization in Yunnan province. Based on the panel data of 16 prefectures (cities) in Yunnan Province from 2012 to 2021, this paper empirically tests the effectiveness of digital economy-driven rural industry revitalization in Yunnan Province through DEA model. Through the above research, the following main conclusions can be drawn:

(I)The factors of rural industrial production in Yunnan Province during 2012-2021 are affected by both technical efficiency and scale efficiency. Some states (cities) have the problem of redundant or insufficient input in rural industrial production. Improper scale of investment will affect the development of rural industry in Yunnan Province. According to the Malmquist index of rural industrial production efficiency, from 2012 to 2021, the total factor productivity of rural industries in Yunnan Province is greater than 1, which is in a growing trend. Meanwhile, it can be found that the growth of total factor productivity mainly depends on technological progress.

(II)The empirical analysis of the cross-sectional data of 16prefectures (cities) in Yunnan Province in 2012, 2017 and 2021 shows that digital economy has a promoting effect on the revitalization of rural industries, and can promote the integrated development of rural industries through the coordinated development of digital technology and rural industries, expand the market scale of rural industries and indirectly promote the revitalization of rural industries.

4.2. Suggestions

(I) Speed up the training of new rural industrial management talents. We can improve the overall scale efficiency by speeding up the training of a group of high-quality new rural industrial management groups with culture, technical knowledge and good management. First of all, we should attach importance to vocational training, so that every villager willing to engage in rural industrial production can master a professional skill, and everyone is an expert. Secondly, the governments of each region also need to actively link with colleges and universities according to the actual development of each region to train more professionals for the local area.

(II) Improve the construction of digital infrastructure in rural areas. In terms of hardware infrastructure, we will increase the deployment of digital infrastructure in rural areas, promote the coordinated development of "dual-gigabit" networks, and jointly build and share telecommunications infrastructure. To increase the supply of digital terminal equipment suitable for the income level of

rural areas; And reduce network service charges in rural areas to lay the foundation for the promotion of digital economy in rural areas.

(III) We will intensify research and development of rural industrial technologies. In combination with the current situation of rural industrial production in Yunnan province, local government departments can increase investment in rural industrial science and technology, change the past extensive mode of rural industrial management, focus on the key technologies and major product needs related to the core competitiveness of rural industries, and implement major science and technology special plans and key project research and development plans, so as to obtain a number of technical achievements with regional symbols. At the same time, focusing on the industrialization and marketization of scientific and technological achievements in rural industries, the scientific and technological achievements will be transformed into the primary productive forces, so that the scientific and technological achievements can benefit the masses of the people and become a strong driving force for the production and development of rural industries.

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