

A Study on the Path of Rural Sustainable Development in Henan Area-Xincai County

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Abstract

This study explores the sustainable development path of rural areas in Xincai County, Henan Province, within the context of China's rural revitalization strategy. By analyzing key areas such as industrial upgrading, e-commerce development, and rural governance reform, the research reveals that Xincai County has gradually transitioned from traditional agriculture to a diversified modern industrial structure. The development of e-commerce has significantly increased farmers' incomes and promoted the modernization of the rural economy. However, challenges such as inadequate logistics infrastructure and a shortage of e-commerce talent remain significant obstacles to further development. Additionally, the integration of rural governance reform with poverty alleviation and industrial revitalization demonstrates that optimizing grassroots governance structures and enhancing social participation can effectively support industrial development and ecological protection, ultimately achieving comprehensive rural revitalization. This study not only provides theoretical support and empirical analysis for the sustainable development of Xincai County but also offers valuable insights for broader rural revitalization strategies in Henan Province and across China.

Keywords

Rural Revitalization Concept, SWOT Analysis in Henan, Development of E-commerce in Xincai County, Promoting industrial upgrading in New Cai County, Promoting rural social governance

1. Introduction

In contemporary China, the comprehensive promotion of the rural revitalization strategy has become a focal point for both government policymakers and researchers, particularly as a means to address the imbalances between urban and rural development. Since the 19th National Congress of the Communist Party of China, rural revitalization has not only been essential for addressing the disparities between urban and rural areas but also a crucial component in achieving the goal of building a moderately prosperous society in all respects. However, due to regional differences, the development paths and challenges faced by rural areas vary significantly. Xincai County in Henan Province, known for its rich agricultural resources and long-standing farming traditions, exemplifies a region that, while agriculturally robust, faces challenges such as a single industrial structure, insufficient infrastructure, and the outflow of talent.

This study aims to explore the sustainable development path of Xincai County by conducting an in-depth analysis of three key areas: industrial upgrading, e-commerce development, and rural governance reform. The research reveals that Xincai County has gradually transitioned from traditional agriculture to a

diversified modern industrial structure through improvements in infrastructure, technological innovation, and the extension of industrial chains. During this process, the growth of e-commerce has significantly increased farmers' incomes and promoted the modernization of the rural economy. However, issues such as inadequate logistics infrastructure and a shortage of e-commerce talent remain pressing challenges. Additionally, the combination of rural governance reform with poverty alleviation and industrial revitalization demonstrates that by optimizing grassroots governance structures, enhancing legal awareness, and increasing social participation, rural governance can effectively support industrial development and ecological protection, ultimately achieving comprehensive rural revitalization.

Thus, this study not only provides theoretical support and empirical analysis for the sustainable development of Xincai County but also offers valuable insights for the broader rural revitalization strategies in Henan Province and across China. These experiences and findings will assist policymakers in better understanding and addressing the challenges in rural development, thereby promoting the comprehensive prosperity and development of rural areas.

2. Literature Review

2.1 Correlation Theory

Rural renewal is a systematic, long-term, continuous, phased project that requires support, cooperation and effort from all sides. Strengthening rural governance, improving infrastructure and promoting the combined development of e-commerce and rural industries will provide a stable social environment for rural revitalization, a sound development environment and a broad development space (Central Media View, 2023).

The grassroots are at the very end of the state's frontier governance system, at the forefront of serving the masses of the people, as well as the "heart-to-heart agent" that connects the Party's central government policy and the lives of the people at the grassroots level. Only in response to the national call, vigorously promote rural revitalization, promote the economic development of e-commerce, can open up access to rural areas with limited transportation.

