



A Study on Optimal Pathways for Comprehensive Rural Revitalization and Integrated Urban-Rural Development in Heilongjiang Province from a System Coupling Perspective

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Abstract. Rural revitalization and urban-rural integration are central issues in the new era for addressing regional development imbalances and achieving common prosperity; the two are deeply interconnected and share a mutually reinforcing, systemically coupled relationship. Taking Heilongjiang, a major agricultural province, as the subject of this study, this paper focuses on factors hindering coordinated development, including weak county-level economies, insufficient depth of industrial integration, and imbalances in infrastructure construction. Based on current practices, this paper constructs a multidimensional optimization pathway covering the empowerment of county-level economies, deep industrial integration, and integrated infrastructure upgrades, providing innovative guidance for promoting the systematic coupling and coordinated advancement of comprehensive rural revitalization and urban-rural integrated development in Heilongjiang Province.

Keywords: Rural revitalization, Urban-rural integration, Regional coordinated development, County-level economy, Industrial integration.

1 Introduction

The implementation of the rural revitalization strategy and the promotion of integrated urban-rural development are indispensable for resolving the principal social contradiction in China in the new era, achieving the “Two Centenary Goals,” and realizing the Chinese Dream of the great rejuvenation of the Chinese nation. These are not isolated development issues but exhibit characteristics of systemic coupling, featuring complementary elements, interlocking functions, and shared benefits. This coupling manifests not only in the two-way flow and optimal allocation of urban and rural factors but also in the synergistic interaction across sectors such as industry, infrastructure, and public services; its positive evolution is key to achieving coordinated regional development. However, in the course of development, Heilongjiang faces numerous unique challenges and opportunities, urgently requiring in-depth research and the exploration of appropriate development pathways.

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2 The Significance of Comprehensive Rural Revitalization and Integrated Urban-Rural Development in Heilongjiang Province

2.1 Key Measures to Promote Coordinated Regional Development

Advancing the implementation of the rural revitalization strategy and enhancing the quality of integrated urban-rural development can effectively optimize the allocation of various resources between urban and rural areas, facilitate the free and orderly flow of production factors across the entire urban-rural spectrum, continuously narrow the urban-rural development gap, and thereby promote balanced and coordinated regional economic development. From an industrial perspective, guiding high-quality urban industrial resources to extend into rural areas and promoting the deep integration of the primary, secondary, and tertiary sectors in rural areas can not only activate the endogenous momentum of rural economic development and drive steady growth but also further broaden channels for increasing farmers' income and raise their income levels. The establishment of production bases by agricultural product processing enterprises in rural areas not only resolves sales issues for agricultural products but also provides employment opportunities and promotes rural development; The interconnectivity of urban and rural infrastructure—such as the construction of rural roads and the improvement of rural communication networks—has laid a solid foundation for integrated urban-rural development.

2.2 Promoting Ecological Conservation and Green Development

Rural revitalization and integrated urban-rural development are interconnected horizontally and complementary vertically; their essence and objectives are highly consistent, both aimed at improving people's lives and achieving common prosperity. Due to a lack of policy attention in earlier years, rural areas have generally seen lower levels of development and utilization. The accelerated advancement of rural revitalization and urban-rural integration has opened up broader market opportunities for industries such as rural tourism, processing and manufacturing, and the food sector, creating more development prospects. This process facilitates the smooth entry of a large number of locally distinctive agricultural products into urban consumer markets, effectively enhancing the market recognition and brand influence of such products. At the same time, emerging technologies and external talent have continued to flow into rural areas, thereby driving steady improvements in agricultural production efficiency and bringing tangible income gains to villagers. Consequently, this enables the provision of more development opportunities and equitable public services to rural residents, narrowing the gap in living standards and development opportunities between urban and rural residents and achieving the goal of improving their relationship.

