

# RESEARCH ON THE HIGH-QUALITY DEVELOPMENT OF DIGITAL VILLAGES FROM THE PERSPECTIVE OF GOOD GOVERNANCE THEORY

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**Abstract:** The high-quality development of digital villages is related to rural revitalization and contributes to the construction of digital China. By combing the compatibility between good governance theory and digital rural construction, this paper analyzes the current situation of digital rural development and finds that there are some problems in the development of digital rural areas, such as the lack of farmers' participation, the inactive participation of social forces, the weak construction of digital infrastructure, and the difficulty of data sharing. To help realize the high-quality development of digital rural areas, this paper puts forward some paths, such as enhancing farmers' digital awareness and level, guiding social forces to actively participate, improving rural digital infrastructure, and promoting the opening and sharing of data resources.

**Keywords:** Digital village; Rural development; Good governance; High quality

## 1 INTRODUCTION

In the process of national prosperity and national rejuvenation, rural development is of vital importance, and the strategy of rural revitalization is the key to building a modern socialist country. At present, with the rapid progress and wide application of digital technologies such as big data, 5G, cloud computing and artificial intelligence, the modernization of agriculture and rural areas has ushered in new development opportunities, and the construction of digital villages has become an important force to promote rural revitalization and the construction of digital China. In this regard, the party and the state attach great importance to the construction of digital villages. Since 2018, relevant policy documents have been issued continuously to point out the direction for the construction of digital villages. In 2019, the " Digital Village Development Strategy Outline " detailed the development goals, and the " Digital Village Development Action Plan (2022-2025)" in 2022 further refined the strategic deployment. In 2024, the No.1 Central Document once again focused on the field of agriculture, rural areas, and farmers, pointing out the direction for the high-quality development of digital villages. Promoting the high-quality development of digital villages is of great significance for promoting the work of agriculture, rural areas and farmers and the modernization of the country, which has become an important issue that needs to be further studied and discussed.

Since the concept of digital village was put forward, the academic community has conducted extensive and in-depth research on the topic of " high-quality development of digital villages " and achieved remarkable results. About its connotation, scholars such as Chengwei Zhao and Zhuqing Xu believe that the high-quality development of digital villages is mainly reflected in alleviating major social contradictions, practicing new development concepts, promoting the smooth flow of the domestic market, and deepening supply-side structural reforms[1]. From the perspective of value, Feng'an Wen pointed out that promoting the high-quality development of digital villages is an important strategic measure to bridge the digital divide between urban and rural areas, build a strong agricultural country and promote Chinese-style modernization[2]. However, the high-quality development of rural areas is not achieved overnight. It is affected and restricted by many factors. Hong Zhang, Kewen Du and other scholars especially emphasize that government service efficiency, rural ecological environment quality and policy environment supporting agricultural development have a significant impact on the high-quality development of rural areas[3]. In exploring the path of promoting high-quality rural development, many scholars have focused their attention on the importance of digital empowerment. Huiyan Liu pointed out that the new generation of information technology is the core driving factor and key driving force to promote the high-quality development of digital villages[4]. Dongjun Ma also proposed to inject new vitality into the high-quality development of rural areas by means of digitization, informatization, digitization and intelligence[5].

Although the academic community has provided diversified ideas and solutions for the high-quality development of digital villages, there are relatively few studies based on the perspective of good governance theory. Considering that the development of digital villages cannot be separated from the participation of multiple subjects such as farmers, government and social forces, this paper aims to combine the theory of good governance to deeply explore the practical challenges and path choices of high-quality development of digital villages, to provide new perspectives and references for related research.

