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A Study on North Korea's Residential Environment in the Kim Jong-un*

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Abstract

Purpose: The purpose of this study is to present policy implications by analyzing the residential environment in North Korea under the Kim Jong-un regime. **Research design, data, and methodology:** Residential environment analysis was reviewed by dividing it into physical, socio-cultural, economic, environmental, and policy aspects. **Results:** Pyongyang are considerably superior due to it being the residence of the country's leadership and middle class. Secondly, there is a concerning problem with the provision of substandard housing. Construction materials are in short supply, and unreasonable timelines often lead to uninhabitable houses, signaling a need for assistance in housing construction. Thirdly, there is a severe lack of essential residential infrastructure, such as reliable electricity and clean water supply, which significantly impacts the quality of life. Lastly, due to the country's economic hardships, basic housing rights are not guaranteed, leading to deplorable living conditions for many North Koreans. The report suggests that these issues should be addressed through international aid to guarantee the basic human rights of North Koreans. **Conclusions:** In North Korea, the poor living environment deteriorates the health and quality of life of citizens and adversely affects social and economic development. Therefore, international support and cooperation to improve the living environment of North Koreans is important.

Keywords: Residential Environment, Physical, Socio-Cultural, Economic, Environmental, Policy

JEL Classification Code: R11, R12, R21, R22, R31

1. Introduction

1.1. Background and Purpose of the Study

North Korea's housing policy has undergone major changes since Kim Jong-un came to power. At the center of these changes were efforts to revitalize housing construction and revitalize the urban real estate market (Choi, 2020). Evidence of these changes can be seen in the following. From April 2012 to March 2022, 3,502 new constructions were mentioned. And 1,747 new constructions were

reported. In addition, an 80-story high-rise apartment complex has been built in Pyongyang.

Kim Jong-un, who came to power in 2012, focused on building public housing sites and promoted nationwide housing construction projects. As a result, the construction of large cities accelerated, especially high-rise apartments in Pyongyang. This can be interpreted as an advanced housing policy that the housing policy of the Kim Il-sung and Kim Jong-il eras tried to provide more diverse housing options by moving away from the existing public housing center.

Moreover, in the Kim Jong-un era, there were changes

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towards enhancing investment and returns through the urban real estate market. The rise in real estate prices offered investment opportunities for urban dwellers, and increasing profits through real estate investment played a crucial role in forming a middle class and promoting urbanization.

Despite these changes, there are still numerous issues in the housing environment of North Korea. Persistent problems include lack of access for low-income individuals and rural areas, poor housing quality and infrastructure, and increased social inequality due to rising real estate prices. These issues remain significant challenges faced by North Korean housing policies.

The aim of this study is to analyze and understand the characteristics of the residential environment in North Korea during the Kim Jong-un era. This analysis will be carried out through a deep understanding of the socio-economic situation and structure of North Korea. The residential environment in North Korea is greatly influenced by the country's economic, political, cultural, and social situations.

As a nation with a unique ideology and system, North Korea has formed and developed its own distinct residential environment. This study will pay close attention to how changes in housing policies during the Kim Jong-un era are reflected in North Korea's residential environment.

The residential environment in North Korea during the Kim Jong-un era is a result of the nation's complex economic and social organization. This study aims to provide insights into the socio-economic conditions in North Korea by deeply understanding and analyzing the characteristics of this residential environment.

1.2. Previous studies

Prior research related to the residential environment in North Korea can be categorized into studies on changes in North Korea's real estate market, changes in economic and industrial structure, the potential for transition to a market economy, changes in the financial system, changes in urban and spatial systems, demographic and social structure changes, and issues of inter-Korean cooperation in North Korean industries.

Firstly, studies related to changes in North Korea's real estate market include research on policy changes regarding housing and the real estate market during the Kim Jong-un era (Choi, 2020), analysis of urban and housing construction policies in the Kim Jong-un era focusing on Pyeongyang's homes (Hong, 2023), research on the construction policy of homes in Pyeongyang (Choi, 2021), research on changes in North Korea's real estate market and implications for reunification through the North Korean Housing Law (Moon, 2017), and studies presenting implications for North Korea by analyzing housing redevelopment issues in post-socialist countries (Park, 2022).

