

Research on the Optimization of Public Facilities in Old Blocks of Guangxi

-- Take Kunshan Huayuan Community in Guilin City as an Example

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Abstract. This paper builds on the problem that under the background of the aging society, the function of public facilities does not adapt to the growing life needs of modern society, especially it cannot meet the special environmental needs of the increasing number of elderly people. The project selects Kunshan Huayuan Community in Guilin city, which has the majority of the elderly, and strives to improve the low suitability of public facilities through aging design and sustainable design, insufficient supporting facilities for the elderly, and other problems in the travel activities of the elderly. In order to build aging public facilities system, can meet the needs of the elderly life entertainment, avoid the elderly away from the city from the city life and the disadvantages of physical and mental health, at the same time in the future design and planning actively deal with changing and growth of aging.

Keywords: Suitable for the Old; Community Transformation; Landscape Renewal; Integrated Community; Age-appropriateness.

1. Introduction

With the aggravation of China's aging problem, the burden of urban pension institutions has increased, and community care and home-based care have become the pension mode actively encouraged by the state. At the same time, the relevant departments of the state have gradually introduced a series of policies and measures to support, encourage and regulate the development of the aging industry, but they have ignored the suitability of the public facilities in the old communities. At present, most of the domestic old community public facilities facilities aging, function does not adapt to the modern people's growing living needs, and limited by the economic and technology, these facilities also exist problems such as high energy consumption, the ecological environment, does not meet the requirements of the sustainable construction, need to be updated to improve.

2. The Connotation of the Optimal Design of Old Age-appropriate Public Facilities in Old Blocks

2.1. Design of Public Facilities Suitable for the Elderly

Public facilities suitable for the elderly refer to the public facilities and products suitable for the elderly. This kind of facilities must meet the special needs of the elderly for the environment and daily use. Because of the decline of physical function and the weakening of perception, the elderly first of all in the physiological requirements, to meet the needs of the declining body machine for sound, light and barrier-free environment facilities. Secondly, due to the increasing age of the elderly, they have various needs for their feelings. The facilities suitable for the elderly should also meet the needs of the elderly group for the sense of security and comfort of the facilities.

2.2. Design Connotation

The construction of public facilities should be integrated with society, culture, economy and environment to ensure the sustainable construction of the transformation of old community public



facilities suitable for the elderly, and play a role of communication between people and the environment and society to a certain extent. Public facilities suitable for the elderly are closely related to the outdoor life and recreational activities of the elderly. While providing convenience for the elderly, they also further reflect the concept of humanization. On the one hand, it can meet the needs of the elderly for life and entertainment, and avoid the disadvantages of isolation from urban life and public society for physical and mental health; on the other hand, the elderly can make full use of the public service resources in residential areas, reduce repeated construction, save resources and realize intensive allocation.

3. Transformation Examples -- Optimization Design of Public Facilities in Kunshan Huayuan Community of Guilin City

3.1. Project Context

Kunshan Huayuan Community is located at No.135, Zhongshan North Road, Diecai District, Guilin city. The number of residents is 800, the green rate is 35%, and the completion date is 2005. The village surrounding transportation is convenient, in-service facilities, infrastructure is rich, site around a kindergarten, primary school, hospitals, shopping malls, etc., is the earlier residential area of Guilin, is a living population diverse community, living people have the elderly, children, young, middle-aged and other different people, but in the majority with the elderly. The green space inside the site is large but old. The interactive space of the community is more hard than soft, paying attention to visual experience and less multi-level landscape experience space. Kunshan Huayuan Community was built 17 years ago. The environment and infrastructure of the community all reflect the construction level, construction style and aesthetic level of the community more than ten years ago. More and more problems show the contradiction between the environmental facilities of old communities and the increasing living needs of residents.



Figure 1. Community Status

3.2. Demand Analysis

Currently, the following problems exist in the community: 1) The overall planning is unreasonable. When Kunshan Huayuan Community was first built, it was in line with the environment at that time, but the forward-looking planning was not complete, insufficient, and there was no more reasonable infrastructure, nor more abundant activity space and leisure and entertainment facilities. 2) Single green planting. In terms of the area, the main number of native trees, including the majority of evergreen trees. 3) Insufficient parking Spaces for motor vehicles. There are great problems in the parking planning and different types of transportation, and the diversion of people and vehicles is also very serious. 4) The landscape facilities are very old, the original roads, guidance facilities, pavement are damaged to varying degrees, people's requirements for this infrastructure have also increased.

3.3. Design Optimization Scheme

According to the field survey, questionnaire and interviews with the elderly, it is found that the elderly need outdoor leisure seats with cool shade function, shelter function, conversation function and leaning function. During the investigation, it was found that there were many large trees in the site. Combined with the above needs, the height and material were adjusted according to the ergonomics of the elderly, and a landscape seat was finally designed(Figure2).



Figure 2. Seat Renderings

In the post-epidemic era, landscape design not only focuses on the beauty of the landscape, but also provides the design of some recuperation functions for the elderly in the community. It promotes the concept of health life more based on the requirements of the elderly. Hard is conducive to the health facilities of the elderly, soft use of more plants with health function. In addition, after combing the relationship between landscape design and architecture and surrounding environment, the natural boundary between the plant entrance and the entrance garden and the resident square is changed. Use the house garden to welcome and send the people in the community. Three-dimensional landscape experience can give the spirit of landscape place, mountain corridor, winding climbing corridor, both view; take the water, with the meaning of endless source, stone forest, stone forest courtyard, create garden fun, green valley, children plant cognition, the elderly cultivate flowers and plants, bamboo forest, characteristic bamboo forest, experience the forest and bamboo; fun, fitness and entertainment.

The elderly need five senses of stimulation, to see, listen, touch, taste and smell based sensory stimulation can effectively prevent Alzheimer's disease, make the elderly physical and mental pleasure and relax. Use ginkgo tree, crape myrtle tree and magnolia tree; barbary wolfberry tree, lemon tree, pomegranate tree; Chinese rose tree, Milan tree and scallion tree; and banana tree for touch stimulation.



Figure 3. Elevations and Renderings of the "horticultural therapy planting box" (length unit: mm)

According to field research, questionnaires and interviews with the elderly, the elderly have great interest and enthusiasm in planting fruits and vegetables. The "horticultural therapy planting box" was designed according to meet the sensory needs of the elderly (Figure3). It can not only make the elderly get sensory stimulation, fully satisfy the vitality of plant landscape, form a comprehensive sensory experience and achieve health effect; but also get close to nature and cultivate enthusiasm for life.

4. Summary

It is hoped to take the optimal design of public facilities in Guilin Mountain Huayuan Community as an example and promote it to many places. Through the aging design and sustainable design to improve the public facilities with low degree of aging, insufficient pension supporting facilities, the elderly travel activities difficulties and other problems. The establishment of a public facilities system for the elderly can not only meet the needs of the elderly for life and entertainment, but also avoid the disadvantages of the elderly living away from the city and the public society, which is not conducive to physical and mental health. At the same time, it can actively deal with the changing and growing aging problems in the future design and planning, rather than passively alleviate the contradictions.

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