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An Analytical Framework on Utilizing Natural Resources and Promoting Urban–Rural Development for Increasing Farmers' Income Through Industrial Development in Rural China

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Lucid waters and lush mountains are invaluable assets. The countryside is an important carrier of these assets, and rural revitalization is a national strategy to meet the needs of the people. This study constructs the framework system for improving the efficiency of resource utilization, refining the effect of urban–rural integration, and optimizing the efficiency of industrial development for increasing farmers' income. The challenges facing rural revitalization are clarified, especially including limited space for the growth of cultivated land quantity and significant challenges for quality improvement, insufficient effective supply of labor resources, uneven spatial distribution of water resources, low utilization efficiency of agricultural water resources, and so on. Finally, it puts forward the possible direction of future policies for rural revitalization, which is mainly reflected in the transformation of resource utilization efficiency improvement from single element to multi-element, the development of an urban–rural integration effect from extensive to lean, and the optimization of the industrial enrichment efficiency from management to comprehensive service. The analytical framework of resource utilization, urban–rural integration development, and industrial enrichment will provide regulatory policies and theoretical support for the flow of urban–rural factors.

Keywords: rural revitalization, resource guarantee, integrated urban–rural development, prosperous industrial development, people enrichment, framework

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INTRODUCTION

Lucid waters and lush mountains are invaluable assets, and rural revitalization is an important concept for the development of China's ecological civilization put forward by Chinese communists after a century of development practice. It is a vivid expression of the dialectical and unified relationship between economic development and ecological protection and is a Chinese solution for the sustainable development of the world (Liu et al., 2020). As one of the most important carriers of lucid waters and lush mountains, the countryside is the distribution center of these resources, and the rural revitalization strategy must practice the concept of these resources being invaluable assets (Yuan et al., 2018). China's socialist construction has entered the second centenary goal. Xi Jinping, the general secretary of the Communist Party of China (CPC) Central Committee, pointed out that

"the key to moderate prosperity is fellow-villagers," the foundation of the construction of a moderately prosperous society and a modern country is in agriculture, the difficulties are in the countryside, and the key is in the peasants. To this end, under the strategic framework of rural revitalization, it is important to clarify the framework, challenges, and policy directions for resource utilization, urban–rural integration development, and industrial enrichment (Liu et al., 2020). From the perspective of the actual development situation, clarifying the framework of resource utilization, urban–rural integration development, and industrial enrichment can fundamentally solve the "three rural" problems to achieve the "three lives" coordination of production, life, and ecology and promote agriculture, the processing industry, and modern service industry. In 2021, the total output value of agriculture, forestry, animal husbandry, and fishery reached 9,286.34 billion yuan. Among them, the total output value of agriculture was 4,667.11 billion yuan, of forestry was 384.13 billion yuan, of animal husbandry was 2,832.90 billion yuan, and of fishery was 912.96 billion yuan. The total national grain output reached 1,365.7 billion jin—an increase of 26.7 billion jin over the previous year, an increase of 2% year-on-year, and remained at 1.3 for seven consecutive years. The national grain sowing area was 1.764 billion mu, an increase of 12.95 million mu over the previous year, an increase of 0.7% year-on-year, and maintained a growth trend for two consecutive years. The 14th Five-Year Plan period is an important stage for China to base itself on a new stage of development, implement the new development concept, build a new development pattern, promote high-quality development, and promote common prosperity. From the perspective of research needs, to accelerate the realization of rural revitalization, (Elahi et al., 2021) it is necessary to optimize the layout of resource utilization, clarify the integration path of the primary, secondary, and tertiary industries in rural areas, and identify the industrial system schemes for enriching the people.