Next, studies related to changes in North Korea's economic and industrial structure include research analyzing Kim Jong-un era's economic reform measures from a comparative perspective with China (Yang, 2016), research analyzing the possibility of transition in North Korea's economic system centered on changes in economic policy and trends after Kim Jong-un's inauguration (Yoon, 2022), changes and prospects in Pyeongyang's industrial structure (Min, 2021), and research that analyzes and evaluates the current state of North Korea's economic system (Yang & Lim, 2021).

Research related to the possibility of transition to a market economy in North Korea includes analysis of the status and prospects of market economic changes after Kim Jong-un's inauguration (Lim, 2017), research on North Korean-style 'marketization' and instability in the Kim Jong-un regime over the past 20 years (Kim, 2017), analysis of North Korean marketization and social capital (Kim, 2020), and research analyzing the impact of sanctions against North Korea on North Korean markets (Ma & Lee, 2023).

Studies related to changes in North Korea's financial system include research analyzing changes in North Korea's financial system during the Kim Jong-un era through North Korean literature (Kim & Mun, 2021), and research on changes in housing construction finance in North Korea (Kim, 2022).

Prior research on changes in North Korea's urban and spatial systems include a study presenting implications for the conflict between socialist equality and private desire by analyzing the reproduction of Pyeongyang space as represented in North Korean novels from the Kim Jong-un era (Oh, 2020), and research analyzing the urban-rural dichotomy inherent in North Korean urban studies from the perspective of the emergence of North Korean-style Desakota in the Kim Jong-un era (Hwang, 2023), a study on the changing trends of urban spatial policy in the Kim Jong-un regime as seen through the Urban Beautification Law (Kang & Kwon, 2019), research on Pyeongyang's urban beautification discourse and North Korean power, focusing on the period of establishing Kim Il-sung's sole rule from 1953 to 1970 (Lee, 2021), and a study analyzing the hierarchy emerging from adjacent spaces of North Korean cities and rural areas (Park, 2020), and research analyzing changes in North Korean cities in the Kim Jong-un era (Kim, 2023).

Research related to changes in North Korea's demographic and social structure includes a study on people's groups during the Kim Jong-un era (Bae, 2020), research analyzing the wealth gap in 15 central districts of Pyeongyang using mosaic satellite photos and GIS (Lee et al., 2023), and research analyzing North Korea's population policy and the status of low fertility and aging (Lee, 2021).

Research on inter-Korean cooperation tasks in North

Korea's industry includes a study that provides implications for inter-Korean economic cooperation and North Korea's industry in the Kim Jong-un era (Lee, 2018), research proposing future cooperation tasks in solving North Korea's housing problem (Choi, 2018), an analysis of issues of interest in unification economic cooperation by visualizing big data on social networks (Hwang, 2021), and research analyzing plans for joint development cooperation in North Korea's housing business between the North and South (Kim & Seong, 2020).

These prior studies are paying attention to changes in North Korean society during the Kim Jong-un era. Changes in North Korea's real estate market, changes in North Korea's economic and industrial structure, the possibility of transitioning to a market economy in North Korea, changes in North Korea's financial system, changes in North Korea's urban and spatial systems, changes in North Korea's demographic and social structure, and tasks for inter-Korean cooperation in North Korea's industry are all discussed in part regarding North Korea's residential environment. Currently, the increase in income level of North Korean residents is intertwining with the authorities' construction policy, leading to a desire to improve the living environment. However, North Korea's unstable market environment is not providing equal opportunities for income growth to everyone, exacerbating the inequality in the living environment.

In this regard, this study will examine the changes in the living environment through major policy changes in the Kim Jong-un era and the resulting social and economic effects. This has a distinctiveness from previous research in that it provides implications for enhancing understanding of the quality of life of North Korean residents, social structure, and socio-economic inequality.

2. Literature Review

2.1. Housing Policy in the Kim Jong-un Era

Kim Jong-un has announced multiple projects to construct new residences, primarily in the capital city of Pyongyang. The most renowned of these is the '10,000-household Construction Project in Pyongyang', announced in 2019. At the 8th Party Congress, North Korea set a goal to construct 10,000 households each year in Pyongyang, with a total of 50,000 by 2025. This initiative started with the construction of 10,000 residences in the Songshin and Songhwa districts of Pyongyang.

