

Possibility of Complex with Light Commercial Space in Stock Apartment Housing

- Focusing on Active Expansion of Neighborhood Uses Functional Living Sphere -

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Introduction

Rapid urbanization causes serious shortages of housing and social problems. To solve these problems, the government has developed a strategic policy for low-price apartment housing based on the policy of mass-production. Of course, regulations for the construction of housing have established and the housing complexes meet the minimum standard of living space. However, the complexes aim at attracting more families and the management of functional living space¹⁾ has been neglected.

Currently the economy and the level of living have experienced a sudden growth. Residents require a higher quality of housing. Once the established buildings are occupied, their physical, functional, social, economic and technologic value do not meet the expectations of the residents. So the current buildings need enhancements to meet the expectation of residents. If not, residents are going to move to other places, and the buildings will be abandoned and decay into slums. In this viewpoint, this study is to examine the feasibility of enhancing the utility of buildings for the security and functionality of living spaces.

Expansion and Meaning of neighboring functional spaces

Background and Meaning of Multi-utility

Different functions in spaces may cause conflict with neighboring environments. So similar functions will be grouped together to guarantee the simplicity of space. This has been regarded as a basic principle of architecture and city planning since the early twentieth century.

However, current society is called as the Uncertain Age or The Plural Age,²⁾ as society diversifies, limitations of the above principle are becoming apparent. If buildings are occupied and a community is formed, unexpected types of activities appears spontaneously through processes of change and natural growth. For the trend, single-utility space should be changed into multi-functional spaces in cope with social variety.

Accommodation of neighboring functional spaces into main buildings

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The diversified spaces have advantages such as the effective use of land, the recycling of old spaces, the attraction of residents, and communal management of apartment blocks and reduction of construction costs. The trend of diversification in space has been generalized already.³⁾ The same trend can be found in communal housing complexes, to have a pleasurable environment and guarantee stable residential spaces.

However, problems in rapidly changing cities, such as emptiness of the city centers, and traffic congestion⁴⁾ due to the separation of offices and houses implies we should combine housing and light commercial facilities. Though complexes are planned only for residences, a part of them may be changed into common or light commercial spaces for more comfortable living. Moreover, individual spaces considered only for residence have turned into light commercial spaces. A policy, in recent, has been suggested that the lower part of high apartment buildings be used as children's temporary schools.⁵⁾

Stock apartment Housing in Korea

The lack of consideration for functional spaces caused superficial and monotonous planning of buildings in Korea. As of late 1998, 4.64 million apartments occupied the largest part of total housing, 42.7%. Single-houses, 42.4%. Tenement houses, 10.7% and multi-family houses, 4.2%.⁶⁾ However, 45-50% of them are confronted with decaying into slum districts.⁷⁾ Apartment can not meet the different needs of residents as residents consider where they live as to be satisfying as their level of living increases.

The regulation of functional spaces limits space arrangement to several types. And functional spaces are not arranged inside the sphere of the main buildings, they are often located in the outskirts of the site only after the main buildings have been arranged. In the regulations, the minimum size needed for the spaces is specified. When an area is developed into a housing complex, it has a different schedule from that of the main development authority and it can't connect

Table 1. Minimum Standard of Facilities in Korea

Types	minimum standard	extra standard 1	extra standard 2	exception
Playground	3m ² , every house for less than 100 houses	300m ² , Add 1m ² every 100m ² excess	300m ² , Add 1m ² every 100m ² excess	
medical service	1 drugstore every 500 houses			substitution within 300m
kindergarten	1 every 100 houses			substitution within 300m
exercise place	300m ² for 500 houses	standard :500 houses add 150 m ² every extra 200 houses more than 1 court for badminton, tennis, volleyball, and basketball	For less than 1000~2000 houses, a swimming pool, a rollerskating rink, or tennis court	
old people's home	15m ² every 100 houses Add 0.1m ² every excess house in more than 100 300m ² in max	Public facilities for 500 houses. standard : 50m ² . Add 0.1m ² every house. 300m ² in max	A nursing room and a library for more than 500 houses	
public facilities	In the rate of 6m ² every house 500m ² in max			

Reference : Housing Construction Regulation

with the plan of neighboring complexes.

So the development of functional spaces is not sufficient.(see table 1) The utility of spaces in this area may be different and resident may complain of lacking social and light commercial spaces and finally move toward the city centers.⁹⁾ A stable communication between them can not be established. To guarantee proper functional spaces, more positive and comprehensive renovations of the limited and imperfect regulations should be performed.

