

Exploration of Rural Planning–assisted Rural Revitalization: A Case Study of Village Planning in De'an County

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Abstract Village revitalization is a major development strategy in China, where village planning plays as its critical component. Taking village planning of De'an County in Jiangxi Province as an example, this paper explored the significant importance of village planning in promoting rural revitalization along with its corresponding promote mechanisms. Through in-depth research on the detailed situation of village planning and implementation in Jiangxi, this paper summarized that some challenges exist, including backward planning, poor planning consciousness, difficulties in planning implementation. Based on these findings, the paper analyzed the challenges of village land resource scarcity, village images lacking in uniqueness features, and insufficient rural infrastructure construction. Furthermore, it proposed strategies such as taking the lead in planning from the beginning, advancing practical implementation at a high level, adhering to bottom-line thinking, and coordinating high-quality rural land protection and development, applying strategies such as ecological and pleasant living, building villages suitable for living and working, and construction of beautiful countryside, aiming to provide valuable reference for related research fields.

Keywords Village planning, Rural revitalization, Land resources

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The Report of 2024 General Session of the Communist Party of China (CPC) clearly proposed that policies for rural revitalization would be comprehensively implemented, as the General Secretary Xi Jinping stressed repeatedly, “optimize town and village layout planning, coordinate the construction of rural infrastructure and public service system, further promote the quality of rural human settlement, accelerate the construction of beautiful countryside suitable for living and working”, “planning tailored to local conditions but preserving rural beauty and resilience must take the lead in village revitalization, the law of rural development must be respected, tidy rural living environment constructed based on the comprehensive improvement of human settlement”. During his inspection tour in Jiangxi, General Secretary Xi further proposed, “China’s comprehensive modernization aims to achieve both urban development and rural improvements comprehensively, ensuring that cities can achieve urban modernization, and rural areas can undergo agricultural modernization. I’m very concerned about rural development, and I hope you can protect the natural ecology well, build the countryside more beautiful, and all of you live a wealthy, happy life”.

In-depth research on the specific roles of village planning in rural revitalization, not only helps a more comprehensive understanding of the inner mechanisms of rural revitalization, but also provides a scientific guidance for policy making and implementation. Reasonable

planning can more effectively coordinate rural resources and improve the life quality of rural population while promoting sustainable development of rural social economy. Although there were studies focusing on the relationship between village planning and rural revitalization, they mainly focused on summary research. This study took village planning of De'an County as a specific case to further analyze the key role of village planning in rural development, providing feasible references regarding the compilation of village planning.

1 Basic conditions of village planning

1.1 Village development

There are 81 administrative villages, 1,125 natural villages under the jurisdiction of De'an County. According to the land resource data in 2020, village construction land area in De'an totaled 1,842.02 hm², construction land per capita was 178.49 m², and village construction land was distributed along roads, irrigation ditches, and plains, appeared as belts and spots. Rural house site area totaled 1,567.69 hm², the per capita data was 151.9 m².

The primary agricultural products in De'an County are primarily cultivated with agriculture and livestock. Recently, the agricultural economic growth and agricultural structural optimization have been continuously improving. “One home one policy, one village one industry, one area one brand” is being implemented. Six large-scale modern agricultural zones are forming:

one with Cheqiao Town as the center, focusing on forest medicinal herbs plantings and processing, scientific research, agricultural industry development, and traditional herbal medicine recreational activities; another with 4 towns (Fenglin, Baota, Nieqiao and Moxi) as a united agricultural base for laying hens breeding; the third with Moxi Dongjia Vegetable Base and Hedong Shangfan Xincun Vegetable Base as the core of standardized pollution-free vegetable demonstration park; the fourth with Nieqiao Boyang River Drifting Modern Agricultural Demonstration Base for research demonstration, scenic tourism, grape picking, outdoor activities, and Zouqiao, Wushan Lotus Sightseeing Base as the representations; the fifth with Gaotang Pear Orchard, flower and nursery stock demonstration base for fruit picking and flower appreciation and sightseeing; the sixth with standardized fish ponds in Niujiaowan as the support for Topmouth Culter modern fishing breeding base.