## 2 THE COMPATIBILITY OF GOOD GOVERNANCE THEORY AND DIGITAL RURAL DEVELOPMENT

Good governance is the perfection of governance and an ideal state of governance[6]. The World Bank defines it as a governance process that includes transparent decision-making, responsible government, rule of law protection and active participation of civil society[7]. In the book " Breaking Bureaucracy: A New Vision for Government Management," Michael Blazer further emphasized that the core of good governance lies in social autonomy and the deep participation of citizens[8]. Mr. Yu took the lead in introducing the theory of good governance into China. He believes that good governance aims to maximize public interests. Its elements include legitimacy, the spirit of the rule of law, transparency, responsibility, responsiveness, effectiveness, citizen participation, social stability, integrity, and impartiality[9]. The essence of 'good governance' is the return of state power to society, indicating good cooperation between the state and society, or between the government and citizens[10]. In terms of feasibility analysis, based on the theory of good governance and the characteristics of new rural communities, Huili He proposed a governance strategy suitable for such communities[11]. Shuhan Wang believes that the theory of good governance provides a new model for dealing with the relationship between government and citizens[12]. Qianshan Tian emphasized that good governance ensures the fundamental role of public policy in safeguarding publicity and realizing public interests. In summary, good governance, as a frontier governance model, has a wide range of applications and can provide a valuable theoretical framework and analytical paradigm for the development of digital villages[13]. Therefore, this paper aims to use the essence of good governance theory, with responsibility, interaction, sustainability, and efficiency as the core concepts, to build a development framework with farmers as the main body, government as the guide, enterprises as the support, and social forces as the broad participation, so as to further explore the feasible path for digital villages to achieve high-quality development.

## 3 ANALYSIS OF THE CURRENT SITUATION OF DIGITAL RURAL MULTI-CONSTRUCTION

### 3.1 The Current Situation of Farmers' Participation in the Development of Digital Villages

At present, digital rural construction has become a new trend of rural governance and an important basis for promoting agricultural and rural modernization. However, although farmers are the main constituent groups of villages, their actual effectiveness in the construction of digital villages is relatively limited. The contribution of farmers in participating in the digital construction of their hometowns is not significant. The main responsibility of rural governance falls mostly on the shoulders of village cadres, party members and rural sages. The role of farmers in rural management and digital construction is not prominent. Recently, the China Rural Research Institute of Central China Normal University conducted a questionnaire survey and in-depth interviews with 1815 farmers in 121 villages in 21 provinces around the theme of " digital rural construction." According to the survey, among the 58 digital village samples, 36 village digital platforms are mainly used for information collection and daily office of the " two committees " of the village, and the villagers' ports have not been developed, and the proportion is 62.07 %, and 74.44 % of the farmers said that the village online service platform has too few functions, and some certificates must go to the county to do it[14]. This result shows that there is less interaction between farmers and data construction, and there is also a distance between digital platform and farmers, which can not meet the needs of villagers' daily life.

### 3.2 The Status Quo of Government Participation in Digital Rural Development

The government mainly carries out digital rural construction by introducing policy support and increasing capital investment. In terms of policies, the national government issued "digital rural construction demonstration village (community) project notice" rural informatization construction "3-year action plan" "digital agriculture rural development plan (2019-2025)" and other policies, the local government issued a number of policies such as "Zhejiang Province Digital Rural Construction Implementation Plan" "Hunan Province Smart Radio and Television Rural Project Construction Implementation Plan." In terms of capital investment, national and local governments at all levels have increased their investment in digital villages year by year. In 2021, the national social capital investment for the construction of county agricultural and rural information digitization will be 954.6 billion yuan, and the per capita investment in rural areas will be 135.2 yuan, an increase of 24.0 % over the previous year[15]. Yingde City Finance Bureau of Guangdong Province has helped to strengthen financial security in the construction of digital villages. In 2020-2021, the overall financial funds will be 2.8 million yuan to promote the construction of digital projects, and the overall financial funds will be upgraded to 3.5 million yuan in 2022-2023[16].

### 3.3 The Current Situation of Enterprises' Participation in the Development of Digital Countryside

Enterprises play an increasingly important role in the development of digital villages. The current situation of participating in the development of digital villages is reflected in many aspects such as infrastructure construction, digital agriculture development, and digital governance exploration. For example, in terms of infrastructure construction, Alibaba has opened a rural Taobao project. By establishing service sites, training rural Taobao partners, and providing one-stop e-commerce solutions such as commodity procurement, logistics distribution and after-sales service, it

connects rural and urban markets. It provides a convenient online shopping experience for rural residents, activates the rural economy, promotes local employment and entrepreneurship, and has a positive impact on narrowing the digital divide between urban and rural areas and accelerating the process of rural modernization[17]. In terms of the development of digital agriculture, Sinochem Group actively responded to national policies, promoted the transformation of traditional agriculture to modernization, and helped to overcome poverty. The specific applications are: monitoring crop growth through remote sensing, weeding using AI technology, and using big data to analyze production[18].

