

# Study on Spatial Optimization of Rural Settlement Under the Vision of "Beautiful Countryside"

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**Keywords:** Rural Settlement Space, "Beautiful Countryside", Space Aesthetics, Optimization Countermeasures.

**Abstract:** In our country, one of the major goals in the construction of new rural development is to establish "beautiful countryside ", the key content of which is to strengthen the study of spatial distribution and related optimization of rural settlements, finally realize the intensive management of new rural settlements, vigorously improve the existing ecological environment in rural areas, and promote the goal of coordinated development between urban and rural areas. This paper mainly discusses the rural settlement space and its spatial aesthetic theory content, and under the guidance of the visual concept of "beautiful countryside" to study the effective countermeasures of rural settlement space optimization.

## 1. Rural Settlement Space and Its Spatial Aesthetics

At the 19th National Congress of the Party, an important guiding strategy for building beautiful villages, improving the quality of life of farmers, promoting the economic and social development of the country's rural areas, and accelerating the development process of urban and rural integration was put forward again. It hopes to effectively change the relatively backward mode of agricultural production at present, respond positively to the call of the state to build a new countryside and solve the problem of "three rural areas ", deepen the theory of exploring the space and distribution pattern of rural settlements, and think about the feasibility and concrete countermeasures of beautiful rural construction.

### 1.1. Rural Settlement Space

The so-called rural settlement space refers to the specific mode of expression of various elements in the countryside in the space, which covers the contents of rural ecology, society, economy, culture and various industrial elements. These elements come together from different levels and angles, and finally form a complete rural settlement space. If analyzed from the perspective of integrated development of village area, it contains three layers of sub-space content, macro and micro, in which macro refers to the overall environment of village area, meso represents the external space of rural settlement, while micro refers to some node space in rural area, such as residential building and so on, as shown in figure 1.

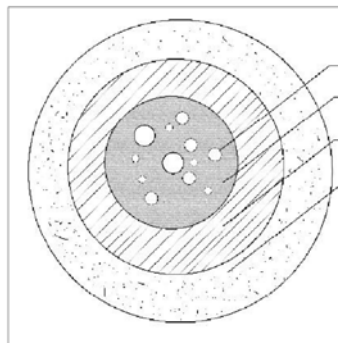


Figure 1 Schematic illustration of the spatial structure of rural settlements

## 1.2. Spatial Aesthetics in Rural Settlement Space

In the beautiful rural construction, the rural settlement space will also reflect its spatial aesthetics. Objectively speaking, at present, people's research on space aesthetics has been quite deep, mainly combined with the correlation between space objects and subjects, which is very in line with the current beautiful rural construction people-oriented basic thinking, fully take into account people's aesthetic needs for rural construction, pay special attention to people's deep experience and real feelings.

It is very common to make quantitative and qualitative analysis of rural settlement space based on spatial aesthetics, among which the evaluation criteria of beautiful rural construction are defined quantitatively, while the qualitative evaluation contents are defined for rural settlement space. From the micro level that people pay most attention to in rural areas, the proportion of regional buildings in rural residential buildings and the performance of building technology by residents are the most intuitive evaluation objectives, and the specific evaluation indicators are shown in Table 1.

Table 1 Evaluation data table of spatial aesthetic characteristics of rural settlements based on beautiful rural construction

Evaluation elements	Evaluation of factor indicators	Rating Benchmark Score (100)				
		0~20	21~40	41~60	61~80	81~100
Rural Residential Buildings	Geographical representation	Poor	General	Medium	Good	Excellent
	Performance of Folk Architecture	0~20%	20~40%	40~60%	60~80%	80~100%

Combined with different index factors in rural settlement space for comprehensive evaluation, these scoring criteria can be directly substituted into the evaluation model to carry out the evaluation process of spatial aesthetics, its specific model formula is:

$$X = \sum_{\tau=1}^n M\tau \cdot Y\tau \quad (1)$$

In the above model formula, it represents the overall score value of the spatial aesthetic evaluation of rural settlements, the score value of the index, and the weight value of the index. If the full score of aesthetic score in rural settlement space is 100, then the spatial aesthetic content of rural settlement space can be rationally evaluated according to table 1 above, and the grading grade can be established.[1].

## 2. Optimization Strategy of Rural Settlement Space Based on the Construction of Beautiful Countryside



It is necessary to position the spatial optimization strategy of rural settlement as a qualitative description and evaluation level. In addition to establishing a set of scientific, reasonable and complete evaluation system, it is also necessary to carry out objective and fair analysis and evaluation of the content of spatial settlement optimization, so as to ensure that the spatial development of rural settlement can promote the construction of beautiful villages, realize the development of new rural areas and solve the "three rural" problems. It is hoped that the effective countermeasures for the optimal development of rural settlement space will be explained in detail from four aspects.

### 2.1. Emphasis on the Development Model of Space Integration

The foundation of beautiful rural construction lies in the ecological natural environment, which

is the key carrier of rural residents' life and the foundation of the sustainable development of rural settlement space in the long term. On the basis of fully respecting the natural environment of rural settlements, it is necessary to make rational use of landscape and pastoral landscape resources to construct the rural settlement space in a hierarchical way, and to construct a macro spatial pattern with staggered and inclusive attributes. Here, there is a need for harmony based on ecology, production and life, such as deep excavation of farmland settlement space landscape, texture, street blending beauty. Taking the plot texture of farmland settlement as an example, we can refer to figure 2.

