

## **Analysis of Landscape Adaptation and Renovation Methods for Existing Residential Areas**

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**Abstract:** With the development of the aging population in our country, the research on the elderly care and living environment is also facing problems and challenges. Aging is defined as the dynamic increase in the proportion of the elderly population in the population composition due to the increase of the elderly population or other factors. At present, the special reforms implemented in various places only meet a single demand in terms of content, function and quality. In today's society with more and more diverse cultures and lifestyles, community landscape should also be more diversified. For the elderly, the quality of residential landscape environment has become an important guarantee for the healthy life of the elderly. To adapt to the aging of the existing community, the starting point is the objective deficiency of the existing building, including the user's reflection of the living comfort and the relationship between the building and the environment. This paper analyzes the behavioral characteristics, psychological needs of the elderly and the existing problems in the environment of the old residential area, and puts forward the corresponding strategies of landscape transformation of the residential area with the activities of the elderly as the main entry point.

### **1. Introduction**

With the improvement of medical conditions and living standards, the life span of the elderly has increased significantly, and the number of elderly people is also showing a continuous upward trend. The number of elderly people and empty nest elderly people is increasing day by day. Aging is defined as the dynamic growth of the proportion of the elderly population in the population composition due to the increase of the elderly population or other factors. Under the background of the accelerated and in-depth development of China's aging population, the issue of providing for the aged has become an important issue that cannot be ignored in the development process of China for a period of time to come [2]. In today's society with more and more diverse cultures and lifestyles, community landscape should also be more diversified. In order to adapt to the aging of the existing community, the starting point is the objective deficiency of the existing buildings, including the living comfort problems reflected by users and the relationship between buildings and environment. Sociological research on the aging problem and architectural research on the design of aging residential buildings have achieved certain results, but at present, no corresponding theoretical system has been formed for the aging modification and evaluation of the landscape environment in the old residential areas from the perspective of landscape environment [3]. Most of the landscape design of the landscape community in the existing residential area was designed in the 1980s and 1990s. Some units' family residential areas have been or are preparing to carry out the landscape reconstruction of the community, but the reconstruction part of it is less focused on the design of suitable aging [4].

The vast majority of the elderly live in the residential areas of the family members of the units built in the early days of the founding of the People's Republic of China or the residential communities in the old city. Great inconvenience [5]. For the elderly, the quality of the landscape environment in the residential area has become an important guarantee for the healthy life of the elderly in their later years [6]. At present, China's old-age care model is mainly divided into home-based care and institutional old-age care. Affected by the concept, home-based care is still the mainstream way of urban care, and this phenomenon will not change for a long time [7]. The

elderly, as the most vulnerable group, have a higher probability of being bedridden, leading to their daily life in trouble, and at the same time bringing a heavy burden and expenditure to society and families. In the rapid urbanization of the past few decades, we have rapidly built a large number of residences, some of which have been unable to meet the needs of today's use [8]. In the landscape reconstruction design of the community, although there are many landscapes with novel forms and unique shapes, the attention to the elderly is relatively lacking, and only part of the barrier-free design is considered [9]. It is an urgent problem to be solved in today's society to adapt the aging transformation of the landscape of the existing residential area and improve the home care environment [10]. Based on this, this paper analyzes the behavioral characteristics, psychological needs of the elderly population and the existing problems in the environment of the old residential area. Taking the activities of the elderly as the main entry point, it proposes a corresponding strategy for the landscape transformation of the residential area.

## **2. Demand for Landscape Adaptation and Renovation of Existing Residential Areas**

With the improvement of the city's economic development level and development level, people's living needs are diversified, and the living and old-age facilities in the original place are far from meeting the needs of the elderly. The environment of the old residential area is no longer in line with the old people's old-age needs. However, the old people's love for the land and stable neighborhood relationship formed in the residential area are incomparable to the new residential area. When the elderly have special needs, residential space needs to be adjusted to meet their changing residential needs. From the point of view of sustainable development and economy, it is undoubtedly a more economical, environmental-friendly and common way than building a new residential building in Xing because of its short construction time and low cost. The renovation design should not only take healthy adults as the standard, ignore the elderly and the disabled, nor overemphasize the barrier-free features and cause inconvenience to normal people, so that all people can live conveniently and comfortably. The lack of green space and activity venues in old residential areas, poor sanitary environment, lack of barrier-free design and single type of fitness facilities have seriously affected the quality of life of the elderly [11]. Therefore, the suitable aging transformation of the environment in the old residential areas also meets the planning demands of urban stock renewal. It is reasonable and necessary to adapt the living environment of the existing community to aging. It not only meets the wishes of the elderly living in the original residence, but also maintains the original style and features of the existing community, precipitating a period of history and culture of the city.

