



## The spatial configurations in South Korean apartments built between 1972 and 2000



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### A B S T R A C T

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In order to overcome the housing shortage, a large number of apartments were built in South Korea during the second half of the 20th century. Thus, the apartments became the typical housing type in South Korea. This paper is intended to analyze the changes in the spatial configurations of the apartments constructed in Cheongju, South Korea, from the 1972 to 2000. This study has employed Space Syntax to quantify spatial and functional patterns within spatial configurations. The results of this research showed that the apartments built in 20th-century South Korea have specific spatial configurations arising from combining a modern way of life with the traditional lifestyle based on the *Ondol* system, and that the spatial configurations and sizes of the housing units changed in accordance with economic growth, housing policies, and the continued decrease in family size.

The overall trend in the spatial configurations was to extend the functionality of each space in a housing unit by combining, separating, and adding functional spaces, and by emphasizing the independence of the each space.

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### Introduction

After the Korean war ended in 1953, a significant housing shortage plagued South Korea. As a result, the South Korean government began constructing housing in devastated cities with a fund supported by the Korea Development Bank.

In South Korea, the first apartment building was constructed in 1958 according to the ordinance of the Ministry of Health and Social Affairs.

At that time, in many cities of Asia, the apartments had been adopted as a means to overcome land scarcity in rapidly growing cities (Appold & Yuen, 2007; Chau, Wong, Yau, & Yeung, 2007).

"The Five-Year Plan for Economic and Social Development" included plans for the supply of houses needed, and it was enforced from the early 1960s to the mid-1980s. After that period, the government developed several housing supply policies including "The Construction Program for Two Million Dwellings (1988–1992)" and the "Five-Year Plan for New Economy (1993–1997)." House building in South Korea was particularly brisk from 1989 to 2007, during

which time 10,705,656 housing units (70.6% of all housing in South Korea) were constructed (KNHC, 2009).

According to Housing Census conducted by the Statistics Korea (KOSTAT, 2009), thanks to these kinds of mass construction plans for housing, the proportion of homes to households in South Korea reached 100.6% in 2002. Thus, the housing shortage problem was solved in most places in Korea except for some metropolitan areas. The proportion of the apartments to all type of homes reached 47.7% in 2000 and 53% in 2005, when there were approximately 7 million apartment units in South Korea (KOSTAT, 2000, 2005).

During the twentieth century, the governments in Asian countries such as Korea, Singapore, Hong Kong intervened strongly in the housing and land markets, as many European countries did.

The Government of Singapore actively used and successfully implemented intervention programs, including an anti-speculation program introduced in 1996, in order to regulate the property market and property prices. On the other hand, the Hong Kong Government did not manage, although it tried, to regulate the property market and did not introduce measures to curb excessive speculation on housing into Hong Kong's housing program up to the year 2005. Even the government had taken advantage of the rise in property prices. Taxes on land and buildings were important sources of revenue to the Hong Kong government (Haila, 1999).

In the case of South Korea, the government intervention had led to speculation rather than stabilization in real estate market. Price control policy first introduced in 1977 was applied to any new

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dwelling supplied in 20 units or more. Therefore, it affected only apartments in practice. The price ceiling was differentiated according to the size of dwelling in 1985. In this situation, the difference between the controlled price and the market price on the large apartments was bigger than that on the small ones, while construction cost per square meter of an apartment decreased with increase of its size. Therefore, someone who might sell his or her apartments would get more windfall gains in proportion to the apartment unit size. As a result, consumers preferred larger units, and the developers were more interested in maximizing the share of larger units in an apartment construction project. This invited speculation to the housing market of South Korea. The inefficient and inequitable policies including the price control had been implemented by the late 1990s, because governmental officials feared the political ramifications of their decisions and the criticisms from the general public and the media (Kim, 1993; Kim & Kim, 2000).

Until the late 1960s, detached housing with a small inner was familiar to most people in South Korea, while apartment living was alien to them. Since the mid-1970s, apartments were under construction as a part of urban renewal projects, particularly in the form of planned housing estate development.

Given the population growth and limited land for residential use in large cities in South Korea, the government continued to push towards the construction of apartments.

In the 1980s, when city governments were heavily involved in urban renewal projects, the construction of apartments dramatically increased. Despite rising criticisms on the breakdown of the long-standing community in Korean society, the urban renewal project with apartment construction played key role in supplying fairly good quality of apartment housing and alleviating the housing shortage problem (Ha, 2010).