Kim Jong-un has also emphasized efforts to improve and modernize housing conditions. He ordered improvements in the quality and design of residential construction, regarding housing as a 'problem of the people.'

Moreover, according to some reports, capitalist elements are effectively being introduced into North Korea's housing market. Some citizens, upon receiving permission, can remodel their homes, and there have been reports of houses even being sold or rented out.

However, these policies still reflect the characteristics of the Kim Jong-un regime. That is, projects are prioritized for the national leadership and middle class and are conducted under the surveillance and control of the state.

The following <Table 1> presents the formation and construction status of the five new districts and apartment buildings in Pyongyang during the Kim Jong-un era. These five new districts in Pyongyang are Changjeon Street in Jung District, Galaxy Scientist Street in Yongseong District, Satellite Scientist Street in Unjeong District, Future Scientist Street in Pyeongcheon District, and Ryomyong Street in Dae Sung District.

Table 1: New Streets in Pyongyang in the Kim Jong-un Era

Location	Number of Households	Construction Period
Changjeon Street, Jung District	14 buildings, 2,700 households	2008~2011 (3 years)
Yong seong District Galaxy Scientist Street	12 buildings, 1,000 households 16 public buildings	February - September 2013 (7 months)
Eunjeong District Satellite Scientist Street	24 buildings, 2,400 households 14 public buildings	March- October 2014 (7 months)
Pyongchon District Future Scientist Street	19 buildings, 2,584 households 17 service buildings 11 household buildings refurbished.	August 2014~ November 2015 (1 year 2 months)
Daesong District Ryomyong Street	40 buildings, 4,800 households 33 household buildings refurbished. 34 public buildings 7 new buildings for Kim Il Sung University	March 2016~ April 2017 (1 year 1 month)

Author's Reworking, Source: Re-citation: Hong, 2023

The main features of Changjeon Street are composed of 2 to 5 rooms, an amphitheater, an underground arcade, and various convenience facilities. The main features of Galaxy Scientist Street are houses with 3 to 5 rooms, layout of children's parks and small parks, and non-powered heating systems. The main features of Satellite Scientist Street are research papers (basic science, natural energy) and geothermal heating and cooling systems. The main features of Future Scientist Street are the expansion of the area per household to 110-120m², the 53rd floor high-rise apartment, the energy-saving 'circular production system using solar

greenhouse', colorful lighting, and the Kimchaek Automation Research Center of the Korea Meteorological and Hydrological Agency. The main features of Ryomyong Street are 82-story high-rise apartments, solar cells for lighting and heating, geothermal heating and cooling systems, greening of buildings, and localization of building materials.

2.2. Current Status of North Korea's Housing

North Korean authorities claim that the housing provision rate is 99.8%, but in reality, it is said to be around 60-80%. More than 60% of all types of housing consist of townhouses and apartments, showing a significant proportion of communal housing.

North Korea's major cities and living spaces were newly created in the recovery process after the Korean War. The influence of socialist countries was significant in the early housing culture of North Korea. This was due to the influx of modern technology along with financial support from socialist countries.

In North Korea, besides state-led construction projects, it is said that self-build housing is becoming widespread. This refers to situations where, due to the shortage or low quality of state-provided housing, individuals or families construct or renovate their own houses. However, obtaining construction materials or proceeding with construction is known to come with many difficulties in such cases.

One important feature is the introduction of capitalist elements. It is said that virtually capitalist elements are being introduced into North Korea's housing market. Some citizens have been reported to be able to remodel their own homes with permission, and even sell or rent out their homes.

Upon entering the Kim Jong Un era, super-high-rise apartments were constructed, such as the Satellite Scientist Residential District (Central District) completed in 2014 and the 82-story Ryomyong Street (Daesung District) apartment completed in 2016.

The recently constructed apartments have expanded in size, with more than four rooms and two bathrooms, taking the form of a living room where the living room and kitchen are combined. They emphasize the view by expanding the balcony and using floor-to-ceiling windows (Jung, 2022: 136~137).