Table 2 Natural blending mode, characteristics and path of rural settlement space based on beautiful rural construction

Patterns	Features	Path path	Signal
The texture of farmland and settlement	The relationship between farmland texture and rural settlement is harmonious		

In the same way, in landscape infiltration, harmonious ecological neighborhood, rural integration, rural street blending and other aspects should also reflect the space aesthetics, according to local conditions to build beautiful villages.

## 2.2. Focus on the Aesthetic Heritage of Local Culture

The key to the inheritance of local culture aesthetics lies in fully displaying the context of folk culture, reflecting the effective integration of natural ecological beauty and humanistic culture beauty in rural construction, and finally setting off a kind of peasant family life experience different from the city, so as to reflect the flavor of rural settlement space development. As the ancient Greek philosopher Aristotle's theory explains, "people are busy just to be able to happy leisure ." And like Tao Yuanming's peach blossom source is also the world that people yearn for. In the construction of settlement space, the countryside should embody its own simple and simple aesthetic feeling, establish relatively pure settlement space, pay attention to the use of spatial compound content on the basis of the original rural space, effectively improve the efficiency of land space use, and ensure that the space inside and outside the countryside can be full of vitality. For example, in the process of flexible use of space function, it is necessary to combine the external space service object of rural settlement to carry out diversification consideration, and build the rural tourism space model on this basis, and display the elastic characteristics of the activity facility in the space model. For example, some sketches, flower beds, tree pools and so on in the countryside can effectively expand the rural settlement space vision, increase the aesthetic effect, and avoid the problem of space waste caused by a large number of seats alone, as shown in figure 3[2].

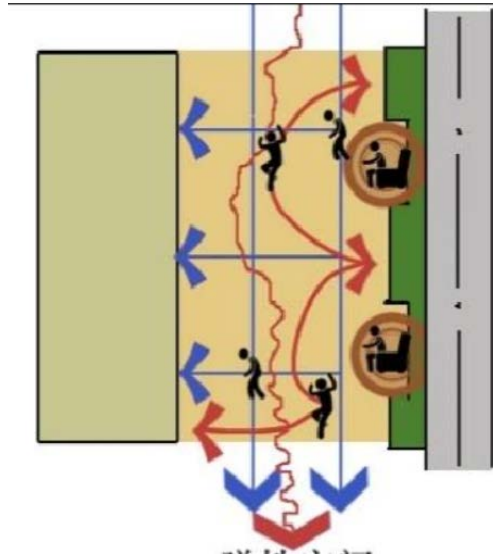


Figure 2 Design of flexible rest space in rural settlement space

### 2.3. Improvement of The Space System

In the construction of rural settlement space system, it is necessary to improve the construction from the public space level, for example, to do a good job in the construction of rural tourism system to effectively link up the internal and external traffic at the entrance, to ensure that the rural entrance space as the most important distribution center, reflecting its open space. For example, in the construction of rural settlement road system and rural space system, it is necessary to make clear the effective adjustment of rural traffic flow and passenger flow. First of all, the construction of mixed main roads, and then the construction of secondary roads and roadways that can limit the traffic flow, so as to effectively optimize the overall traffic accessibility of space, but also make space use efficiency and safety greatly improved. However, considering that there are more people in some tourist areas in the countryside, it is necessary to reasonably set up speed reducers in the design process of the transportation rural settlement space system, prohibit car companies in the case of excessive flow of people, and strengthen the tourist crowd experience pleasure.[3].

### 2.4. Positive Inheritance of Rural Landscape Interface

One of the key points to optimize the development and construction of rural settlement space is to inherit the rural landscape interface actively. If from the micro level, it is necessary to form a complete and unified style of residential architecture, in the process of space development and construction, pay attention to the effective extraction of regional traditional symbol content, and put these symbols into the building. In the process of building construction details, we should strive to achieve the restoration of rural simple aesthetic values, avoid the emergence of large-scale reconstruction of the countryside, to retain its original taste, the purpose is to retain some of the original cultural symbols in the countryside, these cultural symbols into the rural landscape interface. For example, some rural streets of pebbles, gravel, bluestone is characteristic, they can create a kind of friendly regional flavor for people, is a rural landscape sketch, must be preserved. Of course, such as some rural settlement space quite primitive water tank, grinding plate, grinding, water wells and so on are more important spatial nodes, in the process of optimizing the construction of rural settlement space, they need to be reinterpreted, in the process of respecting the original traditional culture and regional characteristics to retain them and carry forward.

## 3. Summary

The optimization construction of rural spatial settlement based on the concept of "beautiful countryside" is not limited to the optimization of spatial layout and pattern. It also integrates more elements of regional culture, natural ecology, social and economic development and so on, so as to

ensure that the construction of beautiful countryside can be infinitely close to the current policy concept of urbanization construction in new countryside. Of course, the countryside itself has also integrated more intensive management and ecological green protection development concept in the optimization construction of spatial settlement. It is hoped that the core of optimization development construction will be established around some characteristic centers, and rural ecotourism projects will be developed in combination with local advantages, so as to effectively protect all contents of rural spatial settlement, continuously improve the enthusiasm of local residents to develop rural settlement space, and make continuous efforts to build beautiful villages. Of course, the content of space aesthetics explained in this paper is also fundamental to the development and construction of rural settlement space. It is very important to construct the evaluation model of rural settlement space aesthetics, enrich the space sequence, ensure that the rural settlement space can show the strong local culture breath in the process of construction and transformation, and become the most beautiful "peach blossom source" in people's hearts.

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