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Research on the Development of New-Quality Productivity to Promote Digital Rural Construction under the Background of Rural Revitalization Strategy

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Abstract. With the continuous improvement of China's economic level, the main social contradictions have shifted, and people's demand for a better life has been rising. On one hand, for rural residents, the desire to build beautiful villages, achieve modern rural development, and narrow the urban-rural gap has become increasingly strong. On the other hand, the continuous progress of the digital economy and digital technology has brought new changes to rural development. How to utilize digital technology to promote the development of new-quality productivity in rural areas and promote rural revitalization has become a new era issue. Digital rural construction is the only way for further rural development and modernization. Therefore, relevant research on digital rural development is of great significance. Against the backdrop of the digital technology revolution, new-quality productivity represents the deep integration of technology and production and is the core driving force of the modernization process. It not only changes the development model of industry and services but also deeply penetrates the agricultural and rural fields, providing strong support for digital rural construction. The report of the 20th National Congress of the Communist Party of China pays special attention to the "three rural" issues (agriculture, rural areas, and farmers), emphasizing the importance of "three rural" work in the new era. Digital rural construction, in this context, is endowed with special strategic significance. New-quality productivity, centered on technological innovation, opens up a new path for agricultural modernization development. Therefore, an in-depth analysis of digital rural construction, from its core concepts, existing problems to the exploration of practical paths, has certain theoretical and practical significance for understanding the actual role of new-quality productivity in the agricultural and rural areas. In light of this, this paper aims to explore the application of new-quality productivity in digital rural construction, analyze its transformation logic in rural development, address key issues in digital rural construction, and play a specific role in practical paths, providing theoretical support and suggestions for relevant policy formulation and implementation.

Keywords: new-quality productivity, digital countryside, college students, rural revitalization

1. Introduction

1.1. Research Background

Since the beginning of the 21st century, China's economic development has accelerated, with urban areas becoming the focus of priority development and achieving significant accomplishments. However, narrowing the urban-rural gap has gradually become a major challenge on China's path to achieving common prosperity. The Party and the state attach great importance to "Three Rural Issues" (agriculture, rural areas, and farmers), providing detailed strategic guidance on developing rural areas in China from the perspectives of agriculture, rural areas, and farmers. In the report of the 19th National Congress of the Communist Party of China, the government proposed implementing the rural revitalization strategy, advancing rural modernization, creating new types of rural areas that green the production and living conditions of farmers, and promoting comprehensive progress and development in agriculture, rural areas, and farmers. With the continuous improvement of digital infrastructure such as the internet and the Internet of Things, the digital economy has become the "engine" driving China's social development, playing a crucial role in stimulating national production, consumption, innovation, and employment. In May 2019, the General Office of the Central Committee of the Communist Party of China and the General Office of the State Council issued the "Digital Rural Development Strategy Outline," pointing out that rural areas are moving towards digital development in the context of the digital

economy. Therefore, this paper analyzes the impact of developing new productive forces on promoting digital rural construction from both theoretical and empirical perspectives, which is of significant contemporary relevance for how rural development in China can seize the digital dividend.

The report of the 20th National Congress of the Communist Party of China emphasizes "accelerating the construction of a strong agricultural nation and solidly advancing the revitalization of rural industries, talents, culture, ecology, and organizations." After achieving a moderately prosperous society in all respects in 2020, the development of vast rural areas remains a key and challenging issue on China's new journey toward building a modern socialist country. Rural revitalization is the overall strategy for promoting agricultural and rural modernization, with industrial prosperity being the focus of rural revitalization. The revitalization of rural industries is the starting point and prerequisite for solving rural issues.

To lead industrial innovation with technological innovation and actively cultivate and develop new productive forces. Less than a week after the conclusion of the 2024 National Two Sessions, General Secretary Xi Jinping visited Hunan and presided over a symposium on promoting the rise of the central region in the new era, making new arrangements and putting forward new requirements for the development of new productive forces. From first proposing "new productive forces" during a local inspection to deploying "developing new productive forces" at the Central Economic Work Conference; from systematically elaborating on new productive forces during the collective study of the Central Politburo to emphasizing "developing new productive forces according to local conditions" at the National Two Sessions, General Secretary Xi Jinping profoundly pointed out that new productive forces play a leading role in innovation, breaking away from traditional economic growth methods and development paths, characterized by high technology, high efficiency, and high quality, and aligning with the advanced productive force state of the new development concept. It is generated by technological revolutionary breakthroughs, innovative allocation of production factors, and deep industrial transformation and upgrading, with its basic connotation being the leap in laborers, labor materials, labor objects, and their optimal combination, and its core feature being a significant increase in total factor productivity, characterized by innovation, with the key being high quality, and its essence being advanced productive forces.

As China enters a high-quality development stage, General Secretary Xi Jinping has coordinated the overall strategy for the great rejuvenation of the Chinese nation and the unprecedented changes in the world over the past century, accurately perceiving and grasping the trends in global scientific and technological and economic development, and creatively proposing major conclusions on the development of new productive forces. He has clarified its rich connotations, core essentials, practical paths, and scientific methodology, profoundly answering major theoretical and practical questions such as "What are new productive forces? Why develop new productive forces? How to develop new productive forces?" This represents the latest achievement of Xi Jinping's economic thought, with significant practical and far-reaching historical significance for promoting high-quality development and advancing Chinese-style modernization on the new journey of the new era.

Achieving industrial prosperity urgently requires constructing a complete production and operation system, extending industrial chains, and exploring and cultivating new industries and new business models to achieve the modernization of agriculture. The stable and healthy development of the digital economy provides an opportunity for the digital transformation and reform of traditional industries. The "14th Five-Year Plan" proposes accelerating the development of smart agriculture and advancing the digital transformation of agricultural production, operation, and management services. The "14th Five-Year Plan for Agricultural and Rural Modernization" mentions that during the "13th Five-Year Plan" period, the infrastructure construction in rural areas in China has been strengthened, and technological support has become more robust, further proposing "promoting the deep integration of new generation information technologies such as the Internet of Things, big data, artificial intelligence, and blockchain with agricultural production and operation." This not only lays a good foundation for introducing digital technologies into rural areas but also puts forward requirements for exploring how to integrate "digital" into rural industries and advancing the full-chain innovation of rural industries in practice. As an emerging digital power and a traditional agricultural power, China is pushing forward digital rural construction through the development of new productive forces, addressing the shortcomings in rural development, which is both a process of expanding the development space of China's digital economy and promoting the digitalization of rural industries. Amidst a new round of global technological revolution and industrial transformation, in-depth analysis of the connotations of the digital economy and its mechanism and influencing factors in promoting rural industrial revitalization, and further proposing specific and feasible practical approaches, is of great significance for solving issues such as China's digital economy being large but not strong, fast but not high-quality, and low rural informatization levels and low industry income. It is beneficial for guiding the integration, empowerment, and promotion of rural industrial development by the digital economy, achieving agricultural modernization transformation and rural revitalization.