LITERATURE REVIEW

The concept of resources arises from the development of the discipline of economics (Wackernagel and Galli, 2007). A resource is the general term for the creation of all human wealth. At the same time, since human beings create many resources, they are the products of the combination of nature, human beings, and culture (science and technology). Resources are a dynamic historical category. With the deepening of the human cognition and utilization level, the evolution of resources gradually shows the characteristics from natural resources to physical resources, from living resources to means of production, and from physical resources to non-physical resources (Rahim et al., 2014). For a long time, a variety of cognitions have been formed around natural resources and their classification. *The Great British Encyclopedia* states that human beings can use natural products, and the environmental elements that produce these components are collectively referred to as resources. UNESCO proposes that natural resources are obtained from the natural environment and used by human beings. The United Nations Environment Programme (UNEP) notes that natural resources are substances that, at a certain time, place, and technical level, can generate economic value and provide natural factors and conditions for the present and future welfare of human beings (Zhong et al., 2020). Natural resources are available to human beings and are the material basis for human survival and development. Natural resources include land, water, minerals, biology, climate, and oceans (Elahi et al., 2021). Resource-related research has received widespread attention in political, economic, social, cultural, and other fields, and targeted research has gradually developed into theories of resource allocation and dependence (Todorovic et al., 2018). The specific theoretical debate on the use of resources revolved around efficiency and fairness, condensing the theory of efficiency priority, fairness priority, and efficiency and fairness (Satterthwaite et al., 2010; Fridrihsone et al., 2020). Marx pointed out in *Das Kapital* that the increase in the productivity of labor was achieved by shortening the socially necessary labor time for the production of a certain product. From this idea, efficiency was the process of creating more resource values with shorter social labor time (Hassan et al., 2019). Arthur believed that efficiency characterized the maximum output from a given input, and the efficiency of resource utilization needed to focus more on effective allocation (Jedwab et al., 2017). Fairness involves a broader concept, encompassing both intragenerational equity and intergenerational equity. Intragenerational fairness is the equality of resource utilization rights and opportunities, and intergenerational fairness is the equality of resource utilization opportunities in the present and future generations. According to the different standards of identification efficiency, the Pareto optimality, impossibility theorem, Pigou theory, Kaldor–Hicks theory, and Samuelson test have appeared in academic debates (Ke et al., 2012).

Globally, the transformation of urban–rural relations is a real challenge that all developing countries need to face, and China is no exception (MacLean and Gudelj, 2006). Since the founding of New China, urban–rural relations have gradually changed along with the development of the socialist cause, and the urban–rural relations at different stages have promoted the modernization of the country. The urban–rural relations are entering the stage of "urban–rural integration" after experiencing the development stages of "supporting the city with the countryside" and "leading the countryside by the city." Marx and Engels applied the methodology of historical materialism to reveal the historical trend of separation, opposition, and integration of urban–rural relations. The increasing separation of urban and rural areas results from the role of productive forces and production relations (Costa et al., 2018). Along with the improvement of productive forces, the relationship between urban and rural areas will gradually move from separation and opposition to integration, and only by realizing the integration of urban and rural areas can we promote the all-round development of the people. Urban–rural integration is the only way to solve the main contradiction based on socialist characteristics. In its development process, it combines historical trends, value orientations, and ultimate goals. At present, there are fewer domestic and foreign resources and environmental

management frameworks (Wang and Zhao, 2021), and the existing resources are only a single resource, such as water resources. With the expansion of research elements, the framework of the collaborative management of resources has also been extended, such as the water–food–energy management framework (Han et al., 2018), the water–food–ecological association, and the earth boundary concept framework. However, the theoretical system of resources and environmental policies and management that integrates resource utilization, urban–rural integration development, and industrial enrichment needs to be studied.

ANALYTICAL FRAMEWORK

Industrial enrichment is inseparable from the development of rural industries, which is the foundation to achieve the strategic goals and tasks of rural revitalization and agricultural and rural modernization in 2035. In 1990, Xi Jinping systematically expounded the "large agriculture concept" in *Out of a Road to Develop Large Agriculture*, pointing out that large agriculture is a three-dimensional agricultural development toward multi-functional, open, and comprehensive development. The top-level goals of resource utilization, urban–rural integration development, and the industrial enrichment framework are efficiency improvement (Zeng et al., 2020), effect improvement, and efficiency optimization (Bai and Tao, 2017). Its development involves multi-scale model simulation, multi-element mechanism analysis, multi-process role inversion, and multi-dimensional path exploration.

Guaranteed Resource and Its Utilization Efficiency

The guaranteed resource is a fundamental support for urban–rural integration and industrial enrichment. In *Agriculture and Industrialization*, it is pointed out that the grain is the main factor in determining the location of industry, commerce, and other economic activities. With the change of technology and economic conditions, other resources have partially replaced the positioning of food in terms of resources, but before or after the Industrial Revolution, food resources still play a pivotal role. As a key area of grain production, the primary resource guarantee function of the countryside is the supply guarantee function of agricultural products (Deng and Gibson, 2019). Since the founding of the People's Republic of China, China's food guarantee capacity has been steadily improved due to the state's supportive policies for food production. With the improvement of living standards, people need higher quality agricultural products for a better life, which also puts forward a new proposition for rural resource protection, not only to ensure quantity but also to ensure quality, and to produce products that meet the needs of the people (Qu et al., 2021). For the rural revitalization strategy, the resource items involved in resource guarantee are diverse—including core elements such as labor, capital, water, and soil and more important resources such as the technology, virtual water, virtual soil, and hidden carbon—which are all indispensable in the process of realizing rural revitalization. Efficiency improvement is the core essence of resource guarantee, and clarifying the different resource guarantee roads for rural revitalization is the primary goal of the framework. "Efficiency" is a complex, dynamic concept; its management perspective is the ratio relationship between various input resources and outputs at a specific time, and it is inversely proportional to inputs and proportional to outputs (Guo et al., 2020). The improvement of supply-side efficiency is moving toward high-quality agricultural products, effectively promoting the transformation of the agricultural industry, and embarking on a standardized, large-scale, and green path (Li et al., 2021). In the transformation process, the improvement of the resource utilization efficiency is the primary goal (Gołaś et al., 2020). The improvement of demand-side efficiency is moving toward the integration of primary, secondary, and tertiary industries, promoting the optimal allocation of production factors among industries, regions, and agricultural entities, improving rural resource guarantee capabilities (Ji and Hoti, 2021), and proposing a Chinese system and plan under the multiple goals of food security, nutritional security, and resource and environmental constraints.

