

Exploring the Path of Aging friendly Renovation and Barrier free Environment Construction in Old Residential Areas

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Abstract: In the process of urbanization, many old residential areas are facing the situation of demolition and renovation. The age of old residential areas is often decades old, and there are many elderly residents among them. How to properly accommodate these groups and transform them into residential areas suitable for the elderly as much as possible is a hot topic of concern in today's society. From the actual situation, the current aging friendly renovation and barrier free environment construction of old residential areas are not perfect, but require relevant personnel to strengthen the renovation efforts and pay attention to the needs of the elderly from the design stage. This article discusses the aging friendly renovation and barrier free environment construction of old residential areas, hoping to improve the quality of life for the elderly in their later years and provide a livable environment for everyone.

Keywords: old residential areas; Suitable for aging; Construction principles; Construction Path

Introduction

Against the backdrop of increasingly severe aging in our country, the renovation of old residential areas to adapt to aging and the construction of barrier free environments are urgent issues that need to be addressed. By the end of 2022, the number of elderly people aged 60 and above in China has reached 280 million, accounting for about 20% of the total population, and the proportion of elderly people aged 65 and above has exceeded 14%. Against this backdrop, issues such as high aging of urban residents and poor living conditions in accessible environments are becoming increasingly prominent in China. The aging friendly renovation of old residential areas is aimed at meeting the living and mobility needs of the elderly, improving their quality of life and sense of happiness. According to the survey, over 80% of elderly people tend to live in their own communities for retirement, and existing old residential areas generally have problems such as inconvenient transportation, architectural design that does not match the characteristics of the elderly, and inadequate facilities, which affect the living experience of the elderly. Therefore, the establishment of an accessible environment is very necessary. Therefore, this paper intends to study the construction methods of aging friendly renovation and barrier free environment in old residential areas, in order to provide practical and feasible suggestions for the optimization design of community elderly care service facilities.

I. Principles of aging friendly renovation and barrier free environment construction in old residential areas

1. Principle of Convenience

Due to the different internal structures of living spaces, it may bring certain difficulties to the renovation work of houses. Designers and construction personnel may not be able to renovate the original walls (load-bearing walls, etc.) in order to avoid potential safety issues in the living space. For brick and concrete structure buildings, minor modifications can be made to increase living space. These walls are often distinguished by thickness, and a thin wall is essentially a detachable partition. When selecting materials for old residential buildings in urban areas, attention should be paid to economy and durability. The economic benefits mainly manifest in low cost and durable materials, and these two aspects must be balanced. For example, when considering the quality of equipment such as handrails and barrier free facilities, the weight of an adult should be taken into account. Otherwise, handrails may detach from the wall, causing damage to barrier free equipment and posing a safety risk to the elderly. When designing accessible renovations, some elderly people may find it difficult to adapt quickly due to changes in spatial structure, which are issues that need to be considered during renovation and construction. Due to the significant decline in the behavioral abilities of elderly people compared to young adults, it is important to pay attention to the problems that cannot be solved in their daily lives during renovation and provide them with as much convenience as possible. Some "obstacles" are beneficial for the elderly as they can exercise their bodies, and their functions can be appropriately preserved to meet their needs.

2. Comfort principle

For the elderly, there are often special needs regarding the renovation of houses, which refers to integrating environmental details into accessible design from a human perspective. For example, the perceptual needs of the elderly refer to whether their tactile sensation can meet their physiological and psychological needs when they come into contact with various accessible devices and appliances in their living environment. This requires designers to design accessible home facilities based on the physical and mental needs of the elderly. It should be noted that the functional components and tightly fitting parts of accessible home facilities should not be too hard or too soft, and in order to make the touch smoother, there should also be some damping. When there is a certain amount of pressure, the contact surface should be increased as much as possible. In home environments, people tend to use materials with better texture to create a warm atmosphere. The most commonly used material in indoor decoration is wood. It is not only reasonably priced and easy to handle, but also makes people feel warm and gentle.