1.2 Stable promotion of rural revitalization

All 81 administrative villages in the study area have the practical needs of establishing and implementing basic unified regulations for village planning, while other villages are conducting the “general” village planning according to specific situations. First, guide according to different topographical classifications; De'an County's terrain conditions vary significantly, requiring different special provisions for various rural landscape renovations. Second, guide according

to different features; traditional villages and general villages should be distinguished in the renovation method. Third, guide according to different geographical locations, for villages near urban centers, the renovation plan should be integrated with urban construction. Fourth, guide according to different economic conditions, for villages with varying degrees of economic development, set different goals. Integrate the advantages of specialized industries, village and agricultural resources as rural development strategies, aiming at “rural revitalization”, basing on “modern agriculture”, and designing “a base for each town” as a strategic plan, to cultivate national key counties for scenic agriculture, and national modern agricultural demonstration area.

2 Major problems

2.1 Difficult implementation of village planning

First, poor village infrastructure construction. The research covers 81 administrative villages and 1,125 natural villages, with some villages having limited economic development levels, similar resource structures, mainly relying on the first industrial sector such as agriculture and forestry. The villages are limited by single development mode, and connections among them mainly owe to blood and geographical relationship, lacking in diversity. In terms of transportation, roads are low in quality and connectivity is poor, primarily dependent on passenger transport. De'an County has 62 rural roads, a total length of 300.02 km, among which, 8.24 km are grade-3 public roads, 241.10 km are grade-4 public roads; village roads total 546, a length of 443.23 km, including 2.22-km grade-2 public roads. Although villages are all connected, but due to the influence of terrain conditions, transportation conditions vary greatly between different areas, transportation in southeast is convenient, while in southern and northern mountainous regions is more restricted.

Second, poor participation degree of villagers in planning. In some government departments, the importance of village planning guidance is often overlooked. Many villages lack in guidance on planning, leading to a disorderly development. Some villages have forward planning, but fail to show significant differences with non-planned villages. Additionally, the level of villagers' participation is low, most of them do not understand what needs to be planned and act passively, even believe that planning is not practical and wastes resources. As for implementation, many villagers do

not cooperate or violate building regulations, resulting in the “theory of planning is useless”, making it more difficult to meet actual villagers' needs.

Third, failure in coordination between departments, planning and implementation difficulties. During planning execution, departments lack in proper coordination. Departments work independently without coordination mechanisms. For example, Rural Area and Agriculture Department handles house site reform, Natural Resources Department deals with land utilization planning, while local town government has the authority of approving rural housing land use. During the actual implementation, local government did not strictly implement the planning or the necessary legal procedures for authorization. The natural resources and agriculture departments at the county level lacked in coordination in the management of house construction approval. There was no effective implementation of joint approval. Besides, some planning staffs at the town have insufficient knowledge to effectively implement the planning that has been formed. The formalized plans for rural areas were not substantially applied in environmental renovation and house construction approval.

2.2 Difficult land security for planning use

First, farmland protection is facing severe challenges. General Secretary Xi Jinping emphasized the need to strengthen farmland protection, and strictly protect 1.2 billion hectares of farmland reserves. The *2024 No.1 Central Document* emphasized from the perspective of comprehensively implementing rural revitalization, that is, revising and strengthening the implementation of the next round of land and space planning, specifically implementing the farmland and permanent basic farmland protection tasks as stipulated in the new planning.

The balanced allocation of farmland must be improved^[1]. The agricultural labor forces have heavily moved to cities, and those living in rural areas have entered an elderly stage. The land abandonment phenomenon occurred^[2]. On the other hand, due to the lack of orderly expansion of cities, construction projects requiring substantial land resources have occupied high-quality farmland, leading to the destruction of farmland reserves^[3].

Second, low level of land intensive development. Most villages in De'an County have the problems of low space use efficiency and low level of intensive development. First of all, per

capital construction land area in the villages is high, single houses have usually large building areas, equipped with sunning ground, yard, hogpen and so on; then, the layout of residential buildings is scattered widely, with large gaps between them, and auxiliary buildings are often single-story with large spaces, where some properties are in disused or rarely used, and most village residents' area requirements exceeds 150 m²; finally, newly-updated residential houses are built on the landscaped areas of rural estates, while the old estates are still maintained, resulting in a hollow village. This style of land utilization is not only ineffective in saving and optimizing land use but also fails to improve villagers' living standards, and it wastes land resources greatly, making it extremely unfavorable for the scale operation of agricultural industry and sharing of regional resources and facilities.