Digital rural construction is a basic requirement for rural revitalization and a foundation for the high-quality development of the rural economy. New productive forces have multiple implementation paths for digital rural construction through industrial upgrading, rural development, talent development, etc. In the process of empowering digital rural construction with new productive forces, the focus should be on technological innovation as the driving force, digital development as the means, and a people-centered approach as the goal to improve productivity levels in rural areas. Specific implementation paths include improving rural technology levels, refining regulatory methods, leveraging innovation-driven effects, cultivating rural professional talents, and popularizing digital infrastructure. Accelerating the application of new productive forces in rural areas can effectively enhance the level of digital rural construction, thereby achieving high-quality agricultural development.

1.2. Research Objectives

This paper aims to achieve three objectives: First, from a theoretical perspective, to strengthen the academic exploration of new productive forces within the context of the rural revitalization strategy; Second, from an application perspective, to analyze the potential advantages or weaknesses of current digital rural construction, and propose countermeasures and suggestions around upgrading paths and promotion strategies; Third, in terms of interpreting and studying the spirit of the 20th National Congress of the Communist Party of China, the focus of this research is essentially to study and interpret the specific actions of "comprehensively promoting rural revitalization and advancing common prosperity."

By integrating digital technology with rural revitalization, this research aims to achieve dual significance in theoretical construction and practical application. Specifically, it aims to: First, address the deficiencies in research on digital rural capability building from a new perspective; Second, effectively seize and utilize the empowering role of the digital economy in rural revitalization, further advancing the realization of common prosperity; Third, operationalize and make effective the learning, interpretation, and dissemination of the spirit of the 20th National Congress of the Communist Party of China and the spirit of the Two Sessions.

1.3. Research Significance

1.3.1. Theoretical Significance

(1) Contributing to the enrichment of theoretical research on the digital economy. Based on the current national conditions of digital economic development in China, it demonstrates how digital technologies can optimize the flow of production factors and improve resource utilization efficiency, and how the digital economy helps achieve precision agriculture and promotes industrial revitalization. This reflects the innovation of the theoretical framework of political economy with Chinese characteristics.

(2) Facilitating interdisciplinary analysis by integrating theories related to the digital economy and industrial prosperity, providing a theoretical basis for constructing digital rural areas in China.

1.3.2. Practical Significance

1. In the Post-Pandemic Era:

Promoting the integration of the digital economy with the real economy and creating new advantages in the digital economy are key drivers for responding to the current complex international situation and stabilizing economic growth. Interpreting the digital economy using the analytical framework of political economy with Chinese characteristics aligns with the actual development of China's economy and holds practical relevance and guiding value.

2. Rural Industrial Development:

Demonstrating the mechanisms and impact of the digital economy on rural industrial development improves the application environment of the rural digital economy in the new stage of building a moderately prosperous society in all respects. This enhances the efficiency of resource utilization in rural areas, unleashes the potential for agricultural development, and further advances the rural revitalization strategy.

3. Pathways for Rural Industrial Revitalization:

Summarizing and consolidating the pathways through which the digital economy promotes rural industrial revitalization helps to improve farmers' information literacy, foster new rural industries, new business forms, and new models, address the shortcomings in rural development, facilitate the two-way flow of urban and rural factors, narrow the development gap between agriculture and other industries, rural areas and urban areas, and between the northwest and the central and eastern regions. This contributes to achieving common prosperity for all people.

New digital technologies such as big data, cloud computing, and blockchain are continuously evolving, profoundly influencing residents' lifestyles, business models, and social structures. These technologies play a significant role in stimulating consumption, innovation, and employment. Starting from the "Twenty-Character Policy" proposed for rural revitalization, this paper studies the impact of frontier technological areas of the digital economy on the development of China's rural areas. It analyzes the impact of the development of new quality productive forces on digital rural construction from both theoretical and empirical perspectives and provides relevant suggestions for the implementation of China's rural revitalization strategy, thereby possessing certain theoretical value and practical significance.

2. Theoretical Analysis

2.1. Research on the Digital Economy

2.1.1. Definition of the Digital Economy

In the early stages, foreign countries led in computer hardware and communication facilities and gradually developed the information economy, which became the precursor to the digital economy. As network technologies enabled interconnection across various sectors of the national economy, the information economy transitioned into the digital economy. Don Tapscott was among the first to propose the concept of the digital economy, though his definition was not extensively elaborated. The OECD summarizes the development of the digital economy as a process from "information economy" to "internet economy" and then to "digital economy," defining it as "economic activities conducted through electronic ordering or electronic payment." Bukht Rumana and Richard Heeks define the digital economy from a hierarchical perspective, with three levels: the core level comprising digital domains such as hardware manufacturing and information services; the narrow scope digital economy, including e-business and digital services; and the broad scope digital economy, such as e-commerce and precision agriculture.

2.1.2. Interpretation of the Digital Economy

Prior to the digital economy, there were two socio-economic forms: the agricultural economy based on land and labor, and the industrial economy based on capital and technology [1]. Digital activities, as a form of production activity, include both human and material factors. Laborers use digital technology and integrate it with other production factors to create value in digital products, representing a typical integrated economy. Data, as a new production factor, does not follow the law of diminishing marginal returns and must be processed digitally before becoming a productive resource, transforming from potential to actual productive force. Digital information products lack physical form and their use value is manifested through databases, improving the efficiency of production, distribution, exchange, and consumption processes. This reduces the time required for production material reserves, labor, process interruptions, and natural forces, forming new social exchange relations.

The digital economy, by discovering, anticipating, and creating customer demands through digitalization and intelligence, represents advanced productive forces. The data information and transmission processes involved are comprehensive technological means that penetrate into agricultural production, service industries, and have widespread connections with most industries. Li Xiaohua summarizes the features of the digital economy as disruptive innovation, rapid growth of platform economy, and network effects. At the macro level, China's digital economy faces issues such as incomplete institutional mechanisms, blind planning and design, and unclear data element rights. At the meso level, there are trends of "three-two-one" industrial reverse penetration and "data silos." At the micro level, there are issues such as insufficient deep innovation capabilities of market entities, difficulties in pricing digital products, and exclusionary behaviors of digital giants. These problems hinder the expansion of data sharing and openness and restrict the leap from quantitative to qualitative changes in the digital economy [2].