2.2 Research on Rural Economic Development in Henan Province

Henan Province, a major agricultural region in China, has made significant progress in rural economic development, but it still faces several challenges. Studies show that the efficiency of resource utilization, environmental protection, and sustainable development capabilities in Henan need improvement. The province is experiencing high environmental pressures, declining production efficiency, and an overburdened population, highlighting the need for optimized resource allocation. Future policies should focus on balancing economic growth with ecological protection and enhancing rural infrastructure to boost overall economic development(Chen & Jiang, 2021).D

2.3 The Role of E-Commerce in Rural Development

E-commerce has become a pivotal tool in driving the sustainable development of rural areas in China, particularly in provinces like Henan. It plays a crucial role in connecting rural producers with broader markets, thereby increasing the economic value of agricultural products. This connectivity has led to a significant improvement in farmers' incomes and a reduction in poverty. Moreover, e-commerce facilitates the return of talents to rural areas, enhances social and cultural value, and supports ecological sustainability by promoting more efficient resource use. In Henan, the development of rural e-commerce is supported by improved infrastructure, digital governance, and technological innovation. These elements contribute not only to economic growth but also to the social and cultural revitalization of rural communities. As a result, e-commerce is recognized as a key strategy in narrowing the rural-urban gap and achieving long-term sustainable development in rural areas. This growing importance of e-commerce in rural development underscores its potential to transform traditional agricultural practices, improve living standards, and contribute to the overall goal of rural revitalization in China(Li, 2022)D

3. Analysis of SWOT in Henan

This paper uses SWOT analysis method to study and analyze the overall development strategy of Henan rural area. To identify the advantages and negative aspects of Henan region, the level of disadvantage, which effectively gives a response, to provide corresponding development strategies for our country's rural development.

3.1 Strengths

In making strong characteristics of agriculture, Henan agriculture is developing steadily. “Views” mentioned that the province's high-quality special wheat development to about 16 million acres, About 24 million acres of oil are cultivated. Of these, about 19 million acres of high-quality peanut cultivation area. Tea plantation area of about 1.7 million acres, high-quality fruit plantation area of about 15 million acres, Edible bacteria produce about 1.8 million tons and fish produce about 93 million tons. By 2025, about 300 national, provincial agricultural industry towns have been created (Wang & Li, 2022).

Under the leadership of national policy, China's rural industry continues to develop, and has received strong support from the government. With the improvement of modern science and technology and the development of rural revitalization strategy, more and more resources are gradually moving closer to the countryside. The City When the development space of the city was largely exhausted, the development potential and advantages of the countryside began to be slowly discovered and excavated. China's rural tourism from traditional sightseeing, accommodation split from each other slowly developed into a characteristic town, catering combined with the advantages of the industry, has its own unique culture as one of the consistent and integrated way of rural tourism development.

The integration of modern technology and tourism has extended the depth and breadth of rural tourism and provided the impetus for rural tourism. Blend with rural industries to create local-specific historical emotions, humanistic flavors. Tourism has become one of the local sources of revenue, with a combination of farmhouse, home-cooked cuisine and attractions to create a harmonious relationship between tourism and accommodation.

“One party water and soil cultivation party talent,” Let visitors from afar feel different humane emotions, Give a sense of distant history, red erotica, Rooted in rural culture, Spread rural culture, give the go out population a sense of belonging, happiness, familiarity.

3.2 Weaknesses

The local Henan region lacks corresponding environmental policies and laws and regulations, The local grassroots government lacks the corresponding grassroots working experience. The lack of some idea of protecting the environment preserves the idea of “human rule, “The development of rural-related industries is not conducive to the development of rural industries, which has caused some resistance and hindered the development of rural cities.

The rural population generally has a low level of culture, a low level of education and communication with government personnel. Farmers' legal consciousness is weak, there is no corresponding understanding of the rights and obligations conferred by the law, there is no right to protect their own enterprises, and there is no awareness to protect the environment.

3.3 Opportunities

The Study of Rural Governance System in the New Era and the Study of Grassroots Governance Modernization with Chinese Characteristics Depth and breadth (Jiang & Li, 2022).

Henan should strengthen the basic work of rural grassroots, establish a rural governance system that combines self-government, rule of law and moral rule (Wang, 2024). Combined with the principle of “three-rule unification, “the people's living standards should be improved and rural revitalization promoted. It is one of the basic ways to promote rural development in modern China to build a “sandwich-in-one” rural construction system, strengthen the improvement of infrastructure, and promote the combined development of rural industry and e-commerce.