The characteristics of various types of housing in Pyongyang are outlined in the following <table 2>.

Housing (apartment) construction in North Korea was led by the state and institutional enterprises, but individuals began to participate in it after the 2000s.

The number of apartment rooms in North Korea is increasing from two to three. And the kitchen is changing into the form of a living room. The exterior shape of the apartment is changing from a brick parallel apartment to a

tower type. The size of the living room is gradually increasing and taking the shape of a living room.

Table 2: Housing Types in Pyongyang

Classification	Apartment (High-rise)			
Period	After 1980s	After 1990s	After 2000s	After 2010s
Construction Entity	State, Institutions /Enterprises		State, Institutions/Enterprises, Individual	
Scale	2 rooms	2~3 rooms	3~4 rooms	Large Floor Area
Exterior	Brick apartment (Parallel type)	Super-high rise	Tower type	
Bathroom	Communal /Individual	1	1	
Kitchen	1 room		Living Room	
Living Room	Small hallway	Front Room	Living Room	
Heating	Central heating			

Author's Reworking, Source: Jung (2022)

3. Analysis Framework

3.1. Definition of Residential Environment

The residential environment refers to a broad concept encompassing the physical space where specific individuals or households live and its surrounding environment. This includes not only the internal conditions of the residence itself such as structure, design, size, and amenities, but also external conditions such as neighbors, local community, transportation system, public facilities, and the natural environment.

The residential environment is a crucial factor deeply influencing residents' quality of life, health, safety, social relationships, and psychological happiness. Therefore, improving and enhancing the residential environment is an important task not only for individuals but also for local communities and society as a whole.

The state and quality of the residential environment greatly differ depending on the social, economic, and political circumstances of the area. Thus, research on the residential environment can serve as an important method of understanding the social structure, economic level, and

political system of the area. This is particularly true for closed societies like North Korea, and thus the subject of this study carries significant implications.

3.2. Residential Environment Indicators

The analysis of the residential environment aims to understand the physical, social, and economic conditions provided by living spaces and the interplay of life activities and environmental factors in that space. There are various analytical frameworks considering diverse elements, but in this study, the residential environment in North Korea was analyzed using the following indicators. The contents are shown in the following Table 3.

Table 3: Residential Environment Analysis Indicator

Division	Contents
Physical Factors	Structure of housing, housing supply situation, size and structure of space, facilities, maintenance condition.
Socio-cultural Factors	Residents' lifestyles, values, social networks, community participation, safety, relationships between neighbors
Economic Factors	Household income, housing prices, rent, maintenance costs, accessibility
Environmental Factors	Urban infrastructure (electricity, roads, living convenience facilities), surrounding natural environment, noise, air and water pollution, etc.
Policy Factors	Government housing policies, housing provision systems, regulations and laws, housing support programs

3.3. Analytical Data

Due to North Korea's uniqueness, access to data is not easy. Therefore, the analysis aims to be conducted through literature. Reports, previous studies, and press articles were utilized.

4. Literature Analysis

4.1. Physical Factors

In North Korea, since Kim Jong-un came to power, efforts have been made to build houses to improve the living environment of rural residents.

At the beginning of June, a meeting of the Party Committee of Pyeongan-namdo discussed the construction

of rural homes planned as part of a rural development policy, but the execution rate was calculated to be about 10% of the plan. At the end of 2021, North Korea announced the 'New Socialist Rural Construction Directive' at the 4th Plenary Meeting of the 8th Central Committee of the Workers' Party. Through this, North Korea proposed a rural modernization plan for balanced regional development, and since then, a rural home construction project has been underway throughout North Korea. However, construction often halts due to a lack of building materials and facilities in North Korea. Some point out that there is a possibility that the shortage of construction materials for rural houses in rural areas has intensified as resources are concentrated on the construction of rural houses in Pyongyang, a major construction project by Chairman of the State Affairs Commission Kim Jong-un. An informant said, "The Party's policy is for the provinces to construct rural homes independently, but if this continues, rural development will eventually only be spoken about," and pointed out that "it is important to establish a realistic plan (Mun, 2023). Despite the promotion of rural house construction achievements, primarily due to the scarcity and unavailability of essential materials.

