Spatial Planning System

in the Republic of Korea

IDB

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ABSTRACT

This paper traces the evolution and key features of Korea's spatial planning system from the post-war reconstruction period to the present. Korea's rapid urbanization and industrialization posed significant territorial management challenges, prompting the establishment of a sophisticated spatial planning system beginning with the Urban Planning Act of 1962. This system has continuously evolved to address changing socio-economic conditions, demographic transitions, environmental sustainability concerns, and technological advancements. Through comprehensive national territorial plans, metropolitan strategies, and local urban management initiatives, Korea effectively integrated economic growth objectives with land-use policies, infrastructure investments, and regional development goals. The paper further discusses Korea's shift from centralized governance to decentralization and participatory planning approaches, considering institutional reforms, legislative innovations, and the roles played by different levels of government. Finally, the paper identifies critical insights and implications from Korea's experience that can inform spatial planning practices in Latin America and the Caribbean, emphasizing the need for flexible, integrated, and responsive territorial governance frameworks.

Spatial Planning System in the Republic of Korea

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PEER REVIEW
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in the Republic of Korea

IDB KRIHS

Foreword

Across Latin America and the Caribbean (LAC), governments are seeking more effective ways to manage urban growth, reduce territorial disparities, and strengthen the institutional foundations of spatial planning. In this context, South Korea's experience offers valuable insights. Over the past six decades, Korea has built an integrated, adaptive, and technologically advanced planning system that has enabled it to align spatial development with national economic and social goals. This publication, Spatial Planning System in the Republic of Korea, presents a comprehensive account of that experience and its evolution—from fragmented beginnings to a coherent framework rooted in strong governance, legal clarity, and digital innovation.

Three core lessons stand out for the region.

First, Korea's experience highlights the importance of legal and institutional coherence in enabling long-term urban and regional strategies. A clear division of roles across national and subnational levels, supported by a strong legal basis, has allowed Korea to implement multi-decade plans that endure across political cycles. The Comprehensive National Territorial Plan (CNTP), for instance, guides all spatial interventions in alignment with national development goals. It provides consistency while allowing local governments to tailor implementation. The creation of Sejong City as a new administrative capital is a case in point—designed to ease spatial concentration in Seoul and promote balanced development, it was executed through a coherent policy and planning framework. For LAC countries facing fragmented governance and overlapping mandates, Korea's structured approach offers a compelling model to align territorial strategies with national priorities.

Second, Korea demonstrates the value of adaptive governance—the ability to continuously revise and improve laws, plans, and tools in response to new challenges. Rather than being static, Korea's spatial planning system has evolved over time through legislative reforms, decentralized responsibilities, and feedback from implementation.

From early policies focused on rapid industrialization and urban growth, Korea transitioned toward sustainability, regional equity, and regeneration. Recent reforms reflect changing priorities, such as addressing demographic decline, enhancing public participation, and promoting green infrastructure. The shift from large-scale redevelopment toward community-based urban regeneration is a good example of how adaptive policymaking can produce where implementation challenges are seen not as failures, but as opportunities for adjustment.

Third, Korea has embedded digitalization at the core of its territorial governance. The integration of spatial data systems, digital mapping, and simulation tools such as digital twins has revolutionized planning and decision-making processes. Platforms like the National Spatial Data Infrastructure (NSDI) centralize geospatial and land-use information, making it accessible for planners and the public alike. These tools not only improve efficiency but also enhance transparency and civic engagement. For LAC countries, investing in digital capacity—especially at the local level—can help overcome data limitations, support evidence-based planning, and build trust through greater accountability.

This publication offers readers more than a descriptive case—it presents a detailed exploration of the structures, tools, and reforms that underpinned Korea's transition, alongside critical reflections on the challenges encountered. Organized in six chapters, the study examines the legal and institutional architecture, multi-level governance, planning and management tools, and implementation strategies that shaped Korea's spatial development. It also highlights how Korea's experience may inform local strategies in the LAC region—not through replication, but through reflection and adaptation. Ultimately, the aim is to support LAC policymakers, practitioners, and academics in strengthening their own territorial systems to be more inclusive, integrated, and future-ready.

Tatiana Gallego
Division Chief of Housing and Urban Development
Inter-American Development Bank

Urbanization is a global challenge, and South Korea's experience highlights the importance of strategic planning in managing rapid growth. Over the decades, Korea has established comprehensive territorial planning frameworks, integrated infrastructure investments, and innovative housing policies. A clear vision, strong leadership, and adaptable strategies have been essential in addressing urban challenges. Effective spatial planning requires ongoing policy analysis, evaluation, and monitoring. With a solid institutional foundation, decentralized planning enables regions to implement context-specific strategies while ensuring national cohesion. A robust national information system further supports data-driven policymaking.

Recognizing the broader relevance of these lessons, the Korea Research Institute for Human Settlements (KRIHS) has actively collaborated with Latin American and Caribbean (LAC) countries to support urban development. Since 2012, in the partnership with the Inter-American Development Bank (IDB), KRIHS has strengthened capacities in spatial planning, sustainable urban management, technology-driven governance, and housing policy in the LAC region. This collaboration has facilitated knowledge exchange, policy dialogues, and research to address urbanization challenges. Spatial Planning System in the Republic of Korea reflects this ongoing partnership and shared commitment to sustainable urban development.

This study highlights a fundamental planning institution responsible for overseeing the development and management of national and local territories in South Korea. This monograph elaborates on the history, plans, regulations, and governance structures related to spatial planning and policy, helping readers gain a comprehensive understanding of South Korea's spatial planning.

KRIHS is honored to provide this monograph as part of its broader efforts to enhance urban governance and planning capacity. We trust that the insights in this monograph will contribute to more resilient and well-managed cities across Latin America and the Caribbean. We extend our gratitude to the research team and IDB's contribution and look forward to continued collaboration in advancing sustainable urban development.

Gyo-Eon Shim
President
Korea Research Institute for Human Settlements

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Executive Summary

Science and technology have evolved to make not only a better way of living but also a greater environment. However, countries and cities around the globe continue to deal with various issues coming from urbanization. This monograph presents a basic yet fundamental planning institution responsible for the development—and often control—of national and local territorial management in South Korea. It further elaborates on the history, plans, regulations, and governance structures of spatial planning and policy throughout its chapters.

The first chapter draws the evolution of South Korea's spatial and urban development as a background. The following chapter briefly explains the development of South Korea periodically, after that, chapter III provides an overview and legal framework of spatial planning policy implemented in land use and development areas in general. Next, chapter IV specifies spatial planning and governance structures at national and sub-national levels. Following the chapter, we can find how municipalities implement spatial planning and governance structures for their land use and development. Chapter VI discusses the current state and issue of spatial plans and reveals the challenges what spatial plans face. The final chapter summarizes the main points of previous chapters and suggests ongoing subject matter and recommendations for readers.

There are several main points of this book. First, from a historical perspective, social issues have continually evolved, and spatial planning has served as a blueprint to identify and analyze relevant issues, trends, and conditions. Spatial planning has set precise goals with regard to spatial scope including the national territory, metropolitan areas, and city/county/district, and has specified the role of the public sector. Through its hierarchical structure, ranging from national land to local jurisdictions, spatial planning has consistently reflected and addressed the pressing issues of each era. Second, Korea has made efforts to develop plans to use national land efficiently and systematically based on expert know-how and experience to collect the opinions of all players related to spatial planning by establishing a dedicated research institute. Third, the national spatial plan in South Korea sets a planning strategy that integrates the environmental plan at the national level into the national spatial plan.

Based on this strategy, the planning institution at national level enables to ① restructure national space to respond to the era of population decline, ② establish systematic management of national territory to strengthen the link with the national environment, ③ create a safe national territory for a low-carbon future to response to climate change, ④ build innovative spaces of national territory and environment based on advanced technologies, and ⑤ improve country's global status through inter-Korean cooperation and international cooperation. Fourth, in terms of city/county management plan, municipalities implement spatial plans and policies to manage the physical environment of a city and promote rational land use through the five plans as described above including ① a plan for the designation or alteration of special-purpose areas, districts and zones, ② a plan for the designation or alteration of development restriction zones, urbanization-coordination zones, and fishery-resource protection zones, ③ a plan for the establishment, maintenance or improvement of infrastructure, ④ a plan for urban development projects, or maintenance projects, and ⑤ a plan for the designation or alteration of district-unit planning zones, and district-unit plans.

Nevertheless, the structure of spatial planning and its governance for execution is well designed and implemented; the field of spatial planning in South Korea continues to delve with better solutions for ① decentralization of power and enhanced engagement of citizens, ② the fourth industrial revolution and post-COVID-19, ③ climate change and carbon neutrality, ④ structural change in population/households and increasing extinction risk of regions, and ⑤ response to outdated urban areas and efficient use of national territorial resource. The spatial planning domain of South Korea invites the voices of other countries and cities to find relevant approaches to deal with these ongoing issues. In conclusion, we expect that this book is an opportunity to commence a discussion for those approaches globally.

I. Introduction
From Rapid Urbanization to Sustainable Growth: Insights from South Korea's Spatial Planning System for Latin America and the Caribbean.

Editors: Diego Arcia, Leon Dario Espinosa and Hyuna Lee

The study, titled "Spatial Planning System in the Republic of Korea," by researchers Yehyun An, Shin, and Kim, traces the evolution of the nation's territorial management framework from the 1960s through the 2020s. This comprehensive system emerged in response to the rapid urbanization and industrialization of the post-war period, necessitating an integrated approach to land use management. The study systematically explores three principal dimensions (i) the progression of legal and institutional reforms, (ii) the delineation of roles and responsibilities across central and local government levels, and (iii) the application of planning, management, and development tools for territorial governance. Additionally, the research addresses the complexities and challenges inherent in the territorial planning process, concluding with reflections on key insights relevant to spatial planning practices within Latin American and Caribbean contexts. This study consists of 6 chapters to explore Korean spatial planning comprehensively and analyze its key characters: Chapter 2 provides an overview of Korea's economic and territorial development; Chapter 3 outlines the current spatial planning system, including its legal and institutional frameworks; Chapter 4 examines central and local government spatial plans, with a focus on changes in national spatial planning and their significance; Chapter 5 reviews local government urban planning, particularly the tools used for planning, management, and development at the city and county level; Chapter 6 assesses the implementation of spatial plans and the challenges encountered; Chapter 7 shares the lessons drawn from Korea and explores their implications for LAC.

