

# Study on the Construction Path of Digital Countryside in Anhui Province

## -- Take Bengbu City as an Example

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### Abstract

With the global epidemic raging and weak economic growth, rural economic development is facing new opportunities and challenges. Digital countryside construction can improve the efficiency and competitiveness of rural economy and promote the upgrading and transformation of rural industries. Through qualitative analysis of the implementation status of digital rural construction in Anhui province, this paper analyzes the problems faced by the construction of digital rural construction in Anhui Province, discusses the path of digital rural construction in Anhui province, including strengthening the construction of digital infrastructure, promoting digital agricultural technology, improving the digital service system, etc., and takes the relevant experience of Bengbu City as an example to give a specific explanation. This study provides useful reference and guidance for the construction of digital villages in Anhui Province.

### Keywords

Digital Countryside; Rural Revitalization; Information Technology; Green Country; Rural Governance.

## 1. Introduction

With the continuous transformation and upgrading of industrial structure, industrial digitization is developing in depth and digital construction has achieved new results. However, Bengbu digital village construction is still in the initial stage, the development level of rural informatization is backward, and the digitization degree of grassroots government affairs is very limited. At present, Bengbu digital village construction mainly faces such problems as backward infrastructure, insufficient talent support and insufficient government investment. In order to improve people's livelihood and improve people's happiness index, the construction of digital countryside is very important. How to build digital countryside in the new era has become a problem that Bengbu City has to face.

## 2. The Background of Digital Countryside Construction

### 2.1. Rapid Development of Information Technology

In recent years, with the rapid development of science and technology in China and the vigorous promotion of the digital China strategy, the new generation of information technology such as big data and the Internet has developed rapidly in China, and China's Internet industry has realized leapfrog development. According to data from the Ministry of Industry and Information Technology, by the end of February 2023, China had built about 2.38 million 5G base stations, accounting for 22% of the total number of mobile base stations, and 5G mobile phone users reached 592 million, making it the largest 5G network in the world. China had

1.067 billion Internet users by the end of 2022, according to a report released by the China Internet Network Information Center. Under the background of the steady development of Chinese information infrastructure equipment, the integration of traditional industries such as industry and agriculture, service industry and emerging industries such as Internet and big data has been applied to the new economic development model, which has injected new vitality into the development of Chinese social economy. This economic model is the digital economy, which is often heard in recent years. In recent years, digital industries such as online shopping, Internet medical treatment and online office have developed rapidly. According to the 2022 Report on China's Digital Economy, the total size of China's digital economy has reached 45.5 trillion yuan, accounting for 39.8% of GDP, and continues to grow.

## **2.2. The Importance of Rural Revitalization**

The basic thought of our economic development is the people as the center, and our country strives to realize the people's common prosperity in the efficient economic development. According to the Bureau of Statistics, the per capita disposable income of Chinese residents reached 36,900 yuan in 2022, an increase of nearly 20,000 yuan compared with 2012. However, the per capita disposable income of urban residents in 2022 was 2.45 times that of rural residents, down 0.43 times compared to 2012. These figures show that the income gap between urban and rural residents has gradually narrowed in the past decade with the implementation of rural reform. However, it is undeniable that there is still a certain gap between urban and rural development, which is also a prominent social contradiction at present in our country. This contradiction is caused by the slow development of rural, the production technology is relatively backward, the needs of rural residents for a better life and the current rural development is backward and can not meet people's needs and the social situation. Therefore, it is proposed that we should give priority to the development of agriculture and countryside and accelerate the modernization of agriculture and countryside [1]. The realization of rural revitalization is an inevitable demand determined by our national conditions.

## **2.3. Accelerating the Construction of Digital Villages**

The construction of digital countryside is one of the most effective measures to promote the development process of rural revitalization. The year 2018 marks the 40th anniversary of China's rural reform, and it was during this year that the country put forward the rural revitalization strategy. China is a big agricultural country with a long history of agricultural planting. The seventh census shows that the rural population accounts for 36.11% of the total population [2]. At the early stage of reform and opening up, the center of our country's development was to accelerate the city's development speed, so under the strong support of our country's policies, cities develop rapidly and grow strong. In recent years, although the gap between urban and rural areas has gradually narrowed, there is still a large gap. Cities with high-quality resources such as health care and education attract a large number of rural people to the city. Even under these circumstances, our rural population still accounts for a considerable proportion, and our unique economic structure determines the necessity of our rural revitalization strategy. However, there are many obstacles to promoting rural revitalization. Although the country has a large rural population, the knowledge level is generally not high, the production technology is relatively backward, and the young people with knowledge tend to develop in the city. The lack of talent and backward technology is a major obstacle to the implementation of rural revitalization. Based on the current situation, our country puts forward the big goal of constructing digital countryside. Digital countryside is an endogenous process of agricultural and rural modernization development and transformation with the application of networking, information technology and digitalization in agricultural and rural economic and social development, as well as the improvement of farmers' modern information skills. With the advancement of digital rural construction [3], rural production

technology has achieved a qualitative leap. The perfect combination of modern information technology and technology with traditional villages has attracted a large number of relevant talents to shine on the stage of rural revitalization. The construction of digital countryside is a strategic direction for the implementation of rural revitalization and an important part of the construction of digital China [4].