Kim Jong-un has put forth the construction of rural houses in Pyongyang as a major task. North Korean authorities are reporting that more homes have been built to date, three years into the project, than originally planned. The reason such achievements were possible is attributed to shoddy construction.

In January 2021, during the 8th Party Congress, Kim Jong-un announced a project plan to construct 10,000 households annually in the capital Pyongyang, aiming for a total of 50,000 households by 2025. He highlighted the construction of homes in Pyongyang as a major task. Currently, in the third year of the project, North Korean authorities report that they have constructed more households than the set target. However, these achievements are leading to issues of shoddy construction.

4.2. Socio-cultural Factors

Luxurious residences are only being supplied in Pyongyang, North Korea, showing severe class discrimination. Under the pretext of improving living conditions, electricity guarantees, laundry facilities, and rice factories are being provided to residents of the terraced housing complex located in Kyeru-dong, Chung-gu, Pyongyang.

The terraced housing complex in Kyeru-dong, Chung-gu, Pyongyang, was completed in April 2022 with 800 households. Known as a wealthy neighborhood even in Pyongyang, it is considered a super-luxury housing complex due to its location in the Central District and its proximity to

the main thoroughfare connecting the Central Committee of the Party headquarters and Mansudae Street, and the Taedong River. It is explained that special consideration measures have been made under the pretext of improving the lives of these residents, who are primarily first-class policy targets or core classes who have contributed to national development (Jeong, 2023). What are the special considerations for residents of the luxurious houses in Gyeongdong, Pyongyang?

North Korean young people also regard getting a house as the most important thing when getting married. Recently, it has been reported that the phenomenon of young people in North Korea avoiding marriage is becoming serious. Young people want to create a new life in their own space after marriage, but they are reluctant to get married because they are not economically supported.

There are many young people in Chongjin city who are delaying or avoiding marriage these days," it was reported, "Because the hope of getting a house is disappearing due to the increasingly difficult life and economic difficulties." (Lee, 2022).

4.3. Economic Factors

The dire economic situation of North Koreans is posing a threat to their health. However, the North Korean authorities are mobilizing malnourished youths to construction sites as assault teams.

"It is reported that the number of malnourished individuals among the youths of the speed battle team, who have been mobilized to the construction site in the Seopo district, is increasing," and "due to this, the attendance rate per assault team unit cannot exceed 70%." Especially, young assault team members are effectively unpaid and are sent to construction sites for more than 10 hours a day. Despite their poor nutritional status, they are suffering from long hours of intense labor (Mun, 2023).

In 2023, North Korea proposed the construction of a new street in the Seopo district of Pyongyang and held a groundbreaking ceremony in February. Apart from the plan to build 10,000 households in Pyongyang city in 2023, there is also a separate plan to construct over 4,000 households in the northern gateway area of the capital, Pyongyang. This construction project has been entirely entrusted to the Socialist Patriotic Youth League and the Paektu Mountain Hero Youth Assault Brigade.

In North Korea, in order to survive, people rent out their homes at low rents and live in warehouses under dire living conditions.

A source said, "These days, even after renting out their homes, the money they receive is insufficient to feed their families. However, they are trying to rent out their houses and live in warehouses to avoid the worst situation of

starving to death without food" (Lee, 2023).

After the outbreak of COVID-19, North Korea has strengthened its control over the marketplace under the pretext of disease control and even reduced its operating hours. In fact, the operating hours of the marketplace, which were 8-9 hours before the corona, have been reduced to 3-5 hours, and the outcry from residents who maintain their livelihood through the marketplace is at its peak (Lee, 2023).

4.4. Environmental factors

North Korea has a serious power shortage problem. In North Korea, 24-hour electricity supply is limited. There is a shortage of electricity supplied to houses, and the compulsory collection of excessive electricity usage fees is becoming a problem. In addition, North Korea is passing on the cost to the people to build solar power plants used to power homes.

In a People's Unit in Cheongam District, Chungjin City, it is known that the leader of the People's Unit circled each household and collected fees for electricity that was not properly supplied (Lee, 2023).