Optimizing the structure of the cadres of the “two Committees” and promoting the further improvement of the management level of the Party building.

Henan should use “personnel preferences” as the standard, establish a good style, high level of technology knowledge, strong ability to do things, thinking advanced cadre, promote professional, professional, information; and focus on training young cadres, learning from the experience of the old cadres, Achieve new and old help, both have the energy of the young team, to have the experience and stamina of older teams, Mutual promotion, mutual help, win-win cooperation, Joint progress and joint commitment to the revitalization and development of rural industries.

To strengthen the local rural characteristic industry, the annual income of villagers increases year by year

Henan region should vigorously develop and strengthen the characteristics of the industry, so that residents become rich, the industry becomes stronger. such as Wuchi County “Quail Farming and Meat Processing, “the leading agricultural industry in Xie Qiangying Town, achieved the total output of quail industry of about RMB2.04 billion; Xiaoji Town, Xinxiang County, around the corn industry to create “fresh maize,” the number of farmers about 4, 036 households, farmers are disposable income of about 26, 940 yuan (Wang & Li, 2022).

3.4 Threats

The development of rural e-commerce in Henan Province faces several significant threats. Firstly, the intensifying market competition poses a considerable challenge. Major platforms like Alibaba and JD.com have expanded into rural markets, leveraging their vast resources and market influence, which puts immense pressure on local and smaller e-commerce enterprises in Henan. This competition risks shrinking the market share of these local businesses, potentially leading to reduced profitability and sustainability.

Additionally, despite improvements in infrastructure, many rural areas in Henan still suffer from inadequate network coverage and logistics capabilities. This lack of infrastructure hinders the growth and scalability of e-commerce in these regions, particularly in remote areas where transportation costs remain high, and delivery times are extended. The inability to efficiently reach these areas limits the market potential and hampers the economic benefits that e-commerce can bring to rural communities. Another significant threat is the shortage of technical skills and talent in Henan's rural areas. The success of e-commerce heavily relies on having a workforce proficient in digital technologies and online business management. However, many rural regions in Henan lack the necessary technical support and expertise, making it difficult for e-commerce businesses to innovate and operate effectively. This talent gap could stifle the growth of e-commerce and prevent it from reaching its full potential in the region.

Lastly, the uncertainty surrounding government policies presents a considerable risk. While the Chinese government has provided substantial support to promote rural e-commerce, the possibility of policy changes remains a looming threat. Alterations in tax regulations, reductions in subsidies, or shifts in regulatory frameworks could increase operational costs for e-commerce businesses and even threaten their survival. The unpredictability of the policy environment adds a layer of risk that these businesses must navigate, making long-term planning and investment more challenging.

4. Development of E-commerce in Xinchai County

4.1 Current Development Situation

Xincai County is the geographical center of Zhengzhou, Wuhan and Hefei. It is about 246 km from Zhengzhou, 245 km from Wuhan and 236 km from Hefei (Zhou, 2023). According to the New Cai County E-Commerce Service Center of New Cai County in 2023, from January to September, the retail sales of rural products network in the county of about 2.35 billion yuan, the retail sales of agricultural products network of about 1.98 billion yuan (Zhang et al., 2023).

Xincai County is predominantly agricultural, with abundant agricultural products. The development of e-commerce has provided new sales channels for these products, particularly in the online sales of vegetables and fruits, where it has shown remarkable results. These online platforms have not only expanded the market

reach of agricultural products but also increased the income levels of farmers, thereby driving local economic growth.

4.2 Current Challenge

The development of e-commerce in Xincai County faces several significant challenges, despite some progress in recent years. One of the primary issues is the limitation of logistics infrastructure. Although network coverage has improved, the efficiency of logistics in rural areas, particularly in remote regions, remains low. Poor road conditions lead to high delivery costs and slow speeds, directly impacting the sales efficiency of agricultural products on e-commerce platforms, which in turn limits the increase in farmers' incomes. Additionally, the shortage of e-commerce talent is a notable challenge. While e-commerce offers new sales channels for local farmers, many of them lack the necessary technical support and a deep understanding of e-commerce operations, which significantly hampers the expansion and innovation of e-commerce activities.