Korea's rapid demographic and economic transformation – marked by population growth, increasing urban density and accelerated industrialization – created an urgent need for structured spatial governance. By 2020, the population of South Korea reached 51.8 million, with a population density of 516.59 people per square kilometer[1]. Over the past decades, the nation witnessed a dramatic shift towards urbanization, with the urban-to-rural population ratio rising from 39.1% in 1960 to 91.8% by 2020[2]. These dramatic shifts demanded a coherent system to manage urban expansion and coordinate infrastructure development. In response, Korea institutionalized its spatial planning framework, beginning with the enactment of the Urban Planning Act in 1962, which marked a foundational step towards structured land use planning governance. This legislation integrated spatial planning with broader socio-economic policies, as exemplified by the Five-Year Economic Development Plans. These plans addressed the multifaceted social, economic, and environmental challenges in transforming from a predominantly rural, agrarian society to a highly urbanized, industrialized nation. In this context, the territorial planning framework was designed to address immediate demands for urban expansion and infrastructure development by setting sector-specific goals, delineating the roles of various stakeholders, and harmonizing these efforts with national objectives. Korea established a multi-tiered planning structure—encompassing national, metropolitan, and local levels—to manage urban development systematically.

As the analysis demonstrates, the development and maturation of Korea's spatial planning system have been an ongoing process, shaped by cumulative experiences, the integration of emerging technologies, and a flexible approach to addressing specific challenges such as housing shortages, environmental sustainability, and long-term economic development. Complementing these efforts, the reorganization of administrative districts by the mid-1990s further streamlined planning processes, aligning them more closely with evolving societal needs and priorities.

During the high growth period of the 1960s to the 1990s, the government concentrated on establishing development zones and building transportation and industrial infrastructure to support manufacturing and export-led growth. However, these development efforts exacerbated regional disparities, as migration from rural areas

1) Spatial Planning System of Korea. Page 22.
2) Ibid. Page 22.

to cities intensified. By 2020, around 50.2% of the total population live in the Seoul Metropolitan Area (SMA), which occupies only 12.6% of the land. Economic power was similarly concentrated, with 49.7% of companies and 52.2% of Gross Regional Domestic Product (GRDP) generated in the SMA[3].

To address this spatial imbalance, the government introduced several initiatives starting in the 1970s, including the Metropolitan Population Decentralization Policy (1972), Distribution of Industry Act (1977) and the 1st Seoul Metropolitan Area Readjustment Masterplan (1982-1996). By the 2000s, balanced development became a core objective of spatial planning, with the public sector actively promoting rural development to support regional equity. Responsibilities for spatial planning were increasingly transferred to local governments, fostering greater citizen participation in urban management.

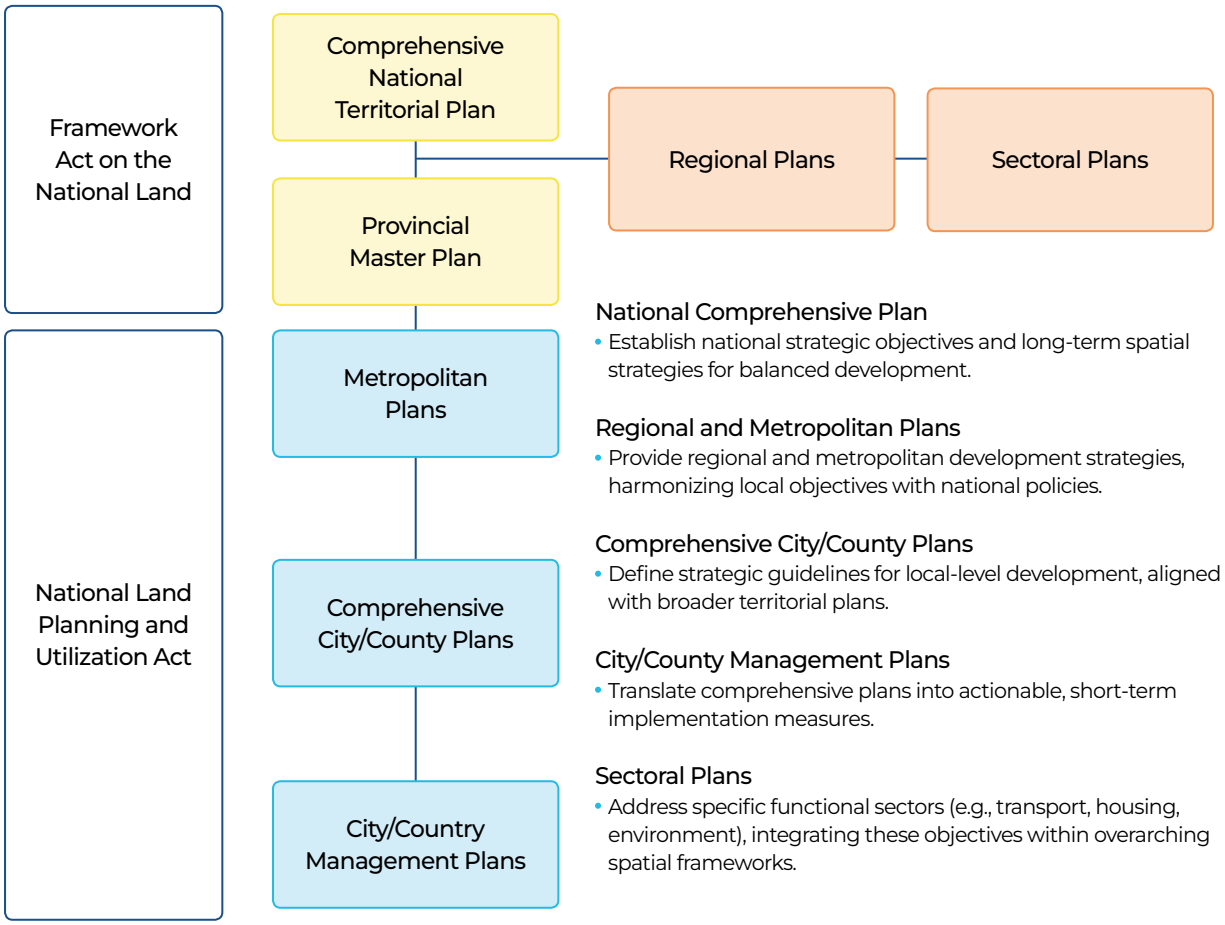
In recent years, Korea's spatial planning has focused on sustainable urban development, digital transformation, and inclusivity to address modern challenges like climate change and population decline. The Framework Act on the National Land, and the National Land Planning and Utilization Act of 2003 reinforced a "planning first, development later" approach[4], integrating land use and development within sustainable frameworks. Prior to 2000, national territory planning was governed by three key regulations: (i) the Act on Comprehensive Plans for Construction in the National Territory[5], (ii) the Act on the Utilization and Management of the National Territory, and (iii) the Urban Planning Act[6]. The latter two facilitated the extensive development of national land. These laws were consolidated into the National Land Planning and Utilization Act, which formally established the requirement that all land use, development, and preservation activities align with established national plan.

Article 120-2 states the role of territorial planning in safeguarding natural resources and promoting balanced development[7]. Territorial planning was thus conceived as a tool to implement national policies for efficient land use within a hierarchical structure,

3) Ibid. Page 25
4) Ibid. Page 27
5) https://elaw.klri.re.kr/kor_service/lawViewContent.do?hseq=6566
6) https://elaw.klri.re.kr/eng_service/lawView.do?hseq=39064&lang=ENG
7) The national territory and natural resources shall be protected by the State, and the State shall establish the necessary plans for their balanced development and use

encompassing: (a) regional plans to improve social and economic conditions and (b) metropolitan plans for the development of infrastructure and public services in metropolitan areas, as well as for defining areas to be urbanized. Regional, metropolitan, and local planning are interlinked in this context, forming an integrated and hierarchical approach to territorial systems.

Figure 1-1. Diagram of Korea's Territorial Planning System.

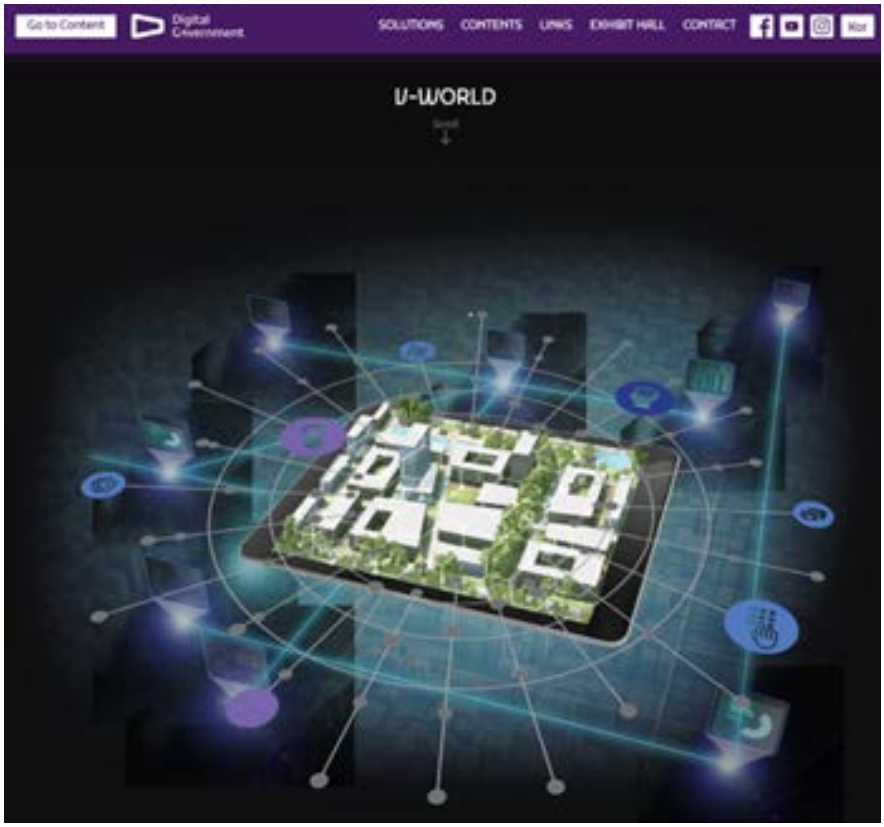


Source: Internal data of Ministry of Land, Infrastructure, and Transport (MOLIT), Republic of Korea.

