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A study on the role of common space in low-rise exclusive residential areas in creating community

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Abstract

This study was aimed at understanding how common space in low-rise exclusive residential areas has contributed to creating better communities since they were constructed about 20 years ago by analyzing the results from a questionnaire survey given to residents. The results indicate that the management system, such as joint maintenance work and meetings, for managing common space contributes to the growth of a better community. They also reveal that common space created initial opportunities for being friendly with neighbors, but the frequency of use of common space have decreased as resident children have become older. These results suggest, it is necessary to consider how common space should be used after the initial residents' children have grown up and how the existing community has been changed for the better with the use of common space.

Introduction

With the trend of an aging of society, there is an increasing demand that neighbors help each other in their everyday lives. When the Great Hanshin-Awaji Earthquake occurred in the southern part of Hyogo Prefecture, neighbors made concerted efforts to save many lives. Under these conditions, the importance of a community in residential areas is newly recognized. This study concerns low-rise exclusive residential areas, developed in the 1970's, in which common space was designed to offer a space for interaction between neighbors and create landscapes with abundant vegetation. There have been many studies carried out on the cognition of landscapes in low-rise exclusive residential areas, such as "Structural Analysis to the Landscape Cognition of Residents in Low rise housing" (Kubo *et al.*, 1984) and "Study on Landscape Changes in Time Perspective" (Kubo *et al.*, 1985), but most of the literature published has not looked at the relationship between creation of a better community and common space (Wada, 1984). The aim of this study, therefore, was to assess the role of common space in creating a community in low-rise exclusive residential areas which were developed about 20 years ago.

Method

(1) Low-rise exclusive residential areas to be studied

Twenty low-rise exclusive residential areas (Table-1) were chosen from magazines (the TOSHI-JUTAKU, 1975-1995; and KENCHIKU BUNKA, 1975-1986) and literature (Endo, 1983) on architecture published between 1975 and 1995. The chosen areas were all located in Hyogo Prefecture, and 19 were in the new towns developed in the suburbs of Kobe such as Seishin and Myodani, while the remaining one was in the urban area of Ashiya. Table 1 outlines the low-rise exclusive residential areas chosen for study, which were developed between the early 1970's and the late 1980's. The number of dwelling units in the low-rise residential areas ranges from 21 to 167, and most of them have between 50 and 100 dwelling units. These areas are approximately 0.44 ha to 3.00 ha. As for land ownership, while the whole low-rise exclusive residential area is shared by all the residents in Myodani 28 Danchi, in the other areas, each dwelling unit is owned by the respective residents and the other space is shared by all the residents in the low-rise exclusive residential area. The percentage of common

space in the whole low-rise residential area ranges from 30% to 40%.

(2) Survey on physical environment

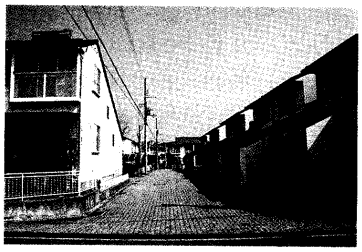
Existing land use, traffic lines and location of service facilities were examined for characteristics of physical environment. Figure 1 shows the existing land use map and pictures of Seishin (8) Danchi. As shown in this figure, existing land use is grouped into 2 types: one is for private