Moreover, Xincai County faces challenges in brand building. Local agricultural products struggle to stand out in a highly competitive market due to a lack of brand recognition. Compared to more established markets nationwide, the absence of strong brand identity makes it difficult for Xincai's products to attract consumers, limiting the potential for market expansion. Furthermore, as major e-commerce giants increasingly penetrate rural markets across China, local e-commerce businesses in Xincai County face heightened survival pressures. The sustainability and stability of policy support also add to the challenges. Although the government currently provides considerable support for the development of rural e-commerce, future changes in the policy environment could increase operational costs for e-commerce businesses and even threaten their viability. These challenges indicate that while there is substantial potential for e-commerce in Xincai County, significant obstacles in infrastructure, talent development, and brand building need to be overcome to ensure sustainable growth (“Promoting industrial upgrading in rural Henan: A case study of xincai county,” 2023).

5. Optimization Strategy of New Cai County E-commerce Communication Strategy

5.1 Use Short Video and Other Means of Dissemination, Implementation and “Network” Cooperation

For example, Wang Feng's company has been transforming and upgrading in nearly two years, taking live delivery. This year, sweet potato powder, a single product, sold more than 10,000 orders, sales of about 50 million yuan. “Double 11,” Wang Feng agricultural products continued to develop upwards (Zhang et al., 2023).

5.2 E-commerce and Government Cooperation to Expand the “Network”

In the context of rural revitalization and Internet development, Xincai County responds positively to the national policy, Xincai County Commerce Bureau and other departments organize e-commerce brand matching competition, e-commerce visibility ranking, agricultural products Internet + competition and other activities to improve local sales and brand awareness.

Instructors use simple and easy to understand language to explain e-commerce related knowledge and Internet development related advantages, Improve the professional level of farmers, promote the rural industry e-commerce operation, Raising the knowledge and culture of farmers, arming their minds with scientific knowledge, For example, how to run your own e-commerce store and agricultural products, How to make good use of home agricultural products brand, how to make good use of their brand account.

5.3 Use Shopping Platform to Achieve “Go Out”

The image emphasizes the strategic use of popular e-commerce platforms like Taobao and Douyin (the Chinese version of TikTok) to promote local agricultural products from Henan, specifically in the context of

rural revitalization. This approach, often referred to as “go out” strategy, aims to increase the visibility and reach of these products beyond the local markets.

By leveraging platforms such as Douyin and Kuaishou (known as “fast hands” in the image), local producers can connect with a broader audience, including urban consumers and international markets. These platforms offer a dynamic and interactive way to market products, utilizing live streaming, short videos, and influencer partnerships to engage potential customers. For instance, local specialties like the lychee gift boxes from Henan shown in the image can be marketed through these platforms, allowing producers to showcase the freshness and quality of their products in real-time. The interactive nature of live streams enables sellers to respond to customer inquiries, demonstrate product usage, and even offer special deals, all of which contribute to higher sales conversion rates.

Moreover, the “go out” strategy through e-commerce platforms not only enhances brand recognition but also supports the broader goals of rural revitalization by boosting local economies, increasing farmers' incomes, and creating new job opportunities in e-commerce operations. It aligns with China's national policies aimed at reducing the urban-rural divide by ensuring that rural producers can compete effectively in the modern marketplace.

5.4 New Cai County Industrial Upgrading

Although Henan is a large agricultural household, agricultural technology has a long history, which has laid the economic foundation of Henan.

But the emergence of machines, the development of factories, as well as AI, the rise of automation technology, increased labor productivity allows employers to provide higher-skilled and better-paid jobs, and employees enjoy higher security and better social security. Industry can create more jobs, provide unemployed people with a decent job offer and solve social problems. At the same time, economic growth will be stimulated, new vitality will be injected into the development of cities and the improvement of people's living standards will be promoted.