Integrated Development of Urban and Rural Areas and Its Effect Improvement

The integration of urban and rural areas is the path of resource guarantee and industrial enrichment. The *Opinions of the CPC Central Committee and the State Council on Establishing and Improving the System and Policy System for the Integration of Urban and Rural Development* points out that the integrated development of urban and rural areas is the only way for rural revitalization and agricultural and rural modernization. Rural revitalization is inseparable from various resources and elements. Urban–rural integration is characterized by the free flow of urban and rural elements, equal exchange, and rational allocation of public resources. The relationship between urban and rural areas is reconstructed through integration. The integrated development of urban and rural areas is the main driving force for breaking the contradiction between urban and rural areas, and it is also an important symbol of agricultural modernization. Effect improvement is an important issue of urban–rural integration; urban–rural integration has no template, especially in provinces with large differences in natural endowments and uneven development. Therefore, it is necessary to clarify the shortcomings of urban–rural integration and break the unequal barrier between resources and factors for regional development characteristics. Effect improvement aims to restrict the integration of urban and rural primary, secondary, and tertiary industries, focusing on changing

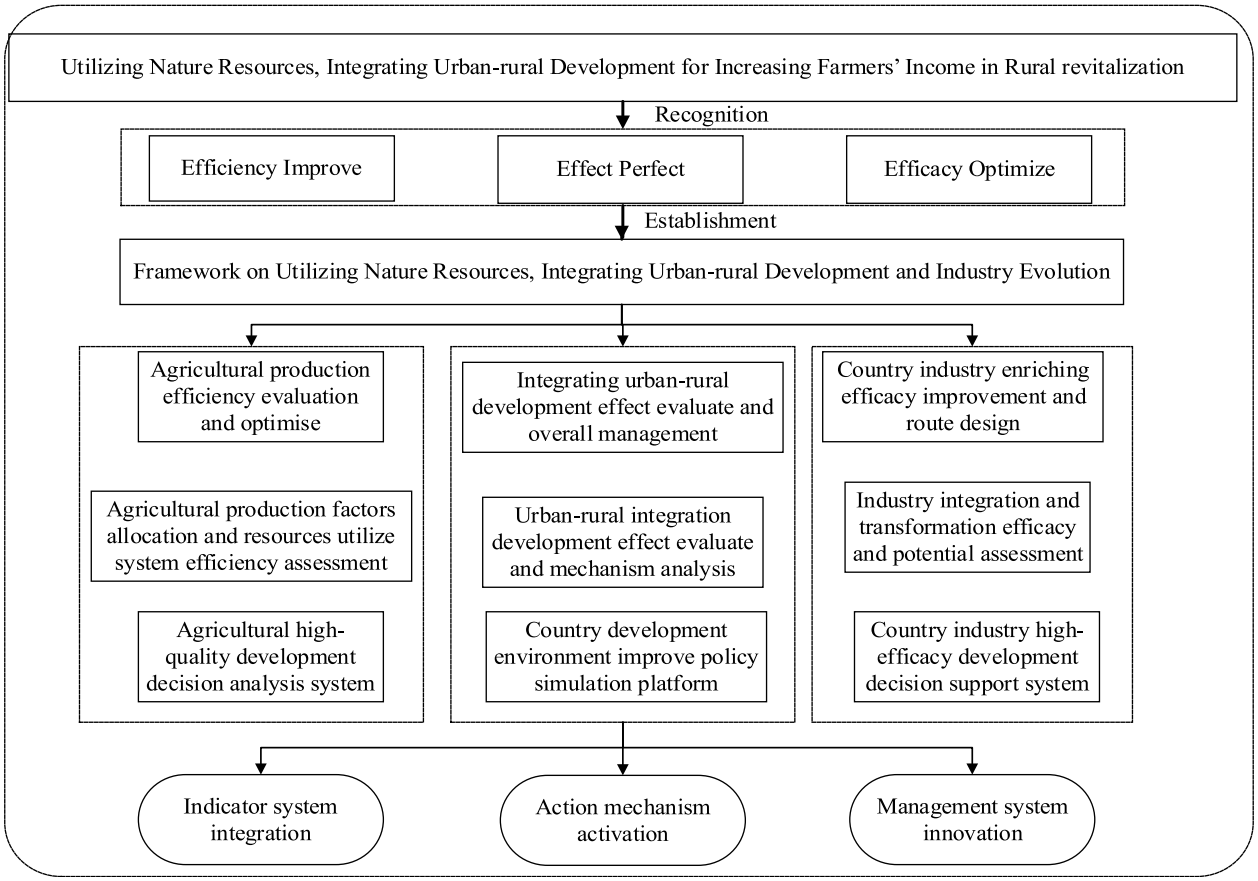

FIGURE 1 | Framework on Utilizing Nature Resources, Integrating Urban-rural Development for Increasing Farmers' Income in Rural revitalization.

the long-term unbalanced resource allocation mode, carrying out integration effect evaluation, exploring the overall management of resources, and revitalizing resources.

Strategy of Industrial Enrichment and Its Optimization Management

Industrial enrichment is the purpose of resource utilization and urban–rural integration, and these, in turn, are ultimately for the realization of industrial enrichment. The purpose of industrial prosperity is also to achieve industrial enrichment; whether it is the integrated development of the primary, secondary, and tertiary industries in rural areas or the realization of the development path of industrial ecology and ecological industrialization, it is constantly exploring the road to enrich the people in rural industries and achieving high-quality development by adjusting the industrial structure. The optimization management of industrial enrichment contains the concepts of space and time, and the realization of industrial enrichment is a systematic project. From the perspective of development geography, industrial enrichment is a function tending to the convergence of enriching the people, including the reform of the land property rights system, the increase of farmers' income and welfare, and the innovation of the agricultural industry. The optimization of industrial enrichment management needs to activate the main motivation, and there are many influencing factors for the promotion and adoption of the people enrichment industry, among which the cognition and perception of the farmer's main body have the greatest impact, especially the farmer's preference for industrial risk as the adopter. Under the influence of characteristics such as the education level and family structure, the subject decides on whether to adopt the people enrichment industry. Therefore, it is necessary to intervene in their cognition and perception. The optimization management of industrial enrichment needs to stimulate the main motivation. Optimizing management is the optimization of rural production, living, and ecological space, which involves industrial production and reproduction and requires the willpower of rural subjects to take action.