II. The main problems in the construction of aging friendly and barrier free environments in old residential areas

1. The cost of renovation and construction is too high

Due to the long lifespan of many old residential areas and the dilapidated roads, there is a lack of monitoring coverage and accessible parking spaces, resulting in a shortage of basic service facilities. Therefore, there are many projects that require the renovation of accessible facilities and aging friendly facilities, and the cost is also high. Due to the weak financial resources of the district (county) government and the lack of supporting funds, coupled with the fact that most residents of old residential buildings are retirees and low-income disadvantaged groups, these families lack the motivation to self fund and have difficulty raising funds.

2. Poor effect of facility renovation

Although some existing old residential areas have undergone barrier free renovations in recent years, which have improved the quality of residential buildings and the construction of barrier free environments to some extent, due to the difficulty in raising sufficient project funds, most of the renovation work has focused on building maintenance and repairing roads within the area. The supporting equipment and elevators such as curbstone ramps, wheelchair ramps, and barrier free passages in the old urban area have not been renovated, which has resulted in some old residential communities that have undergone partial comprehensive renovation still facing many problems such as incomplete renovation and poor renovation effects.

3. Difficulty in meeting the needs of residents

Most low rise residents in old residential areas generally have a low demand for elevators. In addition, installing elevators consumes some of the public space of residents and affects the housing prices of low rise residents, which makes these residents, especially those on the lower floors, not very enthusiastic about installing elevators. Some people even show resistance. In addition, due to the high maintenance cost of elevators and the fact that most old residential areas have not accumulated property maintenance funds before, the maintenance of elevators in the future cannot be guaranteed. Therefore, it is very difficult to advance the elevator installation work this time.

III. Path for aging friendly renovation and barrier free environment construction in old residential areas

There is a great demand for the aging friendly renovation of old residential areas. Before carrying out the renovation, it is necessary to undergo a physical examination, identify the needs, and conduct a comprehensive analysis of the needs of the elderly to understand their true needs and opinions. Only then can a renovation plan that is recognized by all parties be formulated. We will adopt comprehensive measures, fine design, legal promotion, diverse participation, and optimized services to achieve the goals of functional improvement, quality enhancement, neighborly harmony, shared funding, and long-term governance.

1. Adopt effective policies and optimize various functions

Adhere to a systematic thinking approach, avoid “focusing on small communities and renovating them”, and uphold the renovation concept of “design guidance, linking points into lines, connecting lines into patches, and overall improvement”. Incorporate the renovation of old communities into the overall planning of urban reconstruction, expand the implementation units of old communities, actively link and renovate neighboring communities and their surrounding areas, and promote the overall construction and sharing of new elderly care service facilities at the regional level, so as to achieve the co construction and sharing of public space resources. By systematically transforming the community to adapt to different living environments. Scientifically plan the elderly friendly service facility system in the community, encourage the establishment of elderly care service institutions that integrate meal assistance, medical assistance, and hygiene assistance, and set up community health service centers, elderly care service stations, health facilities, etc. according to local conditions through supplementary construction, purchase, replacement, leasing, renovation, etc., to promote the integration and sharing of social service resources. For example, Hangzhou city adopts the approach of “integration, provision, sharing, and compounding” to fully utilize existing spatial resources and improve the capacity of community elderly care services. Xiangtan City has issued the “Ten Measures to Support the Renovation of Old Residential Areas in the Urban Area of Xiangtan City”, which proposes to fully utilize the existing idle land and real estate, as well as the idle land and real estate of government agencies, institutions, state-owned enterprises, and sporadic idle state-owned land, and construct public supporting facilities through adjusting the plot ratio and changing the land use.

2. Improve design quality and enhance housing quality

In the elderly friendly renovation of old communities, design is a crucial task. While meeting the needs of the elderly, practicality, economy, and aesthetics should also be emphasized to improve the travel environment and optimize the leisure environment. Integrate with various available areas within the community, provide green spaces, fitness and leisure activities as needed, and equip seats, pavilions, and sun and rain protection equipment to provide convenience for the elderly, allowing them to communicate with the outside world in their daily lives. At the same time, furniture with various uses can be creatively combined to add fun and charm to public activities. In the community, traditional architectural styles can also be combined with local cultural factors to enhance the cultural appeal of the community, giving the elderly a humanistic atmosphere of their hometown and creating a warm and comfortable elderly care environment. In conjunction with highway reconstruction, stone ramps and wheelchair ramps will be constructed to flatten the road surface, make various public facilities accessible, and set up easily recognizable signs to create a safe, convenient, and smooth traffic environment. In order to ensure the construction of high-quality projects, we also need to strengthen the design and management of buildings, establish a comprehensive building control system for aging friendly renovation and accessibility of old residential areas, and provide detailed regulations for it. We have also formulated quality control methods for drawing review and responsible planners.

