

# On the Path of Digitalization Helping Rural Revitalization

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**Abstract:** Promoting the construction of digital countryside in the new era is an important step to promote the development of agricultural and rural modernization, is the demand of the times to fully implement the new development concept, and is the specific practice of realizing the people's yearning for a better life. Taking digitalization as the starting point, the author expounds the feasible path of digitalization for rural revitalization from the perspectives of rural industry development, infrastructure construction, ecological environment and cultural revitalization.

## 1. Introduction

Digital village refers to that in the process of social and economic development in rural areas, digital technology is fully used to digitize all kinds of agricultural production and living activities in the region, and the management and application of all kinds of data are realized through the Internet, databases, various sensing devices and other components.<sup>[1]</sup> Promoting the construction of digital countryside in the new era is an important step to promote the development of agricultural and rural modernization, is the demand of the times to fully implement the new development concept, and is the specific practice of realizing the people's yearning for a better life. The integration of modern digital and intelligent technologies in the process of rural revitalization can not only further improve the level of rural agricultural production, but also promote the further harmonious development of society.

## 2. The basic problems facing rural revitalization

### 2.1 Single industrial category, low production efficiency

In the modern society with rapid economic development, the industrialization of agricultural production and the large-scale development of modern agriculture in China are greatly constrained by the decentralized and fragmented land differentiation; Secondly, China's agricultural industry has a single type and lacks characteristic industries. The family based planting industry is mainly grain planting and the crop income is low; Thirdly, modern technology has less help for agricultural application. Although mechanization has been widely used in agriculture, the detailed application of crop management is still not comprehensive, and there is a lack of guidance of professional planting technology, and there is a lack of problem handling channels; Finally, the rural industry chain in China is too short, and there is no new industry and new forms of business, such as the secondary industry dominated by agricultural product processing and the characteristic villages dominated by tourism and cultural villages. From land to market, there is no way to broaden the income channels of farmers in the existing conditions.

### 2.2 A large outflow of talents and insufficient labor capacity

The development of smart agriculture depends on people, but there are some problems in China, such as low cultural quality of farmers, narrow knowledge, and weak ability to accept new things. Therefore, the promotion of digital smart agriculture needs to first train farmers in this area; Secondly, at present, most of the young and middle-aged rural labor force in China prefer to go out to work rather than go home to work in agriculture, which leads to the continuous outflow of rural human resources. The total amount is insufficient, while there are structural imbalances, serious aging and other problems; Thirdly, the single industrial structure and unsound talent welfare

security policy make it easy for external professionals to refuse to join the local market because they lack the space to play.

### **2.3 Lack of cultural construction and decline of characteristic industries**

In a modern society that increasingly pursues economic benefits, the construction of spiritual civilization in the countryside and the spiritual core carried by various traditional customs or materials left behind are increasingly ignored. At the same time, due to the limited production time of the production unit of cultural display results, there are one-sided and limitations in the excavation of local rural culture, especially the lack of in-depth research on the origin and historical evolution of rural culture, The core content of rural culture, such as the most essential regional culture and the deeper humanistic spirit, can not be fully displayed.<sup>[2]</sup> There are also problems in the process of rural culture, such as the low level and coverage of digitalization, the lack of talents, and the failure of updating book resources to meet the cultural needs of farmers' users.

### **2.4 Prominent ecological problems hinder industrial development**

In the process of China's socialist cause construction, the construction of ecological benefits has been neglected while the economic benefits have been improved, and the social environment has been greatly damaged. Therefore, with the help of big data, it is necessary to fully integrate big data with rural ecological revitalization, promote digitalization of ecological resources, efficient environmental governance, intelligent green production, etc., and provide comprehensive and powerful support for the implementation of rural ecological revitalization strategy.

## **3. Measures of digitalization for rural revitalization**

### **3.1 Integrate rural resources and develop rural industries**

#### **3.1.1 Digitalization helps the primary industry**

To develop modern agriculture, we must provide high-quality management of agricultural products from seed selection, planting, production to warehousing, sales and product traceability. First of all, in terms of the sowing stage, we will conduct genetic breeding for seeds through modern science and technology, and select the best among the best. At the same time, we will fully combine and analyze agricultural production parameters, resource information, labor information and market information through big data when formulating the sowing plan, and plant appropriate crops according to local soil quality and climate change.<sup>[3]</sup> In terms of production, the continuous application of various detection technologies in the planting industry; The continuous implementation of feed feeding, breeding disease monitoring and early warning, remote monitoring and other technologies in animal husbandry and aquaculture are closely related to the application of digital intelligence.<sup>[4]</sup> Also in the monitoring link, various agricultural environmental monitoring equipment collect the air temperature, humidity, light, carbon dioxide concentration and other indicators in the production process in real time, and transmit them to the data processing platform through the network. The platform takes measures to implement accurate adjustment and control based on this. In the monitoring link, UAV remote sensing can be used to monitor the growth, area, yield and other data of crops.

#### **3.1.2 Digitalization helps the secondary industry**

Actively cultivate agricultural science and technology enterprises, guide agricultural enterprises to carry out research and development and technical achievements transformation in the digital field, and develop and expand the main body of digital innovation and entrepreneurship of agricultural technology and equipment. For example, Shandong Qingzhou peach industry has formed with standardized, industrialized production and brand management. In addition to this product processing mode, we should also actively promote the construction of the circulation system of agricultural products. For example, Yijun County, through cooperation with Alibaba Group, has formed the country's first intelligent logistics system, which is the "Newbie Rural Agricultural

Products Uplift Center and Co distribution Center Complex", and solved the "last mile" problem of rural circulation. At the same time, there is also a development and construction mode of "enterprise+government" such as "three melon commune", which effectively realizes the cooperation mode of "Internet plus, three agriculture".