Korea's experience highlights the importance of clear leadership, a well-defined development vision and flexible strategies to accommodate changing needs. A robust spatial planning system requires ongoing planning, policy analysis, evaluation, and monitoring. With a solid foundation, planning can be effectively decentralized, allowing regions to develop strategies tailored to their specific contexts. The national plan plays a crucial role in preventing fragmentation and fostering inter-regional cooperation. To

support this, creating a national information system is critical in facilitating the collection and use of spatial data. Korean National Spatial Data Infrastructure (NSDI) portal, which centralizes geospatial data on spatial planning, environmental issues, regulations and strategies, and real estate dynamics, has been instrumental in facilitating territorial management and decision-making. The use of such geospatial information has become a key factor in Korea's territorial planning system.

Figure 1-2. **Korea's Digital Government: Spatial Data Portal.**



Source: https://www.dgovkorea.go.kr/service1/g2c_10/spatial_data_info

The development of South Korea's spatial planning system also offers key lessons as discussed in the IDB's report, "Sistemas de Ordenamiento Territorial en América Latina y el Caribe" (Arcia, Pinto, and Espinosa, 2023). First, Korea's evolution from fragmented processes towards a cohesive national-territorial planning system highlights a crucial evolutionary path. Similarly, LAC countries have employed spatial planning to promote socio-economic and environmental development in alignment with their territorial potentials and limitations. However, there is no clear consensus on defining a singular

Territorial Planning System, as various systems are still under development. Achieving adequate coordination between these systems requires effort in implementation and adjustment, which take time. The countries that have made the most progress in spatial planning have spent at least three decades designing, experimenting with, and refining their systems (Massiris, 2008: 2012: 2018).

Second, Korea's example underscores the territorial planning is a powerful tool for achieving national economic, social, and environmental objectives. However, success lies not in creating a perfect plan, but in continuously monitoring and adjusting the process. As new challenges emerge in spatial planning, gaps will inevitably arise, requiring time and practice (Arcia, Pinto, and Espinosa, 2023, p.303).

Third, Korea's experience shows the need to balance international support with strengthening internal capacities. Over-reliance on external assistance can inhibit countries from learning from their own experiences and hinder the development of sustainable capabilities. The establishment of the Korea Research Institute for Human Settlements (KRIHS) in 1978 as a national think tank exemplified a strategic effort to reduce dependency and cultivate domestic expertise in territorial development, spatial planning, and urban policy. In a similar vein, as recommended in the Sistemas de Ordenamiento Territorial en América Latina y el Caribe study, it is crucial to identify successful experiences in other countries and critically evaluate their applicability within local contexts, ensuring that international models are adopted to meet specific national needs.

Fourth, Korea illustrates the importance of strengthening vertical and horizontal coordination with a clearly defined roles and incentives for stakeholder participation. While improving governance at subregional and local levels is essential, there must also be clear national development vision to guide these efforts (Arcia, Pinto, and Espinosa, 2023, p.307). Otherwise, the various efforts will not contribute to the overarching goal. This remains a challenge for LAC countries, where debates about the degree of decentralization and the roles of various actors persist.

Lastly, Korea's case emphasizes the importance of leveraging new information and communication technologies in spatial planning. For LAC countries, it is recommended to strengthen technical capacities at the municipal and local levels, focusing on implementing Geographic Information Systems (GIS) at various scales and improving

access to information for all stakeholders involved in spatial planning. Additionally, enhancing land management tools and securing financing for spatial planning efforts is critical. In this regard, Korea's support could be instrumental in strengthening territorial systems. Long-term initiatives, such as the KRIHS-IDB Urban Development Academy (KIUDA)[8], now in its tenth year, have already provided technical assistance on a wide range of topics, from intermediate-scale urban planning, including innovation districts, to training public officials in urban policy and housing design, smart city strategies, and land management for spatial planning implementation.

As noted in the aforementioned study (Arcia, Pinto, and Espinosa, 2023, p.303), the key challenge for LAC countries is to strengthen existing capacities by applying regional advancements and lessons learned from cases like Korea. Multilateral actors will play a vital role in fostering collaboration and supporting these efforts.

8) The collaborative initiative between the Inter-American Development Bank (IDB) and the Korea Research Institute for Human Settlements (KRIHS) focuses on strengthening urban development ties between South Korea and Latin American and Caribbean (LAC) countries. Through knowledge exchange, capacity building, and collaboration, KIUDA fosters partnerships that support innovative and sustainable urban development solutions across the region.

II. Evolution of Korea's Spatial and Urban Development

Korea has experienced unprecedented rapid urbanization and compressed industrialization. The government of the Republic of Korea (hereinafter Korea) had to use its land in the most effective and efficient ways to rebuild its devastated country from colonization and the Korean War. Against this background, the spatial planning of Korea has become one of the most useful tools to run the country.

With the enactment of the Urban Planning Act in 1962, Korea adopted the spatial planning system to link the social and economic policies of the government with its spatial planning. Also, the government has established plans to manage the national territory to support the implementation of national initiatives including the Five-Year Economic Development Plan Through the period of high economic growth, the nation has faced rapid urbanization and industrialization, issues related to national territory constantly have emerged, and the demands of society have changed rapidly as well in line with such issues. At the same time, the spatial planning system has evolved to adjust to the changing environment and meet various social demands. The government laid out various spatial plans and provided policy attempts. Owing to such efforts, income per capita increased by more than 100 times in just 30 years and the housing supply rate exceeded 100% in 2011. By looking into the case of the spatial planning system of Korea, therefore, it is possible to find implications that can be applied to other countries.

To understand the planning system from the spatial context, it is first necessary to examine the characteristics of the national territory of Korea. Korea is a relatively small country as the size of its land area is 100,413㎢ (2020) ranked the world's 110th. Stretching from the East to the South of the continent of Eurasia, the Korean Peninsula extends some 1,100km from the Asian mainland (North-South) with a width of approximately 300km (East-West), and about 3,300 islands are scattered around the Peninsula. Around 75% of its land area is covered by mountains and the eastern part of its land is higher than that of the west. In a nutshell, the size of land available for development is clearly limited.

With regard to the administrative district as a basic unit of administration, the wide-area unit of local governments largely consists of a special city, 6 metropolitan cities, a special self-governing city, 8 provinces, and a special self-governing province. The basic unit of local governments is comprised of 75 cities, 82 counties, and 69 self-governing districts. In an effort to align the daily living areas with administrative districts, the government embarked on an extensive reorganization of administrative districts in the mid-1990s along with the opening of the era of localization in earnest.

As of 2020, the population of Korea is 51.829 million and the planning (population policy), economic growth, and increasing social activities of women. The population growth rate reached 0.14% in 2020.

The degree of urbanization or the population rate of people who live in urban areas was a mere 39.1% in 1960. In 2020, however, the urban population (% of total population) was 91.8%. The following figure indicates the change in urban population with figures since 1960.

Table 2-1. Total population and urban population by year

Classification \ Year	1960	1970	1980	1990	2000	2010	2020
Total population	24,989	31,435	37,449	43,390	47,964	50,516	51,829
. Urban population	9,784	15,750	25,738	35,558	42,375	45,933	47,571
. Rural population	15,205	15,685	11,711	7,832	5,579	4,583	4,258
Urban/rural population ratio	39.1	50.1	68.7	81.9	88.3	90.9	91.8

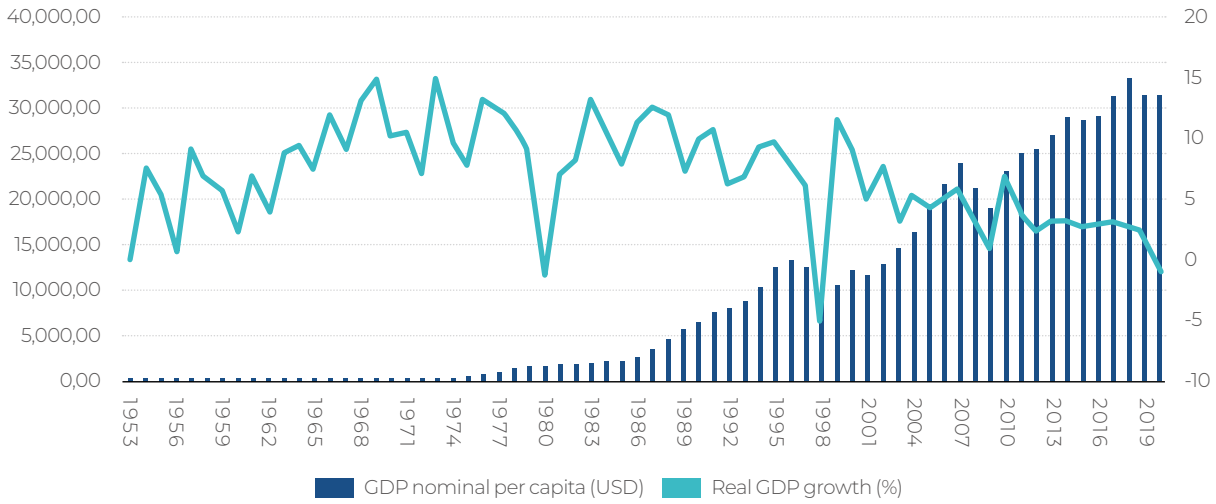
Note: By 2000, the urban population means the population living in the urban planning zones. After 2000, however, it changed its meaning to the ones living in urban areas.

Source: Korean Statistical Information Service (KOSIS)

In the course of change, social issues have constantly changed and spatial planning has provided a blueprint that identifies and analyzes relevant issues, trends, status, and provides responsive measures. Spatial planning has set precise goals with regard to spatial scope including the national territory, metropolitan areas, and city/country/district, and specified the role of the public sector. The spatial plan with various hierarchy layers from national land to city/country/district represented issues of the time. To understand the planning system of Korea, it is necessary to explore the current issues of its society reflected in spatial planning from the development period to the 2000s.

GNI and economic growth rate are the two leading indicators that reflect the situation and status of Korean society in a given period. The GNI per capita of Korea has increased approximately 400 times from USD 79.46 in 1960 to USD 31,647 in 2000. Korea has achieved remarkable economic growth from the 1960s to the 1990s right before the currency crisis, and the average growth rate during the period (1954~1997) reached 8.7%. There were ups and downs in terms of economic growth as the country faced with Asian financial crisis at the end of the 1990s and the global financial crisis at the end of the 2000s. However, it is certain that the economic indicators of Korea have changed dramatically over the 60 years.