Analytical Framework for Resource Utilization, Urban–Rural Integrated Development, and Industrial Enrichment

Figure 1 is in view of the key and difficult issues of the "Agriculture, rural areas and farmers" problem and rural

revitalization, with the focus on the improvement of the resource utilization efficiency and the optimal management of agricultural production in rural revitalization, the integration of urban and rural development, and the improvement of the rural environment, the integration of rural industries and their transformation and development, etc. Through the analysis of the causal chain and efficiency transmission mechanism of "lucid waters and lush mountains are invaluable assets," we observed improving quality and efficiency, policies to enrich the people, environmental elements, industrial layout, and farmers' income increase and realizing the leap from empirical and theoretical combination, from case analysis to method summary, and from model simulation to policy simulation, including the original breakthrough of indicators, methods, and system tools. Specifically, in the efficiency evaluation of the agricultural production system, the core connotation of the improvement of the efficiency of the resource utilization system under the background of rural revitalization is clarified, the evaluation framework is established, the indicators, methods, models, and technical systems of the optimal management of resource utilization are innovated, and the modernization level of the agricultural production system and the management system is improved so as to promote the high-quality and high-efficiency development of agriculture. In terms of the evaluation of the effect of urban–rural integration development, the effect evaluation, mechanism analysis, and simulation platform of urban–rural integration development are integrated, the two-way flow and optimal allocation of capital and resource elements in the integration of urban and rural development are explored, the development of county urbanization, the smooth circulation of the urban and rural economy, the functional control of urban and rural land use, and the improvement of the rural environment are explored. In terms of the optimization and improvement of the efficiency of industrial integration and development, combining the background of national carbon neutrality goals (Van et al., 2019), carbon emission reduction, and climate change response based on the requirements of industrial ecology and ecological industrialization, the strategies for the prosperity of rural revitalization industries and farmers' income increases are explored, such as farmland transformation, land productivity improvement (Zhao et al., 2017), agricultural landscape diversity conservation, and biomass energy development so as to provide decision-making support for solving the "Agriculture, rural areas and farmers" problems and practicing the rural revitalization strategy.