Table 1. Outline of low rise housing to be studied

No.	Name	Location	Number of Dwelling units	Site Area (ha)	% of Common space	Land ownership	Year of Sales
1	Seishin (1) Danchi	Nishi-ku, Kobe city	97	2.92	34.0	Type A	1980
2	Seishin (8) Danchi	Nishi-ku, Kobe city	80	1.21	36.1	Type A	1981
3	Seishin (15) Danchi	Nishi-ku, Kobe city	86	1.36	36.8	Type A	1982
4	Seishin (20) Danchi	Nishi-ku, Kobe city	137	2.21	37.7	Type A	1982
5	Garden House Seishin Koujidai Danchi	Nishi-ku, Kobe city	64	1.00	26.8	Type A	1984
6	Seishin (29) Danchi	Nishi-ku, Kobe city	95	2.11	36.5	Type A	1987
7	Seishin SV Village	Nishi-ku, Kobe city	26	0.77	36.3	Type A	1989
8	Myodani 9 Danchi	Suma-ku, Kobe city	53	0.72	33.5	Type A	1976
9	Myodani 12 Danchi	Suma-ku, Kobe city	167	2.29	43.1	Type A	1977
10	Myodani 16 Danchi	Suma-ku, Kobe city	72	0.97	42.0	Type A	1978
11	Myodani 24 Danchi	Suma-ku, Kobe city	89	1.33	36.2	Type A	1979
12	Myodani 28 Danchi	Suma-ku, Kobe city	34	0.55	55.8	Type B	1980
13	Takakuradai (13) Danchi	Suma-ku, Kobe city	99	2.52	39.5	Type A	1972
14	Takakuradai (14) Danchi	Suma-ku, Kobe city	76	1.43	37.2	Type A	1972
15	Takakuradai (17) Danchi	Suma-ku, Kobe city	55	0.69	33.0	Type A	1975
16	Hiyodoridai 8 Danchi	Kita-ku, Kobe city	100	1.30	46.0	Type A	1974
17	Bel Air Ashiya	Ashiya city	27	0.48		Type A	1978
18	Hamakaze (5) Danchi	Ashiya city	86	1.17	48.0	Type A	1986
19	Arcadia 21	Sanda city	21	1.36	37.6	Type A	1978
20	Yayoigaoka 21	Sanda city	26	0.44	19.5	Type A	1988

Land ownership's Type A is "Each dwelling unit owned by its residents, and common space shared by all the residents. "
Land ownership's Type B is "All dwelling units and common space shared by all the residents."

Picture 1. Rest space with abundant vegetation in the common space



Picture 2. Streets in the low rise housing area.

Picture 3. A path extends to the entrance of the low-rise housing.

Fig. 1. Current land use map and pictures of Seishin (8) Danchi.

space and the other is for common space. Common space is subgrouped into common facilities including streets, paths, meeting places, and open space. Common space differs in size, location and facilities, depending on the low-rise exclusive residential areas. For example, Seishin (8) Danchi has common space in which many benches are placed so that plentiful rest space is ensured around the low rise exclusive residential area, as shown in Picture 1. Picture 2 shows the paved street is designed to beautifully match its landscape, and Picture 3 shows that a friendly space is created by extending a path to the entrance of the low-rise housing.

(3) Questionnaire

A questionnaire was mailed to all the residents in the chosen areas in order to assess the role of common space in creating community. The questionnaire consists of reasons for choosing the low-rise housing, changes in evaluation of the residential environment over time, the initial ways of being friendly with the neighbors, the existing use of common space and changes in its use over time, frequency of participation in joint maintenance work of common space, and awareness of the opportunity to participate. The questionnaire was sent by mail to 1484 households in the chosen areas in March 1999. The households were requested to return it by mail. The effective response rate was 20%, or 297 households. Compositions of the responding households by age, length of residence and family are shown in Figure 2. The majority of the respondents were between 40 and 60 years, with the highest response rate in the 50-59 years old category at 33.7%. More than half of the residents were found to have lived in the area for 11 to 20 years. The length of residence of "11-15 years" and "16-20 years" groups had the highest response rates at 25.6% each. When the residents moved to these areas, almost all the households consisted of two generations, parents with one or more children, but two-generation households have decreased from 69.7% to 55.2% over about 20 years. This result shows that there is an increasing number of households consisting of "couples" and "singles."

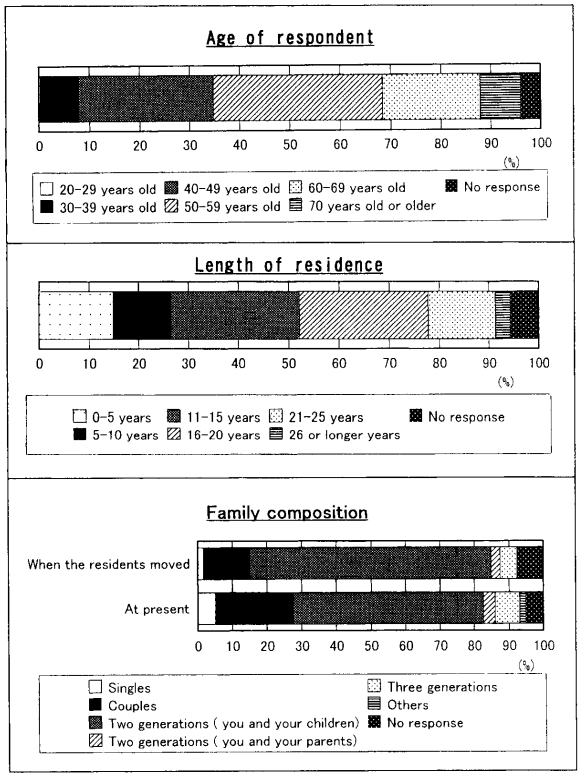


Fig. 2. Respondent Data by age, length of residence, and family composition by age-group.