Figure 2-1. GNI per capita and the economic growth rate of Korea



Source: KOSIS, compiled by the author

To promptly grow its economy, the Korean government put industrialization as its priority during the period. The industrial structure, which was largely dependent on primary and labor-intensive light industries in the 1960s, has shifted as well. As for spatial planning, a change in national priority was evident. During the period of the 1960s and 1990s, spatial planning was close to development planning focusing on laying the foundation for manufacturing and infrastructure building to support economic growth. As a result, we were able to witness significant growth in several indicators related to infrastructure and industries.

Table 2-2. Industry-and infrastructure-related indicators

Category	Subcategory	Unit	1981	1991	2001	2011	2021	% increase of 40 year
Industry	Industrial complex	㎢	332.	381.	442.	562.	683.	105.7%
Transport	Total length of roads extended	㎞	47,019.	57,442.	91,396.	105,931.	113,405.	141.2%
	Length of expressway extended	㎞	1,245.	1,551.	2,637.	3,913.	4,866.	290.8%
	Length of railroads extended	㎞	3,182.	3,091.	3,125.	3,559.	4,192	31.8%
	Port capacity	Million tons/year	87.	248.	423.	943.	1,297.	1,390.8%
	Airports	No. of airports	12.	12.	17.	15.	15.	25.0%
Living	No. of houses	Thousand houses	5,460.	7,742.	11,892.	18,082.	21,917.	301.4%
	Housing supply rate	%	70.5	74.8	98.3	100.9	102.2	31.7 p.p.
	Water supply rate	%	57.	80.1	87.8	97.9	99.4	42.4 p.p.
	Sewage supply rate	%	8.3	35.7	73.2	90.9	94.8	86.5 p.p.
	National parks	No. of parks	14.	20.	20.	20.	22.	57.1%

Source: MOLIT Statistics System.

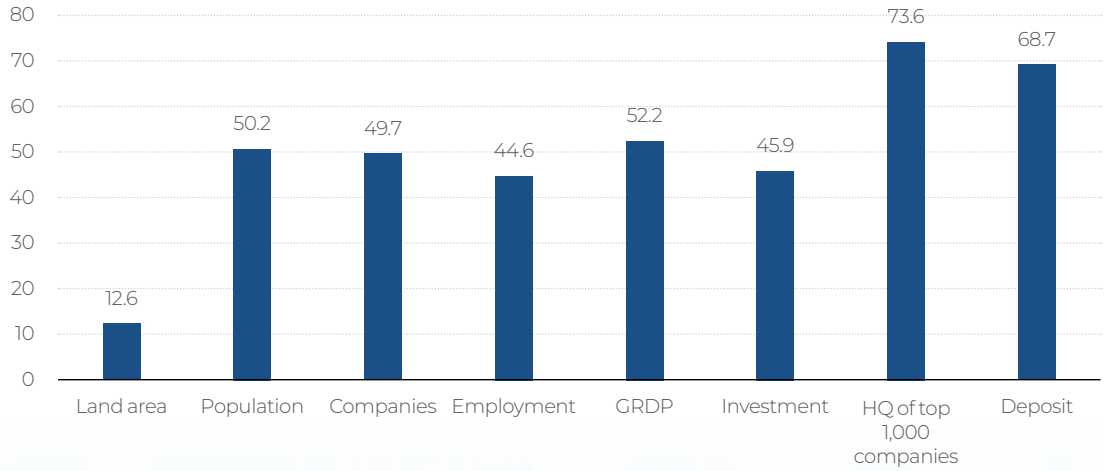
In the 2000s, the approach to spatial planning has changed and issues of the time have changed as well. For instance, people began to consider sustainability and environmental issues seriously, and digitalization and intellectualization have come to the front along with scientific and technological advances and ICT development. As the efforts to use the national territory and build the infrastructure have achieved desired goals in terms of quantitative supply, the focus has shifted to engineering construction projects from the perspective of development as well as quality improvement, management, and operation.

Issues related to urbanization have changed as well. In the early and middle stages of rapid urbanization from the 1960s to the 1980s, quantitative improvement of urban living environment was an urgent task. During that period, a lack of houses due to rapidly increasing urban population, a spread of urban slums as well as public health

issues, enhancement of basic living environment related to the right to housing were considered important. In the last stage of urbanization, the housing supply rate exceeded a certain range, and quality of life became an important issue. Thus, the urban living environment began to include various aspects of daily lives including welfare, culture, tourism, safety, etc.

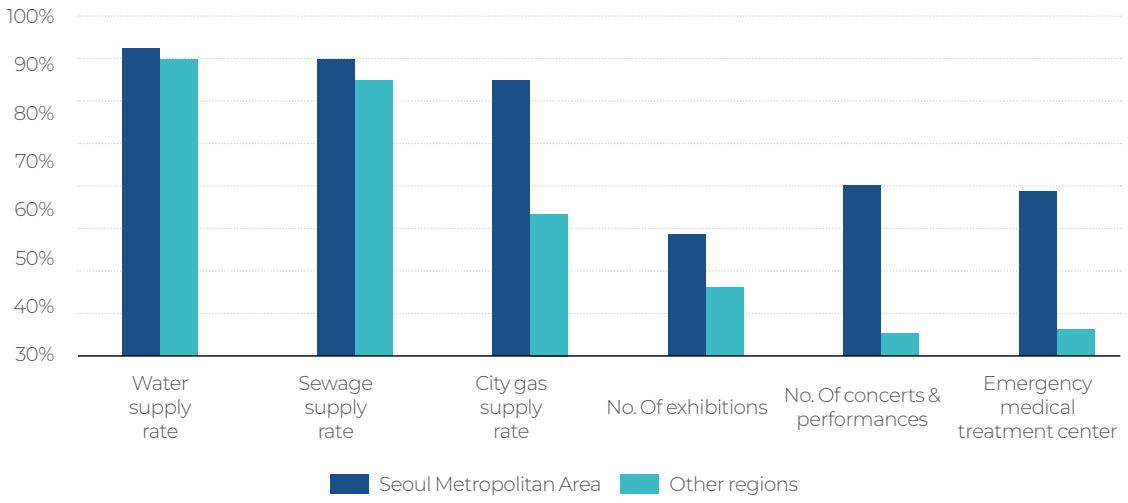
Development initiatives of the government focusing on effective growth of the economy during the rapid development period worsened equity gaps in the national territory. As people constantly leave rural areas and move to cities, about 50.2% of the total population live the Seoul Metropolitan Area as of 2020, although which size of the land area accounts for only 12.6%. In terms of the concentration of economic power, 49.7% of companies are located the Seoul Metropolitan Area (SMA) and 52.2% of GRDP are generated there. The government has provided measures to curb spatial concentration since the 1970s and laid out various initiatives in different forms such as the Metropolitan Population Decentralization Policy (1972), Distribution of Industry Act (1977) and the 1st Seoul Metropolitan Area Readjustment Masterplan (1982-1997). In the 2000s, balanced development has become an important goal in spatial planning, and the public sector began to engage in activities to develop rural areas for the balanced development of regions proactively.

Figure 2-2. Concentration of social resources in the Seoul Metropolitan Area



Source: (Land area, population) MOLIT Statistics System, 2020
(Companies, Employment, GRDP) 4th Seoul Metropolitan Area Readjustment Plan, 2020
(Investment, HQ of top 1,000 companies, Deposit) 4th Five-Year Balanced National Development Plan, 2016.

Figure 2-3. **Access to services for daily living in the Seoul Metropolitan Area and other regions**



Source: Korea Rural Economic Institute, 2016; 4th Five-Year Balanced National Development Plan (2018-2022) recited.

As people begin to aware of the need for balanced development, decentralization of power to lower regional and local levels of government has become a critical issue. The government intended to take the lead in developing regions during the period of rapid growth, but its result was not successful. In the late 1990s, many authorities related to urban development and management were handed over to local governments, and citizen engagement has become essential for the development and management of cities along with the emergence of grassroots democracy. The issue of decentralization of power was reflected in the framework of the spatial planning system as well. In 2010, extensive governance and cooperation among central and local governments have become the key to the balanced development in recognition that the decentralization of power alone is not enough to resolve the issue.

The issue of time has not only affected the purpose and content of spatial planning, but it also brought a fundamental change to the system as a whole. Among such changes, the enactment of the Framework Act on the National Land and the National Land Planning and Utilization Act (hereinafter the National Land Planning Act) in 2003 are the most noteworthy. Before the 2000s, the national territory was planned for development and managed under three acts including the Act on Comprehensive Plans for Construction in the National Territory, the Act on the Utilization and Management of the National Territory, and the Urban Planning Act. In particular, the dual land use management system under the Act on the Utilization and Management of the National Territory and the Urban Planning Act served as a reason

for sprawl development of national land. Later, the two acts were integrated to be enacted as the National Land Planning and Utilization Act, which clearly stated the principle of planning first and developing later, meaning that activities related to the use, development, and preservation of land should be made under the plan. Likewise, changing demands from rapid growth to stabilized economy periods as well as growing calls for sustainability across the world allowed the reorganization of the spatial planning system in earnest.

Table 2-3. History of the spatial planning system in Korea

Changes of applicable laws related to urban planning	Highlights of enactment and revision	Laws related to spatial planning
Chosun Planning Ordinance for Urban Areas (1934)	(none)	(none)
Enactment of Urban Planning Act (1962)	Special-purpose area/district	- Enactment of Building Act (1961) - Enactment of Act on Comprehensive Plans for Construction in the National Territory (1963)
Complete revision of Urban Planning Act (1971)	① Development restriction zone, ② utility tunnel	- Enactment of Act on the Utilization and Management of the National Territory (1972) - Enactment of Industrial Site Development Promotion Act (1973) - Enactment of Housing Construction Promotion Act (1977)
Complete revision of Urban Planning Act (1981)	① Comprehensive city/county plan, ② Urban natural park zone	- Enactment of Seoul Metropolitan Area Readjustment Planning Act (1982)
Partial revision of Urban Planning Act (1991)	① Metropolitan city planning	(none)
Enactment of National Land Planning and Utilization Act (2002)	**① Adjustment of special-purpose area, ② Establishment of urban planning for rural areas, ③ Negative list → Positive list**	**- Enactment of Act on Urban Parks, Green Areas, etc. (2005)** **- Framework Act on the National Land (2002)** * Abolition of Act on the Utilization and Management of the National Territory * Abolition of Act on Comprehensive Plans for Construction in the National Territory
Partial revision of National Land Planning and Utilization Act (2014)	Semi-residential, semi-industrial, and planned control areas: Positive → Negative	(none)

Source: Compiled by the author.

