

# Research on the Impact of Developing Rural Digital Economy on the Common Prosperity of Rural Farmers

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## Abstract

In the context of the country's comprehensive promotion of the rural revitalization strategy and the realization of common prosperity, the digital economy, as an emerging economic form, has injected new vitality into the development of rural economy. The development of rural digital economy has not only improved the efficiency of rural economy, but also promoted the growth of farmers' income, the improvement of life quality and the realization of social equity. This paper aims to explore the impact of rural digital economy on the common prosperity of rural farmers. Rural digital economy covers multiple fields such as e-commerce, digital finance and smart agriculture. Through technological progress and infrastructure construction, it is becoming an important force to promote rural economic growth. This paper first defines the concepts of rural digital economy and common prosperity, and summarizes the status quo and shortcomings of related research at home and abroad through a literature review. Then, the development status and trend of rural digital economy in the world and China are analyzed, and the role of policy support, technological progress and infrastructure construction in promoting the development of rural digital economy is discussed. Finally, the experience and challenges of rural digital economy in practical application are demonstrated through typical case analysis, and corresponding policy recommendations are put forward, in order to provide theoretical support and practical guidance for the healthy development of rural digital economy and the common prosperity of rural farmers.

## Keywords

Digital Economy; Rural Revitalization; Common Prosperity; Influencing Mechanism.

## 1. Introduction

### 1.1. Research Background

As an important part of modern economic development, the rural digital economy has rapidly risen around the world in recent years. Through technological innovations in e-commerce, digital finance, and smart agriculture, the rural digital economy has not only improved agricultural production efficiency and market competitiveness, but also promoted the diversified development of the rural economy. Especially in China, as the country vigorously promotes the construction of digital villages and the layout of information infrastructure, the rural digital economy has become an important means to revitalize the rural economy and promote the integrated development of urban and rural areas. However, despite the broad development prospects of the rural digital economy, it still faces many challenges and bottlenecks in its actual implementation.

Common prosperity for rural farmers refers to achieving common progress and improved well-being for all farmers in rural areas through the coordinated development of economy, society and environment. Common prosperity not only involves the improvement of income level, but

also includes balanced development in education, medical care, social security and other aspects. In China's national policy, common prosperity is regarded as the core goal of achieving socialist modernization and rural revitalization. Since the 19th National Congress of the Communist Party of China, the central government has repeatedly emphasized the need to promote common prosperity in rural areas, narrow the urban-rural gap, and improve the quality of life and happiness index of farmers.

## 1.2. Research Objectives

This paper aims to systematically explore how the rural digital economy affects the common prosperity of rural farmers. Specifically, by analyzing the various components of the rural digital economy and its comprehensive impact on the rural economy, society and environment, this paper reveals the role of digital technology in promoting rural economic growth and improving farmers' income and quality of life. At the same time, this paper will also combine the policy environment and actual cases to evaluate the current problems and challenges in the development of the rural digital economy, and provide a theoretical basis and practical guidance for further promoting the development of the rural digital economy.

## 1.3. Research Significance

This study has important practical significance for policy formulation and implementation. By deeply analyzing the impact of rural digital economy on the common prosperity of rural farmers, it can provide a scientific basis for the government to formulate more effective policy measures, optimize resource allocation, and improve the pertinence and effectiveness of policies. At the same time, this study also provides a new perspective and method for the academic community in the field of rural digital economy and common prosperity, and enriches the relevant theoretical system. Through case analysis and empirical research, this paper not only reveals the successful experience and challenges of rural digital economy in practical application, but also puts forward practical policy recommendations, which provides strong support for promoting the healthy development of rural digital economy and the realization of the common prosperity goal of rural farmers.

## 2. Literature Review

### 2.1. Research on Rural Digital Economy

In terms of the function of rural digital economy, Yang et al. (2020) believe that rural digital economy has promoted the development of rural e-commerce. Through e-commerce platforms, agricultural products are sold directly to consumers, and farmers use Internet channels to expand their sales scope and increase the added value of agricultural products. In addition, by building a rural information service platform and providing services such as agricultural technology consultation, agricultural product sources, and rural tourism promotion, rural digital economy can increase farmers' income and promote the diversified development of rural economy (Yao Yuchun et al., 2023). In terms of the measurement of the level of digital economic development, Zhang Hong et al. (2022) constructed a rural digital economy evaluation index system from five dimensions: macroeconomics, infrastructure government environment, information environment, and application environment. Mu Juan et al. (2023) constructed an evaluation index system for the development level of agricultural and rural digital economy from three dimensions: digital foundation, agricultural digitization, and rural digital industrialization. At the level of rural digital economic development path, the government can formulate policies to support the development of digital agriculture, rural e-commerce, digital finance and other fields to provide a favorable environment for the rural digital economy (Yang Jiafeng et al., 2022); it can also establish a community exchange platform to provide information support for rural governance, because releasing the dividends of