Thus, in just over half a century, apartments have become the typical housing type in South Korea in accordance with the need for a continuous housing supply. However, South Korea has experienced rapid changes in its economy and society, including such aspects as customer demands, policies, demographic systems, lifestyles, etc.; thus, the changes in the spatial configurations of the housing units have influenced the South Korean housing culture. Therefore, this study is intended to analyze how the spatial configuration characteristics of apartments have changed or settled in the socio-economic changes in South Korea from 1972 to 2000.

### Socio-economic changes in South Korea during the 20th-century

Approximately 6 million houses in South Korea were destroyed in the Korean War from 1950 to 1953. Hence, after the war, houses for relief and welfare were built with assistance funds from UNKRA (The United Nations Korean Reconstruction Agency), AID (Agency for International Development), and so on, but the quality of the houses was very low because it was important to build a large number of houses quickly (KRIHS, 1979).

In 1958, South Korea's first apartments, the Jongam apartments, were built in Seoul, using only South Korean technology. Starting then, the apartment housing culture of the West was introduced to South Korea. Those early apartments were equipped with modern amenities such as flush toilets and a floor heating system, an improvement on Korea's traditional heating system, the *Ondol*. Therefore, at that time, the apartment was recognized as a modern housing type offering convenience and comfort to the general public. However, there were problems—such as noise, conflicts between neighbors, and poor cleanliness stemming from abandoned waste in the public spaces—that were caused by lack of co-residential living experiences (Gang, 2009).

Since the 1960s, South Korea had experienced the rapid economic growth. By the mid-1980s, South Korea had become a trade surplus country. This remarkable change was achieved through the adoption of the government-led growth and development strategy based on export expansion, focusing on the growth of large firms. However, the government's control of credit allocation for Korea's industrialization inhibited the development of an efficient banking system and enlarged the gap between large and small firms. In the 1980s, despite the government's attempts to correct the high concentration of bank loans to large firms and to allocate more credit to small and medium enterprises, structural and financial problems in the nation's economy appeared in the 1990s (Harvie & Lee, 2003).

In the early 1960s, the South Korean government's housing construction was sluggish because of the deterioration of economic conditions, such as reduction of aid money, inflation, and the rising cost of land. Therefore, in order to recover the economy, the government implemented "The Five-Year Plan for Economic and Social Development" in 1962. The government attempted to keep the housing supply parallel with economic growth by implementing a housing construction plan as a part of the five-year plan for economic and social development. In particular, in order to solve the housing shortage problem, the government of South Korea helped Korea National Housing Corporation (KNHC) founded in 1962 to keep the supply of apartments steady and stimulated private construction companies through financial support. In 1978, the Korean government selected 55 housing construction companies and encouraged them to build a certain number of apartments (KRIHS, 1979).

Since the 1980s, the South Korean government has intervened in the private housing sector more frequently through the introduction of various restrictions, including sale price control, residential land development regulations, and public allocation of residential land (Cho, 2007; Hannah, Kim, & Mills, 1993; Kim & Kim, 2000).

Sustained economic growth after the 1970s increased per capita Gross National Income (GNI) as presented in Fig. 1, and improved the overall quality of housing significantly after the 1980s. Thereby, per capita floor space increased, while dwellings equipped with modern kitchens and flush toilets steadily increased (Ha, 2007, p. 118).

Besides, with urbanization and the increase of real estate prices, housing supply had increasingly targeted capital accumulation, including opportunities for households to invest in housing assets as well as the profits of developers, rather than simply aiming to provide habitation (La Grange & Jung, 2004).

In South Korea, housing regeneration projects were accompanied by a booming housing market in the 1980s when apartments became popular. Housing regeneration projects have contributed to a housing stock increase. However, the "gentrification" phenomenon, in which low-income families are displaced, isolated and marginalized when the slums are replaced by more middle-income families, appeared with the destruction of the slums where low-income families were concentrated (Ha, 2007). The construction of social housing estates expanded step by step for poor people because of those kinds of social trends. Thus, a permanent public rental housing program was launched for low-income people in South Korea in 1989 (Ha, 2008). As of 2002, the volume of public rental housing stock in South Korea reached 8 percent of all housing stock. This was an extremely low level, however, compared with neighboring Japan (37%) and Hong Kong (35%) (Kim, Kim, & Yoon, 2004).

Changes in the performance of housing construction contributed to South Korea's struggles in maintaining enough housing. Though approximately 250,000 households were built annually in

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