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From "Housing Security" to "Housing Quality": The Common Implications of Japan's UR Rental Housing Experience for China's Affordable Housing and South Korea's Public Housing

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Abstract

This study focuses on the commonalities and differences in the public housing systems of three East Asian countries, using Japan's UR Rental Housing as a case study. It employs a composite methodology that integrates architectural typology and cross-cultural comparison, constructing theoretical linkages within a three-dimensional framework of "social institutions–cultural context–spatial structure". The research emphasizes three key dimensions: (1) The evolution of policy frameworks and their underlying socio-cultural drivers; (2) The spatial layout logic and functional concepts embedded in residential unit planning; (3) The transformation and inheritance of traditional residential values in contemporary housing design. The study strictly adheres to a progressive logic of "sample construction–type decoding–paradigm extraction–cross-domain comparison–theoretical feedback". It begins by analyzing the core issues in the supply structure and spatial adaptability of affordable housing in China and South Korea. Next, it systematically examines the policy evolution and spatial design paradigms of Japan's UR Rental Housing. Subsequently, it constructs a comparative analytical matrix for public housing in China, Japan, and South Korea, identifying transferable common experiences and pathways requiring localized adaptation. Finally, it proposes targeted recommendations across three dimensions, namely policy framework, spatial design, and community building: (1) At the policy level, a full lifecycle governance framework is advocated; (2) In spatial design, the principles of "compactness and efficiency" are emphasized, alongside enhanced flexibility and cultural relevance; (3) In community building, efforts are directed toward activating interpersonal connections and strengthening the social functional attributes of housing. This study emphasizes transnational comparability and knowledge transferability, aiming to provide practical insights for China's affordable housing reforms and South Korea's public housing modernization. It seeks to promote cross-national learning and collaborative innovation in the regional housing sector, offering both theoretical reference and practical pathways to realize the shared vision of "restoring housing to a human scale".

Keywords: public housing; affordable housing; UR rental housing; housing policy; living space optimization

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1. Introduction

Since the mid-20th century, the growing tension between inadequate housing supply and residential demand has become a shared challenge for East Asian countries [1–3]. To address

housing shortages and meet diverse living needs, major East Asian nations and regions such as Japan, South Korea, and China have successively introduced a series of housing policies, gradually establishing and refining their distinctive public housing systems. With the deceleration of urbanization and the near-completion of large-scale housing construction, these systems have collectively entered a historic transition phase—shifting from "ensuring quantity" to "enhancing quality". Demographic trends toward lower birth rates, aging populations, shrinking household sizes, and rising expectations for residential quality have driven these three nations to refocus their public housing development from addressing "availability" to tackling "quality". This evolution marks the entry of East Asian housing policies into a new stage centered on the pursuit of residential excellence [2–6].

Against this shared backdrop of transition, Japan's public housing system, particularly the rental housing operated by its Urban Renaissance Agency (UR), has emerged as a representative development paradigm in East Asia, owing to its mature policy design, refined spatial planning, and deep cultural adaptability. Japan's UR, rental housing has not only completed the shift from "quantity" to "quality" but has also demonstrated notable policy resilience and humanistic adaptation in addressing high-density urban environments, an aging society, and diverse residential needs [4,5,7]. Its experience is deeply embedded within Japan's unique policy support systems and cultural context, offering comparable and instructive insights for China's affordable housing and Korea's public housing sectors as they confront similar challenges [8,9].

For China, the current construction of affordable housing is at a critical stage of transitioning from "scale expansion" to "quality enhancement". Against the backdrop of deepening urbanization and evolving housing-related challenges, how to respond to diverse and dynamic residential needs through refined design has become an urgent practical issue [4,5,10–12]. While South Korea's public housing has achieved remarkable results in terms of supply scale, it continues to face pressure to optimize aspects such as living quality, community functionality, and cultural identity. Particularly under the dual drivers of global competition and demands for social equity, both countries need to explore a high-quality development path for public housing that is grounded in local realities while also embracing an international perspective [4–6,13–15].

Therefore, this study takes Japan's UR rental housing as a starting point to systematically examine its policy evolution, design logic, and cultural expression. Building on this analysis, it explores the implications for the development of public housing in China and South Korea [16–18]. This research not only contributes to a deeper understanding of the commonalities and differences in public housing development across East Asia but also provides empirical references and strategic insights for both countries in three key dimensions: "policy system construction, spatial design optimization, and the preservation of residential cultural heritage". By doing so, it aims to promote the formation of a more adaptive, inclusive, and sustainable public housing development model, ultimately facilitating a substantive transition in East Asian residential civilization from "having a place to live" to "living in a quality home" [19–22].

Existing research has predominantly focused on macro-institutional analyses, such as policy evolution and financing mechanisms, often overlooking the critical role of residential spatial units as the core carriers of quality [1–4,8–11,16–27]. Dwelling design, however, directly influences the comfort, health, and dignity of residents' daily lives, serving as the ultimate material embodiment of policy objectives and socio-cultural values. Therefore, this study centers on the following key questions: What mature paradigms of residential spatial design have emerged from the long-term practice of Japan's UR rental housing? How have these paradigms been shaped and effectively operationalized under the combined influence of policy instruments and cultural logic? Through a typological cross-national

comparison, what actionable spatial design insights can these paradigms offer to enhance the quality of public housing in China and South Korea?

2. Research Methodology and Framework

This study constitutes an explanatory multiple-case research, aiming to reveal the deep-seated interaction mechanisms between spatial design and socio-cultural contexts, as well as lifestyles, through an in-depth analysis of Japan's UR rental housing cases. The core methodology adopts a hybrid approach that integrates architectural typological analysis with cross-cultural comparative research, transcending the traditional typological focus on morphological classification alone. Instead, it seeks to construct explanatory theoretical connections across the three dimensions of "social institutions–cultural contexts–spatial structures". Building on this foundation, the study adopts a dynamic relational perspective, viewing dwelling layouts as both "containers of life" and "social texts", emphasizing the mutually constitutive relationship between spatial forms and lived practices. Furthermore, through cross-scale analysis ranging from overall neighborhood planning to individual building layouts and further to specific unit plans, a logically coherent "macro-meso-micro" framework is established, thereby enhancing the systematic rigor of the research.

This study follows a progressive logic of "sample construction–typological decoding–paradigm extraction–cross-domain comparison–theoretical feedback", establishing a complete closed loop from empirical observation to theoretical construction (as shown in Figure 1). First, against the backdrop of demographic shifts, diversification of household structures, and rising demands for residential quality in East Asian societies, the study identifies core challenges faced by affordable housing in China and South Korea, including "structural imbalances in supply, inadequate spatial adaptability, and a lack of cultural alignment". Second, from both institutional and spatial dimensions, it systematically traces the policy evolution and spatial characteristics of Japan's UR rental housing. Building on this, the study employs architectural typological analysis to extract the spatial organization paradigms and institutional operational logic of UR housing. It then constructs a comparative analytical matrix for affordable housing across China, Japan, and South Korea, identifying transferable common experiences and pathways for localized adaptation. Finally, the study synthesizes the humanistic considerations and sustainable development lessons from UR rental housing, offering value-oriented insights for the development of affordable housing in China and South Korea.

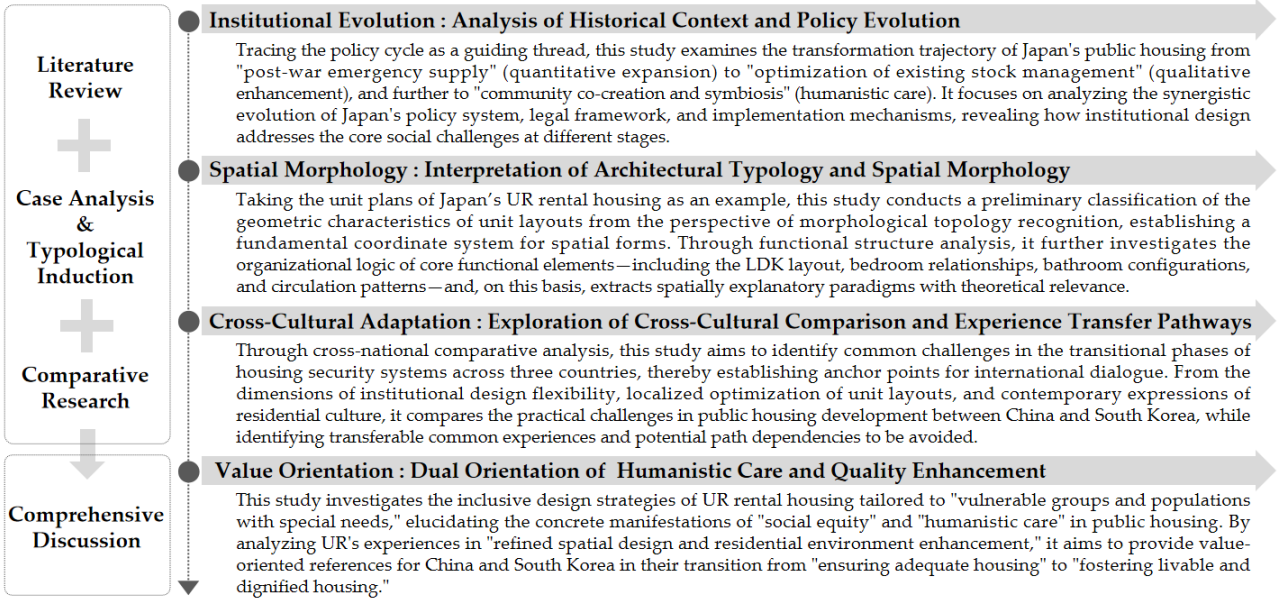


Figure 1. Research Methodology and Framework.

3. Development History of Public Housing in Japan

3.1. Policy Context and Supply Types

World War I stimulated Japan's commercial and industrial development but also led to social issues such as urban population concentration and housing shortages. To address the housing crisis, the Japanese government intervened in the housing market and provided public housing. After the Great Kantō Earthquake, to mitigate the worsening housing shortage, the Japanese government established the Dōjunkai in 1924, constructing small-scale housing for disaster-affected residents. Following World War II, to tackle the housing deficit, the Japanese government built emergency temporary housing, established the War Damage Rehabilitation Board, repurposed buildings into temporary residences, and proposed strategies to utilize private rental housing resources. After the 1950s, with the core goal of increasing housing supply, the Japanese government developed public housing policies. In 1950, the Government Housing Loan Corporation (now the Japan Housing Finance Agency) was established, followed by the enactment of the Public Housing Act in 1951 and the creation of the Japan Housing Corporation (now the Urban Renaissance Agency) in 1955. These formed the three pillars of Japan's housing policy, promoting the standardization of public housing construction and supply (see Figure 2). Concurrently, the emergence of public housing, GHLC housing (abolished in 2007), and Japan Housing Corporation housing (now UR rental housing) increased housing supply and refined the public sector-led housing provision system. In 1980, the Japanese government merged the Japan Housing Corporation into the Housing and Urban Development Corporation, which was renamed the Urban Renaissance Agency in 1999. Through the UR rental housing model, it continues to provide public rental housing, making it the most significant public rental housing model in Japan today [4–9,23–25].

