



Implications of the Renovation of Ageing-Friendly Facilities in Japanese Communities for China

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Abstract. In light of the values of helpfulness and practicality of design for ageing, this paper aims to explore the possibility of improving public facilities for ageing in Chinese communities to meet the needs of the elders to live a comfortable life based on the current ageing situation in China. According to a comparative study of the development of ageing-friendly facilities made in Japan in response to social ageing, we found that, compared to Japan, ageing-friendly communities in China are still not perfect and there are many problems. Through a field study of an old community in Beijing, the paper finds that the construction of ageing-friendly community in China should be based on the needs of daily life, safety and health of the elderly, so as to find feasible ideas applicable to existing ageing communities and future development. In addition, it is important to optimize existing community facilities and achieve the ageing-friendly purpose, creating safer, better, and more harmonious communities while improving socio-technical development. A good ageing life in communities for the elderly needs to be built in an excellent ageing-friendly community and environment. To achieve that condition requires a variety of supporting activity facilities, safety protection, health care, etc. In doing so, the design for ageing and its concept adapted to China's ageing community can be summarized.

Keywords: ageing · ageing-friendly facilities · old communities · China · Japan

1 Introduction

Based on the 7th census in 2021, the total population of China is currently about 1.44 billion people. Among them, the number of people aged 0–14 is about 250 million, accounting for 17.95%; the number of people aged 15–59 is about 900 million, accounting for 63.35%; and the number of people aged 60 and above is about 260 million, accounting for 18.70%, of which the number of people aged 65 and above is 200 million, accounting for 13.50%. Compared with the 6th census in 2010, the percentage of the population aged 0–14 increased by 1.35%; that of the population aged 15–59 decreased by 6.79%; aged 60 or older increased by 5.44%; and 65 or older increased by 4.63%. Thus it can be seen that China's current population aged 60 or older accounts for 18.70% and 13.50% of the population aged 65 or older, far exceeding the world's criteria

for determining aging: 10% or more of the population aged 60 or older or 7% of the population aged 65 or older. China, therefore, can be judged as a severely aging country, and its percentage of people over 60 years old is increasing further [1]. The increase in the elderly population has led to an increasing demand for ageing-friendly facilities in communities, while there is a shortage of those facilities in the community in China. Hence the development of ageing-friendly development in China must be facilitated as soon as possible in order to cope with the accelerated and serious aging phenomenon that may be faced in the future.

According to the Ministry of Civil Affairs, the service institutions and facilities for the aged have grown to 340,000, and the basic service system for the aged has been gradually improved, and a system for the aged, which is coordinated by family community institutions and combines medical and nursing care with health care, has been initially built. However, the pension service in China still has unbalanced problems, many elderly people still face the problem of “can’t afford to raise old people” and “can’t raise old people well” [13].

2 Literature Review

As the aging population increases year by year and the proportion of newborns decreases, China’s aging population shows a growing trend. The growing problem of aging and the difficulty of coping with it have raised many concerns. For example, domestic and foreign researchers have studied and discussed various aspects of Chinese elderly people’s current senior care and life needs. Under the influence of “filial piety”, a traditional Chinese culture, institutions such as nursing homes or socialized elderly care is still not the first choice for most Chinese families, because it makes the elderly feel abandoned. Currently, the mainstream direction of senior care in China remains home care. However, with the change of China’s nuclear family structure and home style, an increasing number of elderly people choose to live alone rather than with other intergenerational members, making community-based elderly care gradually become an important direction to solve the aging problem in contemporary China [2].

Nowadays Chinese elderly prefer to live on their own and solve many of their own living problems. That has led to a decrease in demand for aging at home and an increase in demand for social resources. In terms of the needs of the aged, current research focuses on policy changes and home forms, followed by aging-friendly furniture, smart devices, digital living and home details. China has many older communities with many different problems, including residential buildings without elevators that require seniors to walk up and down stairs. Some communities have corroded and aging fitness and health facilities that are left unattended. There is also no guarantee of health and safety for the elderly within the community, and many communities do not have public cafeterias and other problems, resulting in incomplete knowledge of safety for many elderly community residents [3].