Third, insufficient construction land index, difficult land use security. In the rural planning and construction, insufficient construction land index and difficult land use security are major bottlenecks for the development. First of all, in view of the needs for expanding village roads, the renovation planning is facing challenges. There are all basic farmlands along the planned roads, the red line for farmland and permanent basic farmland means that any expansion project could not use these sensitive area. This greatly limited the flexibility and feasibility of road reform. Second, construction project of rural revitalization encounters difficulties in land use. The newly-added construction land is limited, as the planning rules of “three spaces and three lines” specified (“three spaces” indicate three kinds of national land spaces, i.e. town space, agricultural space and ecological space, and “three lines” indicate three control lines defined for them, i.e. town development border line, protection red line of permanent basic farmland and ecological protection red line), the expanded border area of town development must be controlled within 1.3 times of the current town construction land. Therefore, the rural areas for the shortage of current construction land are still in bad needs for the increment spaces, particularly after the overall arrangement from the county and city level. Furthermore, rough terrains are also a big challenge for the land security. Many rural areas have complicate terrains, for example, Yimen Village in Cheqiao Town needs a new village hall, but it is an impossible mission without breaking the farmland red line. However, the current available backup farmland resources show obvious deficiency, which brings great pressure to the policy of “requisition-

compensation balance". Meanwhile, many construction projects fail to predict the specific needs, resulting in lack of reserved indexes for future needs, which further intensifies the land use shortage, and even some of the projects cannot be carried forward at all.

2.3 Rural images lacking in features and high quality

On the one hand, the major problem is the homogeneity of village images and lack of planning. Taking some villages in De'an County for example, buildings in the villages are in disorder, fail to show regional characteristics, particularly the exploration of "red (about the revolution), green (environment-friendly), and ancient" resources. On the other hand, successful cases on Wushan Town and Moxi Township offered precious experience. Both of them built the red recreation town on the basis of Former Site of Shigudian Soviet Government and Ruins of Wujialing Great Victory, which successfully protected historical sites and promoted the development of local tourism industry, achieving the win-win of culture and economy. Similarly, Cheqiao Town focused on exploring the profound traditions of Family Chen (a long-history family entitled as "Yimen Chen" by the Tang Emperor for their harmonious and interdependent family traditions), fully developed the characteristic tourism industry, and successfully built the brand of the town with characteristic family traditions and cultures, showing the special regional attraction and cultural connotations. However, most of the countryside lags behind in terms of infrastructure and public service system. Although some improvements have been made in drinking water security, and traffic convenience, there are still obvious shortcomings in education, medical care, life services and so on, the increasing needs of rural residents on a good life can hardly be satisfied.

3 Suggestions for the planning

3.1 Enhance the planning guidance, construct the village planning system with equal practicability and foresight

The planning consciousness and participation degree must be improved. Government at all levels must fully recognize the importance of planning, the planning consciousness of cadres and villagers must be strengthened through systematic training and extensive propaganda. The planning compilation and implementation must be scientific and strict, beyond the villagers' committee, it is necessary to build a professional village planning council mechanism. The council

consists of 7–11 people, the members are mainly planners, experts, village cadres, college-graduate village officials, and villagers with higher educational backgrounds, they represent villagers to manage the village planning and construction. Meetings should be held regularly to discuss the problems in construction, and the council is also in charge of coordinating relevant issues and difficulties during the planning implementation, and reporting to the planning management department^[3].

Regional characteristics and industrial development must be integrated. Keeping up with the new development ideas, characteristic industries and regional cultures of the villages must be further explored, traditional custom culture and industrial development can be organically combined to push forward the integrated growth of the primary, secondary and tertiary industry in rural areas. For instance, De'an built up an agricultural spatial pattern of "one ring, three areas and multiple points"^[4], forming the suburban recreational agriculture ring dominated by such recreational agricultural industries as vegetation supply, livestock breeding, and fruit harvesting. Cheqiao Town, Wushan Town, Fenglin Town, Moxi Township and Nieqiao Town constitute the major part of the central crop farming protection area, this area belongs to the concentration area of farmland and permanent basic farmland protection region, farmland resources in this area have high quality. For the hilly areas in the west such as Zouqiao, Tangshan and Aimin, characteristic agricultural industries can be developed, for example, special chili, cattle breeding, alpine tartary buckwheat, special peanut and so on, to build up a series of characteristic agricultural brands. Above all, these industries belong to the villagers, and they are also the owners of the village. In view of this, village planning must be integrated with villagers' life.