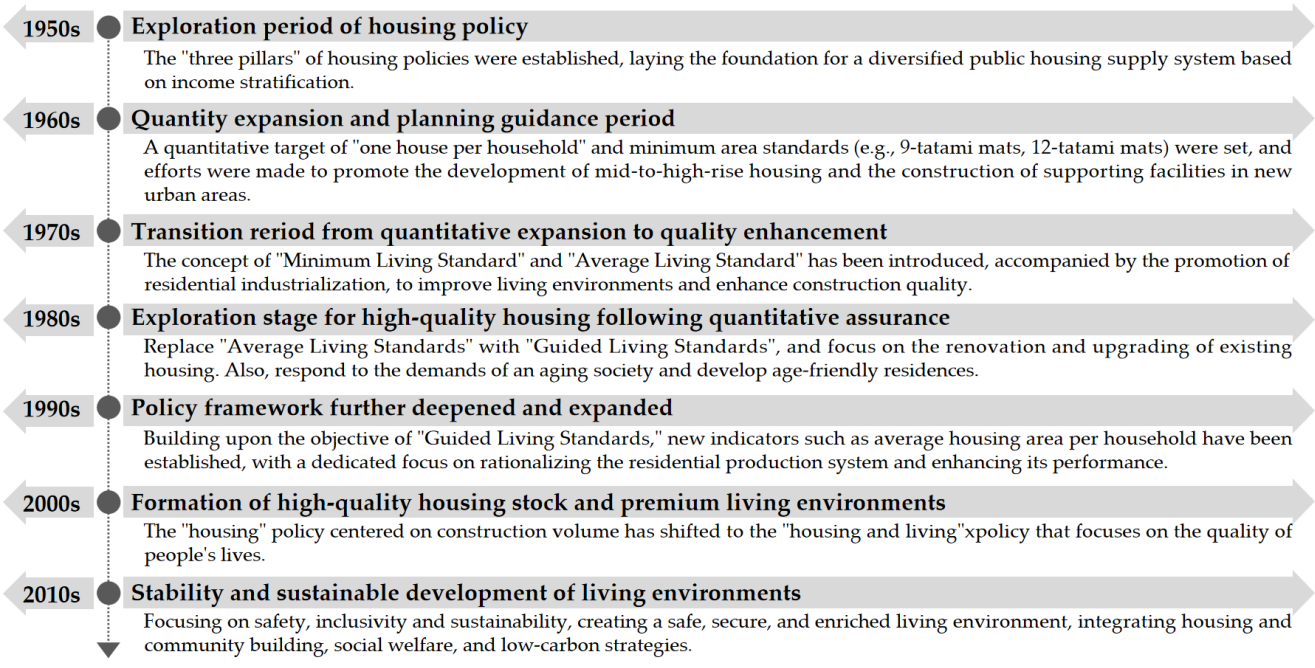


Figure 2. Evolution of Japan's Public Housing Policy.

The evolution of housing policies has driven the transformation of the public housing supply system. In the early post-war period, the system centered on publicly operated housing, public-loan housing, and corporation housing, gradually evolving into a diversified supply framework that includes housing provided by communal housing, specified high-quality rental housing, and service-provided senior rental housing (as shown in Figure 3).

This transition illustrates the shift in Japan's housing policies from large-scale, generalized supply to a more refined, targeted, and community service-integrated approach. In terms of legal frameworks, the enactment of the "Local Housing Supply Public Corporation Act" in 1966 facilitated the establishment of local housing supply public corporations and the formation of the corporation housing system. The specified high-quality rental housing system was implemented in 1993, followed by the development of high-quality rental housing for the elderly in the 21st century. The enactment of the "Special Measures Act for Promoting the Supply of Public Rental Housing, etc." in 2005 and the "Basic Act on Residential Life" in 2006 responded to diverse regional housing needs and laid the legal foundation for the advancement of service-oriented senior rental housing [8,9,24–26].

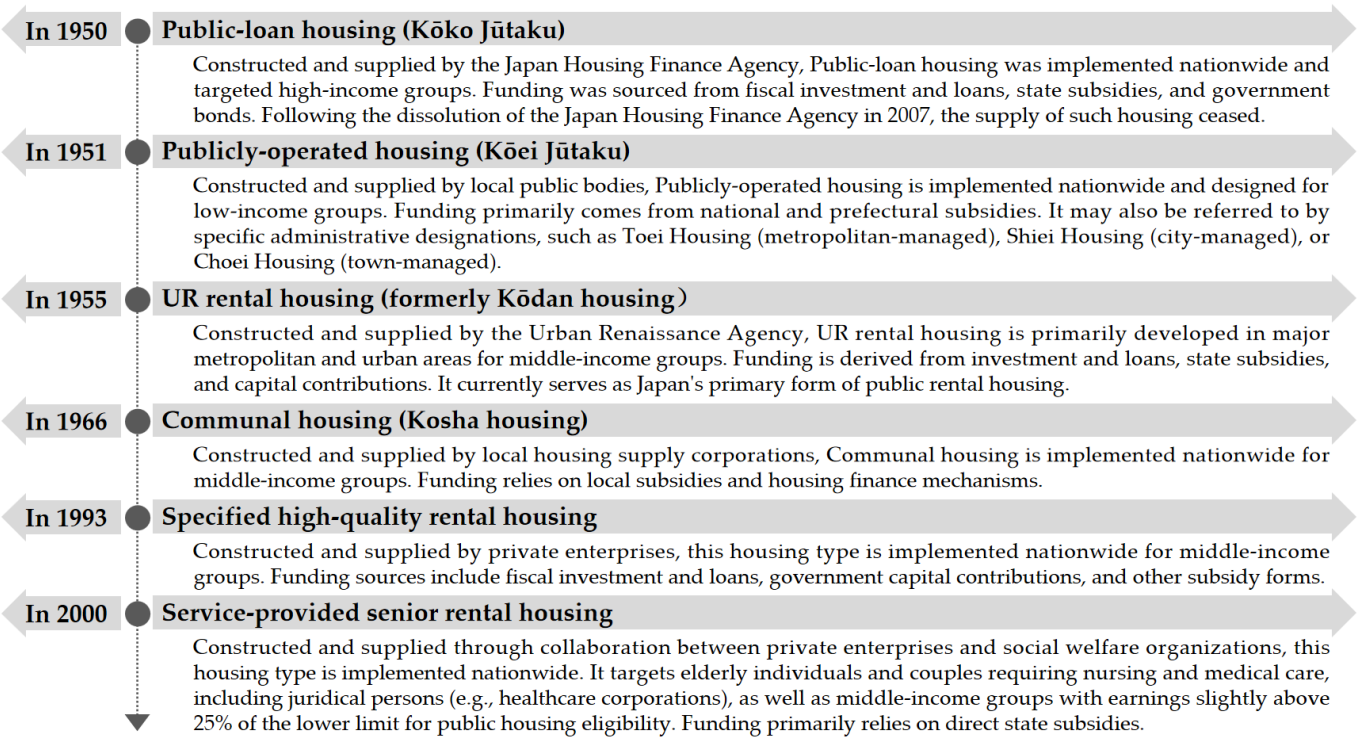


Figure 3. Public Housing System in Japan.

In summary, the evolution of Japan's postwar housing policy demonstrates a clear trajectory: from emergency responses to housing shortages, to pursuing quantitative expansion, then to comprehensively improving quality and performance, and ultimately progressing toward a people-centered approach that balances safety, equity, and sustainable development. The key lesson lies in its continuous institutional innovation and legislative refinement, dynamically adjusting policy objectives and instruments in response to socioeconomic changes. This process has established and continually adapted a multi-tiered and diversified housing supply and security system, which covers various income groups—particularly middle-income households—and addresses lifecycle needs, with special attention paid to the elderly population. Through this evolution, Japan has successfully transitioned from a singular supply-focused model to a diversified, service-oriented housing system.

3.2. Residential History and Cultural Background

Driven by the interplay of socioeconomic changes, national policy guidance, and advancements in building technology, the development of collective housing in Japan has evolved from modernization to contemporary sophistication, transitioning from an

emphasis on scale expansion to a focus on quality and sustainable development. Prior to the emergence of modern collective housing, the predominant form of collective living in Japanese cities was the "nagaya (longhouse)"—typically single-story wooden structures with shared outdoor facilities. This was followed by the appearance of two- to five-story multi-story brick–concrete buildings, which can be regarded as the embryonic form of Japanese collective housing. In the late 1880s, Japan embarked on its modernization journey, influenced by Western culture, which brought transformations across various fields and lifestyles. Particularly since the early 20th century, with the introduction of collective housing, it gradually became a dominant urban residential form. Impacted by the global financial crisis and the asset price bubble, Japan's economy has undergone four distinct phases: the postwar recovery period (1945–1954), the high-growth period (1955–1973), the slow-growth period (1974–1991), and the prolonged stagnation period (1992–present). These economic shifts have profoundly influenced housing construction and supply [4–6,19,20,27]. Following the two world wars, Japan faced severe housing shortages, prompting the government to implement various strategies and policies to promote housing construction. The first oil crisis in 1973 acted as a constraint on housing development, encouraging diversification in residential design. By the 1990s, housing construction philosophies began shifting toward the pursuit of high-quality living environments. Against this backdrop, the evolution of collective housing in Japan can be summarized into four distinct phases (see Figure 4).

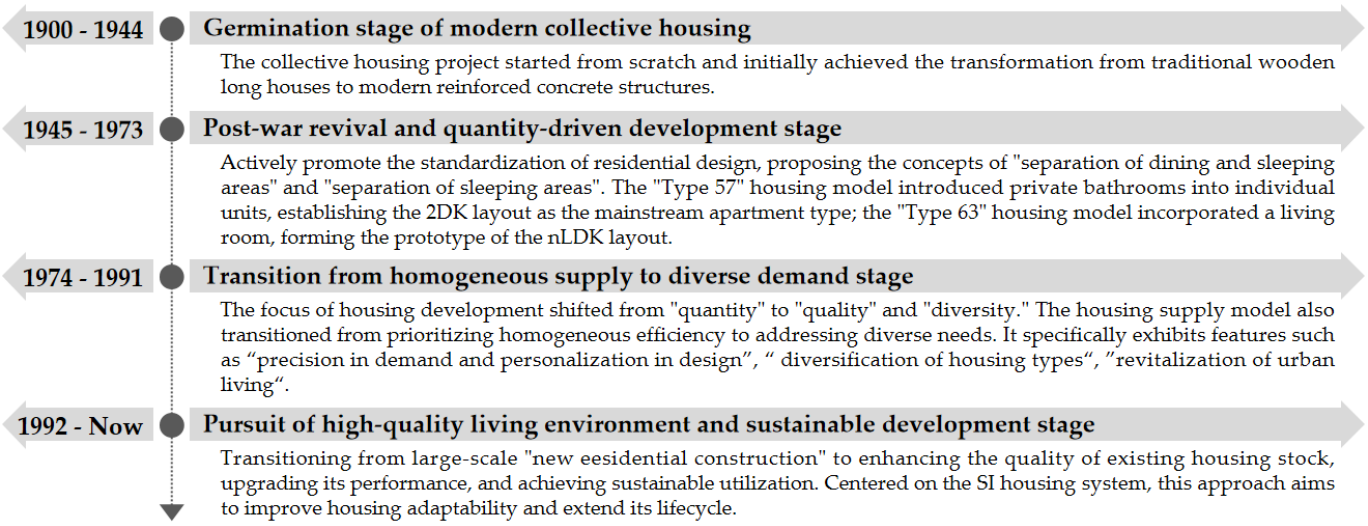


Figure 4. History of Residential Development in Japan.