2.2. Research on the Digital Economy and Rural Industrial Revitalization

2.2.1. "Digital Village" Strategy

The integration of digital economy into rural production and life has already achieved results in domestic and international practice. Digitalization is a key feature of the Agriculture 4.0 stage. A digital village is a sustainable operating system characterized by self-perception, circulation, and improvement. Its practical logic includes behavioral motives, institutions, resources, public participation, and supervision, guiding rural development from exogenous resource-driven to endogenous demand-driven, and innovating rural governance models. The digital village serves as both a means to enhance quality and efficiency and as a long-term dynamic innovation process. By comparing the digital village development models of four typical developed countries— the U.S., Japan, the U.K., and France—Mei Yan and others believe that given China's digital village construction is still in its initial stages, a three-dimensional rural development model should be established, centered on farmers, with government and the internet as main forces, and e-commerce platforms and universities as auxiliary [4]. Zeng Yiwu and others use collaborative theory, information visualization theory, and endogenous development theory to describe China's digital village construction strategy, suggesting that top-level design, grassroots innovation, and pilot exploration should guide the methodology, combining top-down and bottom-up approaches to build digital villages. Zhang Hong and others construct a readiness evaluation system for digital village development with primary indicators such as digital village infrastructure, information environment, government affairs environment, and application environment [5]. Their research finds that regional development imbalance is a significant factor restricting digital village development. This also reflects the regional, urban-rural, class, and generational gaps in China’s data and information, while digital village construction can bridge the urban-rural digital divide through the "Internet+" approach [6].

2.2.2. Rural Industrial Revitalization

Rural industrial development is the foundation of comprehensive rural revitalization. Rural industries are rooted in county areas, relying on agricultural and rural resources, with farmers as the main body, and integrated development of the primary, secondary, and tertiary industries as the pathway. This industry system features distinct regional characteristics, active innovation and entrepreneurship, diverse industry types, and closely linked interests [3]. Rural industries are foundational, green development is a prerequisite, increasing farmers' income is the guiding principle, multi-sector integration is the path, and cultivating new types of business entities is the guarantee. This approach helps address issues such as rural hollowing, marginalization of agriculture, and non-agricultural transformation of farmers. Rural industrial revitalization should be based not only on the primary industry but should also promote connections between the primary and secondary industries, and guide the transformation of rural industries, developing characteristic industries. Scholars focus on factors such as capital, talent, and technology in rural industries, using methods like case analysis, indicator scoring, and empirical research to explore the development level and influencing factors of rural industries. Research shows that China's rural industrial revitalization faces problems such as a single industrial structure, lack of sustainable development momentum, low overall quality of industry operators, lagging transformation and upgrading, and lack of competitiveness of village enterprises. The trend shows initial signs of integration of three industries, expansion and strengthening of characteristic advantageous industries, gradual quality improvement in agriculture, and continuous improvement of interest linkage mechanisms [7].

2.2.3. Relationship Between Digital Economy and Rural Industrial Revitalization

The digital economy plays a significant role in achieving rural industrial revitalization. China's transition to modern agriculture and rural areas is closely linked with poverty alleviation and rural revitalization, providing a broad space for digital empowerment. It can drive the development of agricultural specialty industries, resource industries, financial industries, tourism industries, and traditional culture industries, fostering a thriving new digital economy in rural areas. Big data is a crucial tool and means for integrating the digital economy with rural revitalization. The digital economy addresses the needs of farmers, agriculture, and rural areas from micro, meso, and macro perspectives, providing new momentum for rural revitalization [8].

The digital information environment and digital talent are foundational for the development of rural digital economy. Digitalization in agriculture and rural industries is a crucial step in rural industrial revitalization. The application of modern information technologies can help farmers optimize factor input allocation, effectively manage dual risks from the natural environment and market fluctuations, and improve risk control efficiency. Additionally, it addresses financial exclusion issues in agriculture and enhances farmers' digital financial literacy. Digital technology also resolves conflicts between commercial banks' profitability demands and policy requirements, facilitating accurate fund allocation to various rural financing entities. Han Haibin and Zhang Li found that agricultural informatization has a dual threshold effect on the growth rate of agricultural total factor productivity, with effects changing from insignificant to significant [9]. Li Qiannan and Li Gucheng further added that the internet's role in promoting agricultural total factor productivity is most evident in the central regions, followed by the western and eastern regions, and it may inhibit agricultural technology efficiency while promoting technological progress [10]. Guided by new development concepts, the digital economy promotes agricultural upgrading, rural progress, and farmers' income through cost savings, efficiency enhancement, agricultural product quality transformation, structural upgrading, and the integration of primary, secondary, and tertiary industries, resulting in models like precision agriculture, government-business collaborative digital agriculture, and contract agriculture. Rural e-commerce, relying on network platforms for transactions within rural areas, plays an important role in transforming agricultural development modes and helps farmers sell products and understand market demands. The digital economy shifts agriculture from production-oriented to consumption-oriented.

2.2.4. Theoretical Logic of New Quality Productive Forces Empowering Digital Village Construction

[11] New quality productive forces refer to productive forces characterized primarily by digitalization, networking, and intelligence. Their core connotation is technological innovation, and their main carrier is industrial development. Unlike traditional productive forces, new quality productive forces are efficient, convenient, precise, and intelligent, significantly enhancing production efficiency and quality while reducing costs and risks. Digital village construction involves comprehensively promoting rural economic and social development through digitalization, networking, and intelligence. This encompasses infrastructure construction, adjustments in agricultural production methods, improvements in public services, and enhancements to governance systems. As an essential component of the rural revitalization strategy, digital village construction is crucial for advancing rural economic development, improving farmers' living standards, and promoting urban-rural integration. Hence, new quality productive forces play a central role in accelerating the process of digital village construction. In the context of current agricultural development and rural transformation, new quality productive forces not only improve economic construction efficiency and quality but also enrich the concept of digital village construction.

2.2.4.1. New Quality Productive Forces Promoting Rural Digital Production

With technological advancements, new quality productive forces have become a significant driving force for rural digital production. In the digital age, rural digital production has become a vital pathway for rural revitalization, with new quality productive forces being a key factor in this process. Firstly, new quality productive forces will advance the construction of digital infrastructure in rural areas. The widespread application of new technologies such as the internet, big data, and artificial intelligence provides robust support for developing rural digital infrastructure. Secondly, new quality productive forces facilitate the development of rural agriculture. Under the influence of new quality productive forces, rural digital industries are transitioning from traditional agriculture to modern smart agriculture. Lastly, new quality productive forces enhance the efficiency of rural digital production, introducing new growth points for the rural economy. By adopting advanced digital technologies and intelligent equipment, rural industries achieve more precise and efficient production, thereby improving production efficiency and product quality. Additionally, new quality productive forces create more market opportunities for rural industries, expanding the agricultural product industry chain, better meeting consumer demands, and further promoting rural economic development.