I believe that according to the “lead drive, industrial support, optimization structure, cluster development” thinking, new Cai County focus on food and medicine, modern home, equipment manufacturing three major industries, to promote the development of the primary industry to the secondary industry.

Development is the last word, and the top priority of the project. Xincai County should actively implement the “attracting investment” plan, will focus on projects, project as the core, continue to grasp large projects, grasp projects, create a strong atmosphere of projects.Promotion of local industrialization processes and promotion of industrialization.

5.5 Rural Social Governance Reform

It's not the end, it's the beginning of a new life and a new struggle. Explore the “four mechanisms” to provide protection against poverty. Innovative investment mechanism, adhere to “multiple channels to divert water, a leading release of water, “to include the overall scope of agricultural funds “should be fully integrated, to fully guarantee poverty alleviation and strong financial needs. Innovative supervision and supervision mechanism, formation of county-level poverty alleviation professional inspection and inspection team, Ledger Management for Poverty Alleviation Wallcharts, black, green and red cards for responsible units each month, Through the strict award punishment, you formed a good atmosphere in the county to catch up with me and compete for first-class. Innovative village support mechanism, innovative establishment of village-level poverty alleviation responsibility group, each village selected a cadre responsible team leader.

For different poor people, due to household policies, precise force, effectively ensure the quality of poverty alleviation. Capable of “lifting up, “to their own development capacity of poor households, support autonomous development to lift out of poverty a batch, absorb the near employment to lift out of poverty a batch, guide transfer employment out of poverty a batch. Do dangerous housing dynamic clearance. Built up “beautiful,” vigorously promote rural roads, safe drinking water, power grid transformation and village sanitary rooms, integrated cultural service center and other infrastructure construction. Implementation of village road hardening, water security consolidation and improvement, rural waste transportation and other

projects, rural production and living conditions overall improvement, development of a more solid foundation.

Adhere to the industrial development, let the village revitalize “has the pillar.” To “four optimization and four” to promote the adjustment of agricultural structure, due to local conditions to develop special agriculture. Seize the opportunities of the pilot county for the integration and development of the province's one-two and three industries, and support agricultural enterprises such as flower cow dairy, Yingkun potato industry, Mai Jia Food to extend the industrial chain, to create high-quality and well-known market-specific brands. Adhere to ecological habitability, let the village revitalize the “value of color.” Five-year plan of action for the promotion of the province and city, vigorously carry out rural habitat environmental remediation, to realize the garbage cleaning, classification, transportation, incineration and power generation integrated operation. Accelerate the construction of the forest new Cai, win the battle against the water blue sky to protect the land, to realize the plain forest netting, urban landscaping, rural forest fruit, corridor landscaping, garden garden. Adhere to cultivate the country style, let the village revitalize “has connotation.”

6. Xincai County Industrial Upgrading and Sustainable Development

6.1 History and Present Situation of Industrial Development

Xincai County has a long history rooted in agriculture, relying on its rich natural resources, such as fertile soil and abundant water. For many years, the county's economy was predominantly agricultural, focusing on grain, forestry, and animal husbandry. However, in the late 20th and early 21st centuries, the county began to industrialize, with significant growth in manufacturing and construction. This shift was facilitated by the development of industrial agglomeration areas, which attracted investment and diversified the local economy.

By the 21st century, Xincai's economy had further diversified, with industry and services playing increasingly important roles alongside agriculture. As of 2017, the industrial structure ratio was 24.7:33.8:41.5, indicating the rising importance of industry and services. The county continues to invest in infrastructure and industrial upgrades to promote high-quality economic development, moving from a traditional agricultural economy to a more balanced and diversified industrial structure(Liu, 2024).