The evolution of floor plan layouts in Japanese collective housing has transitioned from functionally mixed spaces to clearly defined zones, progressing from adaptation to traditional customs toward integration with modern lifestyles. Its core principles lie in the refinement of functional separation, standardization of spatial composition, and modernization (see Figure 5). The completion of the "Mitsui Dōzoku Apartments" in 1910 marked the beginning of a new phase, characterized by highly integrated unit functions and externalized facilities. In the 1920s, the introduction of Western-style housing led to the coexistence of Japanese tatami rooms and Western-style living rooms or fully Western layouts. Residential functions were increasingly integrated within the unit, and the "two-part separation" sanitary space emerged. Following the 1940s, post-war mass construction spurred standardized design. The introduction of the DK (dining-kitchen) space achieved "separation of eating and sleeping areas", while the principle of "separation of sleeping and living spaces" was clearly established, forming the foundational guidelines for unit design

and gradually diversifying floor plan configurations. After the 1960s, unit layouts evolved toward functional integration and refined separation. By the 1970s, the LDK (living-dining-kitchen) integrated space became widespread, enhancing the quality of family communal life and interaction. The "three-part separation" bathroom layout was widely adopted, achieving optimal segregation of clean and soiled areas while maximizing usage efficiency. Since the 1990s, challenges such as declining birthrates and an aging population have driven the development of adaptable and sustainable unit designs [4–6,25]. This evolution signifies the modernization of Japanese collective housing layouts—from merely meeting basic spatial needs to pursuing comfort and functional refinement. It reflects the transformation of family structures and lifestyle values from traditional to contemporary, while still preserving certain traditional elements in design, such as independent entryways and the enduring influence of tatami culture.

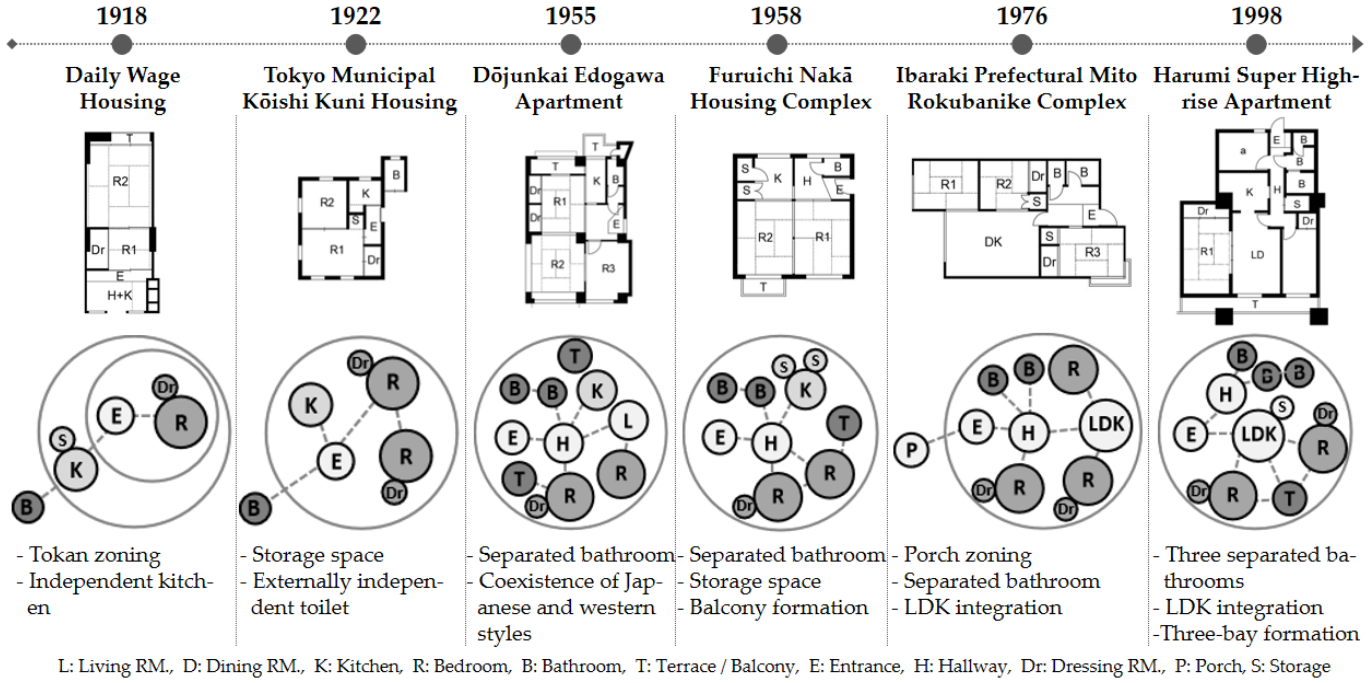
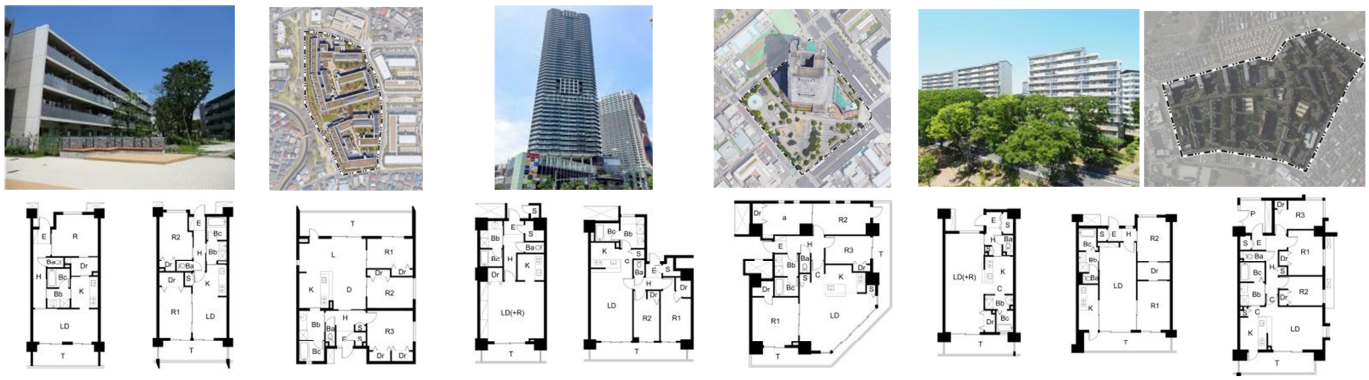


Figure 5. Evolution Patterns of Japanese Residential Unit Plans.

4. Overview and Architectural Features of Analysis Cases

This study conducts a systematic and in-depth analysis of the architectural and spatial structural characteristics of UR rental housing projects built in Japan around the 2010s, using specific cases for examination. During the case selection process, the latest data and project information provided on the official website of Japan's UR Agency were primarily referenced [28,29]. Nine large-scale, representative rental housing projects currently in operation and still being supplied were selected as research subjects (see Table 1). These cases not only cover multiple major metropolitan areas geographically but also exhibit rich diversity in architectural forms, residential unit configurations, and community planning. This diversity facilitates a comprehensive understanding of the design characteristics and development trends of UR housing during this period.

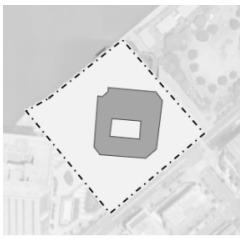
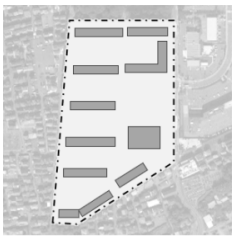
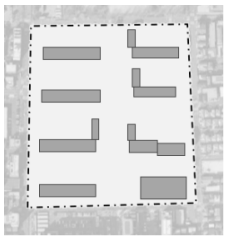
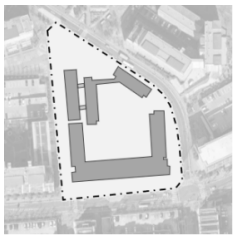
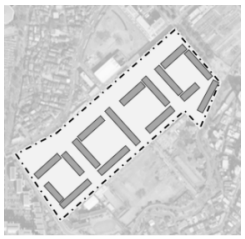
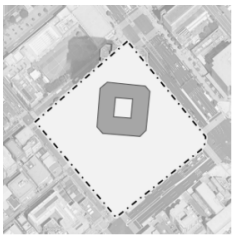
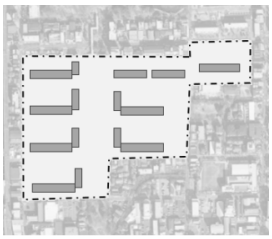
Table 1. Analysis Cases of UR Rental Housing in Japan.

P1_Bay city Harumi Skylink Tower	P2_Green Hills Higashikurume	P3_Torigai Nishi-Arai Central Park
		
P4_Parktown Higashi-Ayase	**P5_Heart Island Nitta 4-Chome**	**P6_Nouvelle Akabanedai**
		
P7_Chareru Ogikubo	**P8_Kachidoki View Tower**	**P9_Hibarigaoka Park Hills**
		

4.1. Site Planning and Floor Planning Characteristics

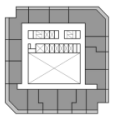
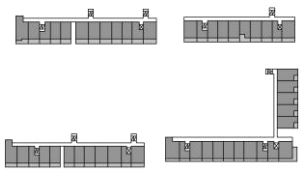
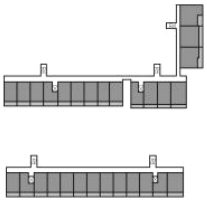
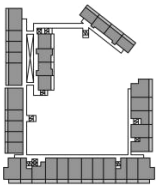
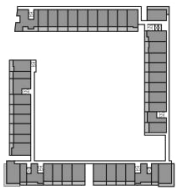
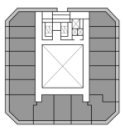
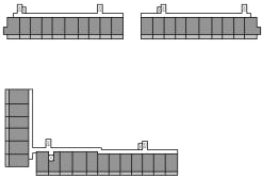
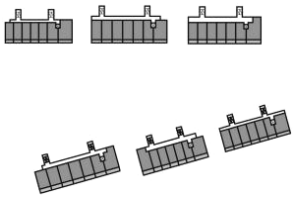
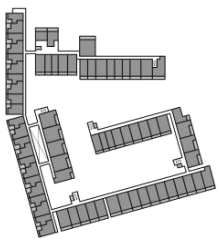
All nine Japanese residential projects examined in this study were completed before 2012. This characteristic aligns closely with the broader industry context of Japan entering a housing stock phase in the 2010s, during which new residential construction projects declined sharply. In terms of overall site layout, the projects can be categorized into two main types: the first is the super-high-rise standalone tower layout, represented by P1 and P8; the second is the multi-building, mid-to-high-rise residential complex layout, which includes the remaining seven projects (as shown in Table 2).

