

# The Evolution Path and Impact Mechanism of the Vulnerability of Rural Human Settlements in China under the Background of Globalization

## Ścieżka ewolucji i mechanizm zarządzania podatnościami wiejskich osiedli ludzkich w Chinach w kontekście globalizacji

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### Abstract

Development in the rural environment is a key pillar motivating international organizations' functions and operations. The development in this area falls under the 2030 Agenda of Sustainable Development of the UN. Rural development and factors such as culture might be utilized to achieve such agenda and improve populations living in conditions. The current study was literature systemic reviewing the evolution path and the impact mechanism on the issue of rural human settlement. Results in the current study showed that natural ecosystems, socioeconomic systems, facilities, and service systems all follow one of seven general evolution paths. Terrain and ecology, climate change and catastrophe, the agricultural and rural economy, population increase, and other factors all contribute to disruption. Policy, technology, and the habits of individual households inform the development of action plans. Every evolutionary outcome has both fragile and hardy features. The government and individual families took measures to lower vulnerability and increase resilience by concentrating on the actual problem of the rural human settlements system. Further, the study observed that the effects of rural human settlements on rural development occur in a systematic way. These changes, most obviously seen in the form of new and improved rural human settlement projects, have the potential to affect many facets of the human settlement system as a whole, making it cleaner, more practical, more harmonic, and generally more pleasant places to live. These benefits will have a multiplicative impact on the health, wealth, and happiness of rural residents; the efficiency, modernity, and prosperity of rural businesses; and the quality of life in rural areas.

**Key words:** rural environment; human settlement; globalization

### Streszczenie

Rozwój w środowisku wiejskim jest kluczowym filarem motywującym funkcje i działanie organizacji międzynarodowych. Rozwój w tym obszarze wpisuje się w Agendę Zrównoważonego Rozwoju ONZ 2030. Rozwój obszarów wiejskich i czynniki takie jak kultura mogą zostać wykorzystane do osiągnięcia tego celu i poprawy warunków życia populacji. Niniejsze badanie miało charakter systemowego przeglądu literatury dotyczącej ścieżki ewolucji i mechanizmu oddziaływania na problematykę wiejskiego osadnictwa ludzkiego. Wyniki wykazały, że naturalne ekosystemy, systemy społeczno-gospodarcze, obiekty i systemy usług podążają jedną z siedmiu ogólnych ścieżek

ewolucji. Teren i ekologia, zmiany klimatyczne i katastrofy, gospodarka rolna i wiejska, wzrost liczby ludności i inne czynniki przyczyniające się do zakłóceń. Polityka, technologia i zwyczaje poszczególnych gospodarstw domowych wpływają na rozwój planów działania. Każdy wynik ewolucji ma zarówno słabe, jak i silne cechy. Rząd i obywatele podjęli działania mające na celu zmniejszenie podatności na zagrożenia i zwiększenie odporności, koncentrując się na rzeczywistym problemie wiejskiego systemu osadnictwa ludzkiego. Ponadto zaobserwowano, że wpływ osiedli ludzkich na obszarach wiejskich na rozwój obszarów wiejskich występuje w sposób systematyczny. Zmiany te, najwyraźniej widoczne w postaci nowych i ulepszonych projektów osiedli ludzkich na obszarach wiejskich, mogą potencjalnie wpłynąć na wiele aspektów systemu osadnictwa ludzkiego jako całości, czyniąc go czystszy, bardziej praktyczny, bardziej harmonijny i ogólnie przyjemniejszym miejscem do zamieszkania. Korzyści te będą miały zwielokrotniony wpływ na zdrowie, bogactwo i szczęście mieszkańców obszarów wiejskich; efektywność, nowoczesność i dobrobyt przedsiębiorstw wiejskich; i jakość życia na obszarach wiejskich.

**Słowa kluczowe:** środowisko wiejskie; osadnictwo ludzkie; globalizacja

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## 1. Introduction

The development of rural environment has been a key pillar motivating international organizations to work remote villages across the globe. Throughout the last several decades, the international community has made a concerted effort to elevate cultural development to the forefront of the foreign development agenda.