Results and Discussion

(1) Reasons for choosing the low-rise housing and changes in evaluation of the residential environment

Figure 3 shows the reasons for choosing the low-rise housing. Multiple answers were chosen by the residents on the list of reasons, and a double circle was marked on the reason they thought to be the most important. Each reason was analyzed by calculating the percentage of the number of the respondents who considered

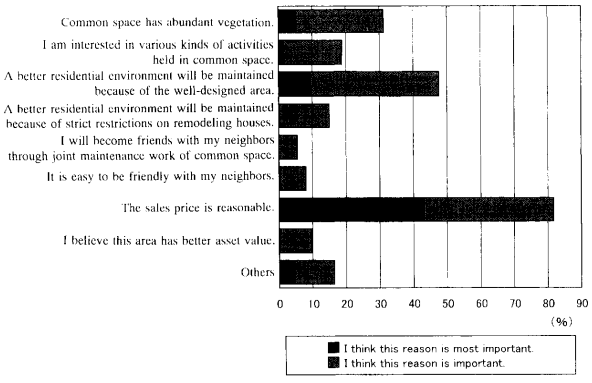


Fig. 3. Reasons for choosing the low-rise housing.

it to be the most important and important. When combined, "The sales price is reasonable" and "A better environment will be maintained because of the well-designed area" had the highest percentages of 81.8% and 47.7%, each. This result reveals that the residents paid much attention to economic and physical aspects when they chose the low-rise housing. A small number of the residents regarded "I will become friends with neighbors through joint maintenance work of common spaces" (5.6%) and "It is easy to be friendly with the neighbors." (8.1%) as important. This result indicates that the majority of the residents did not place importance on creating a better community when they chose the low-rise housing.

The next analysis was a comparison between the present residential environment and the residential environment at the time of moving in. Figure 4 shows changes in the evaluation of the residential environment over about 20 years. 3 items that improved and 3 items that worsened were chosen by the residents by comparing the present residential environment with the residential environment at the time of moving in. The percentages on the bar graph are the total of the best 3 or worst 3 percentages for each item. For the worse item group, "Driving around the low rise exclusive residential area" (46.1%) and "Safety of pedestrians" (43.6%) had the highest percentages, which shows that many residents are bothered by the increase in automobile traffic in their low-rise exclusive residential areas. For the improved item group, "Friendliness with the neighbors" (47.5%) had the highest percentage, followed by "The amount of greenery in common space" (41.4%). This comparison shows that "Friendliness with the neighbors" is more highly evaluated now than at the time of moving in, when this was not considered to be an important reason for choosing the low-rise housing. More respondents reported an increased "sense of safety from disaster" (34.8%) and "sense of safety from crime" (26.5%), which suggests that a better community atmosphere has been created in the areas regardless of lack of concern for it at the time of moving in.

(2) Current conditions of the community in the low-rise exclusive residential areas and factors for creating a better community

Current conditions of the communities in the low-rise exclusive residential areas are shown in

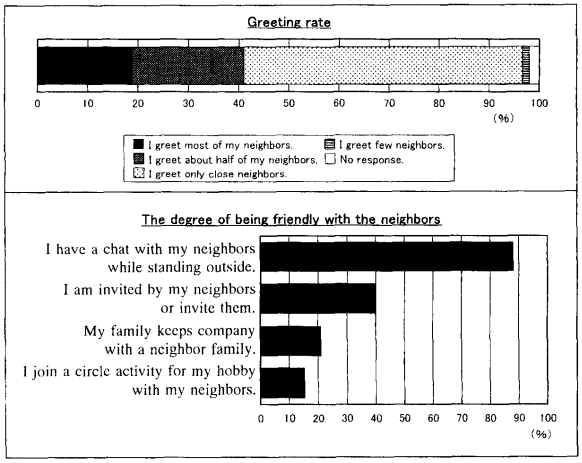


Fig. 5. Current conditions of the community in the low-rise exclusive residential areas.