Table 2. Site Planning of Japan's UR Rental Housing Cases.

Tower-Type	Slab-Type		Courtyard-Type	
				
P1	P2	P3	P5	P6
				-
P8	P4	P9	P7	

Projects P1 and P8, both super-high-rise standalone towers, exhibit high similarity in terms of site utilization and architectural form: each is situated on a diagonally oriented square plot, adopting a nearly square north–south oriented plan that rotates and nests to adapt to the site (as shown in Table 3). The buildings feature a "donut-shaped" floor plan, with corner chamfers or concave cuts employed to break the monotony of the façade. An internal courtyard ensures natural lighting and ventilation for all residential units, which are arranged along the perimeter. Corridors are positioned near the courtyard, while continuous balconies on the exterior façade serve both functional and aesthetic purposes. This design demonstrates the adaptability of Japanese residential architecture to high-density urban environments, a feat made possible by innovative practices in horizontal fire evacuation for residential buildings [5,6,25,30–34].

Table 3. Floor Planning of Japan's UR Rental Housing Cases.

Tower-Type	Slab-Type		Courtyard-Type	
				
P1	P2	P3	P5	P6
				-
P8	P4	P9	P7	

https://doi.org/10.3390/buildings16071412

In the layout of multi-building, mid-to-high-rise residential complexes, building clusters often adopt enclosed or semi-enclosed arrangements. Based on the configuration of buildings, residential complexes can be categorized into slab-type layouts and courtyard-type layouts (see Table 2). The four slab-type projects, P2, P3, P4, and P9, adopt a layout logic centered on parallel arrangements of linear or L-shaped slab buildings. Among them, P2, P3, and P4 are primarily oriented north–south, utilizing an open layout to ensure efficient ventilation between buildings and connectivity to external amenities, while minimizing visual interference between structures. In contrast, P9 aligns with the surrounding urban fabric and road network, adopting an east–west orientation as its main layout direction to better integrate with the urban spatial form. The building volumes exhibit differentiated characteristics: P2, P3, and P4 maintain a relatively uniform building height of 8–10 stories, whereas P9 encompasses a diverse range of scales, with building heights varying from 3 to 13 stories [4–6,33].

The three courtyard-type projects, P5, P6, and P7, create internal shared spaces through the enclosure of buildings, each employing distinct layout strategies: P5 connects six slab buildings via corridors, forming independent courtyards in combined U- and V-shaped configurations. Due to site constraints, the buildings are predominantly oriented east–west, with split-level designs enhancing the façade's architectural expression. P7 divides the building complex into two mirrored courtyard units, with buildings reaching a maximum height of only four stories. The layout is compact, featuring intersecting north–south and east–west-oriented slab buildings, while the courtyards are small in size and complex in form. P6 encloses four nearly square courtyards with thirteen slab buildings, arranged linearly along a diagonally oriented rectangular site. All residential units are oriented southeast or southwest to optimize sunlight exposure. The courtyard layouts not only provide residents with spaces for communal activities but also effectively buffer external disturbances, thereby enhancing overall living quality [4–6,32–34].

4.2. Types of Unit Plans

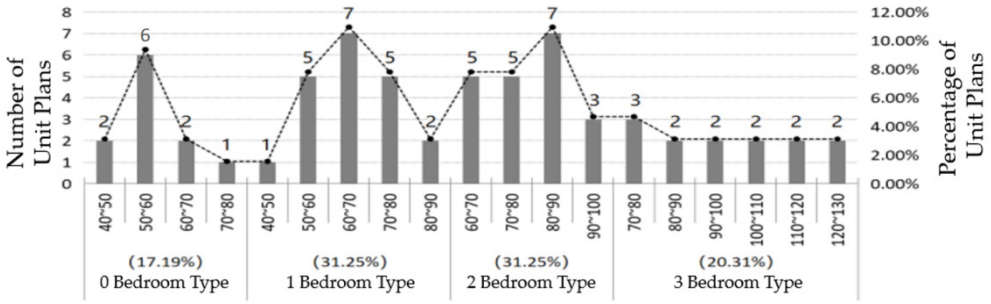
As shown in Table 4, the nine UR rental housing case studies examined in this research demonstrate the characteristics of "small-to-medium scale development combined with high unit typology diversity". The projects are predominantly small to medium in scale: three cases are of medium scale with 1000–1500 units, one case approaches 1000 units, and five are small-scale projects with fewer than 500 units. Collectively, they provide a total of 6596 residential units. The unit designs exhibit significant diversity, incorporating 237 distinct unit layouts, with each layout type corresponding to an average of fewer than 28 units. From the perspective of unit composition, market demand shows a clear preference for multi-bedroom units: two-bedroom and three-bedroom units account for 37% and 38% respectively, together exceeding 70% of the total. One-bedroom units represent 15%, while zero-bedroom units constitute only 10%. To ensure both comprehensiveness and representativeness in the analysis, the study selected 64 representative unit layouts as samples, comprising 11 zero-bedroom units, 20 one-bedroom units, 20 two-bedroom units, and 13 three-bedroom units. The distribution of the sample closely aligns with the actual market composition [28,29].

Based on the actual interior usable area inclusive of balconies, the unit sizes in this study sample range from 40 to 130 m^2, with differentiated distribution characteristics observed across different unit types. Zero-bedroom units are predominantly concentrated within the 40–80 m^2 range, among which units sized 50–60 m^2 account for 59% (6 units). Only one unit exceeds 70 m^2, reflecting an overall emphasis on small to medium-sized layouts. One-bedroom units span from 40 to 90 m^2, with 85% (17 units) falling within the 50–80 m^2 range, and only three units located outside this core interval. Two-bedroom units

range from 60 to 100 m^2, with 85% (17 units) clustered in the 80–90 m^2 segment, and only three units surpassing 90 m^2. Three-bedroom units cover 70 to 130 m^2 and display the highest degree of dispersion in size distribution: among the 13 units, three are smaller than 80 m^2, while the remaining ten are evenly distributed across the 80–130 m^2 range, demonstrating considerable flexibility in area design.

Table 4. Classification of Unit Plans in Japan's UR Rental Housing Cases.

Category		P1	P2	P3	P4	P5	P6	P7	P8	P9	Total	Percentage
Number of households	Number of households	367	1016	518	962	271	1343	411	204	1504	6596	-
	Proportion of unit types	10	42	35	33	10	90	27	6	35	28	-
Number of confirmed unit plans	0-bedroom types	7	-	2	3	4	1	1	4	1	23	9.71%
	1-bedroom types	17	5	5	12	7	12	8	10	14	90	37.97%
	2-bedroom types	11	6	5	11	8	8	3	17	19	88	37.13%
	3-bedroom types	2	4	3	3	6	3	3	3	9	36	15.19%
	Subtotal	37	15	15	29	25	24	15	34	43	237	100.00%
Number of reviewed unit plans	0-bedroom types	2	-	1	2	2	-	1	2	1	11	17.19%
	1-bedroom types	3	2	2	2	2	3	2	2	2	20	31.25%
	2-bedroom types	2	2	2	3	2	2	1	3	3	20	31.25%
	3-bedroom types	1	2	1	2	2	1	1	1	2	13	20.31%
	Subtotal	8	6	6	9	8	6	5	8	8	64	100.00%



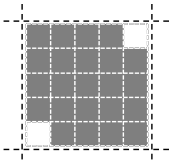
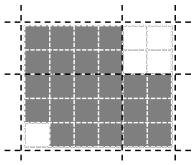
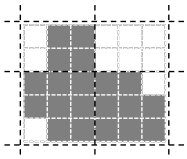
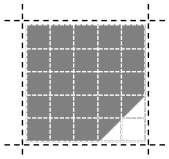
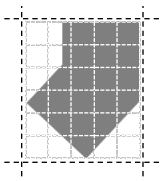
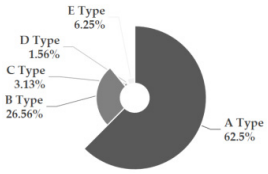
5. Spatial Composition Characteristics of Unit Plans

This study employs architectural typology as an analytical framework. Initially, from the perspective of morphological topology, the geometric characteristics of floor plans are preliminarily categorized to establish a foundational coordinate system for spatial forms. Subsequently, through a functional–structural analysis, it delves into the multidimensional organizational logic of spatial arrangements, including the integration and interface design of the LDK area, layout patterns of bedroom clusters, the compact yet user-friendly treatment of auxiliary spaces such as bathrooms, storage, and balconies, as well as the zoning of dynamic and static areas, separation of clean and dirty zones, and the organization of visitor circulation paths. Finally, by extracting universally applicable spatial principles from specific cases, the study forms transferable analytical categories.

5.1. Morphological Features of Unit Plans

In Japan's UR rental housing, the unit plan configurations, as shown in Table 5, primarily include square-shaped, L-shaped, T-shaped, and other irregular forms [5,6,12]. Among the 64-unit plan cases analyzed in this study, square-shaped units account for approximately 62% (40 units), making them the most common layout. L-shaped units follow, with 17 units comprising 27% of the total. Together, these two layout types represent 89% of the analyzed cases. The remaining 11% consist of two T-shaped units and five units with irregular layouts.

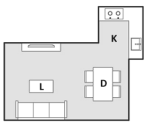
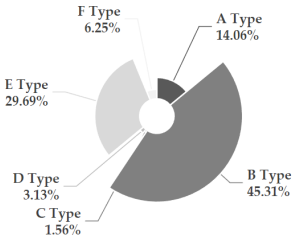
Table 5. Morphological Features of Unit Plans.