The inclusion of culture in the 2030 Agenda for Sustainable Development in 2015 was the result of advocacy efforts led by UNESCO in conjunction with UN Member States in New York, UN agencies, international organizations, non-governmental organizations, and implementing partners and stakeholders on the ground, as well as field operational programs (UNESCO, 2019). Documentation represents a paradigm shift by recognizing the importance of culture in achieving many SDGs, such as ensuring access to high-quality education, boosting economic growth, promoting sustainable consumption and production, and creating more peaceful and inclusive communities. Goal 11, which seeks to *Make cities and human settlements inclusive, secure, resilient, and sustainable*, specifically refers to *safeguarding the World's cultural and natural legacy* as a resource that must be preserved for future generations (UNESCO, 2019). Urban centers, small towns, and rural communities are on the front lines in the fight against poverty, inequality, injustice, and environmental degradation that plagues the whole world.

The Recommendation on the Historic Urban Landscape was approved by UNESCO in 2011. It emphasizes the need for harmony between manmade and natural elements, between tangible and intangible cultural heritage assets, and between the demands of the present and the future. The UNESCO Global Report Culture: Urban Future, released in 2016, expanded on this strategy by introducing a culture-based approach to urban development based on a 3P analytical framework (People, Places, Policies). It expands on the ideas that 1) quality places are shaped by culture and account for the harmonious integration of the built and natural environment, 2) sustainable and resilient cities are culturally-centered ones, and 3) integrated policies build on culture as a means for sustainability and resilience (UNESCO, 2019). As a result of the work outlined in this guide, the New Urban Agenda (NUA) was approved at Habitat III. The NUA recognizes culture and cultural variety as *sources of enrichment for humanity that make a significant contribution to the sustainable development of cities, human settlements, and residents, allowing them to play an active and distinctive part in development projects*. One of its main points is that urban and rural connections need to be strengthened if sustainability is to be achieved.

Rural-urban migration, an aging population, and the effects of unchecked tourism are just a few of the problems that tiny towns all over the globe face. While vital to local economies and essential in defining landscapes and identities, local resources alone may not be enough to halt their decline. Similarly, external unsustainable localized development processes, such as mass tourism, maybe too much for local circumstances to handle (UNESCO, 2019). There is, therefore, an immediate need to rethink tiny settlements in the global sustainable development discourse, using culture as a vehicle for integrated territorial development.

Heritage, both material and intangible, has the potential to boost local economies via culturally-based, long-term expansion and the introduction of novel, creative, and innovative practices. Achieving sustainable and balanced regional development requires safeguarding the cultural, historical, and environmental values of small settlements while also encouraging their creative revitalization, redesigning their identity, thoroughly managing their territorial complexity, and forming positive partnerships between the rural and urban spheres.

Recent policy changes in the People's Republic of China to strengthen rural-urban ties and encourage the cultural regeneration of rural regions have been noted by experts in the field. Many examples from throughout the nation illustrate successful attempts at rural development. According to UNESCO, (2019). Meishan City, in Sichuan Province, is analyzed in depth, and four rural communities – Hanyang village of Hanyang Town in Qingshen County, Fuxing village of Wawushan Town and Hongxing village of Liujiang Town, both in Hongya County, and Xingfu village of Shunlong Town, in Danling County – will be highlighted. Key takeaways from the People's

Republic of China's (PRC) national and local level experience, as well as worldwide research, may aid in policy-making and advance best practices in other parts of the globe.

## 2. Rural Environment in China

China is in the midst of a crucial time in its history as it works to create a new model of economic and social integration between its urban and rural areas. As the country strives to achieve its strategic goals of industrialization, urbanization, and new rural construction, it has proposed strategies like the consolidation of rural settlements and the linking of increased and decreased amounts of land used for urban and rural construction. These measures will not only save money but will also free up funds that can be put toward other national priorities (Fang et al., 2022). Settlements in rural areas play a vital role in supporting the livelihoods and agricultural output of farmers. Consolidating rural communities is a substantial byproduct of economic growth and a crucial part of any strategy for sustainable land use. County-level spatial reconstruction of rural communities in China has been studied. However, it suffers from issues such as lack of theoretical grounding and insufficient integration. Consolidating rural communities, meantime, calls for not just official backing but also careful thought given to farmers' preferences, financial situations, withdrawal expectations, and mobility needs.

Several rural areas have had their unique development demands ignored by the government as it has withdrawn from and merged large-scale communities in a paid departure of residential land. The sustainable use of rural land depends in large part on the successful realization of the orderly rebuilding and functional enhancement of rural communities. Scholars from China and elsewhere have recently conducted studies on topics such as the integration potential of rural settlements, reconstruction types, evolution directions, resilience assessment and planning, collaborative optimization, transformation distribution, sustainable land use and transformation, and the transformation and rural development path.