The People's Committee of Goseong-gun, Gangwon-do, has uniformly ordered each household to pay in the name of subsidy for the construction of a solar power plant (Jeong, 2023).

North Koreans are living in poor housing conditions due to water shortage, water pollution, and drinking water pollution. In addition, there is a shortage of tap water currently supplied to houses, and the cost of raising tap water is passed on.

North Korea is using the Gravity Water Supply System (GFS), which pumps water into a water tank at a high place and supplies it to each household using gravity. It is said that they are even charging the cost of condensed oil required for turning (Jeong, 2023).

It was belatedly reported that there had been an incident in North Korea where students who had been mobilized for rice planting complained of abdominal pain in groups. Regarding this, a source said, "The cause was identified as a water-borne disease caused by contaminated water" (Mun, 2023).

Kim Jong-un has worked hard to modernize health and medical facilities and has promoted "loving the people." Among them, the Pyongyang General Hospital, which was one of the North Korean authorities' greatest long-awaited projects, was openly ordered by Chairman Kim to be completed in 200 days after the groundbreaking, but it has not been opened until now, about three years later.

North Korea's domestic production of medical equipment is largely confined to basic items like hospital beds and simple surgical tools. Most advanced medical devices, including diagnostic and therapeutic machines, aren't

manufactured locally. This leads to a significant dependence on imports for healthcare needs, revealing vulnerabilities in their reliance on foreign resources for essential medical equipment.

5. Conclusions

North Korea delivered the results of the party plenary meeting at the end of 2022 through the media. It conveyed the message of Chairman Kim Jong-un that "we must continue the heyday of capital construction, including the construction of 10,000 households planned for 2022, and open the era of regional changes." Emphasized. At the same time, it ordered that all regions be equipped with construction machinery and facilities that cement production units actively work to guarantee cement to cities and counties (Park, 2023).

Recently, North Korea has been focusing on housing construction, but it seems that the benefits are not distributed equally to all residents yet. Moreover, unless the international community's sanctions against North Korea are not resolved, the fundamental solution to North Korea's housing problem does not seem easy. Accordingly, it is not easy to resolve the inequality of living conditions in North Korea.

The results of the analysis of the residential environment in North Korea are as follows.

First, there is a significant difference in the residential environment between Pyongyang and other regions. As the capital of North Korea, Pyongyang is home to the country's leadership, middle class, and important officials. As a result, Pyongyang's residential environment is relatively excellent, and public services and infrastructure are well established compared to other areas. However, living conditions in other areas, especially in rural areas, are often very poor.

Second, the residential environment of residents is fatal due to the supply of poor housing. Due to a lack of construction materials and an unreasonable shortening of the construction period, housing that cannot be occupied is being supplied. It is a situation in which aid is needed for housing construction in North Korea.

Third, there is an absolute lack of residential infrastructure. Due to the lack of electricity, people have to use the stairs to reach the upper floors, and the intermittent supply of electricity makes basic life difficult. In addition, it is necessary to urgently solve the problem of solving the shortage of absolute quantity and improving the quality of polluted water.

Fourth, North Korea's poor economic situation does not guarantee basic housing rights. The housing situation of North Koreans who rent out their residences to others for survival, live in warehouses, or go into the mountains is

appalling. The basic human rights of North Koreans must be guaranteed through international aid.

The implications are as follows.

First, the disparity in housing environment reflects serious inequality within North Korean society. This is deepening the gap between the leadership who controls power and wealth and the people who do not.

Second, lack of social infrastructure and lack of livelihood services are major problems facing residents. This can have negative impacts on health, quality of life and socio-economic development.

Third, improving the residential environment in North Korea requires international support and cooperation. This could be an important first step towards promoting basic human rights for the people of North Korea.