information technology in promoting rural construction management and development is an important path to accelerate the construction of "digital villages" (Dong Zhiyong et al., 2022). This is also confirmed by foreign experience. For example, Japan has greatly improved the level of informatization and digitalization of agricultural production by establishing an "Internet +" comprehensive information consulting service platform.

## **2.2. Research on the Common Prosperity of Rural Farmers**

The digital economy is driving revolutionary changes in society, achieving supply efficiency improvement and factor power transformation. While new technologies are reshaping product and factor markets, the contradiction of unequal income distribution is becoming increasingly prominent. Hao Yongping et al. (2022) believe that it is necessary to understand the connotation of common prosperity under the Marxist materialist historical view, correctly understand the great value and significance of common prosperity, and regard it as an important political handle to consolidate the party's ruling foundation. It should not only be regarded as an economic issue, but also as a political issue. Wan Guanghua et al. (2022) proposed that China has now moved from common poverty to unequal prosperity, and the next step is to further solve how to move from unequal prosperity to shared prosperity. An important issue is how to judge the degree of common prosperity of farmers and rural areas. Xu Pengjie et al. (2023) proposed that relevant indicators should be selected around the connotation of common prosperity of farmers and rural areas, so as to establish an indicator system to evaluate the realization of common prosperity of farmers and rural areas. Only in this way can we coordinate the relationship between efficiency and fairness in the process of high-quality economic development, increase farmers' income, and achieve the strategic goal of common prosperity.

## **2.3. Research on the Impact of Developing Rural Digital Economy on the Common Prosperity of Rural Farmers**

In terms of promoting agricultural modernization through rural digital economy, Wei (2021) believes that the basis for the efficient operation of agricultural product circulation modernization is to ensure that "flow-conversion-consumption-feedback-retention" forms a complete closed loop and a complete set of information systems, so as to realize data integration and processing technology to support effective online and offline collaboration. In addition, by collecting and analyzing agricultural data, rural digital economy can provide decision support and intelligent management. For example, based on big data analysis, it can predict and optimize crop growth, pest control, meteorological disasters, etc., thereby providing a scientific basis for decision-making and helping farmers to carry out refined management (Bai Yongxiu et al., 2022). In terms of promoting rural modernization through rural digital economy, high-quality rural infrastructure is the basic guarantee for achieving high-quality agricultural development. For example, improving the trading market and legalizing the spontaneous transfer of rural land will facilitate the unified management of land resources (Chen Xue et al., 2021). Through the distribution of transfer income, farmers' income can be increased, rural modernization development can be promoted, and the process of new urbanization can be accelerated, thereby promoting the rapid circulation of various production factors, effectively activating the stock of factors, and realizing the specialization, intensiveness and scale development of the rural economy (Dong Zhiyong et al., 2022). Rural digital economy broadens farmers' channels for getting rich. Kuhn et al. (2004) pointed out that digital technology is conducive to promoting information circulation, eliminating information barriers in the labor market, and achieving effective docking of labor supply and demand, which is conducive to increasing farmers' income. Xu Liyan et al. (2021) found that the use of Internet information technology has led to the rise of Internet platforms, promoted the free flow of commodities between urban and rural areas, lowered the threshold for entrepreneurship, and

agricultural sales platforms transformed rural characteristic resources into economic value, which has a positive effect on increasing farmers' income.