Smart expansion of rural development is possible via the *smart contraction* of residential space, which helps ease the supply-and-demand conflict of arable land. Settlement consolidation capability is evaluated using the entropy value technique, the two-dimensional modified index system, and the *san sheng* classification measurement approach (Wang & Zhang, 2021). Some academics have proposed an exchange mechanism for rural residential areas to relocate from small settlements to large settlements, while others have proposed the concept of local urbanization, all as a means to reap the benefits of the relocation policy for poverty alleviation in the form of spatial reconstruction and layout optimization of residential areas. Significant elements influencing cleanup during consolidation include the extent of farmed land, the number of stakeholders involved, and the nature of human-land interactions. Resolving issues associated with decentralization and the *hollowing out* of rural communities is a key goal of spatial optimization and the rebuilding of rural villages. There has been a lot of research on the possibility for integration, and much of it has been focused on how to complete and supplement the quantity of farmland at the township or county level. Few studies have examined the feasibility of consolidation on plot size, assessing consolidated agricultural land's quality, or planning its geographical and temporal pattern.

A new approach to resolving the conflict between humans and the land is provided by the consolidation of rural settlements, which is grounded in current practices. The consolidation also ensures land demand during the urbanization and industrialization process but also supplements the cultivated land. In addition, it facilitates realizing the balance of cultivated land occupation and compensation. However, there are still some problems and deviations from the ideal, from the perspective of the comprehensive balance and management requirements of the quality and quantity of cultivated land protection: (1) there is a lack of a scientific method system for estimating the potential of rural settlements; (2) excessive pursuit of urbanization leads to the occupation of large-scale, high-quality cultivated land resources, but the quality and production capacity of supplementary cultivation (Wang & Zhang, 2021). As long as these issues persist, it will be difficult to promote the balanced growth of urban and rural regions together. Keys to resolving these issues include forming an organic whole with a reasonable hierarchical structure, scientific classification of types, and orderly coordination of time and space; coordinating the amount of cultivated land for rural settlements and the quality of cultivated land after consolidation; and rationally arranging the layout of land use.

Chinese politicians and academics have paid a lot of attention to the problems of mixed-use urban and rural human settlements. In recent years, China has committed to the idea of green development emphasizing the harmony between man and environment and has implemented a series of steps to enhance the urban-rural human settlements with the goal of achieving a soundness ecosystem and pleasant living. The Master Plan for Green Life Creation Action was published in 2019 by the National Development and Reform Commission in China with the goal of improving the quality of life in metropolitan areas. Larger cities (those with a prefecture or above) have taken steps to improve urban aesthetics and quality by developing different waste categories and focusing on transforming pollution management and environmental governance. Nonetheless, the Chinese government has published a number of policies—including the Three-Year Action Plan for the Improvement of Rural Human Settlement and the Action Plan for Agricultural and Rural Pollution Governance – to better human settlements in rural areas (Tong, Zhu & Li, 2022). Major initiatives for rural human settlements have been carried out throughout time, vastly

bettering the visual appeal of rural communities and the quality of life for their inhabitants. At the same time, some Chinese academics have studiously sidestepped the *urbanism* trend in their field by doing an important study on rural communities. However, with the in-depth promotion of China's new-type urbanization and rural revitalization strategy, there is an urgent need to achieve the goal of urban-rural integration, while there is a lack of corresponding research on the scientific evaluation of urban-rural human settlements in China, making it difficult to effectively solve the problems in urban-rural human settlements as a whole.

The goal of urban-rural human settlements is to encourage human activities to be in harmony with the natural environment via the organic mixing of material and non-material settings in urban and rural locations. Human settlements are most valuable when they are designed with sustainability in mind from the outset, putting people and the environment first. When designing human communities, it is essential to balance environmental protection with the satisfaction of basic human needs. Although there is a plethora of research on the issue of assessing human settlements, few of these attempts are complete in their use of both objective and subjective approaches. The reflection of the physical environment and the comprehension of public satisfaction are both essential to a scientific and accurate assessment of human settlements (Tong, Zhu & Li, 2022). It is also crucial to quantify the long-term spatial and temporal patterns of human settlements in China from both urban and rural perspectives in order to pinpoint the sources of the current issues and future dangers. To assess the effectiveness of urban and rural human settlements, we must thus develop a complete index system.