The elderly mostly use the surrounding living facilities, community greening facilities, activity exchange places, pension service facilities, children's recreation areas and other activity spaces for the outdoor environment of residential areas. In the process of landscape design, designers usually follow the principles of humanization, scientificity, ecology and artistry. The effect of natural environment on human health has long been verified. The older people who spend more time outdoors tend to have better health. The daily activity plan of the elderly is relatively fixed and has strong regularity. As the elderly usually go to bed early and get up early, their time for going out for activities is mostly in the morning and in the morning. The elderly in China are accustomed to taking naps, so they usually go out late in the afternoon. Due to changes such as physiological aging and decreased adaptability, the living environment of the elderly is the most direct manifestation of their quality of life [12]. Safety is the most basic and important demand of the elderly. Due to the lack of barrier-free facilities in the existing community and the deterioration of physical and mental functions of the elderly due to physiological reasons, their self-protection ability and self-care ability are reduced. With the increase of the proportion of the elderly population in our country and the increase of the average life expectancy of the elderly, the living problem of the elderly will become more and more serious. Therefore, it is extremely urgent to carry out the adaptive aging transformation of the landscape of our existing residential areas. In the basic principles of landscape design, the humanized part of the design is mainly aimed at a large range of people, with universal design as the main. The elderly hope that the community living environment can eliminate the

potential safety hazards in daily life as far as possible and provide a safer and more comfortable community living environment. A small number of elderly people who have lost their ability to take care of themselves have entered special care institutions for the aged. Most elderly people who have certain ability to take care of themselves and have clear thinking still give priority to caring for the aged at home.

### **3. Strategies for Landscape Adaptation and Renovation of Existing Residential Areas**

#### **3.1 The Shift of Focus in Humanized Design**

After entering the old age, most of the elderly have undergone a series of changes in their social roles and economic status. The social role and status of the elderly have changed from the former dominant position to the present subordinate position. The elderly will inevitably have many psychological and emotional changes. Adaptation to aging should take into account the physical condition of the elderly as much as possible, especially when the indoor space is arranged, the community can make the elderly meet the needs of providing for the aged in the residential area where they live for a long time by carrying out adaptation to aging including outdoor space, indoor living space and public services on the existing buildings in the residential area. The humanization design of landscape should not only consider the general adaptability of design, but also the psychological and behavioral needs of the elderly. Regular daily living and regular going out are beneficial to the physical and mental health of the elderly. The regularity of life can also make daily activities flow. Reasonable arrangement according to the life flow in the community landscape can simplify the activity flow line of the elderly.

Scientific renovation design should be combined with the specific needs of different elderly people, and should start from square, road, lighting, facilities and other aspects. In the renovation of residential areas, consideration should be given to the needs of the elderly in terms of leisure and entertainment. It is appropriate to add some squares for the elderly to dance and practice sword, walking trails, chess and card entertainment pavilions, etc. In order to prevent the elderly from falling down, the ground in landscape public areas needs to be provided with corresponding anti-skid measures. The specific anti-skid measures can be the ground with anti-skid materials or the ground indicated with anti-skid treatment. In view of the phenomenon that old people are apt to lose their way due to memory deterioration, brightly colored warning signs should be designed, with obvious color contrast between background and text, and additional lights at night. For the elderly who are playing outdoors, it is necessary to provide them with a rest place to rest when they feel tired. Seats are arranged at the edge of entertainment areas such as squares to enable elderly people with poor legs and feet to watch other people's activities and participate in chatting, and are arranged beside trails or in the middle of green spaces to meet the needs of the elderly for quiet viewing.

#### **3.2 Reasonable Planning of Community Function Structure**

Adaptation and renovation of residential landscape should not only ensure the barrier-free travel of the elderly, but also pay attention to meet the multi-level needs of the elderly for health and safety, social interaction and self-realization. The daily life of the elderly often presents the characteristics of coexistence of individuality and generality. The family structure, personality and living habits of the elderly also show personalized characteristics. Whether they live with their children, whether they like collective activities and the differences in living habits and resentments in different regions will all affect the daily life of the elderly [13]. It is not enough to rely solely on the support of the elderly, their families and the government to solve the problems of funding, implementation of the renovation plan, later management, operation and maintenance, and performance upgrading faced by the existing community in the process of adaptation to aging. The design of adaptation to aging should start from the basic principles of modern landscape design, and be based on the specific psychological and physiological needs of the elderly, and be implemented into the details of landscape design. Market mechanism and market-oriented means are introduced

into the existing community's aging transformation, allowing social funds and institutions to participate, improving the efficiency and benefit of resource allocation through a reasonable market operation mechanism, so that all participants in the existing community's aging transformation can benefit together.

#### **4. Conclusions**

With the development of the city and the continuous increase of the aging population, the existing community living environment cannot meet the needs of the elderly. Especially in the landscape of existing residential areas in the city, most of the old houses cannot meet the physiological, psychological and behavioral characteristics and needs of the elderly, so it is urgent to carry out research and practice on aging adaptation. To fully understand the living requirements of the elderly, it is urgent to adapt the landscape of existing residential areas to aging. Market mechanism and market-oriented means are introduced into the existing community's aging transformation, allowing social funds and institutions to participate, improving the efficiency and benefit of resource allocation through a reasonable market operation mechanism, so that all participants in the existing community's aging transformation can benefit together. The design of adaptation to aging should start from the basic principles of modern landscape design, and be based on the specific psychological and physiological needs of the elderly, and be implemented into the details of landscape design. The existing buildings should not only consider the requirements of economy and safety, but also pay attention to the overall environment and style of the community to give comfort to the residents. The design of adaptation to aging should start from the basic principles of modern landscape design, and be based on the specific psychological and physiological needs of the elderly, and be implemented into the details of landscape design.

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