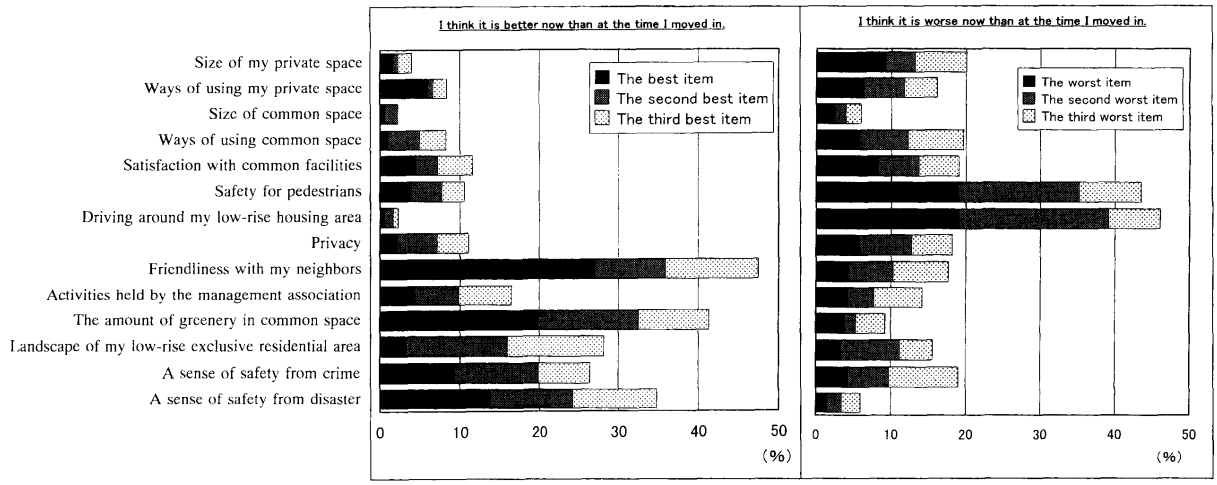


Fig. 4. Changes in evaluation of residential environment.

Figure 5. "Greeting rate" and "the degree of being friendly with the neighbors" were used to evaluate the current conditions. "Greeting rate" was evaluated on a 4 rank scale: "I greet most of my neighbors," "I greet about half of my neighbors," "I greet only close neighbors," and "I greet few neighbors." For "the degree of being friendly with the neighbors," respondents replied to the following 4 items:"I have a chat with my neighbors while standing outside," "I am invited by my neighbors or invite them," "My family keeps company with a neighbor family," and "I join a hobby group with my neighbors." As for "the greeting rate," combined, "I extend greetings to most of my neighbors" and "I extend greetings to about half of my neighbors" account for 41.1%. This explains that wide "greeting area" has been created in their low-rise exclusive residential areas. As for "the degree of being friendly with the neighbors," 88.2% of the respondents reported that "they have a chat with their neighbors while standing outside," and 40.1% reported that "they are invited by their neighbors or invite them." These results show that the residents have wide "greeting area" in their community and they are more friendly with their neighbors, suggesting that a better community has been created in the low-rise exclusive residential areas studied.

Figure 6 shows the initial ways of being friendly with the neighbors. According to this figure, the highest initial way of being friendly with the neighbors was "I participated in cleaning common space or caring for trees and flowers in common space" (55.9%), followed by "I participated in meetings by the management association" (39.9%). These activities were run by the management association in the low-rise exclusive residential areas. This result reveals that joint maintenance work and meetings for managing common space, run by the management association, have played an important role in creating a better community. Among the initial ways of being friendly with the neighbors, "I made my child (or children) play in the common space" (27.4%) was the highest next to the above-mentioned initial ways, which indicates that child care in common space also helped the residents create a better community.

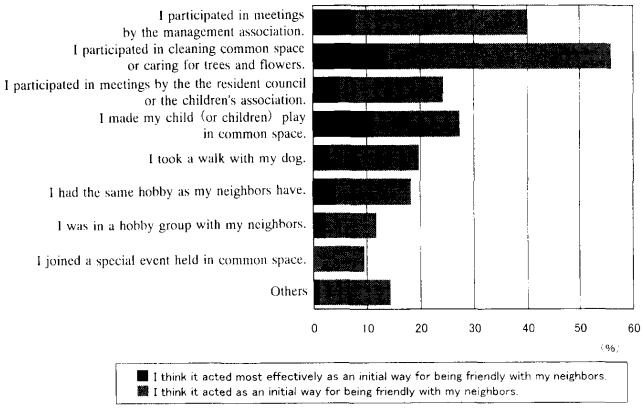


Fig. 6. The initial ways for being friendly with neighbors.