6.2 The path and strategy of industrial upgrading

6.2.1 Modernization of Infrastructure

Xincai County's industrial upgrading begins with the modernization of its infrastructure. The county has invested heavily in improving transportation networks, such as upgrading and expanding existing roads, which enhances the efficiency of transport between industrial zones and major cities or logistics centers. Additionally, the county has accelerated the construction of power and communication facilities, ensuring that businesses have access to stable electricity and high-speed internet. These improvements lay a solid foundation for the county's industrial growth, enabling businesses to operate and expand more efficiently.

6.2.2 Extending and Innovating the Industrial Chain

To achieve economic diversification and high-quality development, Xincai County focuses on extending and innovating its industrial chain. Building on its traditional agriculture, the county is actively developing agricultural product processing industries by introducing advanced processing technologies to increase the added value of agricultural products. For instance, the expansion of grain processing and food manufacturing industries not only increases farmers' incomes but also enhances the county's competitiveness in domestic and international markets. Additionally, Xincai is fostering emerging industries such as renewable energy and smart manufacturing, leveraging its abundant natural resources and an increasingly skilled labor force to drive innovation and industrial upgrading.

6.2.3 Enhancing Talent Development and Technology Introduction

Industrial upgrading in Xincai County depends on a skilled workforce and advanced technology. The county places great emphasis on talent development and technology introduction. The local government collaborates with universities and vocational schools to offer targeted training programs that aim to improve the technical skills of the local workforce, aligning them with the needs of modern industries. Moreover,

Xincai attracts external technical experts and managerial talents through policy incentives, who provide guidance and share expertise with local businesses. These efforts not only boost productivity and innovation within enterprises but also lay a strong foundation for the county's sustainable development in the future.

6.3 Concrete measures for sustainable development

6.3.1 Promoting Eco-Friendly Agriculture

Xincai County is focusing on sustainable agricultural practices to ensure long-term environmental health and economic viability. The county encourages farmers to adopt organic farming methods, reducing the reliance on chemical fertilizers and pesticides. This shift not only improves soil fertility but also protects local water sources from contamination. Xincai is also promoting crop rotation and the use of green manures, which enhance soil structure and biodiversity. These practices are gradually transforming the local agricultural landscape, making it more resilient to climate change and market fluctuations.

6.3.2 Development of Green Energy Sources

To support sustainable development, Xincai County is investing in renewable energy projects. Solar and wind energy installations are being developed to provide cleaner, more sustainable power for local industries and households. The county is strategically locating these projects to maximize energy production while minimizing environmental impact. By reducing dependency on coal and other fossil fuels, Xincai is significantly lowering its carbon emissions, contributing to both regional and national goals for reducing greenhouse gases. These green energy initiatives are also creating new jobs and fostering economic diversification.

6.3.3 Strengthening Waste Management Systems

Xincai County is implementing robust waste management strategies to address the growing environmental challenges associated with industrialization and urbanization. The county has introduced programs for reducing waste at the source, increasing recycling rates, and ensuring proper disposal of both industrial and household waste. These efforts include setting up modern recycling facilities and waste treatment plants, which help reduce landfill use and mitigate pollution. By integrating waste management into its broader sustainability strategy, Xincai is working to maintain a cleaner environment and improve the quality of life for its residents.

7. Discussion

This study explores the sustainable development path of rural areas in Xincai County, Henan Province, focusing on key areas such as industrial upgrading, e-commerce development, and rural governance reform. Through this analysis, important conclusions have been drawn, highlighting both the achievements and the challenges that lie ahead, while also offering insights for agricultural development in Henan and beyond.

Firstly, the industrial upgrading in Xincai County represents a crucial pathway for promoting sustainable economic development. By improving infrastructure, introducing advanced technologies, and promoting the extension and innovation of the industrial chain, Xincai has gradually transitioned from traditional agriculture to a more diversified and modern industrial economy. This process has led to increased agricultural productivity and higher value-added for agricultural products, marking a new phase in the region's economic development. However, despite significant progress, challenges such as continuous investment in technological innovation and the attraction and retention of skilled talent remain significant. These challenges are equally relevant to other agricultural provinces in China, suggesting that a focus on innovation and skilled workforce development is essential for sustained industrial growth.

