

Study on the Design Strategy of Rural Public Space in Wuling Mountain Area Based on the Needs of the Left-Behind Elderly

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Abstract:

With the advancement of economic development and urbanization, most of the young and middle-aged laborers in rural areas have entered the city to work, resulting in a large number of left-behind elderly people in rural areas. This paper studies the rural public space design strategy in the Wuling Mountain area from the perspective of the livable needs of the elderly. Firstly, it expounds the necessity of creating a livable public space environment, and then analyzes the components of the livable public space for analysis. Finally, the design strategy of livable public space is discussed in order to contribute to the development of rural construction in Wuling Mountain.

Keywords:

Livable, Wuling Mountain Area, Public Space, Left-Behind Elderly

1. Introduction

Because the current construction of rural public space neglects the needs and behaviors of left-behind elderly people, affecting the daily life of the left-behind elderly people, it has a negative impact on the maintenance of the emotional bonds of rural communities and the inheritance of traditional culture, threatening the personal safety of the left-behind elderly. Therefore, this paper discusses the rural public space design strategy in Wuling Mountain from the perspective of the livable needs of the elderly.

2. The Necessity of Creating A Livable Public Space

2.1. Serious Idle

The Wuling Mountain area is centered on the Wuling Mountain range. The Tujia, Miao and Dong ethnic groups are the neighboring areas of the four provinces(cities),including Hunan, Hubei, Chongqing,and Sicuan. The economic

development level of them is relatively low and the traffic is inconvenient. Therefore, the public space in the villages is highly idle, and the village public space environment has declined¹. The author conducted statistics on the left-behind elderly in Enshi Baiyang Luojingtian Village, Wuling Mountain area. The total population of the village is 71, including 19 elderly people over 60 years old, and 13 left-behind elderly children who work outside the home. The proportion of left-behind population has reached 68%; due to the large number of elderly people and inconvenient activities, the use of public activities such as the lively activity space in the village is low, and many activities and facilities have not been put into use; therefore, the activation of rural public space has very important practical significance for improving the efficiency of rural land use, enriching the lives of villagers and promoting rural revitalization.

2.2. Poor Livability

Despite the beautiful scenery of Wuling Mountain, the villages in the area have a unique natural environment, but the current conditions of the villages in the area cannot meet the modern people's living production needs. Traditional space security is not good. For example, there are many idle residential buildings in the village. The residential houses and public buildings in the village are large, but some of them are in disrepair, the building is aging seriously, the walls are damaged, and the safety of residence and use is insufficient. There is a lack of complete and modern sanitation, lighting, water supply systems in public spaces, and the basic supporting facilities are not complete, which poses a significant threat to the personal safety of left-behind elderly people.

2.3. Lack of Adaptability to the Elderly

In the investigation, the author found that the Wuling Mountain area currently ignores the behavioral habits and psychological needs of the left-behind elderly group in the design and construction of rural areas, resulting in a large number of landscape facilities in the space that are not suitable for the elderly or even threaten the activities of the elderly; for example, in addition to engaging in agricultural activities, most left-behind elderly people also need to take care of their children. Therefore, the elderly will take their children to the public activities space activities in the village during the break. The author found that the public squares in the village are usually important places for the elderly. However, in the vicinity of the square, there are lacks of facilities such as landscape sitting stools, ignoring the physiological characteristics of the elderly due to the inability to exercise due to the inability of the elderly. Many elderly people often bring their own chairs when they go out to work, which brings great inconvenience to the activities of the elderly.

2.4. Cultural Loss

Due to the construction of many villages in the process of new rural construction, the urban community construction method has been adopted, and the phenomenon of “urbanization” of rural areas has been pursued. The construction of the city has been carried out to build the countryside, ignoring the inherent culture of the countryside. For example, the construction of the activity squares and roads of the villages are all hardened. Whether it is the main roads of transportation or the secondary trunk roads in the villages, large areas of concrete or asphalt are used for laying, traditional square stone roads, wooden plank roads and suspension bridges. The form of rural roads was

gradually phased out, and historical structures were dismantled, which separated the old people's inherent memories of their place of residence, which led to the weak cultural atmosphere of many villages in the area.