III. Legal and Institutional Frameworks for Spatial Planning of Korea

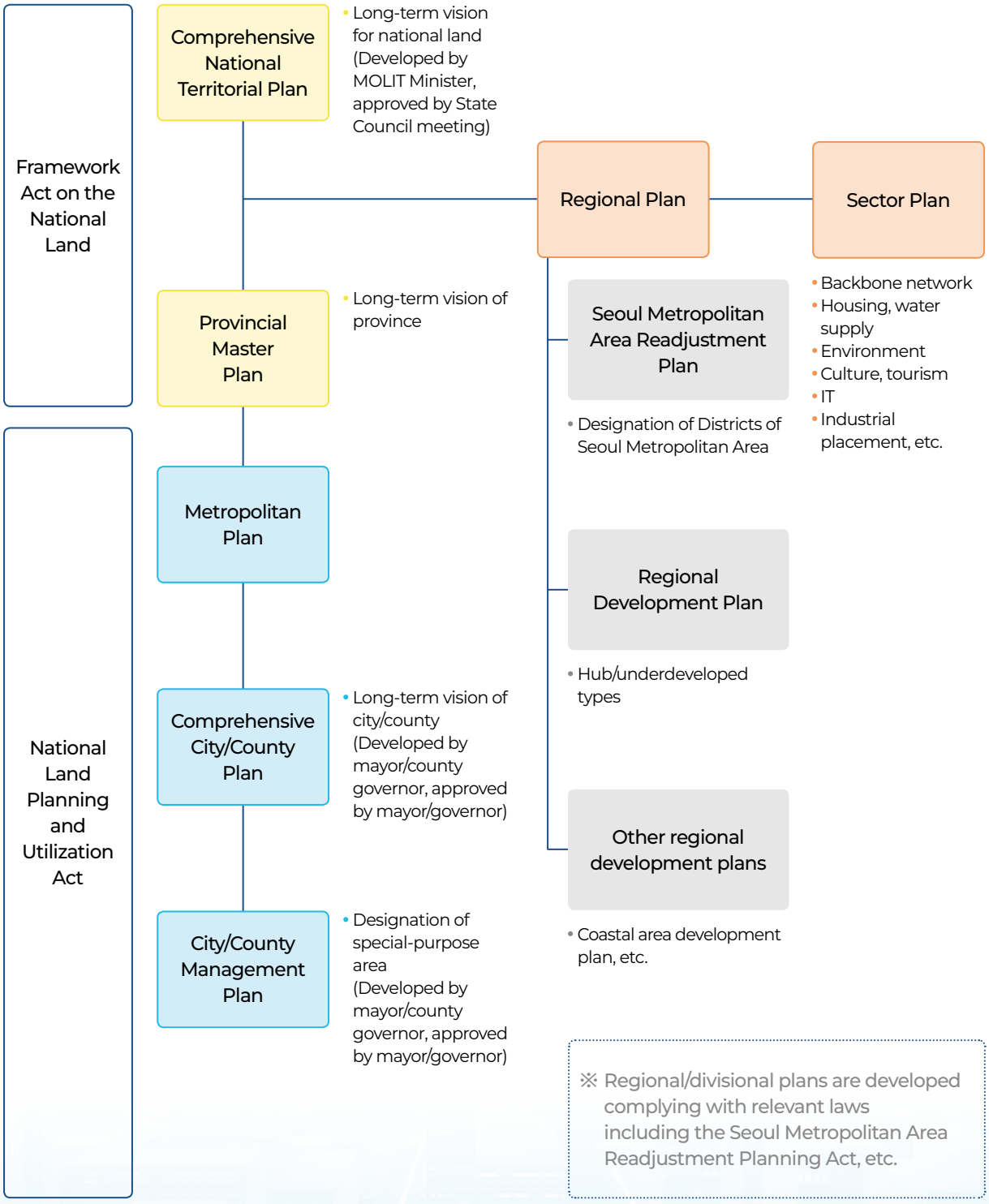
a. Overview of Spatial Planning System

In Korea, the national land policy includes all types of engagement of the public sector to maintain the distribution of population and industry at a desired state and reduce the income gap among regions. In addition, the national land policy contains all institutional means that enable the public sector to carry out development activities. Thus, all development activities such as infrastructure building for the construction of industrial parks, roads and railroads, development of new cities, housing supply, and equipment of environmental facilities and water supply network are implemented under the framework of national land policy.

Spatial planning is an institutional tool to implement the national land policy. It is a standard refined framework encompassing partial and sectional strategies and programs, and a specific tool to utilize the national land resource efficiently. The scope of spatial planning includes regional development plan to improve social and economic conditions, metropolitan plan to cover the infrastructure and service supply to metropolitan areas, land use plan to define sections of urban land for utilization, etc. (KRIHS 2013, 13).

The national land policy of Korea has been carried out within the spatial planning system in which the regional development plan, metropolitan plan, and land use plan are connected together as a hierarchy. The necessity of spatial planning is stated as “The national land and natural resources shall be protected by the state and the state shall establish plans deemed necessary for their balanced development and use” in Article 120-2 of the Constitution of the Republic of Korea, and the spatial planning system and detailed tasks are defined in the Framework Act on the National Land and the National Land Planning and Utilization Act (National Land Planning Act).

Figure 3-1. **Overview of the spatial planning system of Korea**



Source: Internal data of Ministry of Land, Infrastructure and Transport (MOLIT).

b. Legal Frameworks for Spatial Planning

The Framework Act on the National Land was established as a basic legal framework to define the basic principle and philosophy of national land management in 2003. Before the Act, there was the Act on Comprehensive Plans for Construction in the National Territory, which took effect in 1963. The Act on Comprehensive Plans for Construction in the National Territory was established as an act to state the procedure and process to develop comprehensive national territory development plans in the era of rapid growth and development of national land after the Korean War, and which provided the legal grounds for the 1st to 3rd National Comprehensive Territorial Plan. As we enter the 21st century, there was a growing need to respond to changes of the time such as globalization, localization, and transformation to the knowledge-based society proactively, look back into problems generated during the period of rapid economic growth such as unbalanced development of national land, environmental damage, and change for the future. Therefore, the Act on Comprehensive Plans for Construction in the National Territory was abolished, and the government enforced the Framework Act on the National Land that complemented and developed the Act on Comprehensive Plans for Construction in the National Territory further as of January 1, 2003. The government developed and implemented the 4th Comprehensive National Territorial Plan (CNTP) thereafter under the Act.

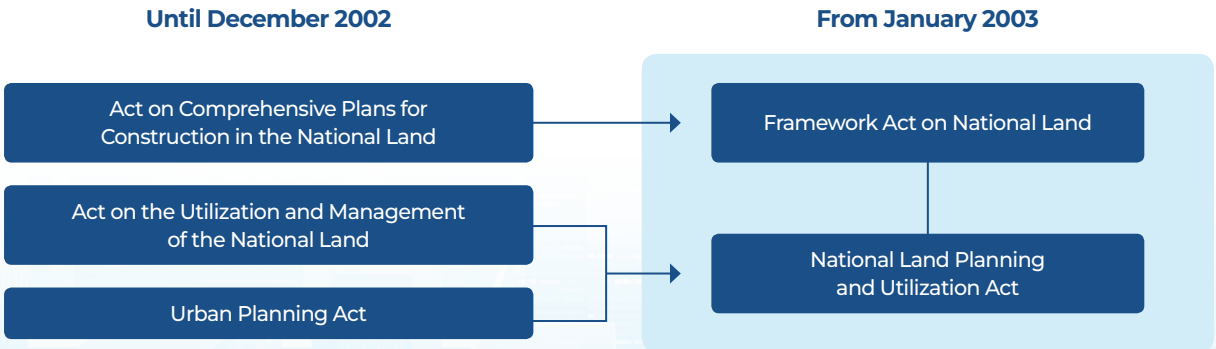
The Framework Act on the National Land has set the balanced development, creation of competitive conditions for national territory, and environmentally-friendly management of national land as its basic purposes and provided measures for the development and implementation of spatial plans as a basic tool to achieve such objectives. Previously, the Act on Comprehensive Plans for Construction in the National Territory largely consisted of national plan, plan for special area, the Seoul Metropolitan Area readjustment plan, provincial master plan, comprehensive city/county plan in the spatial plan. Under the Framework Act on the National Land, however, the spatial plan is comprised of comprehensive national territorial plan, Do (province) comprehensive plan, Si/Gun (city/county) comprehensive plan, and sector plan, and the Seoul Metropolitan Area readjustment plan, regional development plan, and others are provided as regional plans.

The National Land Planning and Utilization Act (National Land Planning Act) constitutes another pillar of spatial planning. Before the establishment of the National Land Planning Act, spatial planning was managed under the dual system for urban and

rural areas through the Urban Planning Act (1962) and the Act on the Utilization and Management of the National Territory (1973). With the enactment of the Framework Act on the National Land in 2003, the Urban Planning Act and the Act on the Utilization and Management of the National Territory are integrated to newly adopt the Urban Planning Act. The National Land Planning Act was designed to manage the entire land territory under urban plans instead of separating rural areas. It also aimed to build an environment-friendly land use system to prevent sprawling development of the land through its systematic use under the plan.

The Framework Act on the National Land is the highest law that defines a comprehensive national territorial plan and subplans, and the National Land Planning Act is also at the top hierarchy of relevant laws in Korea to determine the land use planning system. Basically, it provides means to realize the pre-planning and post-development principle, that is the use, development, and preservation of national land should be made based on the plan. Spatial planning of national land under the National Land Planning Act consists of "metropolitan city plan" presenting a long-term development direction of a metropolitan zone comprised of more than two special city, metropolitan city and province, "basic plan of cities/counties", which provides basic spatial structure and long-term development direction of cities and countries, and "management plan of cities/countries", which deals with details of sector plans including land use, transport, environment, industry, culture, etc. In addition, it provides district plans which designate specific assignment and method of management with regard to the use of certain lands in the city/county plan. Namely, the Framework Act on the National Land and the National Land Planning Act link the land development use plan of cities and counties to integrate spatial planning and land use plan.

Figure 3-2. Changes in legal grounds for spatial planning



Source: KRIHS 2013, 15.

c. Institutional Frameworks for Spatial Planning

The central government, local governments and private sector are the key players of the development and implementation of spatial plan. Spatial planning of Korea is led by the central government or local governments depending on the purpose and characteristics of the plan. Previously, spatial planning of Korea was largely led by the central government to develop and implement the project. Since the 21st century, however, legal and institutional foundations were established to allow local governments to take the initiative in developing plans and implementing the relevant projects.

