

# 1인가구 증가에 대응한 소형 공동주거시설의 건축기준 정비 방안

Improving building standards of small multi-family residential developments  
in response to increasing single-person households

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Summary

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## □ Research background and objectives

The ratio of 1–2 person households started to surpass 3–4 person households in 2010, and from 2015, single-person households accounted for the highest proportion in the total household size. In 2019, single-person households exceeded 30% which increased to 31.7% in 2020. The government has implemented various housing supply policies to respond to the sharp increase in single-person households and to ensure housing for vulnerable groups such as young adults, newlyweds, and the elderly. Through a series of housing supply policies, the number of small-scale residential developments is expected to increase in the future. However, despite such supply measures, housing quality issues such as inter-floor noise problems, housing lifespan, and the substandard housing quality of semi-basement housing still persist.

Consequently, this study was conducted to improve the building standards for small residential developments to ensure a decent and stable housing supply for single-person households. This was based on understanding the housing conditions of single-person households and small residential developments, and analyzing the current building standards according to the different housing types.

#### □ Factors of small residential development increase and its characteristics

According to the Population and Housing Census, Korea Housing Survey and Household Projections, the proportion of single-person households is the highest among total household size, accounting for 31.7% in 2020, and is expected to rise to 36.4% by 2040. Among young adult households, the proportion of single-person households is 61.9% which is approximately twice that of the proportion in general households. As for the dwelling of single-person households, the proportion of those living in detached housing – including multi-user houses and multi-unit houses – and in places that are not officially recognized as housing was found to be high. Considering individual housing areas, 65.8% lived in dwellings smaller than 20m<sup>2</sup>; 52.8% in 20~40 m<sup>2</sup>; and 28.7% in 40~60m<sup>2</sup>.

The policies for integrating public rental housing and strengthening residential support for single-person households aimed to set a housing area standard by household size. In addition, a new building type, the communal dormitory, was introduced so that both the public and private sectors could provide large-scale shared residential buildings. The current government's housing plan, prepared in August 2022, also aims to increase the supply of small-scale residential developments through customized housing support programs for low-income households, and a new model of sale that combines rental and sale targeting young adults and first-home buyers.

In this context, the study analyzed the current status and characteristics of small-scale residential developments, and housing-related laws and regulations. With 60m<sup>2</sup> as the housing area limit, detached housing, apartments, urban residential housing, dormitory, communal living facility (*gosiwon* or room and board with facilities enabling students to study in compartmented rooms), and *offictels* were targeted for a detailed review.

#### □ Resident survey regarding small-scale residential developments

An in-depth resident survey of those living in small-scale residential developments was conducted to analyze the resident's level of satisfaction, living requirements, the use of space, and the housing environment performance. The main demands of the residents were categorized into five aspects.

First, residents demanded space that is more accommodating toward their lifestyle as opposed to living in uniform spatial compositions. Second, since limited space is a

genuine problem experienced by residents, a minimum space standard need to be ensured. Third, more storage space is required as more than half of the residents responded that they lack storage. Fourth, sound and light environment, and air quality need to be improved, especially in multi-unit houses and detached houses. Last, safety measures against fire, crime, and other hazards need to be maintained through continuous facility management.

#### □ Building standards for small-scale residential developments

The research examined the building standards under the Housing Act and the Building Act, and their application according to the different housing types. Based on the analysis, the study found that there were issues regarding housing performance levels and issues arising from the discrepancies in the purpose and application of the Housing Act and the Building Act.

Currently, multi-family housing and urban residential housing, which are managed via the Housing Act, need to comply with the Minimum Housing Standards. However, dormitories, *gosiwon*, and *officetels* are not subject to the minimum area standards as these are managed by the Building Act. However, for dormitories, separate minimum area standards are proposed by classifying personal space and shared space separately for communal dormitories.

The study also found that areas that reinforce a sense of community are lacking in small-scale residential developments. Urban residential housing other than the complex type of tenement houses or multi-household houses with more than 150 households, is exempt from providing community facilities under the Regulations on Housing Construction Standards, Etc. For *gosiwons* and general dormitories, while there are provisions on common areas and facilities, regulations regarding communal activities' area are absent.

