

# Developing and Planning Strategy for China's Villages and Towns under the Background of New Urbanization

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**Abstract:** Researchers in China have generally recognized that solving rural issues is vital to China's modernization and the long-term stability of Chinese society. This paper focuses on the key to China's new urbanization policy, which is "to modernize not only the city, but also the rural area". It also explores important means to satisfy the needs for the modernization of rural areas, in terms of economy, land, management, environment, and culture. Literature analysis, field investigation, and systematic research show that the proper planning, construction, and management of villages and towns can guide the orderly and healthy development of rural areas. Therefore, to promote rural development and address the existing "rural problems", it is crucial for China to establish a set of planning theories and methods based on rural differentiation, diversification, and greenization. The key to rural modernization lies in respecting the law of rural development, building an integrated urban-rural system with urban-rural distinction, and improving access to the technical means required in rural development, construction, and protection. Specific proposals regarding reforms in village planning, construction, and management are presented in this paper, including law formulation, system innovation, local design, platform management, environmental renovation, and space construction.

**Keywords:** new urbanization; urban-rural integration; planning, construction, and management of villages and towns

## 1 Introduction

As China has employed a city-centered approach to economic growth, cities have been the priority of China's planning, construction, and management over the past three decades. In recent years, however, the Central Government has proposed accelerating the integrated development of urban and rural areas and issued the *National Plan on New Urbanization (2014–2020)*, signifying that urban-rural planning, construction, and management should shift from the separate governance of urban and rural development, with its attachment of greater importance to urban areas over rural ones, to urban-rural integration that provides necessary attention to rural areas. This would mark a transition in the country's overall approach to development. In the past, rural planning, construction, and management in China have lacked theoretical support and suffered from a shortfall in both study and practice. "Rural Planning, Construction and Management," the key consulting research project established by the Chinese Academy of Engineering (CAE) for the years 2014–2015, is designed to identify and remove constraints, project systematic thinking, and complete general planning and top-level design by analyzing issues in rural development amid China's urbanization process. The plan aims to provide a scientific basis for rural planning, construction, and management

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and promote the balance and coordination of urban-rural relationships and the healthy development of villages and towns in China.

## **2 Major issues in rural development against the backdrop of new urbanization**

Urbanization has been highly important for China's economic and social development and has powerfully boosted the country's progress in industrialization and modernization since 1978. As a consequence, Chinese cities are the manifestation of modernization. The number of permanent urban residents in the country rose from 170 million to 790 million between 1978 and 2016 as the urbanization rate grew from 17.9% to 57.35%. However, the modernization of China's agriculture and rural areas is still in its initial stage, and rural areas suffered from severe "rural problems" [1] in industry, society, culture, construction, and management. Corresponding solutions are acutely needed.

### **2.1 Agricultural development is less competitive, non-agricultural development remains imbalanced, and farmers' incomes are not continuously increasing**

Agricultural production faces the double-headed challenge of ever-increasing costs and steadily dropping prices. Additionally, simple agricultural labor such as crop farming and animal husbandry has low comparative benefits and lacks competitive edge. The price per ton of cereal products – such as corn, wheat, and rice – is more than RMB600 higher in China than it is on the international market. Furthermore, the foundation for modern agricultural development is weak, and the integration of agriculture with secondary and tertiary industries is insufficient, as evidenced by the lack of complete industrial chains and high added value. Currently, the processing rate of agricultural produce (the proportion of agricultural produce undergoing preliminary processing) in China is only 55%, and the deep-processing rate (secondary and higher processing) is less than 45%, far lower than that of developed economies for which the figures are 90% and 80%, respectively. Due to the obvious impacts of geographical location, economic level, and other factors, non-agricultural industry shows a stark regional difference in development.