### **3. Bengbu Digital Village Construction Achievements**

#### **3.1. Network Infrastructure: An Important Support for the Construction of Digital Countryside**

Since 2022, Bengbu Mobile has accelerated the implementation of the 700MHz 5G wireless network project in combination with the requirements of the government on the construction of smart government and smart agriculture. So far, it has completed the construction of 714 "digital villages" and 357 demonstration villages, with the coverage rate of "digital villages" reaching more than 80%. It is expected that in 2023, Bengbu Mobile plans to add 35,000 rural broadband households. In addition, in rural areas, the upgrading of energy infrastructure such as water, electricity and natural gas has been fully launched and basically completed, and the quality and services of these infrastructures have been significantly improved through the support of national policies and the investment of social funds. In order to facilitate residents' payment, online payment can now be made through the Internet, which not only improves the convenience of payment, but also helps optimize the service process and improve the efficiency of rural energy utilization. The extensive coverage of 5G network in rural areas and the upgrading of energy infrastructure provide strong support for the construction of Bengbu digital village.

#### **3.2. "Internet + Agriculture" : Accelerate the Transformation of Rural Life Style to Modernization**

In the rural areas of Bengbu City, there are many attempts to apply Internet technology to rural life, and certain achievements have been made. On the one hand, Internet technology can help farmers get information more easily. Through smart phones, computers and other devices, farmers can learn about weather, market conditions, policies and regulations anytime and anywhere, so as to better make decisions and plan agricultural production. At the same time, Internet technology can also help farmers more convenient access to various services, such as medical care, education, finance, etc., to improve the quality of life of farmers.

On the other hand, Internet technology can help farmers to carry out agricultural production more efficiently. Farmers realize the precise management of crops through precision fertilization, precision irrigation, precision pest control and other technologies, which not only improves the efficiency of agricultural production but also ensures the quality of agricultural products. Then through e-commerce platforms such as Jingdong, Taobao and other channels to improve the market competitiveness of Bengbu agricultural products, so as to increase farmers' income.

#### **3.3. Rural Governance: Villagers Enjoy More Convenience**

First, digitization reduces information asymmetry between people, makes information open and transparent, and makes rural governance more just and efficient. Second, a number of intelligent supervision systems have been established to realize real-time monitoring and management of rural environment, food safety, transportation and other aspects, making rural governance more scientific and accurate. Third, it provides more convenient social services, such as online affairs and online consultation. The service level of rural governance is upgraded to a higher level, and the satisfaction level of villagers is increasing day by day. Fourth, the promotion of a series of intelligent agricultural technologies, such as intelligent greenhouse,

intelligent farms, accelerate the development process of "Internet + agriculture", promote the development of rural economy.

Lanshi, Guzhen County, Bengbu City, Anhui Province, is a designated help village of Bengbu Unicom. Since 2022, Lanshi Neighborhood Committee and Bengbu Unicom have jointly built a digital rural operation and management platform, integrating the Internet, big data and other information technologies into the process of rural governance, helping to form a rural governance pattern of co-construction, co-governance and sharing. "Walking into the hall of Lanshiju Party and Group Service Center, the large screen of digital rural management and operation platform built with the help of Bengbu Unicom comes into view. The information of Lanshiju village, village affairs and party affairs, village cadres, party members, agricultural industry overview and other information are displayed digitally through the large screen of the digital village platform. Villagers can also see the 'big and small things' of the village on their mobile phones." At present, 765 Lanshiju villagers have enjoyed the convenience of the digital village platform.

### **3.4. Digital Education: Innovation of Teaching Model**

As we all know, there is a big difference between education in relatively backward areas, especially rural areas and developed areas. Bengbu digital Village construction launches smart education and implements digital management in the management of teachers and students as well as parents and students, so as to provide more scientific and convenient services for students' education, aiming at improving teaching level and efficiency. It attaches great importance to the innovation of digital education and teaching mode, vigorously promotes the application of technology such as distance education and digital teaching, and encourages teachers to explore innovation and practice teaching. In terms of digital education technology, Bengbu promotes leading education technologies such as cloud computing and big data to be applied in classrooms in an effort to reform the traditional education model. In order to improve the level of education informatization and promote digital management, Bengbu City has introduced a digital campus platform in rural areas to realize a systematic, informational and intelligent integration of school teaching management, student management and teacher management. Digital rural education in Bengbu enjoys a good momentum of development, digital education technology standards are gradually set, and digital teaching will gradually become the new normal of school education.