Secondly, e-commerce has played a vital role in Xincai County's rural revitalization strategy, significantly contributing to the modernization of the local economy. Through e-commerce platforms, local farmers have gained access to broader markets, resulting in increased incomes and enhanced economic vitality in rural areas. E-commerce serves not only as a sales channel but also as a critical tool for connecting rural areas with urban markets, thereby promoting rural modernization. However, the rapid development of e-commerce has also revealed certain issues, such as inadequate logistics infrastructure and a shortage of e-commerce professionals. These challenges, if not addressed, could limit the further expansion of e-commerce and,

consequently, the modernization of the rural economy across Henan Province. Therefore, future efforts in Henan should focus on enhancing rural logistics infrastructure and improving e-commerce skills through education and training to fully realize the potential of e-commerce in rural development.

Thirdly, rural governance reform has provided a solid foundation for sustainable development in Xincui County. By strengthening grassroots governance, advancing legal frameworks, and increasing social participation, Xincui has created a stable social environment conducive to economic growth. Notably, the integration of poverty alleviation with industrial revitalization has demonstrated that rural governance is not merely about resource management but also about mobilizing internal development drivers through policy guidance and grassroots organization. This people-centered governance model offers valuable insights for governance reforms in other rural areas across Henan and China. By optimizing governance structures and enhancing villagers' legal awareness and social engagement, rural governance can more effectively support both industrial development and environmental protection, ultimately achieving comprehensive rural revitalization.

Finally, the insights gained from this study have broader implications for agricultural development in Henan Province. Sustainable rural development requires a balanced approach that integrates economic, social, and environmental dimensions. As a traditional agricultural province, Henan's future agricultural development should focus on maintaining stable production while further advancing agricultural modernization and industrial diversification. The experience of Xincui County shows that combining industrial upgrading with e-commerce can significantly enhance the market competitiveness and added value of agricultural products, driving economic growth across the region. Moreover, Henan Province should continue to invest in rural infrastructure and technological innovation, particularly in logistics and information technology, to ensure that rural economies can develop in tandem with urban economies. These measures will not only improve agricultural productivity but also provide more employment opportunities for rural residents, thereby enhancing their quality of life and achieving integrated urban-rural development.

In conclusion, the successes achieved by Xincui County in industrial upgrading, e-commerce expansion, and rural governance reform offer valuable lessons for sustainable rural development in Henan Province and across China. However, the replication and application of these successful experiences will require overcoming a series of challenges, particularly in the areas of technology, talent, and infrastructure. Continued efforts in these areas will help Henan Province make further breakthroughs in rural revitalization, contributing more significantly to the development of China's rural economy.

8. Conclusion

This study conducted a comprehensive analysis of the sustainable development path of rural areas in Xincui County, Henan Province, focusing on three key areas: industrial upgrading, e-commerce development, and rural governance reform. The research found that through infrastructure improvement, technological innovation, and the extension and innovation of the industrial chain, Xincui County has successfully transitioned from traditional agriculture to a diversified modern industrial structure. During this process, the development of e-commerce significantly increased farmers' incomes and promoted the modernization of the rural economy. However, the study also pointed out that issues such as inadequate logistics infrastructure and a shortage of e-commerce talent still need to be addressed to ensure the achievement of sustainable development goals.

Additionally, the study explored the importance of rural governance reform, particularly in the context of combining poverty alleviation with industrial revitalization. The experience of Xincui County demonstrates that by optimizing grassroots governance structures, enhancing legal awareness, and increasing social participation, rural governance can not only ensure social stability but also effectively support industrial development and ecological protection, ultimately achieving comprehensive rural revitalization.

In conclusion, the successes achieved by Xincui County in industrial upgrading, e-commerce expansion, and rural governance reform offer valuable lessons for sustainable rural development in Henan Province and across China. These experiences suggest that future development requires continued investment in technological innovation, talent cultivation, and infrastructure construction to address challenges and achieve

greater economic and social benefits. Through these efforts, Henan Province will further advance rural revitalization, making significant contributions to the development of the rural economy nationwide.

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