References

- Bae, Y. A. (2020). A Study on the People's Committee in the Kim Jong-un Era. *Unification Policy Studies*, 29(2), 1-28.
- Choi, C. W. (2020). A Study on the Policy Changes in the North Korean Real Estate Market during the Kim Jong-un Era. *Real Estate Law Review*, 24(4), 1-24.
- Choi, C. W. (2021). A Study on the Housing Construction Policy in Pyongyang City. *Real Estate Law Review*, 25(2), 135-153.
- Choi, S. H. (2018). North Korea's Housing Problems and Future Cooperation Tasks. *Territory*, 27-34.
- Hwang, J. T. (2023). The Emergence of North Korean-style Desakota in the Kim Jong-un Era? Exposing the Dichotomy of Urban-Rural in North Korean Urban Research. *Asia Review*, (1), 99-138.
- Hwang, U. (2021). Analysis of issues of interest in unification economic cooperation by visualizing big data on social networks. *Journal of Advances in Military Studies*, 4(3), 133-152.
- Hong, S. J. (2023). Characteristics of Urban and Housing Construction Policies in the Kim Jong-un Era: Focused on Pyeongyang's Housing Projects. *Asia Review*, 13(1), 39-72.
- Jung, E. L. (2022). Changes in the Value of Real Estate and the Dynamics of Development in Pyongyang. In *Pyongyang Odyssey* (Pyongyang Studies Series 01, pp. 126-158). Seoul Studies Institute, Pyongyang Studies Center.
- Jung, S. Y. (2023, June 19). Strict sewage law enforcement targets Pyeongan-namdo. *Daily NK: Korea Edition*. <https://www.dailynk.com/2023/June/19/Strict-sewage-law-enforcement-targets-Pyeongang-namdo>.
- Jung, T. (2023, May 24). What are the special considerations for residents of the luxurious houses in Gyeongludong, Pyongyang? *Daily NK: Korea Edition*. <https://www.dailynk.com/2023/May/24/What-are-the-special-considerations-for-residents-of-the-luxurious-houses-in-Gyeongludong-Pyongyang>.
- Jung, T. (2023, Jun 20). "Make them see the electric light 24 hours a day"... North Korea encourages funding for the construction of solar power plants. *Daily NK: Korea Edition*. <https://www.dailynk.com/2023/Jun/20/Make-them-see-the->