### **2.2 Rural social structure is incomplete and the aging and vulnerability of the main rural labor force is aggravated**

The rapid industrialization and urbanization process spurred a considerable number of young workers to move to cities, leaving behind women, children, and elderly people who now compose the major population groups in rural areas. Data from a 2008 survey conducted by China Agricultural University showed that there are 87 million rural left-behinds in China. According to the *2013: China Report of the Development on Aging Cause*, there were 50 million left-behind elderly people in rural areas in China in 2012, with elderly farmers gradually forming the main rural labor force. The latest survey conducted by the All-China Women's Federation in 2014 indicated that the number of rural left-behind children in China was more than 61 million, accounting for 21.88% of the total number nationally. The survey also found that the number of left-behind children was still growing.

### **2.3 Use of rural space resources is inefficient, with homesteads simultaneously expanded and deserted**

Between 2000 and 2011, China's rural population decreased by 133 million, yet rural residential lands increased by 30.45 million mu (approximately 20 300 square kilometers). The condition of unoccupied houses that have been left by former residents due to non-agriculturization among the rural population together with the general practice of building new houses without demolishing old ones brings both practical, structural difficulties and impediments that hamper the optimized use of urban and rural lands, overall coordinated urban-rural development, and new rural construction. The statistics of the Ministry of Land and Resources of the People's Republic of China indicate that among the some 200 million mu (133 333 square meters) of rural homesteads in China, 10%–20% are uninhabited, with the uninhabited rate in some regions reaching even 30%.

### **2.4 Living environments in rural areas are still poor**

Forty-three percent of villages in China are still not equipped with a centralized water supply, and 60% of the rural population still drinks underground water. Eleven percent of highways to and from administrative villages remain unpaved, as do most of the roads within villages. Public lighting is almost entirely absent. As the world's top producer of rural household waste, China generates more than 4 billion tons of waste as a rough annual figure, and

the household sewage discharged in villages and towns makes up more than half of the total quantity nationally. Rural garbage is piled and dumped far and wide, and acute levels of household sewage and livestock pollution create dirty and messy scene in rural areas. In recent years, China has intensively championed the improvement of rural living environments with considerable success. By 2016, the disposal rates of rural household waste and sewage in China were 60% and 22% respectively, and 23.11 million low-income families were given support to renovate their dangerous houses. Notwithstanding these improvements, there is still a substantial gap between the present living conditions, public facilities, and environmental health in rural areas and the target of building a moderately prosperous society in all such respects.

### **2.5 Traditional villages and their local characteristics are under threat**

Traditional rural styles are an important part of time-honored Chinese culture, but they are suffering from a dearth of protection and under-development. Buildings fall into disrepair and become run-down, and significant treasures of the landscape such as long-lived trees, ancient wells, and old bridges are gradually vanishing. To prevent conditions from worsening, China has introduced an array of protective measures and rescue strategies, including listing 276 villages on China's Historic and Cultural Villages Directory and 4 153 on the Traditional Villages Directory. However, these protected villages comprise only a tiny fraction, a two-thousandth, of the total 2.7 million organic villages in China. Even the protected villages face problems linked to a singular development approach that may focus more on preserving physical features than on safeguarding intangible local traditions that contribute to the unique culture of a village.

### **2.6 The concept of rural planning, construction, and management is flawed, and systemic and technological support is inadequate**

The disjointedness between the planning, construction, and management of towns and villages causes difficulties for rural planning and leads to a lack of maintenance of rural public facilities. The establishment of a legal system regulating the planning and construction of urban-rural integration is still in progress, a security system for rural housing is not yet in place, the protection system for traditional villages and local characteristics is not sufficiently robust, the technical guidelines for rural planning and construction do not precisely match local conditions, and the process for obtaining rural planning and construction licenses is problematic. Given the large number of villages and their level of construction, innovative planning strategies and behaviors and modern management technology and platforms are urgently needed. There are a total of 104 000 administrators serving township/town construction and management in China, with fewer than three in each township/town on average. About 60% of towns/townships have only one administrator for each village/town, and one-fourth of them have no organization and administrator for planning, construction, and management.