2.3 Promoting Ecological Conservation and Green Development

Since the Ministry of Agriculture and Rural Affairs launched the “Beautiful Rural Areas” initiative in 2013, the relevant policy framework has undergone continuous refinement and improvement. The 20th National Congress of the Communist Party of China elevated the goal of rural development to building “harmonious and beautiful rural areas,” and the 2024 Central Document No. 1 further explicitly called for drawing on and promoting the practical experience of the “Ten Million Project.” This series of measures marks the entry of China’s rural development into a new phase of high-quality, in-depth development. In the process of rural revitalization and urban-rural integration, Heilongjiang has been guided by the concept of green development, fostering industries such as green agriculture and eco-tourism. The province has established a total of 118 provincial-level pilot villages for the “Longjiang Folk Residences” initiative, and 16 counties (cities) have been recognized as national advanced counties in the Village Cleanliness Campaign, achieving synergistic progress in both economic development and ecological conservation. By carrying out key initiatives such as comprehensive management of agricultural non-point source pollution and restoration of rural ecosystems, the province is striving to create beautiful and harmonious rural communities that are both livable and conducive to business. This effort not only effectively improves the quality of life for rural residents but also injects momentum into the construction of an ecological security barrier for the province and even the nation, thereby promoting the comprehensive establishment of green development and lifestyles.

3 Practical Challenges Facing Comprehensive Rural Revitalization and Integrated Urban-Rural Development in Heilongjiang Province

3.1 Weak County-Level Economic Strength

The overall economic strength of counties in Heilongjiang Province needs to be enhanced; their industrial structures are relatively monolithic, and they remain highly dependent on agriculture. Heilongjiang was absent from the 2025 national list of the top 100 counties (cities) in comprehensive competitiveness, indicating that the province’s county-level comprehensive strength lacks competitive advantages. Most counties in the province lack dominant industries with strong core competitiveness; their industrial foundations are weak, and the development of emerging industries is sluggish¹. Compared with developed provinces, the gap is significant, making it difficult to achieve industrial agglomeration effects and economies of scale.

3.2 Insufficient Depth of Industrial Integration

Although there has been some progress in rural industrial integration in Heilongjiang, the overall level still has room for improvement. Currently, the core bottleneck in urban-rural industrial integration lies in insufficient inter-sectoral penetration and

complementarity, which hinders the advancement of integration. The integration between the primary, secondary, and tertiary sectors in rural areas is not deep enough; there is a lack of effective mechanisms for linking interests, and a close pattern of coordinated industrial development has not been formed. Industrial integration often remains at the level of simple sectoral overlap; for example, the integration of agriculture and tourism mostly involves basic projects such as sightseeing and fruit picking, lacking innovative development of tourism products and in-depth exploration of cultural connotations. Furthermore, emerging industries such as rural tourism and rural e-commerce face challenges including weak infrastructure, a shortage of specialized talent, and insufficient brand influence, which also hinder the catalytic effects of industrial integration².

3.3 Shortcomings in Infrastructure Development

Although Heilongjiang Province has achieved phased results in rural infrastructure development, there remains a significant gap in infrastructure standards between rural and urban areas, and regional development imbalances are particularly pronounced. In terms of investment structure, the proportion of funds allocated to rural infrastructure is far lower than that for urban areas. This shortfall directly hinders rural infrastructure development from meeting the practical demands of agricultural modernization and the implementation of the rural revitalization strategy³. In terms of transportation, roads in some remote rural areas are of low grade and in poor condition, and connectivity between villages is insufficient, affecting the transportation of agricultural products and villagers' mobility. Regarding water conservancy facilities, farmland irrigation infrastructure is aging, irrigation efficiency is low, and in some areas, farmers still rely on the weather for their livelihoods, making it difficult to meet the demands of modern agricultural development. As for energy infrastructure, the stability of the rural power grid is insufficient, and shortages in winter heating energy supply occur from time to time.