Today, with the digital penetration into agricultural development, in addition to the traditional development characteristic picking mode, the sharing agriculture represented by land sharing and the adoption mode of consumers' real-time monitoring through the small program digital platform and the joint management of consumers and farmers are also booming.

### **3.2 Promote rural development together in multiple dimensions**

#### **3.2.1 Digitalization helps rural infrastructure construction and public service improvement**

In the process of accelerating the construction of rural information infrastructure, it is necessary to promote the connectivity of rural data across the country. According to the requirements of urban and rural network integration, it is necessary to rely on the integrated e-government network system to comprehensively improve rural governance and service level. Accelerate the expansion of access networks in rural areas, implement in-depth coverage of 4G networks, accelerate the development and construction of 5G, and actively explore 5G+smart rural application scenarios. At the same time, according to the requirements of urban-rural integration and one network planning, relying on the integrated e-government network system, a digital rural system with data sharing, business collaboration and dynamic updating will be established to comprehensively improve rural governance and service level. In the process of increasing the construction of rural infrastructure, we should speed up the digital transformation of rural logistics, water conservancy, agricultural product processing and other aspects by combining the Internet, artificial intelligence and other new generation information technologies.<sup>[5]</sup>

#### **3.2.2 Digitalization helps rural ecological harmonious development**

First of all, in terms of ecological environment, the rural ecological environment supervision can adopt the environmental digital module, and set up the sewage monitoring, intelligent well cover, intelligent trash can, intelligent light pole and other IOT sensing devices in the countryside to form an IOT sensing network that reaches every corner of the country.<sup>[3]</sup> Achieve rural ecological environment supervision. The second is to build an environmental comprehensive command center. Establish a comprehensive command center for rural environment, and promote the equalization of basic public services for rural environment. On the electronic screen of the integrated command and information network platform in the command center, the rural environment can be seen. The comprehensive treatment commissioner can provide remote guidance on environmental problems in the countryside, supervise and urge the rectification. At the same time, the monitoring information of rural environmental quality, key pollution sources and environmental conditions can be released timely and accurately, so as to achieve the openness and transparency of monitoring information.

#### **3.2.3 Digitalization promotes rural culture to shine again**

In the process of renovating the appearance of new rural villages, the local regional culture is systematically excavated and sorted out; At the same time, we can plan the rural cultural digital construction plan in advance, and some digital screens, exhibition halls, networks and other components that need to be built can be built in a unified way in the new rural construction.

Local residents and grassroots governments can cooperate with cultural enterprises through new media and other new Internet media to explore local culture and combine it with the development of cultural tourism industry, so as to drive the digital development of rural culture with the development of cultural tourism industry; Secondly, we will vigorously promote the construction of rural digital libraries and electronic reading rooms. Although the popularity of mobile communication networks and smart phones has greatly shortened the information gap between urban and rural areas, digital libraries and electronic reading rooms can not only broaden the vision of villagers, but also serve as a multimedia display platform for rural culture, spreading the digital

achievements of local rural culture to tourists. Finally, we will make every effort to build a rural culture digital platform and its supporting software to overcome the shortcomings of high repetition rate and slow information update of rural culture digital achievements, and display personalized rural culture on the same platform according to the principles of unified access mode, unified database, so as to standardize digital achievements and select excellent cases.

### **3.3 Mutual promotion between digitalization and rural talent team**

We should speed up the construction of rural digital culture education, improve the overall quality of farmers, and cultivate modern new farmers. Online training for new professional farmers. Efforts should be made to improve the information technology level of new farmers and managers of new agricultural subjects, and cultivate them to become compound professional agricultural talents integrating production, operation and professional skills. At the same time, agricultural producers can learn relevant advanced knowledge through the Internet and other advanced information technologies in combination with their own conditions to improve the ability of rural residents to use information platforms to obtain environmental information.<sup>[6]</sup>

While improving the quality of local farmers' smart agriculture, it is also necessary to further introduce digital professionals in smart villages, formulate and implement various preferential policies to attract big data application talents to rural services, and encourage big data application talents to participate in the construction of "digital villages". In addition, the development of rural digitalization can also seek the help of relevant majors in colleges and universities or relevant environmental protection departments nearby, select professionals to guide rural information monitoring, and provide training and support related to big data for rural environmental protection.<sup>[7]</sup> As the leader of digital rural construction, local governments should make full use of the leading role of policies and regulations to encourage new media, cultural enterprises, universities, research teams and other non-governmental organizations to participate in the digital construction of rural culture.

## **4. Conclusion**

To sum up, the construction of digital countryside is a process of continuous promotion, continuous evolution and joint efforts of multiple subjects and multiple perspectives. China is a country with vast territory and abundant resources, and the natural environment in rural areas is quite different. Therefore, the agricultural development level based on this is different, and the advantages and characteristics are different. Only by adapting measures to local conditions and making targeted progress, can we explore the path of rural revitalization with local characteristics, promote the deep integration of digitalization, informatization and rural agricultural development, and provide strong support for promoting the comprehensive revitalization of rural areas.

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