Human settlements are any grouping of people who share a common dwelling and whose existence is crucial to the human race's maintenance, production, continuation, and improvement. Cities, towns, and rural communities are the sum total of all the material, social, organizational, spiritual, and cultural components of human civilization. With the growing industrialization and urbanization of western nations, human settlements and the associated challenges have garnered a lot of attention. This is because they are essential to human existence and are necessary for the steady development of civilization. The *garden city* approach and *the concept of area* have provided a theoretical basis for Ekistics, the science of human settlements, by placing emphasis on people-centered planning and coordinated development of urban and rural regions. To perform a broad, systematic study on *elements*, Ekistics' creator, Doxiadis, emphasized the completeness of human settlements (people, housing, society, and nature). When Wu (2001) initially established the concept of human settlement science in China, he identified five key elements: the natural system, human system, living system, social system, and supporting system (Tong Zhu & Li, 2022). These primary elements are interdependent and work together as part of a larger complicated system that encourages the steady development of human settlements.

Many studies on the assessment of human settlements have developed in recent years as researchers have come to recognize the critical role that well-designed communities can play in the quality of life and economic growth of their local populations. In order to better understand the features and issues of human settlements and to provide recommendations for regional planning, building, and management, it is important to conduct a thorough assessment of the human environment. Studies of this kind have shed light on the present and future of human settlements in a variety of regions, both quantitatively and qualitatively, by drawing on a wide range of theoretical frameworks and theoretical viewpoints. Appraisal systems are often built with nature, people, homes, communities, economies, infrastructure, and other features of human habitation in mind. Guidelines for indicator selection of assessment are provided by authoritative index systems like the United Nations Sustainable Development Goals (SDGs), the Evaluation Index System of the China Human Settlements Award, and the Rockefeller Foundation's Index System for human settlements in resilient cities (Ma et al., 2016). When assessing human settlements, researchers commonly use standard approaches for weighing, such as the entropy method, analytic hierarchy process (AHP), principal component analysis (PCA), and other mathematical models like the structural equation model (SEM).

Despite the many moving parts that make up human settlements, their very name alludes to the inherent importance of humans as the primary driver behind their development. That's why human settlement assessments need to take into account how inhabitants really feel and what they need. The complex link between human settlements and people's subjective feedback has been shown by empirical investigations showing that inhabitants' perceptions of human settlements may differ from the actual environment. In human settlement evaluation, the public's subjective input on evaluation material is becoming an increasing source of anxiety. Adding to the existing body of literature from the standpoint of inhabitants' subjective well-being, several researchers have used questionnaires or field surveys to ascertain public satisfaction with the quality of human settlements (Cui et al., 2022). The study's findings pave the way for in-depth talks on human settlements, such as the effects of the environment on people's subjective well-being, the gap between perceived and real settlement quality, the most pressing challenges and the most pressing demands of inhabitants, and so on. Studies based on residents' subjective well-being rather than objective physical environment assessment represent their needs by highlighting the importance of the interplay between people's actions and their surroundings, thereby giving concrete form to the concept of people-oriented development. Few studies, however, combine objective and subjective indices to arrive at assessment findings that reflect both quality evaluation and public satisfaction.

Urban and rural areas get the majority of attention from academics. Urban and rural human settlement studies tend to focus on different things, utilize different data, and approach the topic from different perspectives because of

the obvious contrasts between the two kinds of land. Most research on urban human settlements focuses on sustainable development as their overarching objective and pay attention to the geographical heterogeneity and temporal variations of human settlements, which may then be used for macro-scale spatial planning as the *urban plague* spreads over the globe. In order to compare the urban livability of Beijing and three foreign metropolitans, Wang & Zhang (2021) defined the livable integrated index from the perspectives of social development, living standards, and environmental quality, highlighting the importance for Beijing to optimizing its atmospheric quality and water quality in order to ascend to the ranks of global cities.