As the central government began to hand over the administrative authority of spatial planning to local governments since the end of 1990s, a system to support local governments to decide and implement policies by themselves was established. From the 1970s to the 1990s, a comprehensive national territorial plan was established and implemented by the central government in terms of the spatial planning system in Korea due to the lack of capacity of local governments. As the era of decentralization of power to local governments has emerged since the 1990s, the role of local governments in national land development has increased as well. The central government transferred the authority to local governments with regard to the approval of basic urban development plan, designation of housing site development area, approval and modification of plan to enforce the development of national industrial complex, establishment of urban redevelopment promotion plan, etc. (KRIHS 2013; MOLIT et al. 2013).

The Special Act on Balanced National Development was established in the 2000s, and there was a growing call for new spatial planning of national land emphasizing specialization of each region in line with major changes including construction of new administrative capital and relocation of government/public agencies and organizations to local cities, installation and operation of high-speed trails, and adoption of 5-day workweek. Under such circumstances, the government decided to implement development projects tailored to the needs of regions in consideration of their characteristics by reorganizing the administrative system to ensure the fairness and transparency of self-governance, securing the budget of local governments and their administrative capability. At the same time, the government implemented a series of policies to reinforce the economic foundation of regions through strengthening support for global logistics and business in regions, creating open hubs for access to foreign markets, and a readjusting system to attract private investment.

As the key player that leads the national development has shifted from the central government to local governments since the 21st century, regions have become the leaders of development and competitiveness, and which lead to the growing importance of building a cooperative network and governance among various players between central/local governments, local government and private sector, and among local governments, not to mention of their capacity building. Thus, Korea intends to reinforce administrative and financial incentive systems that can promote cooperation among local governments for spatial planning, and encourage them to provide a plural and cooperative governance for regional development (KRIHS 2013; MOLIT et al., 2013). The 5th comprehensive national territorial plan, which was established most recently, provides measures allowing cities and provinces to join hands together to develop plans and implement tasks by themselves to ensure their autonomy and build an innovative industrial ecosystem in regions through cooperation among various cities and counties.

As the connection and cooperation among regions have become important in spatial planning, engagement of local residents and citizens in the establishment and implementation of spatial plan has gradually expanded and established as a system. For instance, they are given opportunities to deliver their opinions in advance through public hearing for spatial plans. The government provided institutional grounds such as referendum in an attempt to directly reflect the opinions of local residents.

The government has established dedicated research institutes in charge of the development of national land policy for national spatial planning, while encouraging the engagement of government agencies, local governments, and private sector. For examples, the government installed a 'national land investigation committee' temporarily supported by foreign aid to develop the 1st comprehensive national land plan. When the 1st comprehensive national land plan was developed, it was difficult to secure outstanding talent and had no agency in charge of seeking the advice of domestic experts and collecting opinions. Later, the government recognized that it was not possible to conduct comprehensive research looking for the future by focusing on simple civil engineering approach in a physical sense or partial study on national territory only. The Act on Promotion of Korea Research Institute for National Land Development (1978) was enacted in order to carry out more scientific and systematic research on the national land and develop national land policies from the long-term perspective, and the Korea Research Institute for Human Settlement (KRIHS) was founded under the law.

As a government-sponsored research institute under the National Research Council for Economics, Humanities and Social Sciences of the Prime Minister's Office, KRIHS explores mid/long-term policy agendas, leads and supports the government initiatives, and conducts practical and empirical research to analyze and resolve policy issues and social problems. Since its foundation in 1978, KRIHS took the charge of developing comprehensive national land plans from the second to fifth initiatives as well as key national land/regional plans by sector including the Seoul Metropolitan Area readjustment plan, plan for the special area, metropolitan city plan, posted land price system, new town development plan, nationwide road network development plan, national geographic information system, etc. As such, Korea has made efforts to develop plans to use national land efficiently and systematically based on expert know-how and experience to collect the opinions of all players related to spatial planning by establishing a dedicated research institute.

IV. Spatial Plans at National and Sub-national Levels

This chapter explores national and regional plans developed under the Framework Act on the National Land, and the National Land Planning and Utilization Act (hereinafter referred to as the National Land Planning Act) as described in chapter 3, changes in developed programs, and the roles and significance of national plans.

With regard to spatial planning of Korea, Comprehensive National Territorial Plan (CNTP), sectoral plan, regional plan, and provincial master plan are developed under the Framework Act on the National Land, and metropolitan plan, and comprehensive city/county plan are established under the National Land Planning Act. Regional plans such as the Seoul Metropolitan Area rearrangement plan and regional development plan, sectoral plans encompassing environment, national infrastructure networking, housing, culture and tourism, IT, and allocation and industrial complex are developed under the Framework Act on the National Land. However, there are relevant laws and such plans should be developed in accordance with them. CNTP provides a framework for the long-term directions of national territory development as it is in the top tier of spatial planning for the use, development, and conservation of national land. CNTP was first developed in 1972, and its 5th plan was announced in 2021. Likewise, CNTP continues to change in line with the trend of the times and changing environment. As a comprehensive plan encompassing the entire approaches to the land including its use, fostering of industries, resource management, creation of a living environment, infrastructure building, etc. it provides guidelines for the development of sub-spatial plans and related sectoral plans. Therefore, provincial master plan, comprehensive city/county plan, regional plan, and sectoral plan are developed following the guidelines on land use presented in CNTP.

In addition to CNTP, Korea establishes the Seoul Metropolitan Area readjustment plan and balanced national development plan under relevant laws. Namely, CNTP presents policy directions on the use of land across the country and the Seoul Metropolitan Area readjustment plan is designed to manage the concentration of population and industries in the Seoul Metropolitan Area including Seoul and surrounding regions such as Incheon, Gyeonggi Province, and develop rural areas. The Seoul Metropolitan

Area Readjustment Planning Act[11] was enacted in 1982 to address issues of excessive concentration of population and industries in the Seoul Metropolitan Area and regional stagnation as well as the Seoul Metropolitan Area readjustment plan for implementation. In the advent of the 21st century, the Special Act on Balanced National Development[12] was established as well in 2004 to provide a fundamental solution for unbalanced development of national territory which dated back to the 1960s. Under the Special Act on Balanced National Development, the government has developed the Five-Year Balanced National Development Plan since 2004. As of 2018, the government announced the 4th Five-Year Balanced National Development Plan (for 2018~2022).

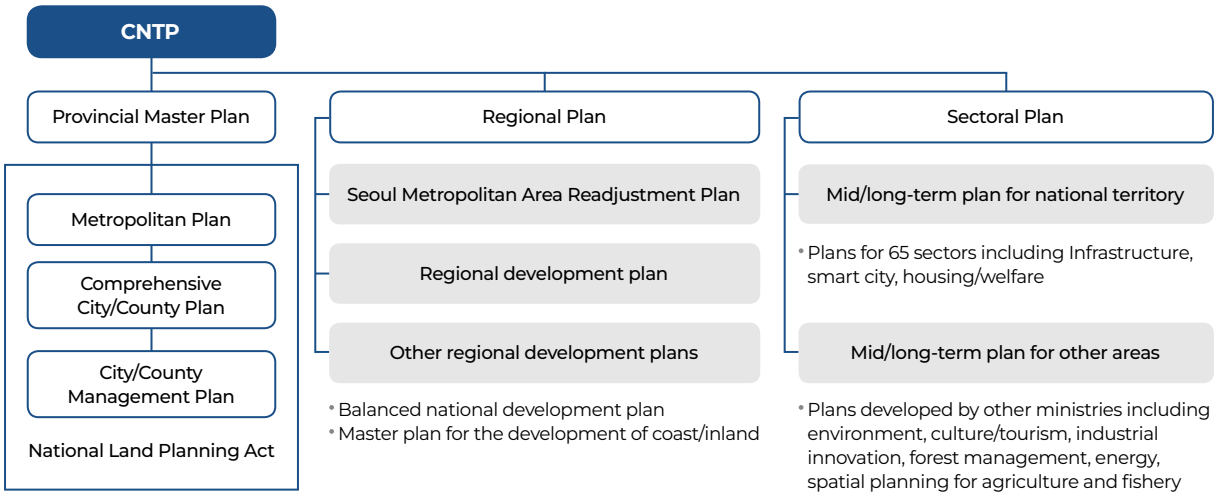
As such, the spatial planning of Korea strikes a harmony among CNTP in the highest level and sub-plans. CNTP provides strategic plans and implementation directions for the development and use of land as a long-term and comprehensive plan and affects regional and sectoral plans. As CNTP is newly provided in 10-to-20-year intervals, it reflects the trends of the times, changes in surrounding environment, and key global issues. Thus, it is particularly important to examine CNTP as a framework plan affecting overall national policies in order to understand the roles and necessity of national spatial planning. This chapter explores the process of change of CNTP from the 1st to 5th plan since 1970 to review on the meaning of establishing a comprehensive spatial plan at the national level.

a. Comprehensive National Territorial Plan (CNTP)

With regard to the hierarchy, CNTP is in the top tier of the structure among plans developed for the use, development, and conservation of national territory under the Framework Act on the National Land. CNTP takes precedence over other national land plans established according to relevant laws and serves as a framework plan, excluding ones related to defense and national security. CNTP provides guidelines for the development of provincial master plan and city/county plan and the Framework Act on the National Land states that sectoral plan and regional plan should be established in consideration of CNTP.

11) MOLIT. 1982. Seoul Metropolitan Area Readjustment Plan. No. 3600, enacted on Dec 31, 1982.
12) MOTIE, MOEF. 2004. Special Act on Balanced National Development. No. 7061, enacted on Jan 162004. 1. 16.