Take Nanjing Archery Place Community as an example. The elderly in the community have a higher education level, with 16% having a high level of education and 76% having a medium level. But 77% of those seniors have only one child. That illustrates the problem of the pressure of providing for the aged in many families. A limited number

of adult children need to raise more elderly. The results show that most of the seniors surveyed (57%) have the ability to care for themselves for the time being. The main needs of the elderly are about household management and care services for aging at home, and home care is still the main choice for the elderly, 94% of whom could take care of themselves, and 54% of whom did not possess the ability to take care of themselves. In the community public spaces, 37% are civil or civic squares for daily activities, 30% as community activity fields, and 14% are social activity centers. The majority of seniors who participated in the study (67%) felt that the social activity venues provided by the community failed to meet the needs of them. The dissatisfaction of the elderly with the rooms is mainly manifested in the small size of the rooms, the lack of elevator and the small space of the bathroom, which point out the direction of the renovation of aging-friendly households [4].

China is a country with nationalized land. In the early stage of real estate market, land development was operated by the government, i.e. government-led development, which inevitably led to problems such as low development efficiency and single form. After entering the 1990s, many enterprises participated in the development and made it towards a diversified large development model. But most of the residential construction was developed in bulk as a unit, and the plan form was still the same, considering each dwelling size only from the economic perspective, without taking into account the possible aging problem faced in the future. In addition, aging-friendly planning improvements were not made. Only in recent years, a number of residential units adapted to elderly living emerged as the population ages even faster and the wider society pays more attention to elderly care. However, most of these properties are high-end profitable ones, which can only meet the needs of a small number of high-income people. Most of the residences used by the urban population are basically the products of the large development mode, and those residences have two problems in terms of residential adaptability [5].

Therefore, on the basis of new ageing-friendly buildings, the renovation of old communities has become another focus of ageing-friendly construction in China. How to give the elderly a sense of enjoyment and a sense of security is the current goal and direction of ageing-friendly renovation in old neighborhoods across China [3].

3 Many Defects Remaining in the Development of Ageing-Friendly Communities in China

So far, there are 160,000 old neighborhoods in China, nearly 100,000 of which are equipped with old infrastructure and have the environment that needs urgent improvement. Those neighborhoods basically do not have elevators, and the pipelines for water supply, heating and power supply are aging. In addition, unit doors are badly damaged, and barrier-free access and other ageing-friendly facilities are seriously lacking. Some old houses also have a series of problems such as being for long years out of repair, walls falling off, and mixed pedestrian and vehicular roads. All this poses huge threats to the safety of the elderly [3].

Take Beijing as an example. The proportion of elderly population in Beijing's old communities is getting higher, but the aging-friendly services have not been improved.



Fig. 1. Old residential area in China

This paper conducts a practical research on Beijing Jindi Green Town community and mainly found the following problems (Fig. 1).

First, there is a general lack of elevators and other auxiliary travel facilities in old communities, coupled with the fact that the design of buildings in old communities is relatively early and does not take into account the immediate needs of the elderly. Many elevators in residential buildings of communities will not be designed specifically for the elderly with mobility problems to use the button. Many elderly people with mobility problems who need to use wheelchairs are unable to use the elevators because they cannot reach the buttons. In addition, the limited space of the stairs in old communities restricts the elderly to go up and down the stairs, especially for the elderly with physical disabilities and mobility impairments, causing daily access barriers. Many staircases in older communities are not designed with handrails, and the staircases are directly connected to the walls, which increases the probability of injury to the elderly when they fall without safe and reliable protection measures. Besides, although many communities have designed passages between buildings, some passages are still very narrow, and many only allow one person to pass, unable to bear the wheelchairs necessary for the elderly to travel and other assistive devices at the same time to travel together, much less accommodating the elders' escorts at the same time. All this causes multiple troubles for the elderly to enter and exit normally. In other community implementation, many communities do not factor into consideration the physical peculiarities of the elderly, and do not set up protection devices next to the artificial river, increasing the risk of the elderly slipping sideways or even falling. That easily brings about further physical injury for the elderly, resulting in them can only stay away from similar viewing areas.