SITUATIONS AND SOLUTIONS

There are still challenges in China's resource utilization system and urban–rural integration system to serve the industrial enrichment system. From the founding of the People's Republic of China in 1949 to the reform and opening up in 1978 and then to the establishment of a moderately prosperous society in 2020, New China has solved the food security problem of 1.4 billion people, and China's resource guarantee capacity has made great progress. At the 2020 Central Rural Economic Work Conference, Xi Jinping clearly emphasized that "it is necessary to firmly grasp the initiative in food security, and grain production should be grasped every year". Whether it is the "seventeen consecutive abundances" of grain supply or the substantial improvement of the efficiency of production factors and the level of technical efficiency, resources always play an important supporting role in ensuring the production capacity, and resource utilization, urban–rural integration development, and the industrial enrichment system are moving toward agricultural modernization. The "14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Outline of Long-term Goals for 2035" clearly defines the binding indicators for the comprehensive production capacity of grains, and the grain production capacity should be ensured to be more than 1.3 trillion kilograms, which reflects the improvement of the comprehensive security capacity. At the same time, with the limited growth space of arable land resources, the insufficient effective supply of labor, and the tightening of constraints such as water resources, China is also facing many challenges in resource utilization and urban–rural integration development to achieve an industrial enrichment system.

Limited Increase Room of Cultivated Land and the Great Challenge of Quality Improvement

China's crop planting areas show a trend of increasing initially and then decreasing, and the growth space of the cultivated land quantity is limited. The results of relevant studies show that in order to ensure the balance between supply and demand of agricultural products, the planting area of crops needs 3.5 billion mu, but the area of crops available for actual use in China is only 2.5 billion mu; thus, the arable land gap is still 1 billion mu. From 2010 to 2015, the sown area increased from 158.579 million hectares to 166.829 million hectares, and from 2015 to 2019, the sown area showed a downward trend, with an "inverted U-shaped" growth. In 2019, the amount of agricultural land in Inner Mongolia and Tibet remained at a high level, and the number of cultivated lands accounted for 11.19 and 5.1% (**Figure 2A**). It is difficult to increase production by the traditional way to increase the land area, and the land resources that can be developed into arable land resources are extremely limited.

The challenge of improving the quality of a cultivated land is enormous. Under the dual circulation pattern, especially under the impact of the COVID-19 outbreak and the intensification of international political risks, the uncertainty of the supply of foreign grain resources of "two resources and two markets" has intensified. In addition, the demand for arable land resources to increase production capacity and improve the quality of cultivated land is critical. However, the contradiction of more people and less land in China leads to the long-term adoption of high input and overload operation of agriculture. From the

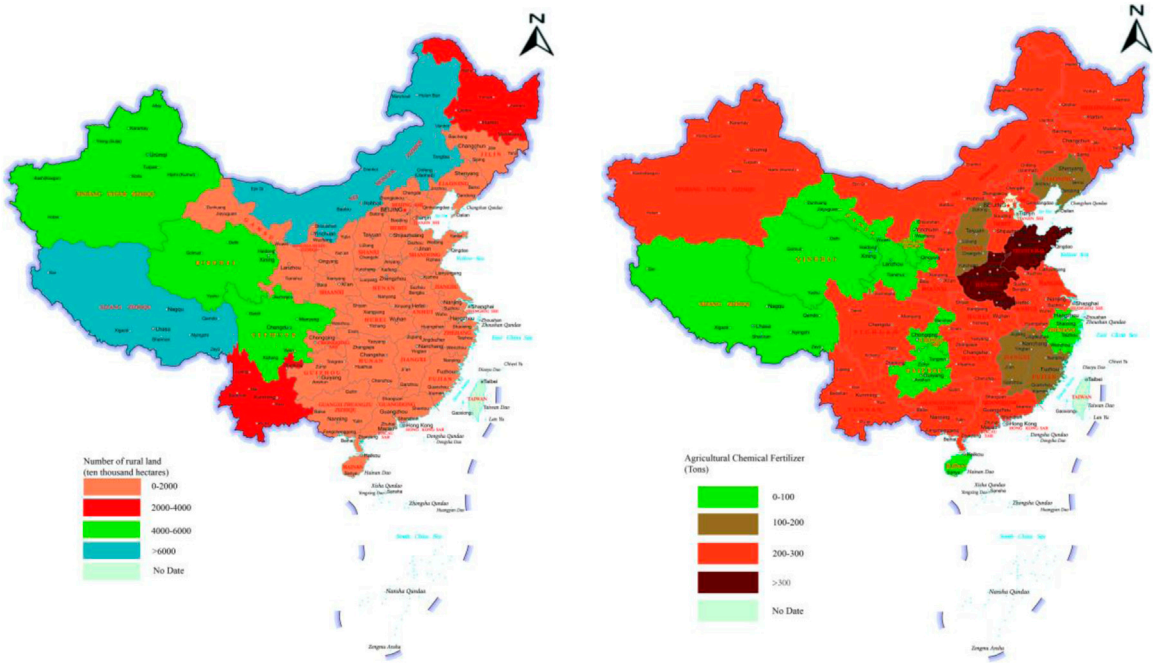

FIGURE 2 | The area of agricultural land and the pure volume of agricultural chemical fertilizers in 2019. [**(A)** Agricultural land area; **(B)** Agricultural chemical fertilizer].