2.2.4.2. New Quality Productive Forces Supporting Smart Village Construction

New quality productive forces drive the construction of smart villages, an inevitable trend in the development of China's agricultural industry. As technology continues to advance, new quality productive forces are rapidly transforming our ways of life and work. They play an increasingly important role in the construction of smart villages. Firstly, new quality productive forces provide strong information support for smart village construction. By employing advanced technologies such as artificial intelligence, big data, and the Internet of Things, they ensure technical support for rural construction. Secondly, new quality productive forces promote the development of rural industries. The introduction of modern agricultural technology and equipment makes agricultural production more intelligent and efficient, thereby improving efficiency and quality. Real-time monitoring of field environments and crop growth allows farmers to better manage planting processes, adjust planting plans, and increase the yield and quality of agricultural products, thus enhancing agricultural production efficiency and reducing costs. Furthermore, new quality productive forces stimulate the emergence of new industries such as rural tourism and cultural creativity, injecting new vitality into rural economic development. Lastly, new quality productive forces improve the quality of life for rural residents by introducing smart living facilities and services, such as smart homes and intelligent healthcare, creating a more comfortable and convenient living environment. Through smart village platforms, various rural resources are integrated to achieve information sharing and connectivity, providing more convenient and efficient services for farmers.

2.2.4.3. New Quality Productive Forces Advancing Rural Digital Governance

The emergence of new quality productive forces fosters the transformation of rural digital governance models. With the development trends of digitalization, networking, and intelligence, rural digital governance is progressively achieving informatization, intelligence, and efficiency. Firstly, new quality productive forces offer more efficient information processing tools for rural digital governance. Technologies such as big data, cloud computing, and the Internet of Things enable rapid processing and analysis of massive data, improving the scientific and precise nature of decision-making. Additionally, new quality productive forces provide more convenient communication methods, facilitating information sharing and collaborative cooperation among government, enterprises, and society. Secondly, new quality productive forces drive the intelligent development of rural digital governance. By applying artificial intelligence and machine learning, rural digital governance can perform automatic data analysis and economic development forecasting, providing more accurate data support for regional decision-making. Lastly, new quality productive forces promote innovation in rural digital governance. As digitalization, networking, and intelligence continue to evolve, rural digital governance models are continuously innovating and improving to meet the diverse needs of different regions. New quality productive forces offer broader innovation space and richer methods, driving the innovative development of rural digital governance.

2.2.4.4. New Quality Productive Forces Enhancing Rural Talent Development

New quality productive forces drive the development of digital talent resources in rural areas, with the training and recruitment of professional talent becoming a fundamental driving force for rural development. New quality productive forces, with their unique advantages, provide extensive development space and more employment opportunities for digital talent in rural areas. Firstly, new quality productive forces set higher requirements for rural digital talent. To meet the needs of the digital age, rural digital talent must possess solid digital knowledge and skills, including in areas such as data analysis, cloud computing, and artificial intelligence. Secondly, new quality productive forces offer more job opportunities for rural digital talent. As the digital transformation accelerates, more enterprises and institutions are focusing on digital transformation, increasing the demand for rural digital talent. These enterprises and institutions provide more job opportunities and higher salaries, attracting more young people to return to their hometowns and contribute to rural development. Lastly, new quality productive forces facilitate the

exchange and cooperation among rural digital talent. In the digital age, the dissemination of information and knowledge is more convenient and rapid. Rural digital talent can use the internet and other channels to collaborate with digital talent from other regions and industries, collectively advancing comprehensive digital development in rural areas. This exchange and cooperation not only help improve the skill levels of rural digital talent but also promote collaboration and development between rural areas.

2.2.4.5. New Quality Productive Forces Driving Rural Resource Development

Rural areas possess abundant natural and cultural resources, but their value is often not fully realized due to insufficient development. The application of new quality productive forces can help rural areas better develop and utilize these resources. By introducing advanced scientific and technological methods, resources can be more accurately assessed, and scientific development plans can be formulated. This can effectively enhance agricultural production efficiency, improve the rural ecological environment, promote rural tourism, and inject new vitality into the rural economy. Additionally, new quality productive forces can drive the sharing and sustainable development of rural resources, achieving coordinated economic, social, and ecological benefits.

2.2.5. The Role and Significance of Digital Village Construction in Rural Revitalization

2.2.5.1. Digital Village Construction Promoting Rural Revitalization

Industrial development is a necessary pathway for rural revitalization. As digital projects are developed, digital agriculture will become a main line of agricultural industry development, thus endowing the agricultural sector with increased competitiveness. In the context of digital village construction, digital information technology will comprehensively transform and upgrade rural industries, positively impacting various aspects such as agriculture, livestock farming, and equipment production. It will also enhance the construction of rural logistics and sales services, promote industry integration, and create new industries, business models, and platforms through various information technologies. This will further drive rural industry development, strengthen rural product sales, and accelerate rural revitalization through the construction of digital villages.

2.2.5.2. Digital Village Construction Driving Rural Talent Revitalization

With the rapid development of rural industries and economies in China, talent has become a crucial force for driving rural revitalization. Rural talent also determines the outcomes of modern agricultural development in China. As digital villages are built and implemented, rural industries must enhance their technology, management, service, and quality to remain competitive in the market. This necessitates a substantial influx of digital talent into rural industries, laying a strong foundation for their development.

2.2.5.3. Digital Village Construction Advancing Rural Cultural Revitalization

Cultural revitalization is an intrinsic force of rural revitalization. However, the long-standing lack of cultural resources and confidence has hampered progress. In the context of digital village construction, rural culture and civilization will be the starting points for rural revitalization. It is essential to expand rural culture while promoting the integration of culture with economic and industrial development. Through digital village construction, local farmers can use digital platforms to access more information technology and digital culture, improving their overall digital literacy. This will alter rural residents' views on life, consumption, and employment, spread excellent rural culture, and foster cultural confidence, ultimately driving the development and progress of rural industries and culture.

2.2.5.4. Digital Village Construction Driving Rural Ecological Development

Ecological revitalization is also a key component of rural revitalization. Digital village construction contributes to ecological revitalization by creating a favorable rural ecological environment. In this context, the Internet of Things, big data, and artificial intelligence will deeply integrate with rural industries, assisting and promoting them through digital technologies. This will facilitate the creation of green, smart villages, strengthen environmental management, prevent pollution, and ensure effective ecological construction. Such efforts will not only enhance the ecological and green characteristics of rural industries but also maintain a promising outlook for green industry development.