3. Analysis of the Constituent Elements of Livable Public Space

The above problems arise in the construction of rural public space in Wuling Mountain area, mainly because the planners have insufficient understanding and grasp of the inherent landscape patterns and characteristics of the residential environment in the village. Therefore, if we want to improve the rural public space environment in the region, we should sort out and summarize the landscape composition and characteristics of the existing villages, and provide theoretical and practical basis for the later reform design. Because the Wuling mountainous area belongs to the multi-mountain and multi-valley landforms, it pursues the residence and the village layout, and pursues the mountains and rivers and the poly-clan to live in, thus forming the characteristics of Tujia village "distribute near creek and valley, and live in high mountains"². These villages are rationally arranged according to the terrain and integrated with the surrounding environment. Specifically, their characteristics are mainly reflected in the following four aspects.

3.1. Residential Form

The landscape features of the Wuling Mountain area have had a profound impact on the distribution, size and cultural landscape of the area. Because the location of Tujia settlements is relatively dependent on the geographical environment, the ideal fields of traditional villages are relatively flat mountain basins, flatland, etc. The traditional architectural layout of Wuling Mountain has no obvious center, weekly line, boundary, etc., and it is ingeniously blended with natural conditions. It does not pay attention to too many layout rules and is evenly distributed along rivers or roads. The rural public space formed on this basis is a unique space formed by the combination of elements such as buildings, streets, courtyards and natural environment, and the layout is also freer. The whole space is based on the feelings and needs of the villagers, reflecting the strong livability and regional cultural characteristics.

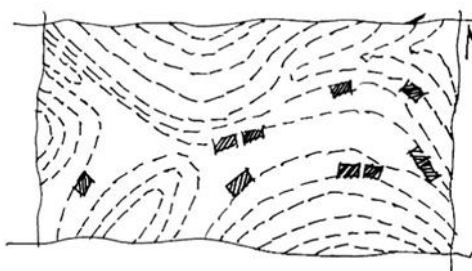


Figure 1. Schematic diagram of the layout of the villagers' residence in Yantangkou.

3.2. Road Traffic

Road traffic is one of the important components of rural public space. Due to the complex terrain and the undulating terrain, the roads are also divided into three types, one is a horizontal road parallel to the contour line; the other is perpendicular to the contour line. For longitudinal roads, this type is usually dominated by steep steps; the third is an oblique cross-shaped road with a certain angle to the contour line. The most common winding road in the area, the "Zigzag" road belongs to this category. These

rich road forms together form the internal transportation system of the villages in the area. Roads play an important role in the villagers' life-production activities. Road layout and design play an important role in improving the livability of the entire village and improving the living standards of the villagers.

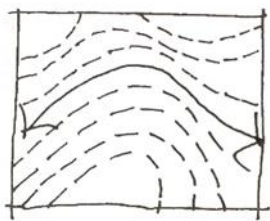


Figure 2. Horizontal road diagram.

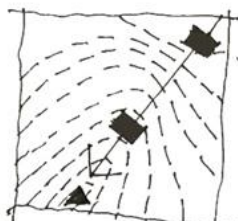


Figure 3. Longitudinal road diagram.

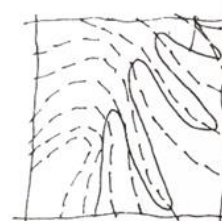


Figure 4. Cross-shaped road diagram.

3.3. Infrastructure

Infrastructure is often referred to as a public service facility. The infrastructure plays an important role in meeting the physiological, safety and psychological needs of the villagers. It undertakes specific social service tasks. The quantity, level and content of the infrastructure reflect the level of socialization, the needs of the villagers, and an important part of the facility system in the rural public4. While in the rural areas of Wuling Mountain, the left-behind elderly are important service targets, while the left-behind elderly have special psychological needs and behavioral characteristics. The layout design of the infrastructure is closely related to the use of villagers, and the realization of livability in rural life, which is of great significance.

3.4. Plant Resources

Plants are important landscape elements in rural public space. The sum of natural distribution in rural areas and artificial long-term cultivation of plant species is a long-term coexistence with villagers and can meet the daily needs of villagers 5. It has the significance of shaping space, improving the ecological environment and embodying regional culture. Wuling Mountain has its own beautiful scenery and excellent plant landscape resources. Therefore, the protection and utilization of plant landscape resources plays an important role in improving the livability of public spaces, improving the living environment of villagers and creating regional cultural characteristics.