perspective of the pure amount of agricultural chemical fertilizers in various provinces, municipalities, and autonomous regions, the amount of chemical fertilizer application in the main grain-producing areas is still maintained at a high level, of which the pure amount of agricultural fertilizers in Henan, Shandong, and other large agricultural provinces is more than 3 million tons (**Figure 2B**) so that the soil fertility degradation is serious, the organic matter content is low, and the solution of problems such as relatively poor soil strength requires a long period of time, and the quality improvement challenge is significant.

Insufficient Effective Supply of Labor Resources

The imbalance between urban and rural development has exacerbated the flow of labor to cities and towns; thus, the supply of rural labor is insufficient. With the rapid progress of urbanization construction in China, resources continue to accumulate, and migrant workers have become an important way for farmers to increase their income. The young and middle-aged rural labor force is accelerating to flow into cities with more favorable conditions. The problems of "aging" and "hollowing out" in rural areas have intensified, and "who will cultivate the land" has become a hot topic in the work of agriculture, rural areas, and farmers. In 2019, the rural population of China was 551.62 million, and provinces with a rural population of more than 30 million were clustered in Yunnan, Guangxi, Hunan, Wuhan, Hubei, and Jiangsu (**Figure 3A**). After the 1970s, it was the main force of rural land cultivation, the shortage of labor supply led to the serious problem of arable land famine.

The quality of rural labor supply is low, and it is difficult for farmers to master science and technology and agricultural machinery to meet the needs of modern agriculture. Farmers are important promoters of agricultural modernization, and new professional farmers can actively adapt to the needs of agricultural production and industrial development, but from the actual situation of development, the stock and flow of new professional farmers are insufficient. In addition, there are great differences in the development of total mechanical power in different provinces. In 2019, the total national power of agricultural machinery was 102,758.3 kWh. In major agricultural provinces of production, such as Shandong and Henan, the total power level of agricultural machinery was much higher than that of Ningxia, Qinghai, and other provinces (**Figure 3B**). Coupled with the ability and speed of rural labor, to master the new mechanization is relatively low, it is difficult to meet the needs of agricultural modernization.

Uneven Spatial Distribution of Water Resources and Inefficient Utilization of Multiple Agricultural Resources

China has a vast territory, diverse climate types, and spatial heterogeneity in resource distribution. In 2020, the national total amount of water resources was 3,160.52 billion cubic meters, ranking at the forefront of the world, but the per capita water resources were far from reaching the world average. Agriculture, as a "big household" in China's water