(3) Current use of common space and comparison with the use of common space at the time of moving in

Figure 7 shows the current use of common spaces. According to this figure, 56.6% of the respondents reported that they use common space when "they have a chat while standing outside" and 37.6% reported that they use it when "they take a walk." These percentages were much higher than that of the other items.

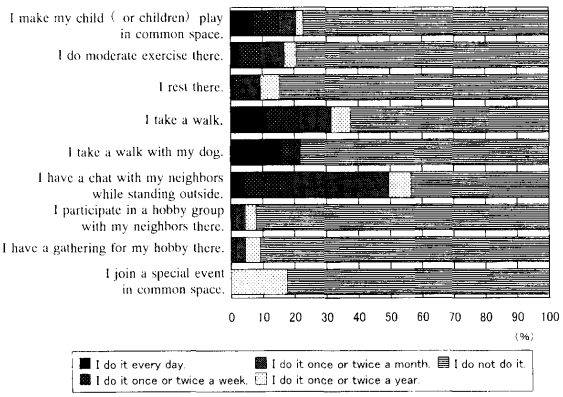


Fig. 7. Current use of common space.

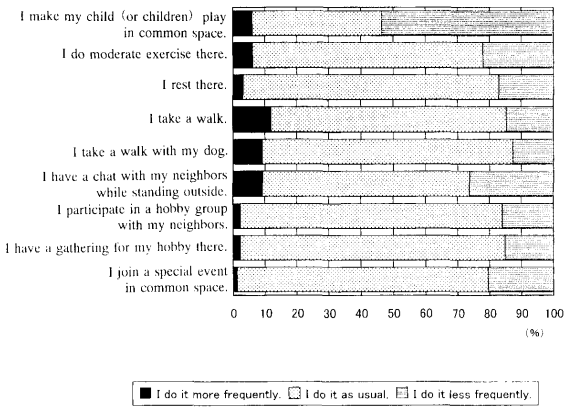


Fig. 8. Changes in common space use from the time of moving in to now.

Less than 10% reported that they use it when "they have a gathering for their hobby" and "they participate in a hobby group." The residents reported that they use it only once or twice a year when "they join a special event held in common space." Common space, therefore, is found not to be used based on its advantageous characteristics.

Figure 8 shows changes in common space use from the time of moving in to now. In general, common space tends to be less frequently used now than at the time of moving in. A dramatic decrease was seen in "I make my child (or children) play in common space," which amounts to 53.5%. This decrease suggests that it is important to consider the role of common space after the residents finish raising children.

(4) Joint maintenance work of common space

Figure 9 shows how many times the residents participate in joint maintenance work of common space such as watering flowers and trees and weeding. Each maintenance activity was evaluated on a 6 rank scale: "I always participate in this work," "I almost always participate in this work," "I sometimes participate in this work," "I rarely participate in this work," "I never participate in this work," and "No response." As for easy work such as watering flowers and trees, and cleaning and weeding common space, the combined percentage of "I always participate it this work" and "I almost always participate in this work" was more than 90%. Most of the other maintenance work had more than 50% reported participation. This result indicates that the residents participate in joint maintenance work of common space at a very high participation rate.

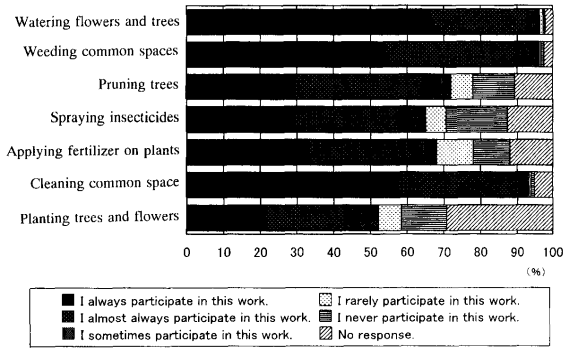


Fig. 9. Frequencies of participation in joint maintenance work.

Conclusion

These analyses suggest that the management system for common space such as meetings and joint maintenance work, run by the management association, played an important role in creating better communities in the low-rise exclusive residential areas. Moreover, use of common space acted as an initial way for being friendly with the neighbors, but common space has been less frequently used as their children become older. Further study is needed, therefore, to examine how common space should be used after the residents finish raising children and how the community created has been changed for the better by using common space.

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