Second, the use and maintenance of public facilities for the elderly in many communities have long lacked management, and many community cultural and fitness facilities are rusty or even abandoned, which affects the normal use of the elderly in need. Meanwhile, due to the lack of aging-friendly concept in community, the public facilities for the elderly are not set in areas that are really convenient for senior people, which also affects the accessibility of the facilities for the elders. For example, a field study of Beijing Jindi Green Town found that the community's fitness equipment is located in a



Fig. 2. Aging public facilities

small park in the far north of the community. The facilities are rudimentary and rusty, and because of their remote location and distance from the main residential area, few seniors go there specifically to use them (Fig. 2).

Third, the cultural and recreational places related to the elderly in the community also lack reasonable planning and utilization, failing to meet the real needs of the elders. Although some card rooms were set up in the neighborhoods researched for seniors, in fact, most of the activities and amusement facilities in them have been cancelled or even removed. Some of the card rooms have been converted into express delivery sites in the community, which have completely lost their original usefulness. Due to the relatively early construction time of old neighborhoods, there is a serious lack of venues and facilities for leisure, culture, entertainment, fitness and exercise within the communities, and the spiritual needs of the elderly can not be met within them. In addition, the lack of children accompanying some of the elderly aggravates the sense of loneliness and loss of the elders in old neighborhoods and seriously affects their spiritual and psychological health [3].

Fourth, health facilities and medical facilities in the community need to be improved. Community facilities lack attention and popularity for the health of the elders. Because of the unreasonable distribution and use of social pension funds, the distribution and quantity of health facilities in each community are unbalanced. Some communities have many medical facilities or health facilities, while there are also many communities that do not build health facilities. As a result, many elderly people's health problems are not easily observed, and it can be a difficult problem to provide long-term guidance and assistance to seniors in the community. Moreover, we are now in a period of rapid information development, and many elderly people like to learn some pseudo-knowledge of health care on short video platforms, which will lead to many of them abusing prescriptions or using drugs indiscriminately. It can end up causing the elderly body to suffer from diseases that should not exist in the elders. For example, many families nowadays have their own family WeChat groups. Those groups contain at least two to three generations of family members and more. The seniors who are often active in the group will forward multiple false health and medical information. Besides, many elderly people like to buy

many so-called “miracle drugs” or “elixirs”, most of which are advertised with information like “cure all diseases”, but their efficacy is overly potent, and the drugs often contain many ingredients that are not good for the health of the elders. Those “miracle drugs” are not only expensive, but also bring many complications that do not exist in the elderly.

Fifth, many communities in China are not well equipped with amenities. There is a lack of community canteens and transportation for the elderly, and many communities do not have big supermarkets in the vicinity for seniors to buy their necessary supplies. The community canteens can address their needs of meals on a daily basis to some extent, and can also relatively reduce the safety risks for the elderly when cooking.

4 Analysis of the Development Status of Ageing-Friendly Renovation in Japanese Communities

Japan is currently very advanced in the world in terms of aging-friendly renovation, especially in the community. It is one of the countries most plagued by aging in today’s society. The slowdown of economic growth is the more serious and more direct negative impact of aging. Therefore, the country has been concerned about responding to aging for a long time, and started to establish laws and regulations on elderly services and other related issues as early as the 1950s, reflecting the high importance that the Japanese government attaches to the elderly problem in the country [7]. So far, Japan has developed many residential renovations and other related community-based senior living security systems, fully enhancing the quality of life of the elders. For instance, the elders with different degrees of disability have been classified to apply to the design of different systems.

Take Toyoshidai in Kashiwa City and Hokkaido, Japan as examples.