## **3 Rural modernization-oriented development trends in China's villages and towns**

Most Chinese scholars agree that the management of China's rural issues is crucial to the success of the country's push for modernization and long-term social stability. Rural modernization and urban modernization are "two wheels" driving China's development, with each wheel dependent on the other for smooth forward motion. The experiences of other international cities indicate that city and countryside interact with each other in a dialectic way as urbanization progresses. For China, the relevance and value of the countryside is emerging in this new development stage. Instead of merely serving as supply centers for agricultural by-products, rural areas will be transfigured into places with important roles and functions: ecological protection and recreation, cultural inheritance and development, healthy living and development of rural residents, and production and supply of green agricultural products. A new equitable, coordinated, and integrated urban-rural relationship will then emerge.

China's rural areas have experienced dramatic changes over the past decade. An irreversible trend in the process of rural modernization is the reshaping of rural spaces into a pattern that is "differentiated within villages and towns, integrated in land utilization, diversified in development path, and properly agglomerated in space."

In China's eastern, economically developed coastal region, rural areas are divided into urbanized areas and non-urbanized areas. These groups display different forms of space agglomeration in pursuit of separate development paths and so are guided by distinctive management strategies. This is exemplified by Jiangyin, Jiangsu province; several powerful industrial towns in the northern part of this city, including Zhouzhuang and Huashi, are part of the Northern Agglomeration Development Area specified in the city's master plan. A zone-based plan and an area-wide

regulatory plan have been established across the Area to manage these towns in the same ways normal cities are managed. However, in the southern part of the city, villages and towns that are located within wide, open ecological districts are still managed like rural areas with both a town-level master plan and a separate village-level plan. Across the whole province, some traditional growth centers are shrinking, while others with advantages are booming. For example, the county-level city of Kunshan comprises industrial zones and development zones that vary in level and category. Among them, higher-level development zones and strong industrial zones are home to enterprises achieving greater economic gains than lower-level industrial zones and weak industrial towns. The gap continues to widen.

In the traditional agricultural areas of central China – vast in land, and in the midst of industrial transfer from the outside and increasing demand from the inside – spatial distribution in the countryside is constantly changing. An evident trend is agglomeration within, or surrounding, a local area. This can be demonstrated by the case of Zhoukou in Henan province. Since 2008, when industries began to be transferred from coastal to central areas, industrial agglomeration centers have gradually emerged in some of Zhoukou's counties, which have witnessed strong momentum in terms of economic development. As of 2015, 956 industrial enterprises were operating in the city's 10 industrial agglomeration centers covering a built-up area of 112 square kilometers in total; of the enterprises, 60% were above the designated size. Studies have predicted that Zhoukou's counties are expected to attract some 70% local non-agriculture populations to work across these counties. This will give further impetus to the city's transformation from a scattered distribution of urban and rural residents to a moderate population concentration centered on counties and key towns. Another example is Yidu, Hubei province, which is a typical city in central China's hilly areas, characterized by comparatively abundant natural resources and relatively high population density. As farmers seek an improved quality of life and the countryside sees greater motorization, villages that offer convenient transportation and centralized public services have thrived. Whilst serving vast agricultural areas together with small towns and counties, they have also grown into population agglomeration centers to guide the proper concentration of rural residents.

Due to geographical and resource-related constraints, the region of southwest China, represented by Yunnan and Guizhou provinces, will see continuous population outflows. This could have harsh consequences, leaving many villages and towns vulnerable to creeping demise. However, those with distinctive natural and cultural resources are flourishing. For instance, Xijiang Miao Village, located in southeast Kaili, Guizhou province, has evolved from a traditional village dominated by agricultural planting to a tourist attraction renowned for its historic and cultural artefacts, which are unique to the Miao nationality. In 2016, the village attracted almost 4.84 million visitors, generating an income of RMB 4.1 billion from tourism and related services.

Changes in rural spatial distribution patterns bring with them the emergence and orderly advancement of a diversified rural economy, modernized agriculture, diversified rural governance, greenized rural development, and countryside-dependent revitalization of Chinese culture.