Square-Shaped	L-Shaped	T-Shaped	Others		
					
A Type_40ea	B Type_17ea	C Type_2ea	D Type_1ea	E Type_4ea	

5.2. L.D.K. Spatial Combination Patterns and Kitchen Layout Strategies

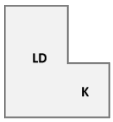
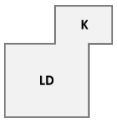
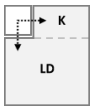
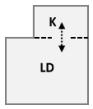
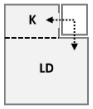
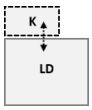
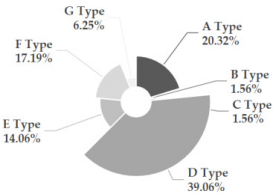
As shown in Table 6, the L.D.K. layout patterns of UR rental housing can be categorized into three types based on the configuration of the kitchen: open-plan, semi-open, and enclosed. The spatial arrangement and circulation design of the living room, dining area, and kitchen further allow open-plan kitchens to be subdivided into four types: LDK, LD-K, L-DK, and L-D-K. Semi-open and enclosed kitchens each correspond to one type, namely LD-(K) and LD/K, respectively [5,6,12]. Among the 64 analyzed cases, 41 units (74%) adopt an open-plan kitchen layout. Of these, 29 units feature the LD-K layout, while nine units adopt the LDK layout. Additionally, 19 units (approximately 30%) utilize the semi-open LD-(K) layout. The enclosed LD/K kitchen layout is relatively uncommon in UR rental housing.

Table 6. Combination Methods of L.D.K.

Open-Plan Kitchen				Semi-Open	Enclosed	
						
A Type_9ea LDK	B Type_29ea LD-K	C Type_1ea L-DK	D Type_2ea L-D-K	E Type_19ea DK(L)	F Type_4ea L/DK	

Focusing on the layout and circulation relationship between the kitchen and the living room, the L.D.K. layout patterns of UR rental housing unit plans are further classified, as shown in Table 7. Open kitchens are divided into four types: A, B, C, and D. Semi-open kitchens are divided into two types based on the configuration of the workbench: E and F. Closed kitchens are of type G. In most UR rental housing layouts, the kitchen is of type D—G and is located next to the living room. Among them, the D type case accounts for the highest proportion, with 25 examples. The kitchen workbench of type D faces the living room and needs to pass through a transitional space to enter the kitchen. The F and D structures are similar, but there is a partition wall to form a semi-open kitchen. E and G structures seem the same, but the presence or absence of a kitchen door distinguishes semi-open and closed kitchens. The type with the second highest proportion is A, where the guest room, dining room, and kitchen are in a regular space, and the workbench is usually against the wall. The B and C types with an open and scattered layout of the kitchen, guest room, and dining room are rarely seen in Japanese UR rental housing.

Table 7. Layouts of Kitchens.

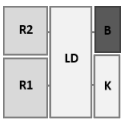
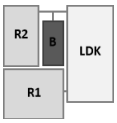
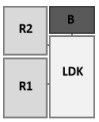
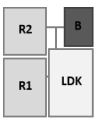
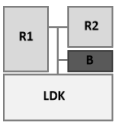
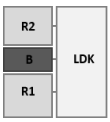
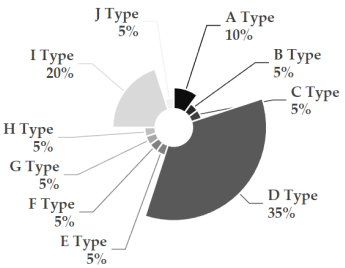
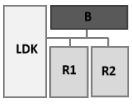
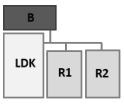
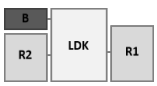
Open-Plan Kitchen				Semi-Open		Enclosed	
							
A Type_13ea	B Type_1ea	C Type_1ea	D Type_25ea	E Type_9ea	F Type_11ea	G Type_4ea	

The L.D.K. layout pattern, characterized by open or semi-open kitchens, originates from Japan's unique culinary culture and lifestyle habits. As Japanese cuisine predominantly involves steaming and boiling, this design draws inspiration from Western-style open kitchen concepts. Considering that homemakers often need to supervise infants in the living room or interact with family members there, kitchen counters are frequently positioned facing the living area. Additionally, communication windows are commonly incorporated to facilitate interaction.

5.3. Bedroom Layout Patterns

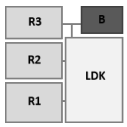
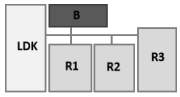
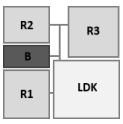
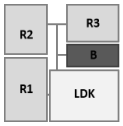
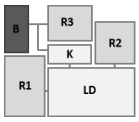
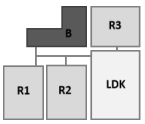
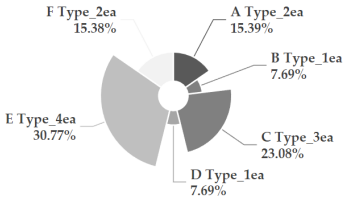
Among the 64 analyzed cases, 20 are two-bedroom units and 13 are three-bedroom units, together accounting for approximately 52% of the total. This indicates that UR rental housing designs take into consideration the living needs of multi-member households. In two-bedroom units, bedroom layouts are categorized into concentrated types and dispersed types (see Table 8). For three-bedroom units, in addition to these two categories, there is also a hybrid type (see Table 9). Based on the combination patterns of bedrooms and living rooms, as well as the configuration of transitional spaces, the concentrated and dispersed types of two-bedroom units are further subdivided into 6 and 4 subtypes respectively, totaling 10 subtypes. For three-bedroom units, there are 2 concentrated subtypes, 1 dispersed subtype, and 3 hybrid subtypes, amounting to 6 subtypes in total.

Table 8. Combination Methods of 2 Bedrooms.

Clustered Type				Dispersed Type		
						
A Type_2ea	B Type_1ea	C Type_1ea	D Type_7ea	G Type_1ea	H Type_1ea	
		-				
E Type_1ea	F Type_1ea			I Type_4ea	J Type_1ea	

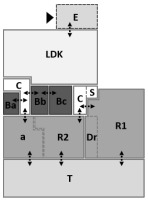
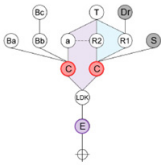
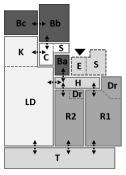
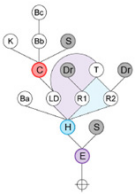
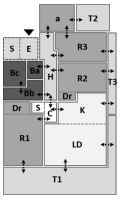
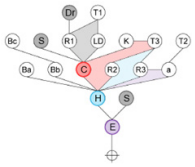
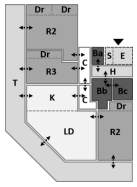
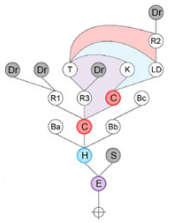
Among the two-bedroom unit cases, bedroom layouts are categorized into concentrated and dispersed types. There are 13 units with concentrated layouts and 7 with dispersed layouts. As shown in Table 8, Type D layout, where two bedrooms are adjacent with one accessible directly from the living room and the other through a transitional space, is the most common. Other concentrated layout types each appear in 1–2 cases, reflecting the diversity in UR rental housing unit plan layouts. Among the dispersed layouts, Type I, where two bedrooms are located on adjacent sides of the living room, is relatively common. Other dispersed layout types are represented by fewer unit samples and exhibit varied configurations and approaches to bedroom access paths.

Table 9. Combination Methods of 3 Bedrooms.

Clustered Type		Dispersed Ty.		Mixed Type		
						
A Type_2ea	B Type_1ea	C Type_3ea	D Type_1ea	E Type_4ea	F Type_2ea	

In the three-bedroom unit cases, seven units (representing over half of the sample) adopt a hybrid layout, while both concentrated and dispersed layouts appear in three units each, indicating a relatively balanced distribution. The study reveals that, aside from the hybrid Type E, the dispersed Type C occurs with relatively higher frequency, followed by the concentrated Type A and hybrid Type F, each observed in two cases. This suggests that in the unit layout design of Japanese UR rental housing, there is a tendency toward concentrated bedroom arrangements. Furthermore, as shown in Table 10, it is common in UR rental housing unit designs for two bedrooms to be connected via a balcony. This highlights the importance placed by Japanese residents on facilitating interaction and communication among family members [5,6,9,35].

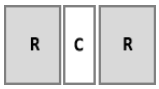
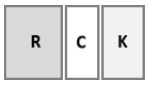
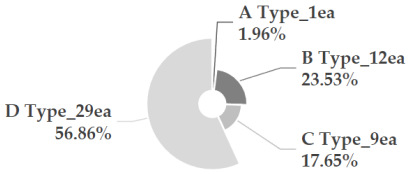
Table 10. Spatial Configuration of Unit Plans.

2 Bedroom Type		3 Bedroom Type	
							
P6-T2	P8-T2	P4-H2	P1-H2				

5.4. Spatial Integration Through Transitional Spaces

Among the studied unit cases, approximately 64% (41 units) feature transitional spaces such as internal corridor C. Their integration relationships within the unit layout can be categorized into four types (see Table 11). Type D accounts for about 71% of the cases. In this type, internal corridor C serves as a buffer zone between independent spaces such as bedrooms, the kitchen, and the bathroom. Located between the entrance corridor and the living room, it is visible upon entering through the living room door. It functions not only as a buffer for the living room but also as a transitional space connecting to the kitchen, effectively separating the living room from the kitchen. Next, Type C (where the internal corridor is situated between the kitchen and the bathroom) represents approximately 22% of the cases. This layout reduces the circulation lines within the living room. Lastly, Type A and Type B (where transitional spaces are located between two bedrooms or between a bedroom and the kitchen) occasionally appear in UR rental housing unit layouts. In summary, transitional spaces such as internal corridor C not only serve a separating function but also play a role in spatial integration. As a strategy to shorten circulation distances within the living room and mitigate its complexity, they offer certain advantages in ensuring the usable scope and area of the living room [5,6].

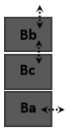
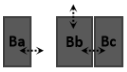
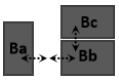
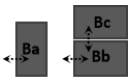
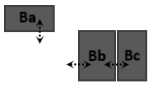
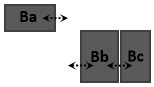
Table 11. Integration Relationships by Transitional Spaces.

Spatial Integration Types				
				
A Type_1ea	B Type_12ea	C Type_9ea	D Type_29ea	

5.5. Configuration of Bathroom Spaces

UR rental housing exhibits distinctive spatial layout characteristics in bathroom design, with all unit types adopting a three-way separation design comprising a toilet room, a washroom, and a bathing room. While this design presents disadvantages in smaller units—where bathrooms occupy a relatively large proportion of the total area—it offers significant advantages in larger units. As the number of bedrooms increases, the quantity and area of bathrooms remain unchanged, allowing multiple occupants to simultaneously use different functional spaces. An analysis of 64 unit cases shows that 33 adopt a concentrated layout and 31 a dispersed layout, which can be further subdivided into 15 patterns (see Table 12). Across these patterns, access to the bathing room consistently requires passing through the washroom first. The toilet room is often entered via a transitional space, and in some cases, also through the washroom. Type B and Type L appear with higher frequency, followed by Type F and Type J. These layouts are characterized by regular arrangements, adjacent entrances, and straightforward circulation paths. Other types, with deviated entrances or complex circulation, are relatively rare. This three-way separation design originates from Japanese bathing culture, which emphasizes spatial separation between bathing and toileting activities, reflecting societal norms and perceptions in Japan [4–6,35].