Toyoshidai in Kashiwa City has carried out the planning and layout of the community space. For example, the concept of a thirty-minute living circle was created. That is, almost all necessary facilities are included within a 30-min distance from where the elders live. In addition, the layout of the senior living area was designed to be very tightly packed at the beginning of the design process, artificially reducing the social distance for the elderly and promoting their daily communication and friendships. Also, the housing, medical service base and the space for children’s after-school activities are arranged together. Behind the residences, a large park is designed as a public space for seniors, containing many activities and trails for elderly people. What’s more, the walkways are designed to be ageing-friendly and barrier-free, seeking to provide more assistance for the elderly. Considering that the elders may shoulder the responsibility to care intergenerational children, many children’s recreational facilities are also provided around the places where seniors live [7]. Besides, because many seniors who live alone do not fire and cook for themselves, the community provides a cafeteria. It is not only to help provide food for the elderly, but also prepare food for the working people and children who are attracted to the community, thus facilitating communication between the elders and others [7]. The community has also installed a number of Care Homes for Seniors [7], support houses, salons and tea rooms, and a food market was also built behind the cafeteria. Special Care Homes for Seniors are places for the elderly with

mental and physical disabilities of Level 3 or higher, with 20 identified service centers, which include a range of services such as checkups and meals.

The construction of senior facilities in Assabu, Hokkaido is promoting an embedded approach to senior living. In other words, the living rooms and appliances needed by the elders are embedded in the limited space. In Assabu, many of the facilities are located in different places on different floors. During the design process, different rooms in the main one-story building was sought to design to provide elderly care services for people with different disabilities. The two additional floors include a library, a cafeteria, and an exhibition area. What's more, the building has a senior living area and a central public area, and the latter provides opportunities for the elders to interact with other groups. The cafeteria and exhibition area of the building are connected to many surrounding activity areas, which can attract more young people to the center for meals and promote communication between the elderly and young people [2].

5 The Improvement Direction of China's Design for Ageing

Through a field study of a community in Beijing, China, and a comparison of the ageing-friendly process in two Japanese communities, this paper argues that the construction of ageing-friendly communities in China can be considered from the following aspects.

1. Add more policies on aging-friendly programs. Japan began to focus on policies for the elderly as early as the 1950s, showing a great deal of attention to it. However, many domestic policies on aging-friendly facilities in communities have not been implemented properly. For example, the government should increase the benefit payments of community elevator construction, to the maximum extent possible to include the construction cost of elevators, which can reduce the design and construction pressure of elevators in old communities. The reason why many neighborhoods can not install elevators is that households with little demand for elevators do not want to spend that amount of money. The elevators that can be installed in the end will largely help the elders to live more convenient lives.
2. More spatial arrangements are needed for future ageing-friendly renovation of the community. Take Beijing Jindi Green Town⁶ as an example. Now there are many very small activity areas inside the community, but most of them exist in the form of parks. In an invisible way, much space is wasted. During renovation, community canteens and some facilities such as residential medical service centers can be added, and regular safety promotional activities need to be carried out by medical personnel. In so doing, it can reduce the community medical pressure and at the same time can correct many elders' habits of taking drugs indiscriminately.
3. When renovating the interior of a neighbourhood, there can be more embedded design for senior living. Take the senior facilities in Assabu, Hokkaido, Japan, as an example. Areas for fitness, sports, medical, rest, social and food can be embedded as many as possible in the facility building, so as to maximize the use of space inside the building. As far as possible, one building can solve most of the problems and needs of the elderly. That will add more convenience facilities to the community and significantly reduce the daily inconvenience and insecurity of the elders in the community.

6 Conclusion

Due to the rapid development of aging in China, there are still a large number of imperfections in the aging-friendly programs and specifications of Chinese community facilities. Therefore, in the face of the aging problem brought by rapid aging, it is necessary to learn more from the design for ageing of other countries to improve the current situation in China that lacks design for ageing. Aging-friendly renovation in the community can provide better convenience and health services for seniors, and can directly reflect the change in the quality of life of them.

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