Problems in terms of housing performance standards include the low insulation performance level of residential developments other than the general multi-family housing type. For instance, *officetels* and dormitories which are classified as non-residential developments under the Energy Saving Design Criteria of Buildings need only to comply with lower heat transmittance standards.

As for detached housing, multi-family housing, and *officetels*, the living room window

area is set forth as more than 1/10 of the living room floor area for daylighting and more than 1/20 for ventilation under the Rules for Evacuation and Fire Protection Structure Standards for Buildings. However, *gosiwons* require windows of more than 0.5m<sup>2</sup> for the second floor and above. Such uniform rule needs to be examined in relation to the average living area of this dwelling type to verify its appropriateness. As for ventilation equipment installation, although there are regulations concerning multi-family housing with more than 30 households, in the case of *officetels* and dormitories, this only applies to buildings larger than 3,000m<sup>2</sup> and 2,000m<sup>2</sup> respectively.

For multi-family housing, the outdoor noise level is to be maintained below 65dB and indoor noise below 45dB according to the Regulations on Housing Construction Standards, Etc. However, the outdoor noise level standard does not apply to urban residential housing. Also, while the external wall thickness of multi-unit housing and multi-family housing need to comply with the Regulations on Housing Construction Standard, Etc. to be more than 15cm when building with reinforced concrete, for *gosiwons* and *officetels*, this is set as 10cm. Regarding floor impact noise, for multi-family housing and *officetels* with more than 30 households, lightweight aerated concrete is included in the standard floor structure, but for multi-family housing with less than 30 households, *officetels*, *gosiwons*, and dormitories, this layer is excluded.

In relation to evacuation and fire prevention performance, only parts of the details of Article 15 of the Rules for Evacuation and Fire Protection Structure Standards for Buildings are applied to *gosiwons*.

#### □ Improving building standards for small-scale residential developments

Based on the earlier analysis, the study set the following building standard improvement measures: expand the minimum residential area standard target to include non-housing dwelling types; introduce planning provisions for common areas; enhance insulation performance, window area, noise-proof performance, and fire evacuation standards for non-housing dwelling types. The proposed improvement measures were examined by architects, researchers, government officials, and academics to collect feedback on the appropriateness and feasibility of introducing policy changes. Upon the review, the study further developed the building standard improvement measures as follows.

Minimum residential area standards should extend to include *officetels*, *gosiwons*, and general dormitories. Planning common areas suitable for communal activities requires

amending the Regulations on Housing Construction Standards, Etc. so that urban residential housing is not exempt from providing community facilities. Furthermore, the study suggested adding a clause that allows the provision of hobby rooms, multi-purpose rooms, etc. for *gosiwons* and *officetels* based on resident demand.

Living room external wall heat transmittance and thickness standards of small-scale residential developments need to rise to the level equivalent to multi-family housing standards. This concerns strengthening regulations for *officetels* and *gosiwons*.

New regulations need to be introduced regarding window area standards in the Communal Living Facility Building Standards and Dormitory Building Standards (public announcement draft) to secure appropriate ventilation and daylight level.

For a quiet indoor environment, the noise and sound insulation performance standards of urban residential housing should be on the level of multi-family housing. The wall thickness and permissible indoor noise level between rooms need to be introduced in the Communal Living Facility Building Standards, and the Dormitory Building Standards. Furthermore, the study proposed to amend the clause concerning the floor structure in the Inter-floor Floor Impact Noise Prevention Structural Standards so that *officetels* used for residential purposes, dormitories, etc. are built as more rigorous structures that isolate floor impact noise.

Improvement measures of fire evacuation standards for creating a safe indoor environment aim to amend the Communal Living Facility Building Standards so that direct stairs conform to Article 8 (Installation of Direct Stairs) and Article 15 (Installation Standards for Stairs) in the Rules for Evacuation and Fire Protection Structure Standards for Buildings.

#### ☐ Future research agenda

This study was conducted to review and update the building standards concerning small-scale residential developments. However, to resolve fundamental shortcomings of the current policy system, the study argued that all types of residential development should conform to the Regulations on Housing Construction Standards, Etc. under the Housing Act. Lastly, the review of the Minimum Housing Standards under the Framework Act on Residence which hasn't been announced until now needs to be appropriated to small-scale residential developments in the near future.