Table 12. Configuration of Bathroom Spaces.

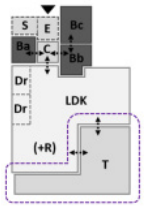
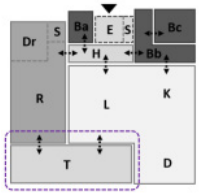
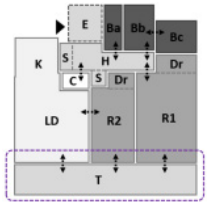
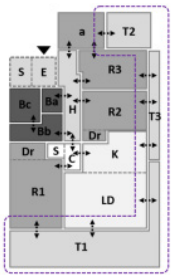
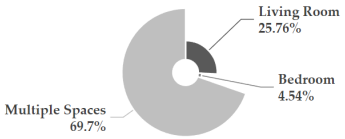
Clustered Type					Dispersed Type		
							
A Type_4ea	B Type_14ea	C Type_1ea	D Type_1ea	E Type_1ea	J Type_7ea	K Type_3ea	L Type_15ea
				-			
F Type_7ea	G Type_1ea	H Type_2ea	I Type_2ea		M Type_2ea	N Type_1ea	O Type_3ea

5.6. Connection Patterns of Balconies

Balconies are a common feature in Japanese UR rental housing units. Among the studied cases, 58 units (accounting for 91%) have only one balcony, while 6 units feature two to three balconies. In terms of spatial connectivity, 17 balconies are directly connected to the living room, 3 are linked to bedrooms, and the remainder are connected to at least one bedroom along with other functional spaces. The study finds that units with balconies connected to the living room are predominantly open-plan layouts, indicating a design tendency to link balconies with bedrooms (as shown in Table 13). Regarding layout configuration, 61 units employ recessed balconies, while 3 adopt hybrid layouts (including protruding designs). All balconies are designed as open-air spaces, highlighting the distinctive approach to unit layout planning. This balcony layout is influenced by Japan's Building Standards Act, where balconies are designated as horizontal evacuation public spaces positioned along the building

perimeter, enabling lateral connectivity between adjacent units. This integration of regulatory requirements and functional design stands in marked contrast to the protruding, living room-connected balcony configurations commonly found in China and South Korea [5,7].

Table 13. Connection Patterns of Balconies.

0 Bedroom Type	1 Bedroom Type	2 Bedroom Type	3 Bedroom Type	Space Connected to Balcony
				

5.7. The Spatial Design of Japan's UR Rental Housing

Through long-term practice and iterative refinement, the spatial design of Japan's UR rental housing has evolved into a mature, refined, and highly adaptable paradigm system (as shown in Figure 6). At its core, this approach is fundamentally guided by human living behaviors and family life cycles, employing systematic spatial strategies to optimize functionality, efficiency, and quality of life within limited floor areas. This design paradigm represents a systematic integration of "living culture, lifestyle efficiency, long-term adaptability, and regulatory constraints", offering valuable conceptual and methodological references for the quality-driven transformation of public housing in China and South Korea.

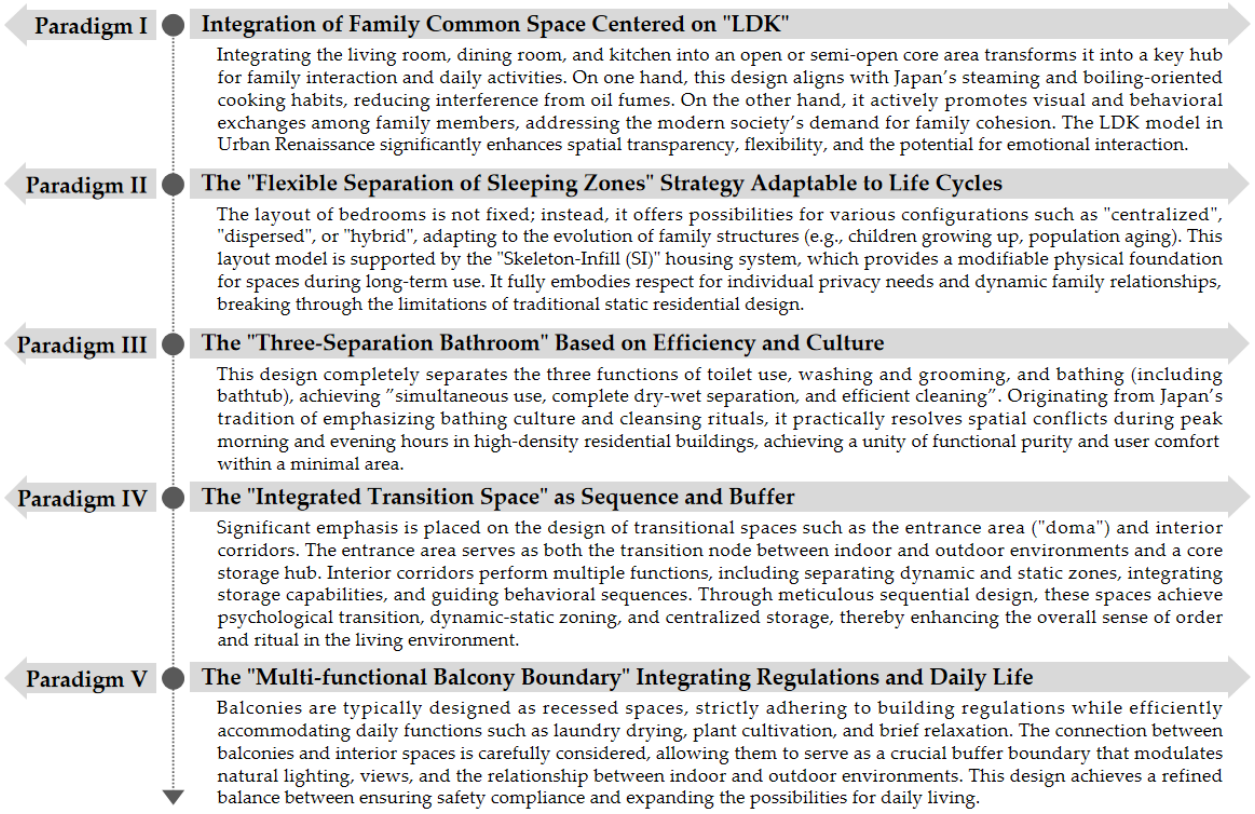


Figure 6. The Spatial Design of Japan's UR Rental Housing.

6. Challenges and Transformation of Public Housing in China, Japan, and South Korea

As shown in Figure 7, the evolution of public housing in China, Japan, and South Korea exhibits distinct genealogical characteristics: China is transitioning from a "scale-driven" approach to a "quality-oriented" exploration; South Korea, having achieved its "supply adequacy" goals, is now grappling with "quality anxiety"; and Japan has entered a phase of "refined and in-depth development" in its post-growth era. Despite differences in their developmental paths, all three countries share a common trajectory of shifting from "quantitative expansion" to "qualitative refinement" [4–15].

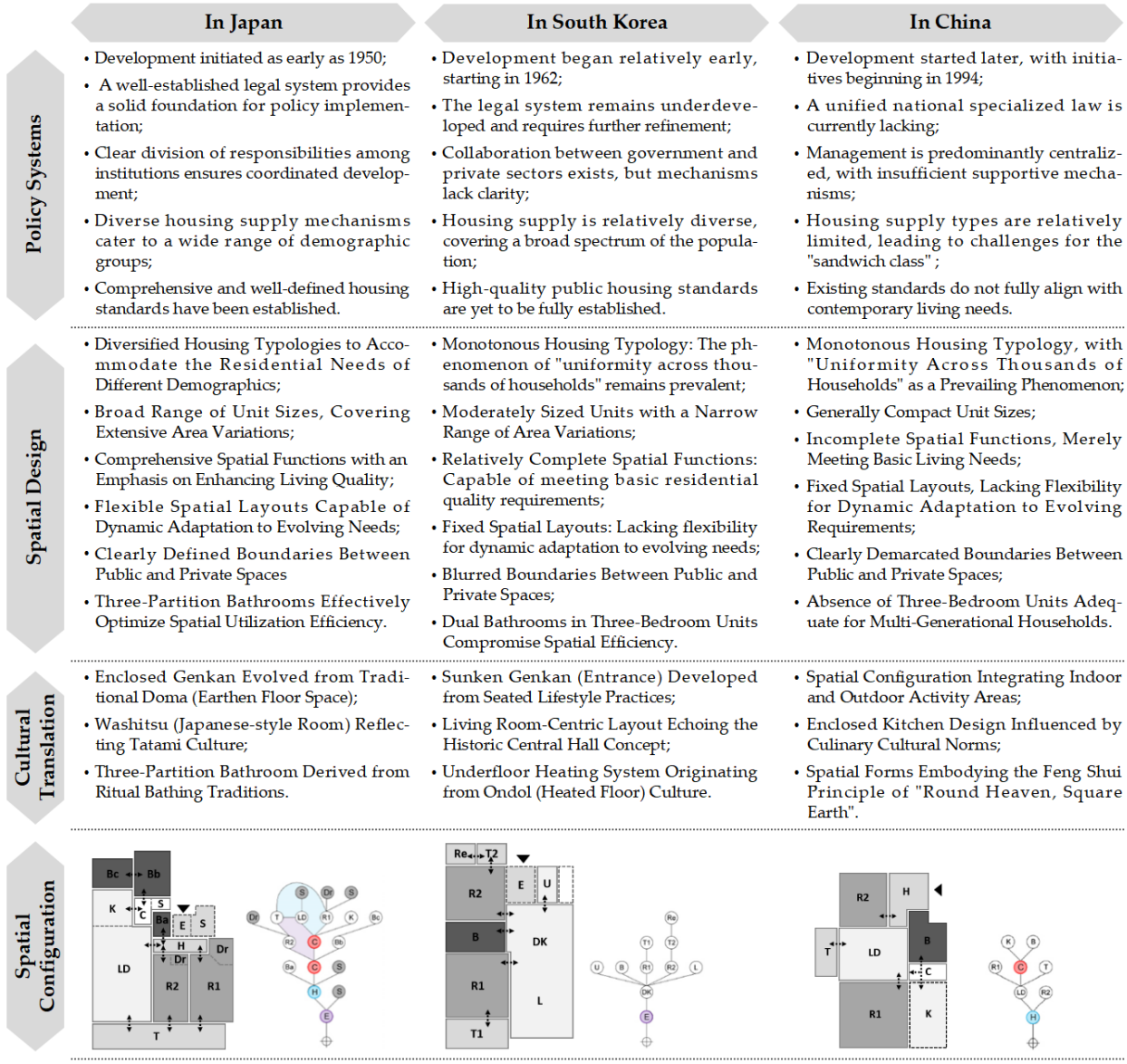


Figure 7. Comparative Analysis of Public Housing Development in Japan, South Korea & China.