### **3.4 The Current Situation of Social Forces Participating in Rural Digital Development**

Social forces play an important role in the construction of digital countryside. At present, the current situation of social forces participating in the construction of digital countryside is mainly manifested in the following aspects: non-governmental organizations and financial institutions provide digital services to the countryside through digital philanthropy, rural e-commerce, rural logistics, rural finance and other ways. Such as social forces through the Internet platform, in the digital, public welfare action digital and institutional management of digital three aspects of charitable donations, its total fund-raising from 436 million yuan in 2014, increased to the recent annual scale of nearly 10 billion yuan[19]. Some social workers will also organize online and offline digital training activities with the government to cultivate rural residents' digital skills and promote the application of digital technology in rural areas. For example, from May to June 2023, the Provincial Party Committee Network Information Office, together with relevant departments directly under the provincial government, cities and states, national digital literacy and skills training bases for the whole people and relevant social organizations, carried out a series of activities throughout the year. More than 1,300 events, more than 5,800 open and shared digital education resources, online and offline coverage of more than 15 million people, promotion of digital technology applications, enrichment of education and learning resources, strengthening of capacity-building training, and promotion of good network culture[20].

## **4 ANALYSIS OF THE PROBLEMS AND CAUSES IN THE DEVELOPMENT OF DIGITAL VILLAGES**

### **4.1 The Lack of Farmers' Participation in the Process of Digital Rural Construction**

In the process of digital rural construction in China, the lack of farmers' participation has become an important factor restricting the improvement of their endogenous power. Due to the uneven distribution of educational resources among regions, rural areas are generally faced with the problem of lack of educational resources, which leads to the generally low education level of farmers. At the same time, due to the relatively backward economy in rural areas, farmers have a low level of contact and cognition of digitization. Their ability to use modern digital technologies such as 5G, big data, and artificial intelligence is relatively weak, and digital literacy needs to be improved. In addition, influenced by the traditional self-sufficient small-scale peasant economic thinking, many farmers show a more conservative and closed attitude. They are skeptical and resistant to new technologies and new things and are unwilling to actively strengthen their ties with the outside world. It is also difficult to deeply understand the actual benefits brought about by digitization. This mentality makes them lack the motivation to actively learn and apply new technologies, and their willingness to participate in digital rural construction is weak. More importantly, some government and village committee departments may not fully realize the important role of farmers in digital rural construction, so the opportunities and channels for farmers to participate in digital rural construction are relatively limited. This situation further aggravates the lack of participation of farmers in digital rural construction and limits the comprehensive development and in-depth advancement of digital rural construction.

### **4.2 Social Forces are Not Active in Participating in Digital Rural Construction**

The negative participation of social forces has significantly affected the overall effectiveness and efficiency of digital rural construction. The primary reason is that the lack of policy publicity and guidance makes social forces lack awareness of digital rural construction, and it is difficult to grasp its importance and potential commercial value. In addition, the resources and information related to digital rural construction they obtained are relatively limited, not detailed and comprehensive enough. Secondly, under the influence of multiple factors such as the impact of Western culture and the widening gap between urban and rural development in the context of globalization, social forces are more inclined to focus resources and investment on urban development, while the attention and investment enthusiasm for digital rural construction are obviously insufficient. Furthermore, as a long-term and complex systematic project, digital rural construction requires continuous and large capital investment. However, due to the relatively low economic level and consumption capacity in rural areas, investors often worry about low return on investment and high risks, so they are cautious about digital rural construction. Finally, the lack of effective cooperation and coordination mechanisms among the government, farmers, enterprises and other stakeholders in the construction of digital villages leads to the difficulty of effective integration of resources, which undoubtedly increases the difficulty of participation of social forces and further restricts the overall promotion and effect realization of digital village construction.