2.2.5.5. Digital Village Construction Driving Rural Organizational Revitalization

Organizational revitalization is the first step in implementing rural revitalization. Rural organizations mainly include grassroots party organizations, social organizations, and rural cooperative organizations. Among these, party organizations serve as the

bridge and link for leading farmers in industrial development and upgrades, and are also the organizers of digital village construction. Strengthening rural organizations and building strong grassroots party organizations is essential for driving rural revitalization and digital village construction. In this context, party members must possess a strong awareness of digital transformation, leverage digital technology in rural management, and enhance scientific governance to effectively consolidate poverty alleviation outcomes and promote rural revitalization.

3. Current Status and Issues of Digital Village Development in China

3.1. Current Status

In 2018, the "Opinions of the Central Committee of the Communist Party of China and the State Council on Implementing the Rural Revitalization Strategy" explicitly proposed the implementation of the digital village strategy. Since then, digital village construction activities have begun as pilot projects across various regions, with some areas achieving notable results. By mid-2019, the coverage of banking financial institutions in rural towns in China reached 95.7%, meeting the financial service needs of rural residents. By 2020, the 4G coverage rate in China's administrative villages had surpassed 98%, ensuring convenient access to network technology for most villagers. In 2021, the number of Taobao villages in China reached 7,023, an increase of 1,598 compared to the previous year, reflecting a 30% growth. This indicates that a significant number of rural areas in China have developed effective methods to leverage digital technology for benefits, marking another significant milestone in the construction of digital villages in China.

To ensure the smooth progress of digital village construction and continuous advancement in the future, central and local government agencies have issued several guiding documents based on the actual situation of digital village development in China. These include the "Digital Village Development Strategy Outline" released in 2019, the "Digital Agriculture and Rural Development Plan (2019-2025)" published in 2020, and the "2022 Digital Village Development Work Points" issued in 2022. These documents provide various perspectives on the future direction of digital village development in China. Overall, China aims to achieve significant progress in digital village construction by 2025, substantial progress by 2035, and the comprehensive establishment of digital villages by the mid-21st century to support overall rural revitalization.

It is evident that the importance of digital village construction is increasingly recognized by the Party and the state, as it is a crucial strategy for achieving rural revitalization and addressing the "three rural issues" (agriculture, rural areas, and farmers). However, China faces significant regional disparities and severe development imbalances due to its many provinces. Therefore, there are still numerous issues in digital village development that need to be addressed for further progress. This chapter analyzes the current state of digital village development in China from the perspectives of agricultural digitization, digitalization of rural life, and digital governance.

3.2. Current Status of Agricultural Digitization

In recent years, the construction of digital rural infrastructure has accelerated. By the end of 2022, 5G networks covered all county-level cities, achieving "broadband access to every village" and "5G coverage in every county." New business models and formats continue to emerge in rural areas, with rural e-commerce maintaining its leading position in the rural digital economy. In 2022, the national rural online retail sales reached 2.17 trillion yuan.

According to the results of the digital village development level evaluation conducted in 2022, smart agriculture has started rapidly, with the informatization rate of agricultural production increasing to 25.4%. The effectiveness of digital rural governance continues to improve, with the comprehensive online handling rate of six categories of agricultural-related government services reaching 68.2%. Digital public welfare services have been effectively promoted, with the number of village-level comprehensive service stations utilizing information technology increasing to 483,000, covering 86.0% of administrative villages.

In recent years, the rapid advancement of technological innovation has led to the emergence of new technologies, industries, products, and models, transforming traditional production methods and the global economic landscape. Major countries around the world have actively laid out plans in the agricultural and rural sectors, prioritizing digital agriculture as a strategic focus. They use modern agricultural information technology to enhance agricultural productivity, improve rural information infrastructure and application penetration, and provide comprehensive support for the intelligent and convenient lives of farmers. Countries such as the United States, the United Kingdom, Germany, France, and Japan attach great importance to the development of smart agriculture, introducing strategies such as "Digital Agriculture," "Agriculture 4.0," and "Next-Generation Agroforestry and Aquaculture Technologies Based on Intelligent Machinery + IT."

China's agricultural and rural development exhibits new characteristics. During the "13th Five-Year Plan" period, national policies supporting agriculture and benefiting farmers have played a significant guiding role. Food security has been effectively guaranteed, agricultural transformation and upgrading have accelerated, farmers' income has continuously increased, and the comprehensive well-off construction in rural areas has steadily advanced. The goal of poverty alleviation has been largely achieved.

In terms of agricultural production, the informatization rate in China has exceeded 25%. Smart agriculture relies on modern information technologies such as digital breeding, intelligent agricultural machinery, and big data analysis for precise control throughout the entire process. This steady shift towards digitization, standardization, and scaling provides a solid foundation for achieving agricultural modernization.

From 2012 to the end of 2022, the number of people returning to or starting businesses in rural areas reached 12.2 million, with many entrepreneurs engaged in activities closely related to digital technology. The rural digital economy is flourishing under the guidance of talent. Additionally, improving farmers' digital skills is an essential component of digital village construction.

3.3. Mechanisms through which the Digital Economy Promotes Rural Revitalization

3.3.1. Digital Economy Empowering Agriculture and Building Smart Farmlands

The application of digital technology in production processes is increasingly widespread, playing a role from increased yield to harvest and storage. Agricultural robots with remote control capabilities can adjust seeding distances based on soil formulas and seed requirements. During crop growth, comprehensive monitoring of temperature, humidity, light, and irrigation helps farmers prepare for and respond to climate changes, overcoming the traditional "reliance on weather" in agriculture. Precision in fertilization and irrigation is achieved through agricultural automation technology and remote sensing monitoring systems, allowing for accurate targeting of irrigation and fertilization areas. Given issues like uneven soil conditions and excessive fertilizer use leading to reduced soil quality, digital technology offers intelligent management solutions that adapt to local conditions. In terms of pest and disease control, various plant protection monitoring systems and data platforms provide timely and targeted solutions, minimizing the need for large-scale pesticide applications and saving resources while ensuring the health of farmland and consumers. Farmers can also address crop issues through online courses, remote consultations, and discussions with peers, breaking the limitations of traditional agriculture. During harvest, machinery, drones, and smart storage systems reduce post-maturity losses. Digital technology enhances the vitality and autonomy of the entire agricultural production process. Building high-standard farmlands and smart agriculture can ensure the yield and quality of grains and crops, align with President Xi Jinping’s goal of ensuring food security, and improve agricultural production conditions and productivity, serving as a crucial foundation for green and efficient agriculture.