4. The Design Strategy of Livable Public Environment

4.1. Strengthen the adaptability to the elderly and safety of public space

With the increase of age, the physical functions of the elderly are declining. Due to the special nature of the left-behind elderly, the space needs are also special. Therefore, the planning and design personnel are required to provide a good living environment according to the actual needs of the left-behind elderly. On the basis of meeting the needs of the elderly, it will effectively improve the quality of life of the elderly and enhance the maturity of the space. At the same time, in order to effectively reduce the occurrence of safety accidents, planners also need to abide by the safety principle and take a series of measures to properly protect the personal safety of the left-behind elderly and provide them with a more beautiful and safe living

environment. For example, in the design of public space environment, it is necessary to comprehensively consider the use of paving materials, select paving materials suitable for rural environment and have good safety, and pay attention to the construction process to ensure its flatness and assist in complete lighting and guiding. The system is designed to ensure the safety of the user, especially the elderly who stay behind.

4.2. Pay Attention to The Guidance and Accessibility of the Environmental Area

As the physiology of the elderly gradually declines, their ability to feel the surrounding environment is gradually declining, mainly in the visual and auditory aspects, which greatly affects the scale and form of the activity space of the elderly⁶. Therefore, in the design of the rural public space environment, we must try to create a space atmosphere that stimulates the physiology of the elderly. For example, the use of color-shaping environment design methods, make full use of color to stimulate the visual perception of the elderly, use color to create an easily recognizable space environment in the public activity space, and enhance the spatial guidance. On the other hand, there is a need to focus on accessibility within the regional environment. The movement mode of the elderly in the activity space of the village is mainly walking. The space design of the walking road can be comprehensively considered from the factors of recognition, scale, safety and sense of space, and combined with the physical function and psychological needs of the left-behind elderly group. To make the layout plan suitable for the movement of the elderly and to travel frequently between various activities. Therefore, it is necessary to establish a perfect road transportation system, and create a series of circular walking passages connected to each other as much as possible. At the same time, various leisure spaces, service facilities, landscape pieces, etc., along the layout of the walking track, are planned to be organically connected. Together, create a space environment that meets the needs of the elderly.

4.3. Increase the Cultural and Functional Properties of Building Facilities

The building facilities can not only meet the daily activities of the elderly, but also be one of the important means to highlight the space atmosphere and regional characteristics. This requires that in the design and construction of the infrastructure, it is necessary to pay attention to the functional manifestation of the building facilities and the creation of cultural atmosphere. On the one hand, for the layout of the building facilities and the choice of its design and materials, for example, in the design of the village buildings in Wuling Mountain, the traditional material form of the village is maintained, the overall regional features of the village are grasped, and the terrain is rationally arranged according to the terrain. In the current situation, Yizang avoids the obvious, organically integrates with the environment, breaks the closed regional concept, and continues to carry forward the regional architectural style, insists on the unity of landscape regionality and architectural function modernity, and interprets and reproduces with new technology and design means. The spiritual connotation of regional culture, on the other hand, the installation of building facilities needs to meet the needs of rural users, so that they can truly serve the living conditions of villagers and left-behind old people, avoiding the idleness of building facilities and causing waste of resources. For example, some villages set up a large number of physical exercise equipment in the village. However, because the villagers are engaged in heavy physical labor on weekdays, or the elderly are not suitable for

some sports activities because of their age, the use rate of a large number of sports facilities in the village is not high, resulting in certain The waste of resources, therefore, the cultural and functional enhancement of building facilities can promote the functional insufficiency of rural public environmental cultural loss in Wuling Mountain to improve the livability of rural areas and improve the quality of life of left-behind elderly.

4.4. Protect the Ecological and Regional Nature of the Plant Environment

The rural plant environment has the characteristics of self-sufficiency and self-renewal in ecological aspects, with less manual intervention and unique personality. Wuling Mountain area is rich in vegetation resources due to its location at 30 ° north latitude. Therefore, it is a rural public environment plant landscape in Wuling Mountain. The construction cannot be carried out simply by greening, but based on the regional ecological basis to optimize the design, respect the natural base of the Wuling mountain area, highlight the characteristics of the mountains, use the native plants, simulate the mix of the natural community in the countryside, and create a rich The rural artistic concept of Wuling region improves the status quo of rural plant landscape form and creates a more stable and scientific natural plant landscape.

5. Conclusions

The livability of the rural environment in Wuling Mountainous Area is directly related to the living standards of the villagers, especially the left-behind elderly people. How to improve the rural environment and improve livability through design methods, and to analyze the rural public space and its constituent elements in depth, combined with the left-behind elderly The demand and behavioral characteristics are used to guide the design of public space in the rural construction of Wuling Mountain, which is conducive to the construction of a rural public space environment with beautiful environment, perfect functions, rich regional characteristics and livable living.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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