3.2 Deepen the reform, build a sound planning implementation mechanism

The approval procedures and multi-department coordination must be optimized. The reform must be promoted in an all-around way, the close coordination among town government, agricultural and rural development department, land resource department established, the joint approval produces optimized, "accept and handle services in an integrated way" realized, the efficiency of approval and service improved. The joint participation of multiple subjects (government, market, social groups etc.) must be well coordinated, rights and interests of the subjects properly planned and negotiated to

achieve the effective control of rural land uses and the ordered distribution of space rights, the spatial governance system of "from top to bottom" and "from bottom to top" promoted^[6]. The village planning must put villagers' needs on the top priority, the problem of "only things but not people considered" in the previous plannings must be changed^[7].

3.3 Explore the reform of rural land system

The system for separating the ownership rights, contract rights, and management rights for house site must be further explored, the collective ownership rights must be guaranteed, contract rights and management rights of farmers safeguarded as well. Some household sites and farmers' houses can be properly used for rural tourism, health care and elderly care businesses, but the land uses must be strictly controlled. Market entry reform of rural collective profit-oriented construction land can be promoted according to the laws, more land uses provided for rural industries^[8]. The land use approaches after entering the market can be actively explored, in accordance with the planning, rural collective economy organizations can establish tourist service enterprises such as dining, parking and accommodation services, by themselves or cooperating with other organizations or individuals, for example, by paying for their shares with land use rights, and also develop rural tourist projects so as to allocate land resources reasonably.

3.4 Stick to the bottom line, optimize the allocation of land resources

The red line of farmland area and ecology must be strictly protected, in accordance with national spatial planning directives, the strictest possible measures must be taken to ensure relevant control indexes. Through "shifting and matching rules" and ecological restoration of mining waste land, extract potentials of stock construction land can be further explored, to promote reduction of household site areas and efficient utilization of land resources. Also farmland and permanent basic farmland must not be occupied, ensuring the irreversibility of ecological wealth.

Potentials of land uses must be fully developed, planning effectively implemented. Based on the in-depth investigation of villages and towns, this planning analyzed the potentials of land uses in 51 villages, and it was primarily estimated that construction land area of these villages totaled 1.94 km², providing valuable land resource support for rural revitalization.

(To be continued in P34)

Table 2 Main keywords for clustering

Rank	Cluster name	Main keywords	Year	Number of keywords
1	Compact city	Compact city (49.32, 1.0E-4); Recreation space (27.63, 1.0E-4); Sustainable development (7.44, 0.01); Connotation (5.56, 0.05); City space (5.56, 0.05)	2013	121
2	Recreation space	Recreation space (26.66, 1.0E-4); Compact city (22.34, 1.0E-4); Urban recreation (5.46, 0.05); Recreation behavior (4.86, 0.05); Urban waterfront (4.86, 0.05)	2012	78
3	Urban design	Urban design (10.1, 0.005); Urban recreation space (9.56, 0.005); Three-dimensional (5.93, 0.05); Recreation space (5.33, 0.05); Fractal (4.75, 0.05)	2013	15
4	Urban park	Urban park (13.74, 0.001); Compact city (6.94, 0.01); Spatial structure (5.51, 0.05); Urban recreation system (4.53, 0.05); Baishui Lake(4.53, 0.05)	2015	16
5	Developed Western countries	Developed Western countries (6.78, 0.01); Theoretical mode (6.78, 0.01); Urban wetland (6.78, 0.01); Chongqing City(6.78, 0.01); Planning design principle (6.78, 0.01)	2008	15

understanding the research dynamics and trends in this field. The analysis on the trend of the number of published documents shows the dynamic changes in the field of three-dimensional research on urban recreation space over the past two decades. The fluctuating upward trend of the number of published documents is consistent with the timeline of promoting the concept of compact cities, indicating that urban planning concepts have a significant driving effect on academic research. The co-occurrence analysis of keywords and the construction of knowledge graphs highlight the central position of concepts such as “compact city,” “recreation space,” and “urban park,” and the rise of emerging keywords such as “vertical city” and “spatial justice” reflects the evolution of research focus and the trend of

interdisciplinary intersection. Cluster analysis further reveals the connections between the main research themes, pointing out the co-occurrence of compact cities with recreation space and urban design, as well as the evolution of these themes over time. The burst analysis identifies new hotspots in the research field, such as “city space” and “optimization strategy,” which indicate possible directions for future research.

Although the study provides a literature analysis on the three-dimensional research field of urban recreation space, there are also limitations such as the comprehensiveness of literature data sources, the depth and time span selection of software text analysis. Subsequent research can further expand domestic and international data sources to obtain a more comprehensive perspective. The combination

of artificial intelligence and big data can bring new insights into the three-dimensional design, management, and planning of urban recreation space.

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