4 Pathways to Accelerate the Comprehensive Revitalization of Rural Areas and the Integrated Urban-Rural Development in Heilongjiang

4.1 Deepening Support Measures for County-Level Economic Development

To address the issues of weak overall economic strength and a monolithic industrial structure in Heilongjiang's counties, specialized plans for county-level economic development should be formulated to vigorously develop industries that enrich the local population. For counties rich in agricultural resources, their advantages in agricultural product resources and quality should be leveraged to establish distinctive county-level industrial chains and supply chains⁴. The construction of modern agricultural industrial parks should be accelerated, agricultural product processing clusters should be created, and the added value of agricultural products should be enhanced, thereby altering the

current situation of over-reliance on primary agricultural production; For counties with an industrial foundation, intensify efforts to attract investment and actively cultivate emerging industries such as new energy and new materials to promote industrial diversification and overcome the constraints of a monolithic industrial structure. Concurrently, deepen reforms of the county-level fiscal and tax system, grant counties greater fiscal autonomy, increase the proportion of local fiscal revenue retained at the county level, enhance their capacity for self-development, and foster accelerated growth in the county economy.

4.2 The Integrated Development of Rural Industries Must Be Further Deepened

Building on Heilongjiang's agricultural resources and distinctive cultural strengths, we will establish platforms for industrial integration and innovation, strengthen the deep integration of agriculture with industries such as science and technology, culture, and tourism, and explore a "Industry+" model of coordinated development.

We will encourage enterprises to utilize digital technologies to develop new business models such as smart agriculture and customized agriculture, thereby extending the agricultural industrial chain and enhancing the capacity for deep processing of agricultural products. We will fully leverage the Northeast region's unique rural snow and ice resources and cultural heritage—such as folk customs experiences and intangible cultural heritage projects—by integrating them with snow and ice activities. Through the development of distinctive snow and ice cultural tourism projects, we will promote the deep integration of various rural industries. Relying on diverse interest-linkage methods—including contract farming, equity participation, and profit sharing—we will encourage farmers to become deeply embedded in every stage and the entire chain of industrial integration, effectively ensuring that farmers can share in the development dividends generated by industrial value-added growth. At the same time, we must prioritize increasing financial support for industrial integration projects, establish an industrial integration development fund, and guide the investment of social capital to address the issue of insufficient funding for industrial integration. By optimizing aspects such as industrial types, integration methods, and capital investment, we will ensure that the integration of various rural industries goes beyond superficiality to achieve deeper levels of collaboration and alliance.

4.3 Driving Upgrades in Rural Infrastructure Development

On the one hand, financial investment in rural infrastructure construction must be increased. A special fund for rural infrastructure construction could be established, with annual allocations incrementally increased by a set percentage to ensure full funding is secured⁵. Concurrently, a diversified funding mechanism involving the government, society, and enterprises should be established to broaden funding sources. On the other hand, to address issues such as significant disparities in rural infrastructure and regional development imbalances, we should implement projects to upgrade rural infrastructure and formulate integrated urban-rural infrastructure development plans. For example, in

the transportation sector, transportation authorities should increase investment in rural road construction to improve road standards and accessibility, resolving the issues of low-grade roads and insufficient connectivity in some remote rural areas, thereby achieving universal village connectivity and unimpeded road access; The water conservancy department should actively promote the modernization of farmland water conservancy facilities, build efficient water-saving irrigation systems, and improve the condition of aging farmland water conservancy facilities and low irrigation efficiency to enhance agricultural disaster resilience; accelerate the construction of 5G networks and fiber-to-the-home (FTTH) infrastructure, integrate operator resources to improve network quality, and promote joint construction and sharing to reduce construction costs.

5 Conclusion

The systematic and coupled development of comprehensive rural revitalization and urban-rural integration is the core pathway to resolving regional development imbalances and achieving common prosperity. The two are deeply interconnected, characterized by complementary factors, interlocking functions, and shared benefits. By pursuing a multi-dimensional approach—including fostering and strengthening county-level economies, deepening industrial integration, and promoting the integrated upgrading of infrastructure—we can help resolve development challenges, accelerate the process of systemic coupling between the two, and ensure that Heilongjiang Province moves steadily forward on the path of comprehensive rural revitalization and integrated urban-rural development.

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