During the 12th and 13th Five-Year Plan periods, China's affordable housing system achieved rapid progress in alleviating housing shortages. However, driven by a "speed-first" approach, it gradually fell into a standardized, inertia-driven model. Common unit layouts often suffer from rigid spatial segmentation, limited adaptability, and a lack of cultural nuance—for instance, the compartmentalized separation of LDK spaces tends to create "living-room interference", while responsiveness to multigenerational cohabitation

and aging needs remains inadequate. The current challenge lies in bridging the gap between "standardization" and "refinement", so that affordable housing can evolve to embody more thoughtful, human-centered living environments [4–6,8–12].

Public housing in South Korea has successfully addressed the issue of housing availability through large-scale supply, yet it now faces "quality anxiety". Under the constraints of high floor area ratio requirements, considerations such as natural lighting and ventilation are often compromised. Traditional ondol systems struggle to integrate organically with modern apartment layouts, and high-density communities frequently lack transitional spaces that foster neighborly interaction. South Korea's reflections reveal that, as housing construction reaches maturity, core issues shift toward refined quality, cultural continuity, and a sense of community belonging [4–6,13–15].

Japan's UR housing demonstrates a capacity for refinement grounded in long-term thinking. Against the backdrop of stock renewal, it employs flexible spatial strategies—such as movable partitions and universal design—to precisely address societal shifts like aging populations and diverse living needs. Through policy continuity and the accumulation of design expertise, Japan has achieved an organic integration of traditional residential wisdom with contemporary lifestyles. The Japanese experience underscores that elevating housing quality requires both time and sustained professional focus [4–7].

7. Discussion: Implications for China's Affordable Housing and South Korea's Public Housing Construction

Although the practices in the three East Asian countries are at different stages, they collectively point toward a return to the essence of public housing. It is not merely the provision of physical space, but also a carrier of social relationships and a vessel for hope in life. China and South Korea can draw inspiration from Japan's experience of "prioritizing refinement" by incorporating longer-term cyclical perspectives into policy design, emphasizing spatial flexibility and cultural adaptability in unit innovation, and fostering interpersonal connections in community building. This transformative path requires both technical rationality and humanistic sensibility, ultimately realizing the shared vision of "restoring housing to a human scale and embedding policies with the warmth of everyday life".

7.1. Construction and Improvement of Policy System

Japan's UR rental housing system, centered on the principles of "three-tier legal support, collaboration among three main entities, and dynamic goal adjustment", has established a comprehensive lifecycle governance framework covering "construction, operation, maintenance, and renewal". This framework provides critical guidance for China and South Korea in addressing issues such as fragmented policies and inefficient operations. At the legislative level, Japan has developed a legal system comprising a "foundational law + specialized laws + implementation rules", ensuring a smooth transition of policies from "large-scale construction" to "stock renewal". Secondly, the three main housing pillars operate with clear divisions of labor, effectively balancing funding, supply, and operations. Finally, policy objectives evolve in response to socioeconomic changes—from addressing housing shortages and implementing standardized construction, to improving living quality and introducing relevant metrics, and in the 21st century, tackling declining birth rates and aging populations by developing age-friendly housing and stock renewal, integrating housing policies with social welfare and low-carbon strategies [8,14,19].

For China's affordable housing, the primary task is to "improve the legal framework and policy stability". Currently, China's affordable housing policies primarily rely on departmental regulations and local policies. To clarify target groups, supply standards, and

operational rules, China could enact a specialized "Affordable Housing Law". Simultaneously, establishing a three-tier implementation system at the national, provincial, and municipal levels would help refine entry–exit mechanisms and rental pricing mechanisms. Cultivating professional operating entities—similar to Japan's UR Agency—would facilitate an integrated "construction-management-maintenance" model. Introducing market mechanisms can attract social capital to enhance operational sustainability. Additionally, housing security goals should be dynamically adjusted in response to urbanization and aging trends, such as increasing the supply of small rental units and incorporating age-friendly features into housing design [3,8,16,17,36–38].

For public housing in South Korea, the focus should be on addressing policy gaps and strengthening a top-down "quality-oriented" design approach. While the issue of quantitative shortage has largely been resolved, challenges remain in areas such as suboptimal unit layouts and insufficient community facilities. Amending the "Public Housing Act" to incorporate "Housing Quality Standards" and establishing a quality assessment system linked to funding allocation would help elevate design standards. Enhancing institutional collaboration, bolstering financial support through long-term low-interest loans, and granting greater operational autonomy to agencies like LH for market-oriented management would improve resource utilization efficiency. Furthermore, adopting integrated service models—such as combining housing with elderly care or medical services—to meet the needs of vulnerable groups, and optimizing small-unit designs for individuals and small families, would enhance social inclusion [9,10,34].

7.2. Spatial Composition and Optimization of Unit Plans

Japan's UR rental housing adheres to the principle of "compact yet refined, fully functional, and flexible", achieved through optimized spatial layouts, meticulous functional zoning, and modular design. The housing offers diverse floor plans, ranging from 40–80 square meter studio apartments to 70–130 square meter three-bedroom units, accommodating different household types. By adopting the Skeleton-Infill (SI) housing system, unit layouts can be flexibly reconfigured according to the evolving needs of families throughout their life cycles. Functional zoning effectively balances efficiency and privacy. Open or semi-open layouts integrating living, dining, and kitchen areas align with Japanese family interactions and cooking habits. Bathrooms feature a three-zone separation while retaining bathtubs, and internal corridors and transitional spaces are thoughtfully designed to minimize circulation paths and clearly delineate boundaries. Modular design is prominently applied in balcony planning, where recessed balconies serve dual purposes such as laundry drying and emergency evacuation. Interior dimensions are based on the traditional "tatami" module, enabling standardized design while maintaining cultural relevance and practical adaptability [5,24–27].

In the design of China's affordable housing, the principle of "compact yet refined" should be adopted to meet the needs of new urban residents and young people. This approach involves moving away from large unit layouts and focusing on small to medium-sized designs ranging from 40 to 70 square meters, featuring integrated LDK areas to maximize shared spaces. The implementation of a three-zone separation model in bathrooms enhances efficiency in compact units, while incorporating storage solutions into transitional areas helps reduce clutter. Drawing inspiration from the SI concept, which separates structural elements from interior fittings, flexibility is prioritized to allow residents to adjust layouts according to their evolving needs. Additionally, elderly-friendly adaptation measures should be considered from the outset. By utilizing modular kits for kitchens, bathrooms, and other key areas, a balance between standardization and personalization can be achieved, reducing costs while offering diverse unit options. Furthermore, attention

should be paid to practical details such as functional balcony spaces and ample natural lighting to enhance overall living comfort [7,39–41].

The optimization of public housing unit layouts in South Korea should begin with the improvement of functional zoning. Current units often suffer from issues such as poorly designed kitchens and bathrooms, as well as ambiguous boundaries between public and private spaces. Adopting an LDK layout and implementing a three-zone separation model for bathrooms can clarify circulation paths and spatial hierarchy. Kitchen ventilation should also be adjusted to accommodate the cooking habits of Korean residents. Increasing the proportion of studio and small two-bedroom units, while integrating features suitable for the elderly and children, can better align with demographic trends. Recessed balconies and well-planned storage spaces can enhance the livability of compact units. Furthermore, strengthening the coordination between spatial design and environmental planning—for example, by creating public activity areas through enclosed or semi-enclosed courtyard layouts—can foster a stronger sense of community belonging [5,6,35,39,42,43].

7.3. Modern Interpretation of Residential Culture

UR rental housing establishes a three-dimensional cultural framework of "traditional adaptation–modern integration–open sharing", achieving synergy between cultural heritage and functional enhancement. Traditional elements are reinterpreted to suit contemporary lifestyles, such as integrating tatami areas with Western-style zones to accommodate both traditional and modern uses. Enclosed entryways preserve customary practices while incorporating modular storage solutions. Shared courtyards strengthen neighborhood bonds, continuing the legacy of "community culture". Modern living concepts are deeply integrated into the design, with an emphasis on low-carbon sustainability, convenience, and safety in spatial planning. Lifecycle cost management supports asset renewal, aligning with circular economy principles. Courtyard designs balance natural lighting, ventilation, and fire safety considerations. Inclusive design is realized through the "service-integrated rental housing" model, which addresses the needs of vulnerable groups by transforming dwellings into "livable and dignified living environments" [9,26,31].

In the construction of China's affordable housing, traditional residential culture can be integrated to create distinctive communities. Drawing inspiration from traditional "courtyard culture" and "neighborhood mutual assistance", designs can incorporate enclosed layouts and shared courtyards, while units retain characteristic features such as Chinese-style entrances and balcony drying areas. Community facilities like public dining halls and senior activity centers can help maintain social cohesion. Adhering to "green, low-carbon, smart, and safe" building standards, a full lifecycle management platform can be established to monitor energy usage and facility conditions in real time, promoting low-carbon and sustainable development. Inclusive design can address aging and urbanization challenges by incorporating elderly-friendly features and shared spaces for younger residents, such as co-working studios and communal kitchens. Additionally, "move-in-ready" units can be provided to ease the burden of relocation [5,39,44–46].

In South Korea's public housing sector, preserving indigenous residential culture is key to avoiding homogenization. Housing unit designs should accommodate the traditional "ondol" heating system, while community layouts can integrate courtyard culture to create environments with regional character. Sustainability can be promoted through lifecycle cost management by incorporating energy-saving technologies and establishing housing renewal mechanisms. This approach reduces reliance on new construction while facilitating the renovation and upgrading of older buildings. Community development should be strengthened by organizing neighborhood activities, establishing resident-led governance structures, and improving facilities such as children's play areas and senior

activity centers. These efforts contribute to fostering "livable, practical, and elderly-friendly" communities [12,35,42,46].

8. Conclusions

Japan's UR rental housing model, through the synergistic integration of policy systems, spatial design, and cultural heritage, achieves an organic combination of the "security attribute" and "quality attribute" of public housing. It serves as a reference example with both theoretical value and practical significance for China and South Korea, which are undergoing housing transitions. The core experience can be summarized into three dimensions: a comprehensive legal and operational system as the institutional foundation to ensure the long-term stable operation of projects; refined and humanized unit design as the core measure to enhance the quality of living spaces; and the cultivation of residential culture as the deep-seated support to promote the sustainable development of communities and social integration. This "whole-life-cycle governance" concept not only emphasizes meticulous management at the technical level but also prioritizes multi-party collaboration among the government, the market, communities, and residents, establishing a virtuous cycle mechanism for the development of public housing.