(1) A diversified rural economy refers to diversity in the region regarding industrial form and the structure of farmers' incomes. (2) Modernized agriculture will be accompanied by a series of changes in the scale of planting, operational entities, and operational means. Traditional agriculture operators – small farmers – are gradually being replaced by new operators including agriculture enterprises, family farms, and agricultural cooperatives. Large enterprises and multiple forms of cooperatives take the lead in closely combining agricultural production, processing, and sales. (3) In the past, rural planning and management relied solely on government decision-making; however, a new governance model is now gaining momentum. Under this model, which adopts diversified decision-making through public participation, rural development will be led by three types of emerging groups: farming experts, young people returning home to start a business, and middle-class people returning home to retire. This involves a shift to "rural governance" that has diverse participants, targets, and inputs. (4) "Greenization" has become a new factor for economic development under new standards and the latest requirements for ecological progress. Rural areas are launching green campaigns to strive for "clean agricultural production, recycled rural waste, and environment-friendly village growth." (5) A new countryside culture is injecting fresh vitality into China's rural areas. This type of culture has four pillars: geographical bonds, blood bonds, industrial bonds (based on the development of rural industries), and emotional bonds (based on the construction of rural communities). The last two serve as new links in rural society. By fostering a fresh, positive, healthy countryside culture, rural residents will gradually develop a self-identity that cherishes rural values and aesthetical standards, which will propel the sound and sustainable legacy and development of rural cultures. In summary, China's rural modernization trend is here to stay.

Against the backdrop of rural modernization, it is crucial to create comprehensive planning theories and methods that are suited to the corresponding development trends and requirements, which chiefly involve three aspects: equity, characteristics, and development. First, basic regimes should be established and facilities should be supplied for equitable urban-rural integration. Second, there is a need for a systematic understanding of the richness and diversity of rural spaces with distinguishing characteristics, based on which green, effective, unique, and sustainable planning, construction, and management systems will be crafted from a visionary standpoint. Third, to truly serve the development features and requirements of rural areas, planning theories, methods, and technical means that are compliant with the laws of rural development are needed.

#### 4 Main development characteristics of China's villages and towns

By the end of 2015, China had 20 515 organic towns, 11 315 townships, 585 000 administrative villages, and 2.7 million natural villages [2]. Within such an immense group of rural communities, China's villages and towns demonstrate differentiation, spontaneity, initiative, and policy guidance – primary characteristics that distinguish the development of China's villages and towns from that of China's cities and other countries' villages and towns. (1) Differentiation. The spatial forms of various rural settlements are developed under the combined influence of geographical conditions, social relationships, modes of production, and other factors. The strength of the development momentum of villages and towns depends on geographical location and resource endowment. Villages and towns close to cities tend to develop rapidly, influenced and driven by the latter, while those far away from cities fall behind due to the absence of powerful external driving forces. (2) Spontaneity. Internal demand and impetus often play an important role in bolstering the development of villages and towns. (3) Initiative. The spontaneous growth of villages and towns would be impossible without talented people who possess the competence and ideas required to lead local people toward development and who are advocates for the wider community. (4) Policy guidance. Policies have a huge impact on the development of China's villages and towns. The blossoming of small towns after reforms starting in 1978, the relative stagnation in the development of rural areas in the 1990s, and improvements in the rural landscape since 2000 have all been closely tied to the state's "San Nong" (Agriculture, Rural Areas, and Farmers) policies implemented during different periods. Given the characteristics and laws involved in the development of China's villages and towns, rural planning, construction, and management should be performed with a respect for differences, encouragement of diversified development and policy innovation, optimization of the external development environment, creation of internal incentive mechanisms, and implementation of multi-category guidance.