To assess the progress toward more sustainable urban human settlements in China's 285 prefecture-level cities, Cong et al. (2021) linked the specific phrases of the United Nations Sustainable Development Goals with the components of the index system. At the same time, since China began focusing on rural building, the country's focus has shifted to rural human settlements, an essential component of regional growth. Researchers have focused on improving the quality of life for farmers in rural regions by studying factors including housing, infrastructure, and environmental health. Studies on rural human settlements evaluation rely more heavily on field inquiry and undertake research at a very micro-scale to uncover local people's true needs. In order to gauge how content rural residents in northwest China are with their everyday lives, Wang et al. (2021) developed a six-factor index system based on factors directly relevant to rural life. In order to increase the quality of rural human settlements, the research highlighted the disparate levels of satisfaction across various dimensions and communities. Few academics have abandoned this dichotomous view of urban and rural areas, linking the idea of human settlements to the urban-rural context in order to undertake theoretical or empirical study. Common topics covered by studies of this kind include urban development, rural deterioration, and the effects of population shifts on the land. There has to be a theoretical framework in place to assess the regional structure of urban and rural regions in China as a whole in the context of urban-rural integration.

### 3. Assessment on condition of Rural Human Settlements in China

The growth of infrastructure, public services, and social governance in rural human settlements is a major factor in their popularity. Positive results ( $\beta = 0.679$ ,  $p < 0.01$ ) suggest that enhancements to infrastructure are responsible for the shift in population concentration from resource-based to facility-based regions. The presence of hospitals and clinics is significantly associated with better living conditions in rural areas ( $\beta = 0.355$ ,  $p < 0.01$ ). Those who have been left behind in rural areas, such as the old and children, maybe safeguarded via the construction of human settlements that include service facilities for the care of the elderly, children, and the handicapped (Wang & Zhu, 2022). Their standard of living is becoming more reliant on public services, notably stable employment, and social security ( $\beta = 0.763$ ,  $p < 0.01$ ). Rural dwellers may potentially stop the exodus of people away from their communities if they have access to job resources and information. The protection of low-income families and the reduction of social contradictions may be facilitated by the development of social security services, which in turn helps to improve the human settlement circumstances in rural areas. Social governance is an essential tool for bettering settlement circumstances since it accurately reflects the quality of social services ( $\beta = 0.823$ ,  $p < 0.01$ ) (Wang & Zhu, 2022). Improve your household's living stability and build secure, pleasant living circumstances by actively seeking assistance from governmental organizations and resolving challenges or disputes related to production and life difficulties.

In 2018, China's government suggested a rural regeneration initiative. Later, in 2019, the No. 1 Document of the Central Committee of the People's Republic of China underlined the need to prepare for hidden threats in rural regions, including geological catastrophes, transportation difficulties, fire, severe weather events, and public health concerns, with an emphasis on rural resilience (Yang & Yang, 2023). Thus, this study analyzed the development features of different rural settlements in Xinjiang against the historical backdrop of catastrophe adaptation and then summarized the effect of various resilience mechanism components. Such findings may assist in driving initiatives for safety building and rural rehabilitation in Xinjiang. Considering the difficulties of precisely anticipating the occurrence of disasters, strengthening the resilience of rural communities is a basic part of catastrophe prevention, mitigation, and adaptation. Throughout the history of rural residential development in China – from the initial residential building function of providing shelter from wind, rain, and pests to increasingly meeting diversified needs (e.g., spiritual needs and the need for comfort, quiet, and neighborhood communication)—continuous improvements have been made under the functional needs of disaster reduction, disaster avoidance, and disaster adaptation (Yang & Yang 2023). From ancient times, rural populations have gathered significant expertise in disaster-response tactics.

Infrastructure conditions are the single most important factor determining the well-being of rural communities (0.803). There were two aspects to the effects: Infrastructure's direct impacts on rural residents (0.543) and indirect effects on rural residents (through housing and public service quality) (0.260). The direct impacts of the public service levels on the rural population were significant (0.627). Natural environmental circumstances ranked third (0.573), and like human influence, they had a two-pronged impact with the majority of the change coming from indirect causes like improved infrastructure and living standards (0.262). The standardized route coefficients for

human social amenities and housing conditions were 0.446 and 0.521, respectively, suggesting that these factors have only favorable direct effects on the rural population.

Natural environmental conditions were determined to have the highest beneficial effects on rural land (0.490). In addition to having an effect on rural land (0.083) as a result of its effects on infrastructure and housing conditions (0.407), this factor also promoted land utilization (0.407) (Yang & Yang, 2023). Rural areas benefited greatly from the improved housing circumstances as well (0.213). In addition, the beneficial benefits of infrastructure development on rural land were modest at best, even though they occurred directly (0.165) and indirectly (0.025). (0.190). It's possible that this is due to the fact that building infrastructure often takes up a sizable chunk of otherwise usable land, dampening the impact of any subsequent gains in productivity or property value. Although the quality of governmental services and human social amenities benefited rural areas, none was statistically significant.