For China, it is essential to advance the transformation of affordable housing from "providing basic shelter" to "delivering quality housing" by improving legislation, professional institutional operations, and precise supply–demand alignment. For South Korea, efforts should focus on enhancing construction quality, optimizing spatial design, and integrating community culture to shift away from the development tendency of "quantity-driven supply" to "value-oriented living", prioritizing quantity over quality". Both countries must base their approaches on their respective socio-economic stages and demographic structures, balancing fiscal sustainability with the housing needs of vulnerable groups to enhance the adaptability of public housing design and operations in response to challenges posed by urbanization and demographic changes. Only through continuous optimization of policy design and innovative management models can an inclusive and sustainable high-quality housing environment be established, enabling public housing to truly serve as a cornerstone of social equity and development.

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References

1. Pan, H.Z.; Shao, J.; Chen, J.; Shan, F. Policy Evolution and Integration Pathways of Public Rental Housing: An Interpretation by the "Conflict-Feedback-Integration" Framework. *Urban Dev. Stud.* **2025**, *32*, 12–17+38.
2. Deng, Y.S. International Comparison and Reference of Housing Market Development Stages. *J. Chongqing Univ. Technol. (Soc. Sci.)* **2017**, *31*, 1–6.
3. Li, Y.J. Evolution of Public Housing Policies Abroad and Its Implications: A Case Study of the United Kingdom, the United States, and Singapore. *Urban Hous.* **2021**, *28*, 200–202.

4. Shim, W.G.; Kang, S.H.; Cho, J.M. A Comparative Analysis on Housing Unit Plans of Korea, China and Japan. *J. Archit. Inst. Korea* **2000**, *16*, 53–62.
5. Wang, X.R. A Comparative Analysis on the Unit Plans of Public Rental Housing in South Korea, China and Japan. Ph.D. Thesis, Daejin University, Pocheon, Republic of Korea, 2022.
6. Wang, X.; Yang, L.; Huang, T.; Jun, B.-K. A Comparative Study on Unit Plans of Public Rental Housing in China, Japan, and South Korea: Policy, Culture, and Spatial Insights for China's Indemnificatory Housing Development. *Buildings* **2025**, *15*, 3068. [CrossRef]
7. Katō, H.; Murao, O.; Sakaguchi, T. Living Environment in the Yuriage District and Dwelling Practices in Disaster Public Housing during the Reconstruction and Revitalization Phase Following the Great East Japan Earthquake. *J. City Plan. Inst. Jpn.* **2021**, *56*, 1501–1508.
8. Nie, C.; Fang, W. The Current Situation of Housing for Contemporary Japanese Youth and Its Implications for China. *Youth-Explor.* **2017**, *2*, 105–112.
9. Yoo, S.S. A Study on the Sustainable Conversion of UR Rental Housing through Tamadairadanchi in Japan. *J. Archit. Inst. Korea Plan. Des.* **2015**, *31*, 73–80. [CrossRef]
10. Bao, F. An Economic Study on the Indemnificatory Housing System in China. Ph.D. Thesis, Jilin University, Changchun, China, 2018.
11. Cao, Z.H.; Zhang, X.N.; Zhang, Y.; Song, Y.L. A Comparative Study and Insights on the Development of Affordable Housing Systems in China and Japan. *Des. Community* **2025**, *1*, 7–13.
12. Wang, X.-R.; Jun, B.-K.; Kin, K.-Y. A Study on the Unit Plan Characteristics of Security Housing in China. *J. Korean Hous. Assoc.* **2021**, *32*, 91–98. [CrossRef]
13. Kang, S. Building Community Facilities and Forming Social Capital in Public Rental Housing Complexes in Seoul, Korea. *Hous. Policy Debate* **2025**, *35*, 286–312. [CrossRef]
14. Park, H.S. A study of the Role of the Public Rental Housing Policy in Rental Housing Markets: Focusing on a comparative analysis of the cases in Korea and Japan. *J. Resid. Environ. Inst. Korea* **2012**, *10*, 75–94.
15. Wang, X.-R.; Yang, L.-P.; Yang, H.-X.; Jun, B.-K. Learning from Seoul: Public Rental Housing Development in South Korea and Its Implications for China's Affordable Housing System Toward "Better Housing". *Buildings* **2025**, *15*, 4345. [CrossRef]
16. Zhao, J.D. Insights from Foreign Public Housing Policies on China's Affordable Housing Operation Model. *Soc. Sci.* **2016**, *6*, 88–92.
17. Tian, L.; Xia, J. Comparison of International Rental Housing Provision and Development Models and Policy Implications for China. *Architecture* **2022**, *6*, 11–17.
18. Zhou, J.M.; Wang, S.Y.; He, G. The Development Characteristics of Social Housing and the Trend of Thoughts in Foreign Countries. *Architecture* **2022**, *6*, 1–10.
19. Kawasaki, N.; Jin, Y.L. Japanese Public Housing Construction System Oriented Towards Long-Lived Architecture. *Architecture* **2020**, *5*, 24–27.
20. Hongwei, H. Transformation and issues of public housing policies facing aging society: Case review of Osaka City, Japan. *Jpn. Archit. Rev.* **2020**, *4*, 5–13. [CrossRef]
21. Chen, J.F.; Zeng, Q.H. International Comparison and Implications of Housing Security Policies from the Perspective of Welfare Regime Theory. *Int. Econ. Rev.* **2025**, *5*, 150–176+8.
22. Cao, Y.X.; Heng, C.K.; Fung, J.C. Research on Neighborhood Spaces in Public Housing from the Perspective of Aging-in-place: A Case Study of Boon Teck, Singapore. *Architecture* **2023**, *S2*, 114–119.
23. Zhang, X.M.; Wu, Y.Z. International Comparison of Public Housing Construction and Its Enlightenment. *J. Land Econ.* **2023**, *2*, 156–171.
24. Hyun, S.P. Community Care and the Evolving Concept of a Dwelling for a Super-aged Society: Focusing on the Challenges of Public Housing in Tokyo. *J. Soc. Sci.* **2019**, *30*, 351–368. [CrossRef]
25. Cho, H.J.; Lee, S.U. A Study on the Plan for Child-Rearing-Friendly Housing: A Case Study on the Remodeled Public Housing in Kyoto, Japan. *J. Asian Archit. Build. Eng.* **2022**, *21*, 2306–2319. [CrossRef]
26. Wang, H.; Luo, S.; Furuya, K. Examining the pathways between neighborhood green spaces and the subjective well-being of older adults in Japanese public housing complexes. *Urban For. Urban Green.* **2025**, *113*, 129037. [CrossRef]
27. Tang, L.Y.; He, D. Review on New Characteristics of Housing Development in Tokyo. *Shanghai Urban Plan. Rev.* **2016**, *3*, 64–69.
28. Urban Renaissance Agency in Japan. Available online: https://www.ur-net.go.jp/ (accessed on 18 March 2025).
29. UR Rental Housing JKK City Mobile. Available online: https://www.citymobile.co.jp/ (accessed on 18 March 2025).
30. Gu, Y.Q.; Shao, M.H. Research and Lessons Learned on the Development of Rental Housing in Developed Countries. In *Standardized Development and Best Practices—Proceedings of the China Housing Rental Development Forum*; Shanghai Urban Real Estate Appraisal Co., Ltd.: Shanghai, China, 2023; pp. 735–742.

31. Jensen, G.T. Extensions: The Embodiment, Spatiality, Materiality, and Sociality of Neighboring in Danish Public Housing. *Space Cult.* **2024**, *27*, 319–331. [CrossRef]
32. Liu, W.; Liu, M.Z.; Gong, Y.; Que, J.N.; Guo, C.M. Impacts of Western Urban Planning on Residential Segregation and Their Inspiration. *Acta Sci. Nat. Univ. Pekin.* **2024**, *60*, 945–956. [CrossRef]
33. Kim, H.; Roh, B. Characteristics of Changes in Residential Building Layouts in Public Rental Housing Complexes in New Towns of Korea. *Land* **2025**, *14*, 484. [CrossRef]
34. Hoon, S.Y. Theoretical Review of Architectural Planning for Community Facilities of Public Rental Housing in Korea. *KIEAE J.* **2019**, *19*, 41–46. [CrossRef]
35. Chung, H.S.; Kim, H.J. The Spatial Analysis and Enhancement of Social Housing in Seoul. *Buildings* **2023**, *13*, 2643. [CrossRef]
36. Yu, W.Z.; Zhang, Y. Grants Under Regulations: The British Public Sector's Experience in Enabling Self-help Housing Improvement and Its Implications for China. *Urban Plan. Int.* **2025**, *40*, 70–80+100.
37. Wang, Z.Q.; An, X.S. Systematic Governance Centered on "Housing Security": An Analysis of Singapore's Social Governance Model. *J. East China Univ. Sci. Technol. (Soc. Sci. Ed.)* **2024**, *39*, 30–44.
38. You, Y.; Shao, X. When property becomes liability: Housing wealth and public support for property taxation in urban China. *Land Use Policy* **2026**, *161*, 107879. [CrossRef]
39. Chen, Z.; Wang, Y.; Teixeira, S.; Rebekah, C. Poor Housing Quality and Mental Health in Public Housing: Age Differences and Neighborhood Contexts. *Innov. Aging* **2025**, *9*, igaf122.2119. [CrossRef]
40. Dai, H.K.; An, Y.; Huang, W.; Chen, C. Design optimization of floor plan for public housing buildings in Hong Kong with consideration of natural ventilation, noise, and daylighting. *Build. Environ.* **2024**, *263*, 111865. [CrossRef]
41. Gong, Q.; Ding, W.; Liu, X.; Zeng, Y.; Adu, E.; Shao, H. Multi-objective optimization framework for the building envelope of public rental housing in China's cold regions. *J. Build. Eng.* **2025**, *104*, 112261. [CrossRef]
42. Choi, J.W.; Choi, Y.O.; Yeo, J.K. An analysis of the public rental housing unit plan for Korean Social Housing: Focusing on the unit type, orientation and heating method. *J. Reg. Assoc. Archit. Inst. Korean* **2016**, *18*, 79–86.
43. Lee, S.Y.; Oh, M.W. Sustainable Design Alternatives and Energy Efficiency for Public Rental Housing in Korea. *Sustainability* **2020**, *12*, 8456. [CrossRef]
44. Wang, J.; Zhou, J.; Fu, X. Accessibility evaluation of public service facilities in affordable housing communities in Hangzhou, China. *Sci. Rep.* **2026**, *16*, 5766. [CrossRef]
45. Early, W.D.; Olsen, O.E. The effects of U.S. low-income housing programs on recipient consumption and wellbeing. *J. Hous. Econ.* **2026**, *71*, 102115. [CrossRef]
46. Miller, M.W.; Malh, A.; Ketenci, K.C.; Sturla Irizarry, S.M.; Vaishnav, P.; Rowe, Z.E.; Charles, S.M.; Gronlund, C.J.; Miller, S.A.; O'Neill, M.S. Energy-Efficient Upgrades in Urban Low-Income Multifamily Housing: Energy Burdens and Lessons Learned for Best Sustainability Practices. *Sustainability* **2025**, *17*, 5464. [CrossRef] [PubMed]

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