#### 5 Suggestions for stimulating planning, construction, and management reforms in China's villages and towns

(1) *The Law of Rural Development, Construction and Protection* should be established as soon as possible, and integrated management should be implemented for rural land, planning, and construction. There should be a clear division of responsibility for issues like the management of farmer-built houses and the management and maintenance of public service facilities and infrastructure in the countryside. Public facilities like rural schools, kindergartens, health centers, and nursing homes should be placed under supervision and management as part of basic construction procedures. Farmers should take on responsibility for housing structures that they build. At the same time, governments and relevant authorities at all levels should focus on providing quality and safety guidance and technical services. Efforts are also required to bring the craftsmen qualification permit system back into the rural architectural industry and strengthen the training and management of rural people engaged in architecture. Well-known towns and villages endowed with historic and cultural resources and traditional rural settlements deserve more protection than they are currently afforded. Thus, the corresponding protection systems should be improved.

(2) The systems, methods, technologies, and contents set forth in the rural plan should be innovative. One suggestion is to introduce a rural planning mechanism through which mid-term to long-term rural planning follow-up services will gradually be substituted for short-term services, streamlining the content and in-depth requirements of plan preparation at county, town, and village levels and gradually forming joint plan preparation, or a dynamic feedback working mechanism, at the three levels. Attention should be paid to creating rural communities and a rural plan preparation mechanism with decision-making negotiated by stakeholders in village construction under the guidance of professional planning technicians, and with support and approval from the government. Vigorous efforts should be made to formulate a feasible village plan that "serves demand, solves basic problems, suits local contexts, and has rural characteristics" and that "is simple to promote and execute, clear and easy to understand, and supported

by farmers.” The main contents of the village plan should be put into practice as a component of “village regulations.”

(3) Support should be offered to develop rural design and neo-vernacular architecture that uses traditional materials and to encourage designers to work in the countryside. Support should also be provided for the use and innovation of traditional construction technologies and for the promotion of both neo-vernacular architecture and rural green architecture technologies suitable for modern life. It is necessary to explore neo-vernacular architectural designs for rural housing, use and innovate traditional construction technologies, and encourage the use and structural improvement of local materials. Institutions of higher education should establish majors and accompanying courses on rural architecture or rural planning and management, and the national government should support systematic studies of architecture styles and features in villages and towns.

(4) At the national level, a unified rurally-related data platform should be established as the basis for a national village living environment information system. At city and county levels, the establishment of an urban-rural geographical information system and rural homestead and housing information system should be phased in, providing a modern technological platform to facilitate the local preparation and management of plans for villages and towns.

(5) In terms of the ecological environment, feasible measures include building an urban-rural integrated environmental protection mechanism, creating an all-inclusive networked environmental regulation system at province, city, and county levels, and employing environmental improvement technologies suitable for rural areas. Specifically, urban and rural areas should enhance their overall coordination regarding sewage treatment, water resources usage, and protection and flood control facilities. Environmental protection infrastructure should be jointly built and shared amongst urban and rural areas as well as different regions. Rural environmental improvement work should be carried out with enhanced area-specific and category-specific guidance. Relevant authorities should expedite the pace at which technical standards and regulations are released guiding villages' and towns' environment improvement work; stipulate technical guidelines for the collection, transportation, treatment, and disposal of household waste in the countryside; and provide technical guidelines for the treatment of and discharge standards for household sewage in the countryside.

(6) Rural space distribution patterns should be optimized to guide the development of a structure in which counties and key towns are at the core, with ordinary townships/towns, central villages, and ordinary villages serving as the link, the focus, and the basis, respectively. Industries, styles, and features that are unique to villages and towns should be developed to establish more special places with distinctive industrial characteristics, rich cultural settings, and beautiful ecological environments. Greater support should be provided to poor villages with an emphasis on improving basic production and living conditions and initiating relocation-based poverty alleviation. Additionally, a science-based mid-term and long-term strategy should be created to address the issue of hollow villages [3].

(7) The accumulation of rural human capital should be advanced by investing in farmers, providing monetary support for cultural education, and introducing more high-quality educational resources. This could be tangibly achieved by creating a multi-level, profession-specific vocational education system, forming a mechanism to incentivize villagers to study, widely establishing community schools, developing folk art, passing down and carrying forward traditional culture, and educating villagers, thereby comprehensively enhancing their knowledge and skills and laying a strong social foundation for the modernization of rural areas.

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