It is of paramount importance to encourage the layout optimization of cities, towns, and villages on the basis of completely honoring the interests of the farmers. This would pave the way for well-organized communities by requiring builders to adhere to uniform standards for things like home design and plumbing (Wang et al., 2022). They have the potential to increase the efficiency of land use, revive rural stock land, and encourage the intensive and cost-effective use of land in rural areas. This would pave the way for the circumstances necessary for the emergence of scale effects by encouraging major shifts in agricultural production and management. But, they may also enhance the quality of life in rural areas, make villages more attractive to potential residents, and stop or reverse the trend of population loss and resource depletion.

The production activities and lifestyles of rural inhabitants may be made more pleasant and comfortable if the practical and insignificant problems of enhancing the living conditions of the farmers are the starting point. These factors may encourage rural residents to take better care of their surroundings, adopt healthier lifestyles, and work together to build more aesthetically pleasing communities, all of which can improve the quality of life and the capacity of local governments to manage rural areas. To a far lesser extent than other factors, human social amenities were shown to impact rural development. This might be because the humanistic settings are more often associated with *soft human settlements*, which have an oblique effect on rural development. Its impacts were modest, but that does not mean it can be disregarded (Wang, et al., 2022). Amenities for social interaction are also crucial to reviving rural areas. In addition to helping people get along and fostering social stability in rural areas, providing hospitable, humanistic settings for them to live and work in will provide a solid basis for the steady growth of such areas. In addition, it may encourage rural residents to share resources, support one another in making a living, and have more in-depth, heartfelt conversations with one another. All of these benefits will help spread cutting-edge manufacturing methods and equipment, but they'll also help rural kids make friends, reduce isolation among the elderly, and strengthen community bonds. As a result, energy in rural development and intrinsic drive will be boosted.

From the systematic theoretic study conducted here the following results were found. These findings demonstrate that: (1) Natural ecosystems, socioeconomic systems, facilities, and service systems all follow one of seven general evolution paths. Terrain and ecology, climate change and catastrophe, the agricultural and rural economy, population increase, and other factors all contribute to disruption. Policy, technology, and the habits of individual households inform the development of action plans (Sun, et al., 2022). Every evolutionary outcome has both fragile and hardy features. (2) The government and individual families took measures to lower vulnerability and increase resilience by concentrating on the actual problem of the rural human settlements system. The ecological concerns, demographic hollowing, and cultural dilution are not addressed by the household behavior responses, which are focused on livelihoods and public services. The government prioritizes addressing threats to people's livelihoods and the economy as well as environmental hazards, but it fails to take any measures to strengthen cultural resilience or address the fragility of the public service infrastructure. The *three-legged* evolution model of vulnerability-resilience of rural human settlements system consists of (3) disruption, evolution consequences, and action (Zhao et al., 2019) The government and household layers are able to adjust to one another because of the three coupling connections that exist between the three legs. The study concludes with policy recommendations to foster the system's long-term success in three key areas. Public services, agricultural and rural markets, income and economic development, infrastructure, topography, and ecology are all identified as *hot categories* in the study, prompting academics and governments at all levels to prioritize these factors in policy and spatial planning initiatives. Secondly, the paper advises remaking rural human settlement systems with an eye toward bolstering resilience while simultaneously decreasing vulnerability. Third, we should increase the execution of household-level guiding policies since the reaction of individual households is a key component in the development of the rural human settlements system.

#### 4. Conclusion

According to our findings, the effects of rural human settlements on rural development occur in a systematic way. These changes, most obviously seen in the form of new and improved rural human settlement projects, have the potential to affect many facets of the human settlement system as a whole, making it cleaner, more practical, more

harmonic, and generally, more pleasant places to live. These benefits will have a multiplicative impact on the health, wealth, and happiness of rural residents; the efficiency, modernity, and prosperity of rural businesses; and the quality of life in rural areas. These are the three pillars of rural and regional systems. Sustainable and high-quality development in rural regions is possible thanks to three factors: people, land, and industry. The path coefficient of the impacts of population on rural development was the largest and had the highest significance in the SEM model's findings out of the three mediating factors. Further evidence is that rural residents are the driving force behind rural progress. Of course, we can't disregard the significance of farms and factories in urban areas.

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