Table 4-1. CNTP and sub-plans

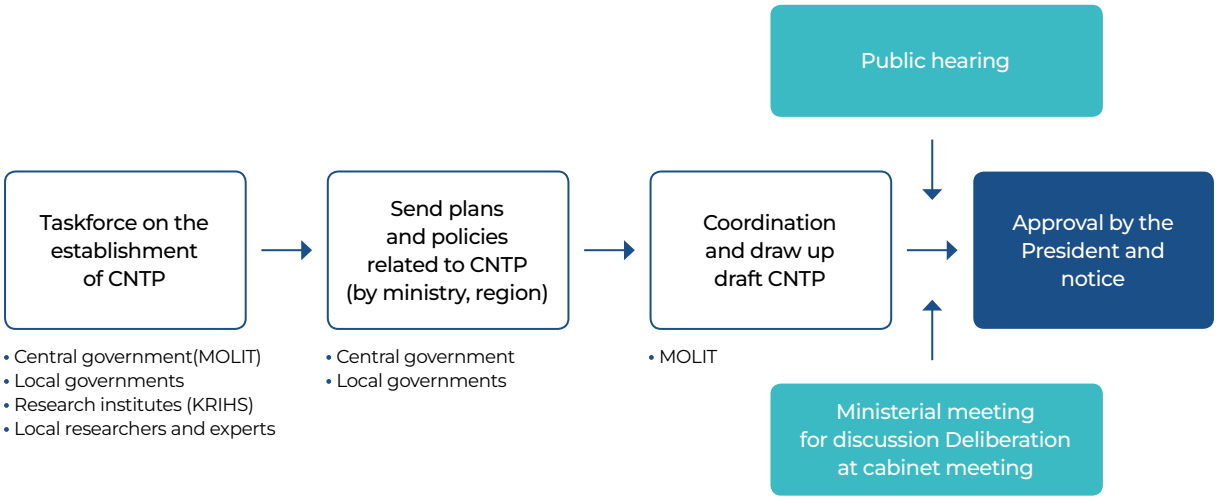


CNTP	A comprehensive plan presenting long-term development directions for national territory
Provincial master plan	A comprehensive plan presenting long-term development directions for province, special self-governing province under the jurisdiction
Comprehensive city/county plan	A master plan developed by a special metropolitan city, metropolitan city, city or country (excluding county under the metropolitan city) under the jurisdiction in accordance with the National Land Planning Act to provides a basic spatial structure and long-term development directions as well as approaches to land use, transport, environment, safety, industry, IT, healthcare, welfare, culture, etc.
Regional plan	A plan developed to achieve certain policy objectives for the region
Sectoral plan	A plan that provides long-term development directions for certain sector covering the entire national territory

Source: The Government of Korea, 2019; the 5th CNTP; Land Use Regulations Information Services website. http://luris.go.kr/ (accessed on Nov. 24, 2021).

To develop CNTP, central government agencies and heads of metropolitan governments establish plans under their jurisdictions at the request of Minister of Land, Infrastructure and Transport (MOLIT), and the Minister comprehensively reviews and finalizes the plan. Next, public hearings are held to gather opinions from citizens and experts. The CNTP is announced at the approval of the President after deliberations by the National Land Policy Committee and cabinet meeting. Although MOLIT is in charge of the establishment of CNTP, detailed items of the plan are governed by multiple ministries including the Ministry of Environment (ME), Ministry of Trade, Industry and Energy (MOTIE), Ministry of Science and ICT (MSIT), and Ministry of the Interior and Safety (MOIS). Also, the implementation of CNTP is carried out by government agencies and public companies including Korea Forest Service, Korea Land and Housing Corporation (LH), Korea Water Resources Corporation (K-water), Korea Expressway Corporation (EX), and Korea Energy Agency.

Figure 4-1. **CNTP development process**



Source: MOTIE, MOEF, KRIHS 2013.

Before CNTP began to be established as an official plan systematically, the development of the national territory of Korea was largely focused on readjusting distorted spatial structure of land under the Japanese colonial rule and rebuilding devastated land during the Korean War. In the 1950s, such activities were carried out centering on the restoration projects to rebuild houses, roads, bridges as well as promotion of domestic industries, instead of systematic development. During the early stage of national territory development, public works to meet and secure Social Overhead Capital (SOC) were largely implemented aided by the US (United States) and heavy investment on the infrastructure programs was made. In the mid-1950s, the production and consumption recovered to their levels before the war, nation entered into the rapid economic development period in earnest in the 1960s to implement the Five-Year Economic Development Plan to achieve industrialization. During that time, cities began to face countless challenges due to the intensive development of cities and widening gaps between cities and rural areas, and abuse of land resources was and taking place. With increasing calls for systematic land use policy to deal with issues comprehensively, the government finally decided to provide a master plan for the development of national territory in consideration of economic policies. As a result, the initial land development plan was carried out during the period of the 1st and the 2nd Five-Year Economic Development Plan. In the 1970s, however, the country needed a comprehensive plan to lay the foundation for basic infrastructure including transportation, energy, sewage and water supply systems, and environmental facilities and strategies to supply them nationwide in order to promote

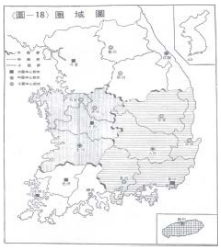
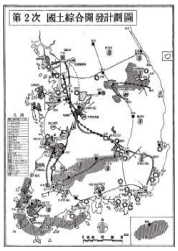
efficient industrialization as the essence to drive national economic development led by export. At the same time, concerns over tackling challenges of big cities were raised, leading to the awareness on the need to reorganize spaces at national level and balanced development to build facilities as SOC and implement regional development programs. Against this backdrop, the 1st comprehensive national territorial plan (for 1972~1981) was developed.

It is noteworthy that Korea has developed a comprehensive spatial plan through CNTP by flexibly responding to the socioeconomic conditions of the times and changing international environment. As of 2020, the 5th CNTP was established since the launch of the 1st CNTP in the early 1970s. CNTP was established in every 10 years from the 1st to the 3rd plan. From the 4th plan, the government began to provide a 20-year initiative and adjust it in every 5 years. The 1st CNTP (1972~1981) was designed to secure facilities as SOC and lay the foundation for the development of national land to lead rapid economic growth, and growth of the Seoul Metropolitan Area, and formation of industrial complexes were noticed and transportation networks of expressways, subway lines, and artery roads were built during the period. The Seoul Metropolitan Area readjustment plan was developed in line with the 2nd CNTP (1982~1991) to deal with unbalanced development of national land, which was intensified due to the hub-based development approach during the 1st CNTP. As unbalanced regional growth and stagnation of small/mid-sized cities and rural areas got worse, however, the government amended the plan to adopt balanced development plans by regions and other multifocal structure. The 3rd CNTP (1992~2001) focused on the establishment of multifocal structure for balanced development and development of metropolitan areas. Also, activities to develop new cities to foster neighboring cities were carried out in earnest. During the period of 4th CNTP (2000~2020), efforts were made to build super-wide belts and national landscape open to the outside for the integration and conservation of national territory with the aim of achieving sustainable development. However, the government decided to modify the plan in every 5 years to reflect the national agenda of new regime and changing paradigm of governance to the national land development plan, and to respond to the changing environment both at home and abroad. As for the amendment, the government intended to maintain the basic framework and adjust detailed strategies instead. The 5th CNTP (2020~2040), which was developed most recently, was designed to correspond to the trends of the times and population decline and focused on balanced development of national territory in sustainable ways as well as building of smart and innovative development system.

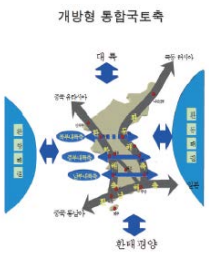
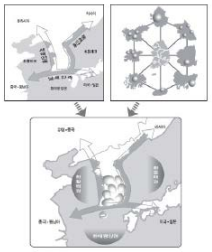
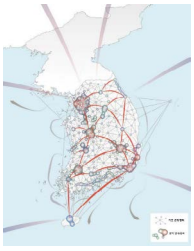
In an effort to establish an integrated management system of national land and environment to respond to the crisis caused by climate change, the government installed a citizen participation group and built an online platform for citizen engagement for better communication with them during the process of development of the national territorial plan.

Table 4-2. Highlights of the 1st~5th CNTP

	The 1st Comprehensive National Territorial Development Plan (CNTDP) (1972~1981)	The 2nd CNTP (1982~1991)		The 3rd CNTP (1900~2000)
		The 2nd plan (1982~1986)	The 2nd revised plan (1987~1991)	
Approach	Development of growth hubs	Metropolitan development (growth hub+balanced development)		Balanced development
Spatial planning	4 River basins, zone development, green belt	Special zones Regional living zones	4 major regional economic zones/ special zones	Multifocal structure, Regional economic zones (7 metropolitan areas)
Goals	• Efficient management of land use • Laying the foundation for national land development • Development of land resources and conservation of nature • Improvement of living conditions	• Encouragement of relocation to regional cities • Spread of development potential to nationwide • Enhanced public welfare • Conservation of nature and national territory		• Formation of decentralized framework of national territory • Establishment of productive and resource-saving land use system • Improved public welfare and conservation of nature and national territory • Laying the foundation for unification

	The 1st Comprehensive National Territorial Development Plan (CNTDP) (1972~1981)	The 2nd CNTP (1982~1991)		The 3rd CNTP (1900~2000)
		The 2nd plan (1982~1986)	The 2nd revised plan (1987~1991)	
Strategies	• Building of large industrial basis • Maintenance of transport, communication, water, and energy supply network • Strengthening regional functions for balanced development of sunset belt	• Growth control and management of Seoul and Busan, two major cities • Securing SOC to strengthen regional functions • Building of regional living zones	• Separation of 4 regional economic zones including Seoul metropolitan, central, southeast, southwest, and central regions as well as special zones • Formation of multifocal structure, introduction of comprehensive development approaches for metropolitan areas • Promotion of development for regions lagging behind • More engagement of local government and citizens	• Fostering of local cities and prevention of concentration in the Seoul Metropolitan Area • Building of new industrial complexes and advancement of industrial structure • Building of combined high-speed exchange network • Increasing investment in quality of living and environment • Management of inter-Korean exchange zones
Development diagram				

	The 4th CNTP (2000~2020)			The 5th CNTP (2020~2040)
	The 4th plan	The 4th revised plan	The 4th remodified plan	
Approach	Balanced development			Balanced development, link with regions, cooperation
Spatial planning	Open and integrated national territory: Coastal land axis+east-west inland axis	Open territorial axes, Multifocal-linking π-type axis, 7+1 structure	Open territorial development axes, 5+2 metropolitan economic zones	Ecological axis of national territory, Linking with Local/ metropolitan cities and strengthening cooperation
Goals	• Balanced, green, open, and unified national territory	• Balanced, green, open, unified, and welfare national territory	• Competitive and integrated national territory • Sustainable eco-friendly national territory ·Attractive national territory with dignity ·National territory open to the world	• Balanced national territory to make a great place to live everywhere • Smart national territory that is safe and sustainable • Innovative national territory that is healthy and lively

	The 4th CNTP (2000~2020)			The 5th CNTP (2020~2040)
	The 4th plan	The 4th revised plan	The 4th remodified plan	
Strategies	• 5 strategies - Formation of open/ integrated national territorial axes - Enhancing regional competitiveness - Creation of healthy and pleasant national territorial environment - Building of expressway and information network - Laying the foundation of inter-Korean exchange	• 6 strategies - Laying the foundation for self-sustainable regional development - Laying the foundation for national land development and unification in Northeast Asian era - Building of network-based infrastructure - Building of a beautiful and humane settlement environment - Sustainable national territory and resource management - Building of decentralized national territorial plan and implementation system	• 6 strategies - Specialization of regions and strengthening of metropolitan cooperation to enhance the competitiveness of national territory - Creation of safe national territory caring for the nature - Creation of pleasant and culturally-rich urban and living environment - Building of network integrating green transportation and national territorial information - Laying the foundation for maritime regimes open to the world as new growth engine - Laying the foundation for cross-border management of national territory	• 6 strategies - Linking with regional development tailored to their features and cooperation promotion - Local industrial innovation and promotion of culture and tourism - Creation of safe living spaces where generations and classes create a harmony - Creation of eco-friendly spaces with dignity - Efficient management of infrastructure and smart national territory - Creation of peaceful national territory linking sea and land
Development diagram				

Source: The Government of Korea 2019; KRIHS 2013, 2021, compiled by the author.