Natural Growth of functional facilities

Currently, housing complexes are being built in large quantities and in a uniform style. The demand for different types of functional space is increasing. New spontaneous spaces that were not expected during planning are emerging. Moreover, the feeling of community in housing complexes is being enriched. (Ben Farmer,1983⁹⁾) Positive thought relating to different space should be done from the inception of planning.

However, established apartments were planned to meet the minimum requirements, and as such they can not be expanded any more. Also attempts to arrange such spaces have not even been tried, as necessary and voluntary activity among residents is not active. Notwithstanding, the current natural growth of spaces with commercial purposes has been made as all creatures including humans adapt to their environment. The spaces in place now are made up of nursing facilities, commercial facilities, and public services such as drugstores, piano lesson halls, beauty shops and so on.

There are two different kinds of spaces in an apartment complex. The first are the spaces controlled by residents, spaces such as basements, the rooftops, playgrounds or tennis courts. These are self-governed. The second are commercial spaces in or near the complex. Sometimes, individual spaces that have been used only for residence have been changed into functional spaces involved with commercial activities such as hairdresser's shops or herb clinics. (see. figure 1)

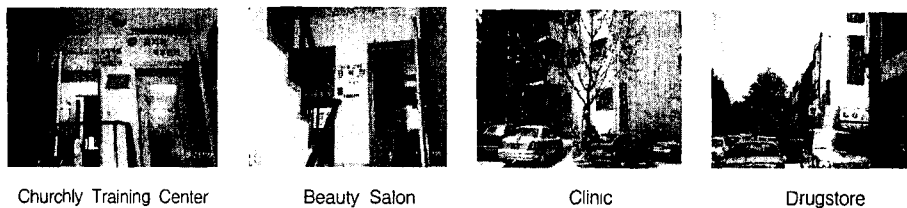


Figure. 1 Example of Complex with light Commercial Space in Stock Apartment Housing

When the diversified desires and demands by residents are not satisfied inside their complexes, the development of these spaces is done by outsiders. The old spaces are occupied with convenient facilities for commercial purposes¹⁰⁾ or commercial activity on the road outside or inside the complexes is promoted.

Diversification Forms and Technology

The creation of functional spaces that grow spontaneously in or near communal housing complexes can give new life to these spaces. Through the diversification of old complexes, the serious degradation of old complexes can be prevented. For this, the space structure of old buildings should be reorganized. The development of the lower part of main buildings is recommended because it is a convenient location for residents.

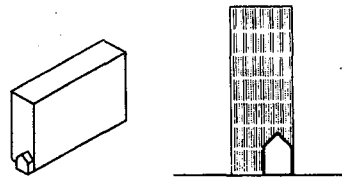


Figure 2. Side Adding

Developing the lower part of buildings

Apartments in our country usually face to the south and are arranged in straight and uniform lines. Functional spaces grow on the sides that have not been annexed and are simple in nature. It is felt that those simple and monotonous spaces have a boring atmosphere.

Therefore, if functional spaces are arranged on the lower part and sides of main buildings and they be very close to residential spaces, an intimate community can be formed and wrong doing can be prevented through the presence of people where it is permissible. (see. figure 2)

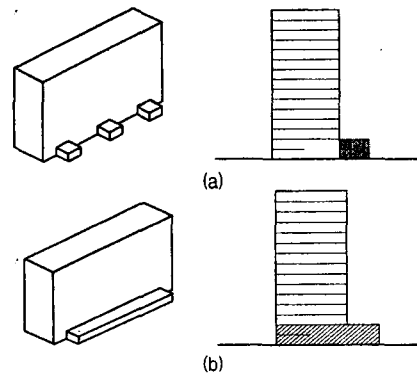


Figure 3. Frontal Addition

Frontal Adding

The planes of old apartments are designed to be fit into square main buildings that is very simple. As the main buildings are arranged monotonously, voluminous appearance can hardly be found. Also, in the case of functional spaces they are arranged independently from main buildings, the convenience of planning is done first instead of considering ease of access to the complex.

We want to have good neighborhoods, but the mutual interaction between residents is broken even though it is considered as an important part of living in a community. This can be formed through frequent meetings.¹¹⁾ To promote the social contact between residents, the interior of the lower part of buildings, small-scale living-centered spaces¹²⁾ for every 30 or 60 units can be formed (see. figure 3)

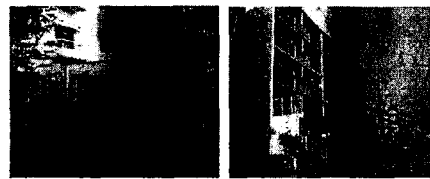
For systematic housing complexes in Japan, this concept has been effectively applied to spaces. Through adding functional spaces involved with the daily life of residents, the relationships of neighbors and a higher definition of the spaces can be made (See Figure 4)

Apartment Interior Reorganization

In addition to new functional living spaces in the first levels of apartments, interior reorganization of individual spaces can be attempted. This attempt can't change the appearance of the main buildings, but it connects residents' living spaces with functional spaces. If the functional spaces are arranged in the lower part of apartments, no additional space for good access is necessary.