### **4.3 Digital Infrastructure Construction is Weak**

The weakness of digital infrastructure is one of the core elements that restrict the development of digital villages. At the policy support level, although China has issued a series of policy documents aimed at promoting the development of digital villages, such as the " Digital Village Development Action Plan ( 2022-2025 ) " and the " Digital Village Development Strategy Outline, " and there are many suggestions on strengthening the construction of rural digital infrastructure, the specific measures and detailed guidance for the construction of rural digital infrastructure are still lacking, and there is no special policy guidance and support. In terms of capital supply, in view of the relatively backward economic development in rural areas, insufficient market demand and low return on investment, the willingness of rural areas and enterprises to invest in the region is generally not high. Therefore, the source of funds for rural digital infrastructure construction mainly depends on the government's financial allocation. The single source of funds and the limited supply of funds seriously restrict the breadth and depth of rural digital infrastructure construction. In terms of technology and talent support, due to the uneven distribution of educational resources, the serious brain drains and the constraints of traditional concepts, rural areas are lagging behind in scientific and technological innovation and technology application. The shortage of professionals in the digital field has become an important factor restricting the progress and quality of digital infrastructure construction. In addition, the complex and changeable terrain conditions in rural areas further increase the difficulty and cost of infrastructure construction, making the promotion of digital rural construction face greater challenges.

#### **4.4 Data Sharing is Difficult and There is an Information Island**

The phenomenon of information island has become a significant problem restricting the in-depth development of digital villages. At present, compared with cities, rural areas are significantly lagging behind in the construction of information infrastructure. Basic information facilities such as optical fiber networks, broadband networks, and 5G networks have not yet been fully covered, and there are compatibility problems between information systems in some regions and departments, which seriously affect the effective collection, storage and transmission of data. At the level of policies and regulations, data sharing lacks clear normative standards and a sound legal system, which makes it difficult to define the rights and responsibilities of all parties in the sharing process, thus affecting the quality and safety of data sharing. In addition, rural areas have not yet established a unified grass-roots information sharing mechanism and a digital rural big data comprehensive information platform, resulting in a lack of unified platform support for data sharing, rural data information showing a fragmented state, increasing the difficulty of task division and overall coordination. More importantly, due to the limitation of traditional concepts and cognitive level, the relevant subjects in rural areas lack a deep understanding of the importance and significance of data sharing, and the awareness of data sharing is relatively weak, which aggravates the difficulty of data sharing to a certain extent. Under the joint action of the above factors, the phenomenon of information island has been formed in the process of data sharing in rural areas, which seriously hinders the high-quality development of digital villages. Therefore, breaking the information island and promoting the sharing and integration of rural data are of great significance for promoting the in-depth development of digital villages.

## **5 THE PATH SELECTION OF HIGH-QUALITY DEVELOPMENT OF DIGITAL VILLAGES**

### **5.1 The Path Selection of High-Quality Development of Digital Villages**

In order to enhance farmers' awareness and ability to participate in digital rural construction, the government can adopt a series of strategies. First of all, the government should issue relevant policy documents to provide technical assistance, financial support and other incentive measures for farmers participating in digital rural construction, so as to reduce the threshold for them to participate in the construction and stimulate their enthusiasm. Secondly, grassroots organizations such as village committees and agricultural cooperatives should actively carry out digital education activities and explain the strategic significance and practical benefits of digital rural construction to farmers by holding digital knowledge lectures, so as to enhance their awareness of participation. Subsequently, these organizations can organize special training courses aimed at improving farmers' ability to use digital 'new farm tools', so that they can skillfully use digital devices such as smartphones and computers and master the operation methods of agricultural informatization applications. In addition, the government should encourage enterprises, non-governmental organizations and other social forces to actively participate in the improvement of farmers' digital skills and introduce advanced digital services and training resources into rural areas through cooperation mechanisms to achieve resource sharing and mutual benefit. Finally, it is very important to build a platform for farmers to exchange and interact, which can not only promote the sharing of experience and exchange of experience among farmers, but also encourage them to learn from each other and encourage each other, thus creating a positive digital rural construction atmosphere.