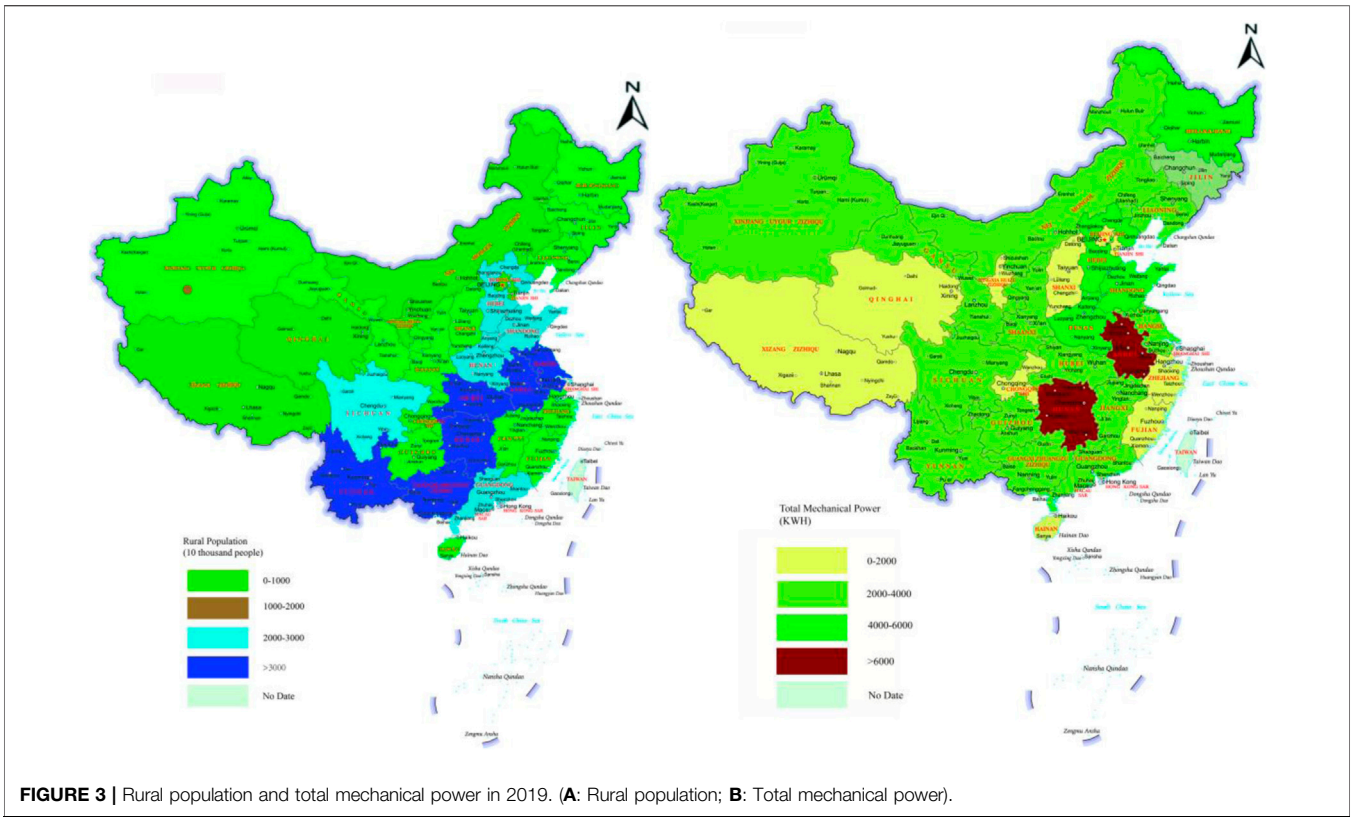

FIGURE 3 | Rural population and total mechanical power in 2019. (**A**: Rural population; **B**: Total mechanical power).

TABLE 1 | Agricultural water consumption and the effective utilization coefficient of farmland irrigation water in 2020.

Province	Total water use (m^3)	Agricultural water use (m^3)	Effective utilization coefficient of farmland irrigation water	Province	Total water use (m^3)	Agricultural water use (m^3)	Effective utilization coefficient of farmland irrigation water
Entire country	5812.9	3612.4	0.565	Henan	237.1	123.5	0.617
Beijing	40.6	3.2	0.75	Hubei	278.9	139.1	0.528
Tianjin	27.8	10.3	0.72	Hunan	305.1	195.8	0.541
Hebei	182.8	107.7	0.675	Guangdong	405.1	210.9	0.514
Shanxi	72.8	41	0.551	Guangxi	261.1	186.9	0.509
Inner Mongolia	194.4	140	0.564	Hainan	44	33.4	0.572
Liaoning	129.3	79.6	0.592	Chongqing	70.1	29	0.504
Jilin	117.7	83	0.602	Sichuan	236.9	153.9	0.484
Heilongjiang	314.1	278.4	0.613	Guizhou	90.1	51.8	0.486
Shanghai	97.5	15.2	0.738	Yunnan	156	110	0.492
Jiangsu	572	266.6	0.616	Tibet	32.2	27.4	0.451
Zhejiang	163.9	73.9	0.602	Shaanxi	90.6	55.6	0.579
Anhui	268.3	144.5	0.551	Gansu	109.9	83.7	0.57
Fujian	183	99.7	0.557	Qinghai	234.3	17.7	0.501
Jiangxi	244.1	161.9	0.515	Ningxia	70.2	58.6	0.551
Shandong	222.5	134	0.646	Xinjiang	570.4	46.2	0.57

resource utilization, occupies 62.1% of the total water consumption. The spatial mismatch between water resources and land resources is severe, which poses challenges to resource utilization, urban–rural integration development, and industrial enrichment. In 2019, the utilization efficiency of farmland irrigation water resources in China was 0.559. Although the water resource utilization efficiency of Beijing (0.75), Tianjin (0.72), Shanghai (0.738), and other provinces exceeded 0.7, the national overall agricultural water resource utilization efficiency was low, and there is a large room for

improvement compared with the level of 0.7 to 0.8 in developed countries (**Table 1**).

POLICY IMPLICATIONS

Resource utilization, urban–rural integration development, and industrial enrichment are organic combinations, and the three are mutually supportive and premised. Resource utilization is the foundation and starting point of urban–rural integration and industrial enrichment, and industrial enrichment is the purpose of resource utilization and urban–rural integration.