3. Building a harmonious atmosphere in accordance with the requirements of the rule of law

The installation of elevators in old residential areas should be carried out through grassroots negotiations, dispute mediation, civil litigation, and other means. It is necessary to adopt a friendly and united attitude towards residents, and to strengthen the support of the legal system to solve the problem of “one vote veto” in the process of residents’ negotiations in accordance with the law. When promoting the installation of elevators, there must be a grassroots discussion and negotiation mechanism to provide a platform for owners to communicate and discuss. In the execution of the project, comprehensive consideration should be given to the work of the masses, safety assessment and acceptance of building structures, as well as the selection of elevator products and construction. Ensure the safe operation of the installed elevator and the safety of the building structure, and strive to gain more support from the general public. If both parties cannot reach an agreement through friendly negotiations, they can resort to judicial means to protect the rights and interests of the public. Article 22 of the Law on the Construction of Barrier free Environment encourages the provision of convenience for people with disabilities and the elderly, and encourages the increase of elevators and other accessible equipment for multi story houses already built in old urban communities.

4. Expand diverse entities and achieve shared funding

Guide social capital to intervene, establish a market-oriented community elderly care service system, effectively alleviate the problem of insufficient supply of elderly care services, and promote the sustainable development of the elderly care service system. The state should formulate corresponding incentive policies to guide and support real estate development enterprises, intermediary agencies, elderly care institutions, etc., encourage market organizations such as decoration companies and property management companies to actively carry out aging friendly renovation services, encourage professional operation companies to renovate and upgrade pipeline facilities in community renovation, and attract various professional institutions and social forces to invest in the design, renovation, and operation of various facilities that need to be renovated through government procurement, paid use of new facilities, and implementation of asset rights and interests. Professional operating companies participating in the implementation organized by the government can depreciate the costs incurred from the renovation of their affiliated assets such as facilities and equipment according to relevant calculation methods, and deduct them from corporate income tax. The maintenance and management expenses incurred can be deducted before the enterprise income tax. In addition, various forms such as issuing special bonds or general bonds can be used to attract social capital to invest in urban renewal projects.

5. Optimize service quality and implement long-term governance

The elderly friendly renovation of residential communities is not only about material changes, but more importantly, it requires the establishment and improvement of community management systems. As the most basic unit of urban management, with the increasingly diversified interests and needs of community residents, it is necessary to find the greatest common denominator of all residents’ wishes and needs based on the principles of “discussing things” and “discussing everyone’s reasons”. Street offices, community residents’ committees, owners’ committees, property service enterprises, and social groups and individuals providing professional social services can establish good interactive, collaborative, and complementary relationships with residents, thereby achieving orderly, sustainable development, and good governance of the government, enterprises, and social organizations in social management, and establishing a multi-party participation in a good governance society. In order to enter a virtuous cycle of community management, taking community property management institutions as a breakthrough point, fully mobilizing property management resources, achieving long-term management, and promoting the expansion of the “community+property+service” model to new community service models such as home-based elderly care, childcare, and home economics. Strengthen the construction of information systems such as elderly health records and intelligent service systems, build diversified service systems such as day care, rehabilitation training, psychological counseling, etc., promote a healthy lifestyle, and meet the needs of the elderly through sports activities, health lectures, and other forms to improve their health quality. Establish aging friendly governance mechanisms in cities and communities that involve the full participation of the elderly, enabling them to fairly participate in social distribution and share the fruits of social development.

Conclusion

In summary, the renovation of old residential areas for aging and the construction of barrier free environments have become widely discussed topics, which have a significant impact on the future quality of life of the elderly. The article first analyzes the principles of aging friendly renovation and barrier free environment construction in old residential areas, then elaborates on the current problems, and finally puts forward five suggestions to create a more inclusive and harmonious community environment for society.

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