- electric-light-24-hours-a-day-North-Korea-encourages-funding-for-the-construction-of-solar-power-plants.
- Kang, Y. J., & Kwon, Y.S. (2019). A Study on the Changes in Urban Spatial Policies in the Kim Jong-un Regime through the Urban Beautification Law. *Journal of Korea Urban Design*, 20(6), 119-136.
- Kim, B.Y. (2023). Preface: How to View Changes in North Korean Cities in the Kim Jong-un Era? *Asia Review*, 13(1), 3-8.
- Kim, M., & Mun, S. (2021). Changes in North Korea's Financial System During the Kim Jong-un Era-Based on North Korean Literature. Bank of Korea WP, 6.
- Kim, O. J. (2017). Recent 20 Years of North Korean 'Marketization' and the Instability of Kim Jong-un's Regime. *Marx* 21(19), 101-140.
- Kim, S. J. (2020). North Korean Marketization and Social Capital. *Social Economic and Policy Studies*, 10(1), 65-92.
- Kim, S.J., & Sung, J. H. (2020). A Study on the Joint Development Cooperation of North Korean Housing Projects. *Real Estate Law Review*, 24(3), 183-208.
- Kim, S. J. (2022). Study on Changes in Housing Construction Finance in North Korea. *Real Estate Law Review*, 26(2), 79-93.
- Lee, C. (2022, May 11). North Korean youths prioritize securing a home when getting married.... They want their own space. *Daily NK: Korea Edition*. <https://www.dailynk.com/2023/May/11/North-Korean-youths-prioritize-securing-a-home-when-getting-married....> They-want-their-own-space.
- Lee, C. (2023, January 23). Merchants unanimously say, "Extend the market hours". *Daily NK: Korea Edition*. <https://www.dailynk.com/2023/May/11/Merchants-unanimously-say-Extend-the-market-hours>.
- Lee, C. (2023 February 24). Residents rent out homes for 50 yuan/month, struggling to live on the income. *Daily NK: Korea Edition*. <https://www.dailynk.com/2023/May/11/Residents-rent-out-homes-for-50-yuan/month-struggling-to-live-on-the-income>.
- Lee, C. (2023, Jun 29). Even though electricity and tap water are not properly supplied, the usage fees are regularly charged. *Daily NK: Korea Edition*. <https://www.dailynk.com/2023/Jun/29/Even-though-electricity-and-tap-water-are-not-properly-supplied-the-usage-fees-are-regularly-charged>.
- Lee, J. K., Jeong, H. J., & Kim, H.-J. (2021). A Study on Pyongyang's Urban Beautification Discourse and North Korea's Power: Focusing on the Period of the Establishment of Kim Il-sung's Sole Rule System, 1953~ 1970. *Modern North Korea Studies*, 24(2), 45-85.
- Lee, S. K. (2018). Implications on North Korean Industries and Inter-Korean Economic Cooperation during the Kim Jong-un Era. *Monthly KIET Industrial Economy*, 239, 6-21.
- Lee, S. H., Kim, S. B., & Gi, J. H. (2023). Pyongyang Mosaic: Study on the Wealth Gap of 15 Urban Districts in Pyongyang Using Satellite Photos and GIS. *Modern North Korea Studies*, 26(1), 45-83.
- Lee, Y. H. (2021). North Korea's Population Policy and the Status of Low Birthrate and Aging. *Unification Strategy*, 21(3), 89-123.
- Lim, E. C. (2017). Changes and Prospects in the Market Economy after Kim Jong-un's Inauguration. *GSnJ Focus*, 244, 1-17.
- Ma, W., & Lee, H. J. (2023). Analysis of the Impact of Sanctions on North Korean Marketplaces. *Modern North Korea Studies*, 26(1), 130-174.
- Mun, D. (2023, Jun 05). Despite the promotion of rural house construction achievements, primarily due to the scarcity and unavailability of essential materials. *Daily NK: Korea Edition*. <https://www.dailynk.com/2023/Jun/26/Despite-the-promotion-of-rural-house-construction-achievements-the-reality-is-difficulties-due-to-lack-of-materials>.
- Mun, D. (2023, Jun 16). North Korean students planting suffer collective abdominal pain from tainted water. *Daily NK: Korea Edition*. <https://www.dailynk.com/2023/Jun/16/North-Korean-students-planting-suffer-collective-abdominal-pain-from-tainted-water>.
- Mun, D. (2023, July 03). Young people mobilized for construction in Seopo district suffering from severe malnutrition... A look at their diet. *Daily NK: Korea Edition*. <https://www.dailynk.com/2023/May/11/Young-people-mobilized-for-construction-in-Seopo-district-suffering-from-severe-malnutrition...-A-look-at-their-diet>.
- Min, K. T. (2021). Changes and Prospects of Pyongyang's Industrial Structure. *Seoul Studies*, 84, 159-176.
- Moon, H. A. (2017). Changes in the North Korean Real Estate Market through the North Korean Housing Law and Implications for Unification. *Comparative Law*, 24(2), 725-770.
- Oh, C. E. (2020). A Study on the Representation of Pyongyang Spaces in North Korean Novels during the Kim Jong-un Era-Conflicts between Socialist Equality and Private Desires. *Korean Culture Research*, 71(71), 77-116.
- Park, H. J. (2020). Urban-Rural Peri-Urban Spaces in North Korea and the Emerging Classes. *Culture and Politics*, 7(3), 211-241.
- Park, H. J. (2022). Issues of Housing Redevelopment in Post-socialist Countries and Implications for North Korea. *North Korea Research*, 26(1), 47-72.
- Park, J. (2023, May 20). "North Korea's vast housing projects: Questionable efficiency, but self-sustainability persists". *Spnews: Korean Edition*. <http://www.spnews.co.kr/May/20/North-Korea's-vast-housing-projects-Questionable-efficiency-but-self-sustainability-persists>.
- Yang, M. S. (2016). Economic Reform Measures in North Korea during the Kim Jong-un Era: A Comparative Perspective with China. *Asia Studies*, 59(3), 114-159.
- Yang, M. S., & LIM, S. (2021). A Study on North Korea's Economic System: Actual Conditions and Evaluation. Bank of Korea WP, 13.
- Yoon, J. H. (2022). A Study on the Possibility of Transition in the North Korean Economic System: Focusing on Economic Policies and Trends after Kim Jong-un's Inauguration. *Korean Northeast Asia Association*, 27(4), 137-153.