3.3.2. Digital Economy Empowering Rural Industry and Leveraging Consumption for Production

Rural industries, represented by agricultural processing such as food processing, often rely on traditional planting practices, local resources, and labor, resembling workshop-style operations with products typically sold locally. The digital economy promotes rural industry development by guiding production structure and output through consumer market demand. Big data on consumer profiles and various e-commerce platforms and short video applications help analyze consumer preferences, aiding producers in understanding market demand, building brand awareness, and producing marketable products. Rural processed products can be categorized into three types: ornamental and commemorative crafts, perishable items like vegetables and flowers, and durable local specialties. The digital economy empowers each type differently.

Ornamental and commemorative crafts generally enter the market through integration with the rural tertiary sector or by showcasing them at cultural festivals, museums, and cultural tourism websites. Thus, these products need modern communication methods and digital technology to endow them with contemporary significance and storytelling. Self-media can play a role in telling the stories behind these crafts and integrating current aesthetic trends into traditional crafts, creating diverse products like blind boxes to enhance value. Perishable items like vegetables and flowers require intelligent cold chain and logistics tracking to preserve their value. For local market demand, rural areas near cities can adopt a model of "online ordering + direct delivery," while for distant markets, platforms like WeChat Mini Programs and Douyin can be used for brand building, product promotion, and logistics. Durable local specialties face the primary issue of market access, with live-streaming sales being an effective solution. Live-streaming has a low barrier to entry, allowing products to be sold online through mobile platforms without incurring high costs of large platforms. Various digital technologies streamline the circulation channels between production and consumption, addressing issues related to transportation, time, and after-sales services, facilitating the integration of rural products into the national economic circulation.

3.3.3. = Digital Economy Empowering the Tertiary Industry in Rural Areas and Supporting the Development of New Rural Service Industries

The tertiary industry in rural areas, extending from the primary and secondary industries, can be divided into rural leisure tourism and new service industries. Rural leisure tourism includes four types: scenic area homestays, folk culture, ecological resources, and pastoral sightseeing. New service industries are categorized into production-related services and life-related services, encompassing agricultural supply services, green production technology services, waste resource utilization services,

digital inclusive finance, accommodation and dining services, and elderly care and health services. Rural industries face both natural and market risks. The digital economy facilitates the development of the rural tertiary industry by enhancing risk responsiveness and flexibility, as well as by maximizing the multiple values of rural industries and broadening their operational scope.

The rural tertiary industry is diverse, and the integration of digital economy can transform rural resource advantages into economic benefits. Rural tourism, after a period of development, has shown signs of homogenization, but the intervention of the digital economy can enable villages to form differentiated competition based on their unique characteristics. For example, organic food picking, rice field paintings, flower arranging, and stone carving in agritourism projects allow visitors to share their experiences on social media, achieving promotional and traffic-driving effects. After visitors leave or during the off-season, online activities such as "cloud farming" can be conducted based on the cultivation or breeding of plants and animals, representing a form of virtual consumption. Consumers can adopt their own tea trees, fruit trees, vegetables, or poultry online, and monitor their growth status through QR codes. The identification of adopted plants and animals can be transferred, and fruits can be picked or mailed once mature. The development model of "Digital Economy + Rural Tertiary Industry" improves the utilization of agricultural resources and waste resource conversion, reduces environmental pollution, and brings economic benefits, profoundly embodying President Xi Jinping's concept that "Lucid waters and lush mountains are invaluable assets."

3.4. Key Issues

The main issues in the current development of digital village construction include:

3.4.1. Shortage of Talent for Digital Village Construction

Digital village construction requires highly skilled talent, but rural areas have a limited number of highly educated and skilled professionals. Influenced by surrounding developed regions, there is a high outflow rate of talent, and most highly educated individuals prefer to choose large cities under similar salary conditions. This results in a severe shortage of talent in rural digital construction, particularly in high-end composite talent.

3.4.2. Difficulties in Agricultural Digital Transformation

China's level of agricultural digitization still lags significantly behind that of developed regions in Europe and America. There is a particular lack of well-developed intelligent rural production systems, processing systems, and management system technologies. Additionally, rural network infrastructure is incomplete, making it difficult to form a systematic network between the internet and local industries, hindering the flow of agricultural product information and goods. Due to constraints such as funding, technology, and manpower, rural agricultural enterprises struggle to independently complete digital transformation, resulting in inefficient integration of digital industry development forms in the context of digital village construction.

3.4.3. Lack of Technological Innovation Capability

Digital village construction relies heavily on advanced technologies, but rural areas are constrained by factors such as talent, mindset, technology, and funding, resulting in a long-term lack of innovation capability and an unclear understanding of the digital economy. Additionally, rural areas cannot accurately identify their positioning during development, leading to insufficient utilization of local characteristics and advantages in digital village construction, severe homogeneous competition, and a lack of innovative development ideas related to local industrial and regional features. This makes it difficult to drive rural industry upgrading and transformation, resulting in many rural enterprises being unable to achieve digital transformation due to the lack of supportive environments and technical conditions.

3.4.4. Absence of Main Bodies in Rural Governance

The issues arising from the digital transformation in rural areas are complex and varied, with a growing prominence of the problem of absent digital governance bodies in recent years. Effective promotion and dissemination of digital information technology in rural areas require comprehensive policy support and inter-departmental cooperation. However, current deficiencies are evident in areas such as organization, finance, infrastructure, and service levels. In particular, the lack of specialized institutions responsible for rural digital transformation somewhat restricts the speed of digital information technology application and dissemination in rural areas. Additionally, the current fiscal allocation strategies do not fully reflect the urgency of rural digital construction. The absence of unified national standards and professional guidance in digital agriculture infrastructure construction and services has resulted in significant regional disparities in the digitalization process.

3.4.5. Lack of Regional Infrastructure

The unique ecological resources and economic forms of rural areas provide distinct comparative advantages, but weak regional infrastructure, along with deficiencies in communication, transportation, and logistics, pose significant challenges to digital village construction. In the context of deep integration of productivity development and digital economy, the supply of rural public infrastructure becomes a focal issue. This includes inadequate coordination in the layout of power infrastructure. Due to complex rural terrain and the layout of arable land and housing, power facilities face planning and layout difficulties. Road construction projects often result in the relocation or redundant construction of power grid facilities, leading to resource waste. Furthermore, the further popularization of 5G networks and fiber optic broadband in rural areas faces bottlenecks. Although urban areas have largely achieved full 5G coverage, rural deployment is still in its early stages, restricting the full excavation and application of digital industries.

To address these market pain points, government and businesses need to adopt multiple approaches, such as developing composite talent, enhancing technological innovation capabilities, and improving regional infrastructure, to gradually resolve these issues and promote the development of digital villages.