### **3. The Current Situation and Trends of the Development of Rural Digital Economy**

#### **3.1. Development of the Digital Economy in Rural Areas Around the World and in China**

Globally, the rural digital economy is experiencing rapid development. European and American countries have promoted the widespread application of e-commerce, digital finance and smart agriculture through highly developed Internet and communication technologies. For example, many farms in the United States and Europe have adopted precision agricultural technologies to achieve intelligent management of agricultural production through big data and the Internet of Things. These technologies have not only improved agricultural production efficiency, but also increased farmers' income and promoted the diversified development of the rural economy. In contrast, although developing countries started late in the rural digital economy, their growth rate is rapid. For example, digital payment and e-commerce in India have been rapidly popularized in rural areas, effectively promoting the prosperity of the rural economy. In China, the development of the rural digital economy has also made remarkable achievements. As the country vigorously promotes the rural revitalization strategy, the digital economy has become a new engine to promote rural economic growth. Through e-commerce platforms, rural products can enter the national and even global markets more conveniently, significantly improving farmers' income levels. In addition, China's digital financial services, such as mobile payments and Internet loans, have greatly improved the financial environment in rural areas and improved farmers' financial literacy and risk resistance. However, compared with developed countries, there is still a certain gap in the development of China's rural digital economy, especially in digital infrastructure and technology applications.

#### **3.2. Policy Support and Development Environment**

The national and local governments have introduced a number of policy measures to support the development of rural digital economy, providing strong support for its development. Globally, many countries have formulated special digital economy development strategies and action plans. For example, the EU's "Digital Agriculture Strategy" and the United States' "Precision Agriculture Initiative" both provide clear guidelines and financial support for the development of rural digital economy. In China, the central government has issued a series of policy documents, such as the Rural Revitalization Strategic Plan (2018-2022) and the "Digital Rural Development Strategic Outline", which clarify the development direction and specific measures of rural digital economy. At the same time, local governments have also formulated corresponding implementation plans based on local conditions to promote the implementation of digital economy in rural areas. These policy measures cover digital infrastructure construction, technology promotion, talent training and financial support. For example, by increasing investment in the construction of Internet and communication networks in rural areas, the level of informatization in rural areas has been improved; by setting up special funds and providing preferential loans, the development of agricultural technology enterprises and start-ups has been supported; and by carrying out various forms of training and education, the digital literacy and application capabilities of farmers have been improved. These policy measures have created a good environment for the development of rural digital economy and effectively promoted the transformation and upgrading of rural economy.

### 3.3. Technological Progress and Infrastructure Construction

Technological progress and infrastructure construction are key factors in promoting the development of rural digital economy. Globally, the rapid development of emerging technologies such as the Internet, 5G networks, the Internet of Things and blockchain has provided strong support for the development of rural digital economy. Taking the Internet of Things as an example, by applying sensors and smart devices in agricultural production, intelligent management and precise control of agricultural production have been achieved, greatly improving production efficiency and resource utilization. In addition, the application of blockchain technology in agricultural product traceability and digital finance has also improved the transparency and security of agricultural production. In China, digital infrastructure construction has made significant progress. By vigorously promoting the construction of rural broadband and 4G and 5G networks, the level of information and communication in rural areas has been greatly improved, laying a solid foundation for the development of the digital economy. In addition, with the widespread application of technologies such as smart agriculture, e-commerce and digital finance in rural areas, more and more farmers have begun to enjoy the convenience and benefits brought by digital technology. For example, through e-commerce platforms, farmers can sell agricultural products directly to consumers, reduce intermediate links and increase income; through smart agricultural technology, farmers can achieve precision planting and improve yield and quality. However, there is still an imbalance in the application of digital infrastructure and technology in rural areas, and further investment and policy support are needed to achieve the comprehensive development of rural digital economy.

## 4. The Impact Mechanism of Rural Digital Economy on the Common Prosperity of Rural Farmers

### 4.1. Increase in Economic Income

The rural digital economy has significantly increased farmers' economic income through various channels. First, the digital economy has created new employment opportunities. The development of e-commerce platforms has enabled many farmers to increase their income by opening online stores or participating in online sales of agricultural products. In addition, the digital economy has also spawned many emerging professions, such as couriers, online store customer service, and live streaming, further expanding rural employment channels. Secondly, the application of digital technology has improved agricultural production efficiency. Smart agricultural technology has achieved precision planting and intelligent management through the Internet of Things, sensors, and data analysis, effectively reducing resource waste and production costs, and improving the output and quality of agricultural products. Finally, the digital economy has expanded the market coverage of agricultural products. Through e-commerce platforms, agricultural products can break through geographical restrictions and directly enter a broader market, reduce intermediate links, and increase farmers' income.

### 4.2. Education and Training

Digital technology has played an important role in farmers' education and skills training, significantly improving farmers' overall quality and competitiveness. Through the Internet and mobile devices, farmers can easily access various educational resources and information, and conduct online learning and skills training. For example, many online education platforms provide agricultural technology training courses to help farmers master the latest agricultural knowledge and technology. In addition, the government and non-governmental organizations also carry out various training programs through digital platforms to improve farmers' digital literacy and professional skills. These education and training not only improve farmers'

production capacity, but also enhance their employment competitiveness and entrepreneurship ability, laying a solid foundation for achieving common prosperity.