## **4. Difficulties and Challenges in the Construction of Digital Countryside in Bengbu City**

Since the 13th Five-Year Plan, Bengbu City has made remarkable achievements in promoting informatization construction, accelerating the layout of digital infrastructure construction and improving the ability of data sharing and exchange. However, compared with the whole country, the digital construction of Bengbu city is still in its initial stage, and data sharing and interworking are still limited between the government and medium and large enterprises, so digital village construction becomes a window missing in the digital construction achievements of Bengbu City. The main reasons for the slow development of digital countryside include backward infrastructure, insufficient digital application and promotion, lack of digital multiple innovation system and digital governance structure.

### **4.1. Backward Infrastructure**

As a traditional old industrial base, Bengbu City has a low level of industrial digital transformation and development of some new business forms and models, and the foundation of digital transformation of various industries is very weak. Bengbu's digital village construction plan shows that by the end of 2020, the penetration rate of broadband users in the

city's rural areas was 50.9 percent, nearly 10 percentage points lower than the national average. In addition, the communication facilities in rural areas are not perfect, and the network coverage and speed are not high, which is one of the important factors restricting the construction of digital countryside. At the same time, the rural education level is relatively low, the outflow of young labor force is serious [5], most farmers only have primary school education level, a large number of farmers do not know how to use computers, and lack in-depth understanding of the network environment. Therefore, although the rural network coverage rate has been very high, the overall network development level is still low.

#### **4.2. Insufficient Capital Investment**

In 2021, Bengbu's GDP growth rate was 0%, ranking the last in the province. In the first half of 2022, Bengbu's GDP was 104.89 billion yuan, with a growth rate of 0.58% compared with the same period, far behind other cities in Anhui Province. Due to the prominent shortcomings of digital rural construction, heavy construction tasks and long period of effectiveness, Bengbu City has very limited financial input for digital rural construction in such a tight situation. On the other hand, the low participation of private capital is also an important reason for the lack of funds.

#### **4.3. Insufficient Digital Application and Promotion**

The most important thing for the promotion of digital application is that digital technology needs to be widely accepted and recognized by people. In most rural areas of Bengbu city, farmers' dependence on digital lifestyle is relatively low, which leads to a narrow range of digital application. For example, although it is very convenient to handle business online, the APP of government digital government affairs platform is only used by most young people, and the elderly in rural areas hardly use such app. The promotion of digital application in rural areas still needs to be improved.

#### **4.4. Lack of Digital Talents**

An important support for the construction of digital countryside is talent. However, as far as the talent structure of Bengbu village is concerned, it is difficult to meet the requirements of digital village construction [6]. First, Bengbu is located in the Yangtze River Delta. Compared with other cities in the Yangtze River Delta, Bengbu has disadvantages such as slow economic development and insufficient economic strength, and its competitiveness is in the middle and lower reaches of the Yangtze River Delta. Most of the young and middle-aged people in rural areas go out for work, and backward villages cannot attract qualified talents to return home, which leads to serious loss of rural labor force, which is undoubtedly a huge challenge for the construction of digital countryside. Second, young people generally have a high degree of acceptance of digital technology. However, a large number of young people go out for work, and the permanent population in rural areas is mainly left-behind children and empty-nesters [7]. Left-behind elderly people have a low educational level and conservative and outdated views, and they hardly have intelligent services such as online shopping and online payment.

### **5. Bengbu Digital Village Construction Path**

#### **5.1. Build a Digital System with Extensive Intelligence**

To tamp the infrastructure of digital village construction, we must adhere to the integrated development. On the existing digital system, the government should promote the construction of "digital Bengbu" according to local conditions, develop the digital service system in depth, lay a solid foundation for digital foundation, promote the new mode of industrial development, and build a new pattern of regional coordination. In addition, the city's 5G network should be



promoted to deeply cover rural and remote areas, improve network coverage roads, improve network transmission speed, and focus on building a more advanced digital technology system.

## 5.2. Increase Capital Investment

The government should not only further increase the capital investment in the construction of digital countryside, but more importantly, guide other private capital to participate in the construction of digital countryside. The government has adopted preferential policies for enterprises that actively participate in the construction of digital countryside, including specific measures such as reducing fees and taxes and vigorously supporting them. The government should optimize the structure of capital investment, focus on improving the digital multiple innovation system and the cultivation of digital talents, and strive to overcome the contradiction between the construction of digital countryside and the existing environment.

## 5.3. Strengthening the Construction of Human Resources

Talent construction is the first resource of digital countryside construction. The government should focus on solving the dilemma of rural talent shortage and outflow of high-quality talents. First, we should strengthen the construction of rural cadres and actively encourage digital talents to join the queue of rural cadres. Form a digital construction situation under the leadership of grassroots cadres and active participation of grassroots people. Second, popularize digital knowledge to rural people regularly. By popularizing the concept of digitalization to rural groups, it can stimulate their interest in digitalization and improve the endogenous power of the construction of digital countryside. Third, the young and middle-aged labor force should be encouraged to actively return home and start businesses, so as to improve the acceptance of digital technology construction among rural groups.

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