3.5. Prospects for Rural Digitalization

The digital village market that this study focuses on is flourishing, as reflected in the following aspects:

3.5.1. Continuous Market Growth

With the continuous promotion of national policies and the deepening implementation of the rural revitalization strategy, the market size of the digital village industry will continue to grow. It is expected that by 2025, the national digital village market transaction amount will exceed 5 trillion yuan. The level of digital services will further improve: In the future, digital villages will emphasize the enhancement of digital service levels, including digitalization and intelligence in rural governance, public services, and agricultural production. By introducing advanced technologies such as the Internet of Things, big data, and artificial intelligence, rural digital transformation will be achieved, improving agricultural modernization and promoting rural economic and social development.

3.5.2. Strengthened Agricultural Product Branding

With increasing consumer demands for agricultural product quality, agricultural product branding will become a key development direction in the digital village industry. Strengthening brand development will enhance the added value and market competitiveness of agricultural products, driving high-quality development of rural industries.

3.5.3. Accelerated Integrated Development

Digital villages will integrate with other industries, such as smart agriculture, rural tourism, and rural e-commerce. By integrating various resources, rural industries will undergo transformation and upgrading, achieving the integrated development of primary, secondary, and tertiary industries.

3.5.4. Increased Policy Support

To promote digital village construction, the state will increase policy support, including preferential policies in finance, taxation, and finance. This will provide strong support for the development of the digital village industry.

3.5.5. Sustained Growth Trend

The digital village industry market will continue to maintain rapid growth, with further enhancement in digital service levels, strengthened agricultural product branding, and accelerated integrated development. The digital village industry will face broader development space and opportunities.

4. Upgrading Pathways and Promotion Strategies for Digital Village Construction Empowered by New Quality Productive Forces

Empowering digital village construction with new quality productive forces is an effective way to promote high-quality rural development. This requires cultivating high-quality rural enterprises, developing distinctive rural industries, improving relevant policies, adhering to rural revitalization plans, perfecting rural digital network structures, and promoting the comprehensive

integration of information technology and artificial intelligence into rural industries. It also involves accelerating the construction of rural innovation platforms, further advancing rural agricultural industry development, and enhancing the level of modernization in rural management and governance.

4.1. Building Digital Platforms to Enhance Rural Governance

To expedite digital village construction, it is essential to create digital village command platforms tailored to local characteristics. These platforms should center around big data and integrate county-level command centers, rural command centers, and township service platforms into a unified system, constructing digital service platforms for various scenarios such as government services, transportation, ecological tourism, and industrial economy. Townships should develop distinctive platforms for their areas, integrating aspects like public services, economic development, businesses, and culture, and establishing digital archives. This integration should align rural revitalization with beautiful countryside construction and digital village development, aiming to create a comprehensive governance service platform that meets the needs of local residents. Additionally, the platform should enhance digital village promotion, attract talent, and improve management and application in rural infrastructure, personnel, enterprises, economy, and culture. County and municipal government departments need to designate personnel to oversee rural comprehensive service platforms to ensure stable operations. Furthermore, strengthening digital management services and applying innovative technologies and equipment are crucial for supporting rural revitalization, actively promoting digital village construction at all levels, and encouraging rural enterprises, government officials, and farmers to participate in digital village development.

4.2. Developing Characteristic Digital Economy to Promote Rural Industry Revitalization

The digital economy is an effective approach to drive the transformation and upgrading of rural industries and facilitate the circulation of urban-rural resources. Strengthening the development and application of rural digital economy is necessary, positioning it as a strong force for rural revitalization.

First, to solidify the development of digital agriculture, smart greenhouses should be established in rural planting bases, incorporating remote monitoring facilities and leveraging major online platforms for live streaming sales. This allows consumers to directly understand the production process of agricultural products and helps build integrated agricultural production and sales platforms to enhance market competitiveness.

Second, it is important to improve the construction and connection of provincial agricultural smart platforms and rural agricultural platforms, strengthening the sharing of rural industry data. A public service platform based on rural industries can be established to monitor rural industries, rural economy, and agricultural development, forming digital information and achieving controllable and visible digital economy.

Lastly, digital technology should be applied to upgrade and transform various aspects of manufacturing enterprises, including research, production, operations, and sales. Utilizing digital technology to change production and sales methods in manufacturing can further enhance rural smart logistics, create an integrated rural logistics service system, and build a complete rural industry supply chain to improve the operational efficiency of rural industries.

4.3. Enhancing Talent Development to Promote Rural Digital Talent Revitalization

Cultivating professional talent through new quality productive forces can elevate farmers' cultural levels. With the advancement of new quality productive forces, particularly in technological innovation, rural talent management has entered a new development stage. This requires cultivating specialized talent to promote regional professional development. To advance digital village construction and rural revitalization, it is crucial to train a group of high-quality, high-caliber, and versatile talents.

First, it is necessary to strengthen education and guidance for village organization members. Through educational lectures and other methods, rural management personnel should recognize the importance of digital village construction and the core goals of rural revitalization, continuously instilling the concepts, requirements, and implementation paths of digital village construction. They should learn advanced rural construction knowledge to develop a strong awareness of digital village construction and actively lead farmers in innovative development.

Second, enhancing the promotion of digital village construction through e-commerce training and online talent recruitment can attract talent from various sectors to participate in digital village development. Establishing good cooperative relationships with local universities can also aid in attracting high-quality talent.

Additionally, targeted talent training plans should be developed to support different types of talents, enabling them to contribute to rural revitalization and digital village construction. Network skills training should be enhanced to improve farmers' information literacy, creating a stronger rural workforce skilled in e-commerce and digital economy, thereby making farmers the main force in rural revitalization.

4.4. Improving Cooperative Mechanisms to Ensure the Sustainable Development of Digital Villages

Digital village construction relies on support from various external sources, including enterprises, government, and society, necessitating the improvement of cooperation management mechanisms.

First, in terms of technology, collaboration with local technical units, research institutions, and agricultural experts should be established. Regular selection of specialized personnel from rural areas to study at universities and high-tech enterprises can lay a solid foundation for digital village construction.

Second, social investment projects should be actively developed, combining rural regional characteristics and industrial development features to seek investment and assistance from various social sectors, further enhancing the influence and comprehensive strength of rural economic construction. In this context, the integration management role of rural digital management platforms should be utilized to comprehensively monitor rural digital industries and investment industries, promptly identify specific issues in rural production and operation, and assign personnel for corrective actions to ensure stable and legal operation of rural industries, promoting healthy and sustainable development of rural digital industries.