However, if the apartment that is planned for diversification is small, two or four residences are annexed in vertical or horizontal line according to the types and the characters of spaces through active reorganization of plane forms. And then, a systematic plan should be prepared to block noise and to prevent disorder of movement.

For systematic housing complexes in Singapore, this concept has been applied successfully. Or the first floor near elevators halls, are organized as functional spaces. By arranging the spaces to be seen from any side, community awareness can be enriched.



多麻 New-town

Tokyo

Figure 4. Example of frontal addition

Problems about light Commercial Space

It is assumed that as the main buildings of old apartments are properties possessed by residents, their active participation and understanding should accompany the changes. Moreover, in order to change space use, reorganize, or annex,

the agreement of more than two thirds of residents is necessary according to the regulations of communal housing. It is necessary to have residents' understanding and perceptions or diversification. (see. table 2)

Therefore, different types of residents' participation are necessary for the diversified use of main apartment buildings. The following will be discussed: how all residents can share the advantages of diversification, what facilities can promote the formation of community among residents, how the spaces are managed and directed and how the project will be financed.

Also, in order to diversify old apartments, the related regulations should be revised. Taking into account how people act, it is expected that controversies about the established regulations will arise. When the related regulations are revised, the current situation of this society should be considered. What should be diversified should be identified. For this, the preparation of alleviating measures and specific measures is necessary to solve the related problems and gauge the trend of public opinion about diversified types of functional spaces. Moreover, for the promotion of

Table 2. Permission Standard

Code of Action	Permission Standard
use of change	agreement of two third residents
reorganization	agreement of two third residents
new construction annexation	approval as a project based on Article 33

Reference : Article 6, Communal Housing Management Regulation

quality in residential environments, an active management policy in old degrading apartments should be proposed.

Conclusion

Apartments in our country have been planned to aim at attracting more residents. So much effort should be put into meeting the demands of residents and improve the efficiency of the apartments. If not, the severance of relations among residents will get worse. Therefore, diversification of old spaces is required through the reorganization of space and plane forms.

This study examined the possibility of diversification of use in the lower part of old apartment buildings and found that side adding, frontal adding and interior reorganization should be attempted. According to the relations of the location of main buildings to roads, different technologies should be applied. When main buildings face toward the main roads, frontal adding is recommended to provide an enhanced atmosphere. When the main buildings face local roads, side adding is useful to form defensive space.

However, for the realization of diversification, private property rights of residents should not be infringed, or agreement among residents should be made through their positive participation, especially those whose apartment complexes only meet the minimum construction regulations. The regulation should be revised for the active management of degrading old apartments.

Notes

- 1) It means 'Neighboring functional facilities', 'Convenient facilities' and 'additional welfare facilities'.
- 2) C. Ray Smith (1977), *Supermannerism*, E. P. Dutton New York, p.58.
- 3) Cho, Yong-Joon and et al.(1999), *Architectural Planning Theory*, pp.126~127 Kimundang Publication.
- 4) Yang, Dong-Yang(1998), A study on Large Complex of Commercial and residential Buildings, *Journal of Architectural Institute of Korea*, Vol.14(11), p.243.
- 5) The ministry of education suggested that to solve the problems such as elementary schools being too big and crowded in large cities, the first floor of old apartment buildings can be used as small classes for the first and second grade students, *Korean Education Newspaper*(1999), June 14th, p.2.
- 6) *Dong-ah Il Bo*(1999), July, 29th.
- 7) Son, Seung-Kwang(1996), The remodeling and renovation for the reuse of slum apartment in Korea Context, *IAPS 14th Conference Proceeding*, Stockholm, Sweden.
- 8) Kim, Hye-Jong(1992), *A Study on Residence Movement Cycle Model*, Doctoral dissertation, Yeonse Graduate School.
- 9) Ben Farmer(1983), *Tower Blocks*, p.103.
- 10) Chon, Chi-Seok et al.(1998), A study on changed use of independent houses into functional facilities, *Journal of Architectural Institute of Korea*, Vol.14(10), p.4.
- 11) Manifest neighborhood means manifest social relations among neighbors such as their joint going out for recreation and mutual visiting and latent neighborhood means just a kind attitude to neighbors. Specially, the attitude can bring actual action when they feel necessary., Kim, Choi-Su(1996), *Site Planning*, Kimundang Publication.
- 12) 土肥博至, *日本建築學大系*, No.20., p.118.