The Improvement of Resource Utilization Efficiency Has Been Transitioned From Single Element to Multi-Element

Resource guarantee is the security involving the whole chain of rural revitalization, and resource guarantee involves a variety of resource items, including core elements such as labor, capital, water, and land. It also includes technology, virtual water, virtual soil, and hidden carbon resources. The improvement of the resource utilization efficiency needs to leap from single element to multi-element, promoted by zones (industrial zone and ecological zone), by classification (characteristic type and promotion type), and by points (concentrated breakthrough point and delayed promotion point), and strive to improve the utilization efficiency of all elements of landscapes, forests, fields, lakes, and grasses. In the process of rural revitalization, it is necessary to optimize rural production, living and ecological space, accurately identify rural resource backgrounds, focus on rural development of the present situation and function orientation, emphasize foresight, rationality, and overall planning, reasonably delimit the efficiency of transition track, identify changes of the inflection point, give full play to the leading of national spatial planning development, and adjust measures to local conditions to explore the resource use efficiency promotion mode and path. In addition, it is supposed to strengthen the exploration of the potential of rural resources, promote the intensive use of land resources, revitalize idle rural land, optimize urban and rural land resources, increase efforts to transform hollow villages, and carry out land resource integration and improvement. It should also focus on soil improvement, soil fertility cultivation, water and fertilizer conservation, pollution control, and restoration to break the time and space constraints on water resources, improve the production and security capacity of cultivated land, strengthen land circulation to realize the "removal of cages for birds" of rural land resources, and revitalize idle houses and lands in rural areas. In this way, the construction of "small county and big city" will be rapidly promoted, population agglomeration will be promoted, the efficient use of natural resources will be promoted with a systematic concept, and the potential of land, water, forest, and other element resources will be further released.

The Integrated Development of Urban and Rural Areas Has Changed From Extensive to Lean Improvement

To promote the integration of urban and rural industries, it is supposed to further realize industrial prosperity and accelerate the development of primary, secondary, and tertiary industries. In terms of the product layer, the agricultural industry chain should be lengthening vertically, and a one-stop industrial chain of agricultural production, processing, and derivative manufacturing should be created to enhance the added value of agriculture. In terms of the industry layer, on the one hand, the agricultural production structure should be adjusted to produce more high-quality agricultural products that meet the people's needs for a better life. On the other hand, it is necessary to promote agricultural technological innovation, increase the guidance for agricultural technological innovation, pay attention to the incentives for agricultural machinery innovation, according to local conditions, and use new information technology to continuously improve the modern agricultural system. In terms of the guarantee layer, it needs to promote the equalization of urban and rural infrastructure, realize the common prosperity of urban and rural areas, improve the rural garbage disposal system, accelerate the construction of the rural infrastructure, improve the garbage disposal system, and promote the concept of green life and production. In terms of the culture layer, it is supposed to integrate rural cultural advantages, promote cultural integration between urban and rural areas, protect and inherit excellent rural culture, build cultural exchange platforms between urban and rural areas, and strengthen life and cultural exchanges between urban and rural areas to better promote the effect of urban and rural integration from extensive to lean. In terms of the factor layer, the circulation channels of urban and rural factors should be unblocked so that more high-quality products from the countryside can flow to the cities, and more capital from the cities can be injected into the countryside to complement each other's advantages.

Industrial Enrichment Has Marched From Routine Management to Comprehensive Services

In the process of industrial enrichment, attention should be paid to play the leading role of the agricultural industry. In accordance with the principle of "suitable farming, suitable animal husbandry, and suitable travel," the development concept of large-scale agriculture should be set up, the demonstration and driving effect of enriching the people by the industry should be paid attention, the restricting factors of the development path of enriching the people should be identified, the demonstration project/demonstration site construction scheme of enriching the people should be put forward, and the unique optimization road of enriching the people by the industry should be explored. From management to service, it is the change of the management strategy and the speculation on

who to serve and what kind of service to provide. High-quality industrial enrichment service is to provide farmers with selective services. Their needs may be very different for different farmers. Therefore, it is necessary to understand the missing items on the road of industrial enrichment, provide good "technological packages," sort out and actively participate in the transformation of new industries, carefully design effective services, drive the endogenous desire for self-development, carry out performance evaluation, diagnose the shortcomings, vulnerability, and resilience in the development process of "industrial enrichment," identify elasticity, thresholds, and inflection points, so as to provide scientific criteria for path identification and evaluation, and formulate a blueprint for industrial enrichment.

DATA AVAILABILITY STATEMENT

The datasets presented in this article are not readily available because the authors do not have permission to share data. Requests to access the datasets should be directed to GW, wanggf@sxufe.edu.cn.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication. XD: Conceptualization, and manuscript; GW and WS: Manuscript editing and manuscript review; MC, YL, and ZS: Manuscript review; JD, TY, and WS: Methodology and manuscript editing.

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