4.5. Improving Supervision Methods to Build Smart Villages

New quality productive forces drive the improvement of supervision methods, achieving smart village construction. Enhancing supervision methods is a crucial part of building smart villages. In rural governance, supervision methods need continuous innovation and improvement to meet the development of the times and rural needs. Improving supervision methods is also a key guarantee for building smart villages. Only by continually innovating and refining supervision methods can we better adapt to the development of the times and rural needs, injecting new vitality and momentum into rural governance.

First, improving rural digital supervision methods is essential for integrating different stakeholders. With the deepening of rural digitalization, data privacy and information security have become significant issues. Enhancing rural digital supervision methods and promoting social integration among different stakeholders are crucial for ensuring the healthy development of the rural digitalization process. It is recommended that legislative bodies establish a comprehensive data protection framework to ensure strict enforcement in rural areas.

Second, promoting the improvement of the digital village supervision system and the development of collective economic organizations in rural areas is crucial. In the context of rural economic development, refining the digital village supervision system and advancing collective economic organizations are important issues. Revising relevant laws and regulations, such as the "Regulations on the Registration Management of Market Entities of the People's Republic of China," to clarify the market entity status of rural collective economic organizations is essential. This helps standardize market participation and strengthen prevention of issues like asset loss in collective economic organizations.

Lastly, building a smart village system requires the comprehensive participation of multiple entities, from central to local government, from government to society, and from collective to individual. Through these measures, the construction of smart villages can not only advance the modernization and digital transformation of rural industries but also achieve optimal resource allocation and improved management efficiency.

5. Insights and Reflections

Advancing agricultural and rural modernization is a major task in the comprehensive construction of a socialist modernized country. It is a crucial measure to address the issues of unbalanced and insufficient development and an inevitable choice for promoting high-quality development in agriculture and rural areas [12]. In the context of the rapid development of digital technology and the digital economy, the construction of digital agriculture and digital villages is a necessary condition for achieving future agricultural and rural modernization. While we have previously proposed relevant upgrading pathways and promotion strategies, most of these are based on macro-level perspectives such as national, governmental, and societal aspects. It is worth reflecting on how to accelerate digital village construction with university students as the main actors in the current context. Through the analysis of the issues and practices related to the development of new quality productive forces in the context of rural revitalization, we can draw some insights and reflections on enhancing the capabilities of university students in building digital villages.

5.1. Promoting University Students' Return to Rural Entrepreneurship

Young people, especially university students, are a key force in strengthening rural revitalization. Due to the rapid development of urbanization, the agricultural population has largely consisted of the elderly, weak, women, and children, with a lack of large-scale production skills. The return of young people can significantly address these deficiencies.

University students returning to rural areas to start businesses can elevate the level of rural revitalization. This is because young people, particularly university students, have gained knowledge and experience from working and studying in big cities, understanding urban development trends and the production and living needs of the populace.

There is a complementary interaction with urban development. Even in developed countries like those in Europe and America, a certain number of agricultural professionals are needed. In our country, with an agricultural population exceeding 500 million, agriculture is fundamental and requires complementarity between agriculture, industry, and other sectors. Building modern and efficient agriculture is also a future development direction that necessitates the return of young people to rural entrepreneurship. Promoting university students' return to rural entrepreneurship requires concerted efforts from various parties. Government, universities, society, and the students themselves need to actively participate, such as by enhancing students' entrepreneurial awareness, creating a supportive atmosphere for returning to rural entrepreneurship, providing guidance from schools, and formulating policies to support rural entrepreneurship. This will create more favorable conditions and environments for university students to start businesses in rural areas.

5.2. Developing Digital Application Tools

University students and other researchers should develop digital tools to ensure transparency in rural party affairs and village management, enhancing the connection between the party, government, and villagers, and making governance more efficient. However, it is important to note that while digital tools play two roles, they also create a digital divide, leaving some vulnerable villagers outside digital platforms, which introduces a risk: digital village construction may gradually become a digital village for those with the necessary qualifications and skills, rather than for all villagers.

5.3. University Students as Village Officials Driving Rural Development

University students serving as full-time village officials should leverage local resource endowments and agricultural industry characteristics, actively apply internet thinking in their work, and support the development of local agricultural industries to assist in rural revitalization. They should enhance their own knowledge of digital agriculture, better serve new agricultural business entities and rural leaders, help them improve their digital technology application capabilities and management levels, promote high-quality development in agriculture and rural areas, and increase farmers' income.

It is essential to analyze the geographical advantages of the village, investigate its agricultural characteristics, climate conditions, and local labor force, and explore new models of agricultural digital development based on the village’s actual situation. Emphasis should be placed on applying the "Internet+" mindset of the new era, making full use of the advantages of internet big data to improve the competitiveness of local agricultural products and increase villagers' economic income.

Utilizing the acquired knowledge for rural development, leveraging the internet to enhance the visibility of ecological agriculture, promoting the development of agricultural brands, and innovating sales models will help rural products reach broader markets and assist villagers in increasing their income and achieving prosperity. This contributes to the overall goal of rural revitalization.

6. Conclusion

In the process of building digital villages, new quality productive forces have become the core driving force for advancing agricultural development and rural construction. The widespread adoption of new quality productive forces signifies a profound reform of traditional production modes and relations. With the rapid development of China's economy and society, rural revitalization has become a crucial direction for China's future development. Against this backdrop, to better align rural industries with the modern societal development status, efforts should be made to enhance digital village construction, establish rural digital management platforms, create unified standards, systems, and management models, and promote the sustainable development of rural digital industries to foster rural revitalization.

During the process of empowering digital village construction with new quality productive forces, technology innovation should be the driving force, digital development the means, and a people-centered approach the goal to elevate the productivity levels in rural areas. Specific implementation paths include improving rural technological capabilities, refining regional regulatory methods, leveraging innovation-driven approaches, cultivating rural professional talents, and expanding digital infrastructure. Accelerating the application of new quality productive forces in rural areas can effectively enhance the level of digital village construction and achieve high-quality agricultural development. Moreover, in the digital transformation process, the interests of farmers should be prioritized to ensure they acquire necessary skills, knowledge, and rights, sharing in the economic and social benefits brought by productivity growth.

Activating internal potential, effectively utilizing external forces, fostering industrial and financial internal circulation, promoting economic external circulation, expanding brand presence, introducing resources, and ensuring the flow of factors—by focusing on vertical and detailed scenarios with new quality productive forces, integrating urban-rural, tertiary industries, and digital-physical development, and promoting "technology + industry + talent" and "new farmers" to enrich rural areas—will pave the way for integrating agricultural development with the digital economy, advancing modern, intelligent, high-end, and ecological agriculture in rural areas. Future research should delve deeper into the practical effects of new quality productive forces in rural areas to better utilize them in promoting high-quality development in agriculture and rural regions.

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