### **5.2 Improve the Relevant Policy System and Guide Social Forces to Actively Participate in the Construction**

To actively guide social forces to deeply participate in the construction of digital villages, the primary task is to formulate and improve relevant publicity strategies, enhance social forces' awareness and understanding of the importance of digital village construction, and reveal its potential commercial value. At the same time, it is necessary to ensure that social forces are provided with detailed and comprehensive information on digital rural construction

resources so that they can better grasp the opportunities. Secondly, it is necessary to improve the support policies of finance, credit and taxation, and increase the support for social forces. Through preferential policies and incentives, social forces such as enterprises and scientific research institutions are actively encouraged to join the ranks of digital rural construction and give full play to their unique advantages. Furthermore, it is very important to improve the financial subsidy policy. For those who actively participate in the construction of digital villages, reasonable financial subsidies should be provided to reduce their economic pressure. For example, a 'post-subsidy' mechanism can be established to provide financial support for scientific research projects and technological achievements that have been completed and have significant practical value, to promote the innovation and promotion of digital rural construction technology and promote the research and development of digital technology suitable for agricultural development. Finally, in order to ensure the smooth participation of social forces, it is necessary to improve the cooperation and coordination mechanism. Through the establishment of effective communication channels and cooperation platforms, we will promote the effective integration and efficient use of resources, clear obstacles for social forces to participate in digital rural construction and create a good atmosphere for cooperation.

### **5.3 Increase Capital Investment, Improve Rural Digital Infrastructure**

In the process of improving rural digital infrastructure, the primary task is to strengthen the top-level design. The central and local governments should work together to formulate and optimize the specific policy framework for rural digital infrastructure construction, clarify the construction direction, and provide policy guidance and strong support for the smooth implementation of infrastructure construction. As a key factor in promoting the construction of facilities, government departments need to further increase the investment of financial funds. This includes setting up a special pool of funds for the construction of rural digital facilities, adjusting and optimizing the structure of fiscal expenditure, and ensuring that financial support for agriculture is prioritized. At the same time, in order to broaden the sources of funds, social capital participation should be actively introduced. The government can provide tax incentives, subsidies and other incentives for enterprises participating in the construction of rural digital facilities, and follow the principle of "investment is ownership, investment is benefit," in order to attract more social capital into the construction of rural digital facilities. In addition, the power support of technology and talents is also indispensable. On the one hand, we should introduce advanced digital technology, and attract and train excellent digital talents to participate in rural digital construction. The government can formulate preferential policies such as entrepreneurship support and scientific research funding to provide a high-quality growth and development environment for talents. On the other hand, through the organization of digital technology training, providing practical operation opportunities, etc., to enhance the farmers' digital technology application and development capabilities, and provide solid technical and talent support for the improvement of rural digital infrastructure.

### **5.4 Promote the Open Sharing of Data Resources and Enhance the Role of Data Empowerment**

In the development of digital countryside, data elements are very important. It is necessary to promote the opening and sharing of data resources and enhance the role of data empowerment. One is to improve the rural information facilities. Through the government departments to provide policy support, attract enterprises, scientific research institutions, social organizations, and other multi-subjects to join the rural information construction project, and strive to achieve full coverage of basic information facilities such as broadband and 5G network in rural areas, and provide powerful transmission channels and links for data sharing. Second, we should improve the relevant policies and regulations of data sharing, formulate scientific standards for data sharing, and rationally plan the scope of data sharing. For example, we should implement data circulation declaration and commitment system, formulate data sharing implementation plan, and effectively ensure the quality and safety of data sharing. Secondly, it is necessary to build a unified grass-roots information sharing mechanism and a digital rural big data comprehensive information platform, deepen the integration of government affairs, business, agriculture, and digital development, and enhance the role of data empowerment. Finally, it is necessary to enhance the awareness of data sharing among relevant subjects, improve the awareness and acceptance of data sharing among relevant subjects through publicity and education, and further promote the open sharing of data resources.

## **6 CONCLUSION**

The high-quality development of digital villages not only has a profound impact on rural revitalization, but also is a key link in building the development pattern of the new era. Based on an in-depth analysis of the challenges commonly faced by the development of digital villages, this paper explores the possible ways to promote their high-quality development with the help of good governance theory, aiming to provide valuable reference for academic research and practical exploration in the field of digital villages. However, it should be pointed out that the research in this paper has not yet been analyzed in detail in combination with the actual situation of specific villages, which weakens the pertinence and practicability of the research to a certain extent. Therefore, future research will focus on the actual situation of a specific village, and further enhance the pertinence and specificity of the research through in-depth investigation and empirical analysis, in order to provide more accurate and effective guidance for the high-quality development of digital villages.

## COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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