#### **4.3. Improvement of Social Security and Quality of Life**

Digital finance and e-government play an important role in improving the level of rural social security and the quality of life. Digital finance has improved the financial accessibility and convenience of farmers through mobile payment, Internet banking and inclusive financial services, and reduced the threshold and cost of traditional financial services. For example, through digital loan platforms, farmers can more easily obtain small loans to support agricultural production and household consumption. In addition, the promotion of e-government has simplified many government service processes, enabling farmers to handle various social security businesses such as medical insurance and pension insurance more conveniently, and improving the coverage and efficiency of rural social security. At the same time, digital technology has also promoted the optimization of rural public services, such as online medical care, distance education and e-commerce, which has significantly improved the quality of life of farmers.

#### **4.4. Rural Governance and Community Development**

The application of digital technology in rural governance provides a new means to promote community development and enhance governance capacity. The implementation of smart villages and e-government has made rural governance more efficient and transparent. For example, through the smart village system, villagers can obtain village affairs information and participate in village affairs decision-making through mobile APP or website, which improves the transparency and participation of village affairs management. In addition, the e-government platform makes government services more convenient and efficient. Villagers can handle various administrative affairs online, reducing time and cost. At the same time, digital technology has also promoted the development of community culture and social activities. Through social media and online communities, communication and interaction between villagers have become more frequent, enhancing community cohesion and social capital. Overall, the application of digital technology in rural governance has effectively improved the governance capacity and community development level of rural areas, and provided a solid guarantee for achieving common prosperity for rural farmers.

### **5. Conclusion and Policy Recommendations**

#### **5.1. Research Conclusion**

This paper systematically analyzes the current status of the development of the rural digital economy and its impact mechanism on the common prosperity of rural farmers, and draws a number of important conclusions. First, the rural digital economy has significantly increased farmers' economic income. By increasing employment opportunities, improving agricultural production efficiency and expanding market coverage, farmers can obtain more economic benefits and improve their living conditions. Secondly, the application of digital technology in education and training has effectively improved the comprehensive quality and employment competitiveness of farmers, providing important support for the improvement of rural human capital. In addition, digital finance and e-government have played a positive role in improving the level of rural social security and quality of life, and enhanced farmers' sense of happiness and security. Finally, the application of digital technology in rural governance has promoted the development of communities and the improvement of governance capabilities, and improved management efficiency and social participation in rural areas. In summary, the rural digital economy plays an important role in achieving the goal of common prosperity for rural farmers.

## 5.2. Policy Recommendations

In order to promote the healthy development of the rural digital economy and achieve common prosperity for rural farmers, this paper puts forward the following policy recommendations. First, the construction of digital infrastructure should be accelerated. The government should increase investment in broadband networks and 5G communications in rural areas to ensure that rural areas can enjoy the same level of digital services as cities. Second, strengthen digital skills training for farmers. The government and relevant agencies should carry out multi-level and multi-form digital skills training to improve farmers' digital literacy and technology application capabilities and enhance their competitiveness in the digital economy. Third, optimize the policy environment. The government should formulate and improve relevant policies to support the development of the rural digital economy, such as providing tax incentives, financial support and technological innovation incentives to encourage enterprises and individuals to actively participate in the construction of the rural digital economy. At the same time, a sound regulatory mechanism should be established to ensure the healthy and orderly development of the digital economy.

## 5.3. Future Research Directions

Although this paper has achieved certain results in exploring the impact of rural digital economy on the common prosperity of rural farmers, there are still some shortcomings. First, this paper is mainly based on theoretical analysis and case studies, lacking the support of empirical data. Future research should combine large-scale empirical surveys to further verify and deepen the research conclusions. Secondly, this paper fails to fully explore the differentiated impact of rural digital economy in different regions and different types of rural areas. Future research should focus on regional differences and personalized development paths for specific types of rural areas, and put forward more targeted policy recommendations. Finally, with the continuous advancement of technology, the development of rural digital economy will face new opportunities and challenges. Future research should keep up with the trend of technological development, explore the application prospects of emerging technologies in rural digital economy and their potential impact, and provide forward-looking guidance for policy formulation and implementation.

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