Spatial planning of Korea has reflected changing situations of the times, and socioeconomic conditions through the establishment and revision of the 1st and the 5th CNTP, which has changed flexibly by responding to population decline, low growth, climate change and other changing international circumstances. Thus, the later part reviews the background, circumstances of the times, revision plans and major strategies of 5 CNTPs in detail to identify the changing aspects of CNTP and implications on the establishment of CNTP.

The First CNTDP

The 1st Comprehensive National Territorial Development Plan (CNTDP) in 1972 was the first time for the country to develop a comprehensive spatial plan for national territory. Comprehensive plans for construction of national territory and matters related to the investigation of national territory were defined with the enactment of the Act on Comprehensive Plans for Construction in the National Territory[13] in 1963 for the use, development, conservation of national territory and provision of proper industrial foundations and living environment, laying the foundation for comprehensive national territorial plans later. Since then, various documents related to plans for construction in the national territory were prepared until the final version of the 1st CNTDP came out as the framework plan in the highest layer of the hierarchy under the Constitution and Framework Act on the National Land. The development of CNTDP meant the completeness of a basic plan for the comprehensive development of national territory for the first time in Korea.

The first CNTDP (1972~1981) was designed to provide grounds for national territorial development for efficient use of national land and support the economic growth to enable rapid growth in the 1960s. Korea has established the Five-Year Economic Development Plan since 1960s in an effort to restore the country efficiently and systematically after the Korean War. By doing so, it became possible to restructure the city centering on industrialization and promote export as a driver for growth. In the meantime, rapid urbanization took place and the country needed to have comprehensive plans for the development of national territory owing to the increase in

13) Act on Comprehensive Plans for Construction in the National Territory. 1963. No. 1415, enacted on Oct 14, 1963.

Gross Domestic Product (GDP) and other changing socioeconomic conditions. It also faced demands for systematic development of national territory to provide SOC such as transport, electricity, communication network, etc. that became scarce along with the progress in economic development.

The 1st CNTDP aimed to secure SOC, develop national territorial resources, build large industrial complexes, address environmental problems and urban challenges, and improve the living environment. The hub-based development approach and development of zones were adopted as major strategies to achieve the goals. First, the government intended to select growth hubs centering on the Seoul-Busan axis along with the opening of Gyeongbu (Seoul-Busan) expressway in 1970 to secure SOC. By doing so, it was able to maximize investment efficiency with the concentration of economic activities. At the same time, the government chose to divide regions as 'zones' to push for development tailored to the characteristics of each zone, instead of applying existing administrative districts.

The Second CNTP

In the early 1980s, when the 2nd CNTP (1982~1991) was established, Korea successfully advanced its economic structure along with the increasing economic size through the economic development plan and national territorial development plan. However, it began to recognize the need to establish new strategies to effectively respond to the changing international conditions such as the emergence of economic block due to the retreat of free trade and the oil crisis in the 1970s. Although the share of urban population exceeded 70% of the total and cities demonstrated high density in population with 408 persons per square kilometer(㎢), the population growth rate declined from 2.9% in the 1950s to 1.5% in the 1980s. Against this backdrop, The 2nd CNTP needed to provide strong measures to contain the concentration of population in cities, while seeking the balanced development of national territory. For proper relocation of population and industries that were concentrated in the metropolitan area encompassing Seoul, Gyeonggi Province, and Incheon and balanced development of national territory through the 2nd CNTP, the government established the Seoul Metropolitan Area readjustment plan (1982~1996) and

enacted the Seoul Metropolitan Area Readjustment Planning Act[14] (1983) to provide legal grounds.

However, concentration to the Seoul Metropolitan Area continued and the stagnation of small/mid-sized cities in regions as well as rural areas remained unsolved, leading to the widening gaps in land use. Therefore, the government revised the 2nd CNTP (1987~1991) in 1987. Instead of the hub-based growth strategies, the 2nd CNTP took the balanced development approach by local economic zone. The government divided the national land into four regional economic zones including the Seoul metropolitan, central, southeast, southwest, and central regions as well as special zones against the Seoul Metropolitan Area. Also, it has established a multifocal structure and adopted comprehensive development approaches for metropolitan areas for balanced national development, and promoted the development of regions lagging behind to reduce the gap between cities and rural areas. In the 1990s when the 2nd CNTP neared the end, issues such as population concentration in the Seoul Metropolitan Area, regional imbalance, an increase of land price, environmental pollution were raised constantly, and globalization, internationalization and localization were noticed as major trends of the international society. More importantly, the sociopolitical conditions in Korea have changed. The military regime that took the reins for long time (1963~1981) collapsed and a civilian government was established in 1982. The era of autonomous local government system has begun with the amendment of Local Autonomy Act in 1988, leading to the increasing role of local governments.

The Third CNTP

Under such circumstances, the 3rd CNTP (1992~2001) set the goals of balanced development of the national territory, the establishment of land use system for exchange, openness, and conservation of environment, laying the foundation of national territory to prepare for unification, and the multifocal structure and local economic zone development approaches were adopted. The multifocal development approach is to spread the cores of national territory nationwide to encourage development activities centering on cores. The essence of the plan is to spread the population and industries

14) Act on Comprehensive Plans for Construction in the National Territory. 1963. No. 1415, enacted on Oct 14, 1963.

and nurture the capacity of regions with regard to the society, economy and culture. A local economic zone consists of a center city that plays pivotal roles in terms of administration, business, data and information, research, etc. and neighboring regions surrounding the city as a spatial unit. The four regional economic zones centered on big cities with a huge growth potential include southeast zone (strengthening roles of international trade, finance, fashion, advanced IT centering on Busan and Daegu), southwest zone (promoting functions of arts and culture and scientific advances centering on Gwangju), central zone (specializing in research and administration centering on Daejeon), and the Seoul Metropolitan Area (reinforcing international features such as international airport, conference venue, etc. centering on Seoul and Incheon). Based on this, the 3rd CNTP designated 7 metropolitan areas including Busan, Daegu, Daejeon, Asan Bay, Gunsan~Janghang, Gwangju~Mokpo, Gwangyang Bay and established development plans for each area.

The construction of new towns is noteworthy among projects implemented under the 3rd CNTP. At the end of the 1980s, the government planned to provide 2 million new houses to resolve insufficient supply of houses. To that end, it has developed plans to build the first round of new towns in 5 cities including Bundang, Ilsan, Pyeongchon, Sanbon and Joongdong available for land development away from restricted development zones or green belts. The first new towns contributed to stabilizing housing for ordinary citizens with the supply of houses in large scale for a relatively short period of time. However, there were no plans for the industrial use of land and some argued that those cities were far short of diversities when it came to the functions they could offer as they had high ratios of land for commerce and roads compared to others. As for administrative city (Sejong), innovation city and other new cities that are built later are considered to be well equipped with complex functions of cities.

The Fourth CNTP

The government closed the 3rd CNTP in 2001, earlier than planned and established the 4th CNTP (2000~2020) to respond to the changing environment proactively to mark the 21st century. As the 4th CNTP spans over 20 years, the government assessed its

performance and readjusted the plan in every 5 years under Article 19 of the Framework Act on the National Land[15]. Thus, the 4th plan was revised twice. At the time when the 4th CNTP was initially developed, the urbanization rate reached 86% and GDP of Korea was approximately KRW 450 trillion (USD 321.3 billion) in 1998. There was a growing interest in improved quality of life with increasing national income, and conservation of national land and sustainable development were emphasized, rather than the development itself. Under the vision of 'realizing the integration of land in the 21st century', the 4th CNTP unveiled 4 objectives that were balanced, green, open, and unified national territory. The government has set a super-wide development zone as its implementation strategy and intended to create an open development axis of national territory and foster hub-city zones centering on metropolitan economic zones. To be specific, the government planned to create a coastal land axis consisting of South Sea Rim (Pacific Rim), East Sea Rim, West Sea Rim, central/south/north and an east-west inland axis to complete an open national territory. In the 5th year since the development of initial plan, the government revised the 4th CNTP (2006~2020). In the 1st revision of the 4th CNTP, 7+1 economic zones were designated and the existing three axes of national territory remained intact. However, it was later revised again to complement the loopholes in order to respond to rapidly changing circumstances both at home and abroad.

Under the 2nd revision of the 4th CNTP (2011~2020), the government planned to build a super-wide belt stretching over the three coastal areas in the east, west, and south and areas bordered with the north along with the existing axes of national land development. In the meantime, the scope of zones has expanded to include 5+2 metropolitan economic areas (Seoul Metropolitan Area, Gangwon, Chungcheong, Daegu and Gyeongbuk, Jeolla province, southeast, Jeju regions) by economic zone, moving ahead from the previous classification by administrative unit. Also, the government intended to strengthen the link between regions and facilitate cooperation projects to realize the economy of scale and lead the growth of the local economy. Centering on metropolitan economic zones, it has set basic living zones in 163 cities and provinces, and categorized them as urban, urban-rural, agricultural/fishery types to provide plans for focused development. In addition, the government embarked on the development of hardware such as roads, buildings, facilities as well as software including education, health care,

15) Article 19 of the Framework Act on the National Land states, "The Minister of Land, Infrastructure and Transport shall make an overall review of the comprehensive national land plan every five years by taking account of the results of evaluation under Article 18 (3) and the changes in social and economic conditions; and if necessary, he/she shall consolidate the said plan."

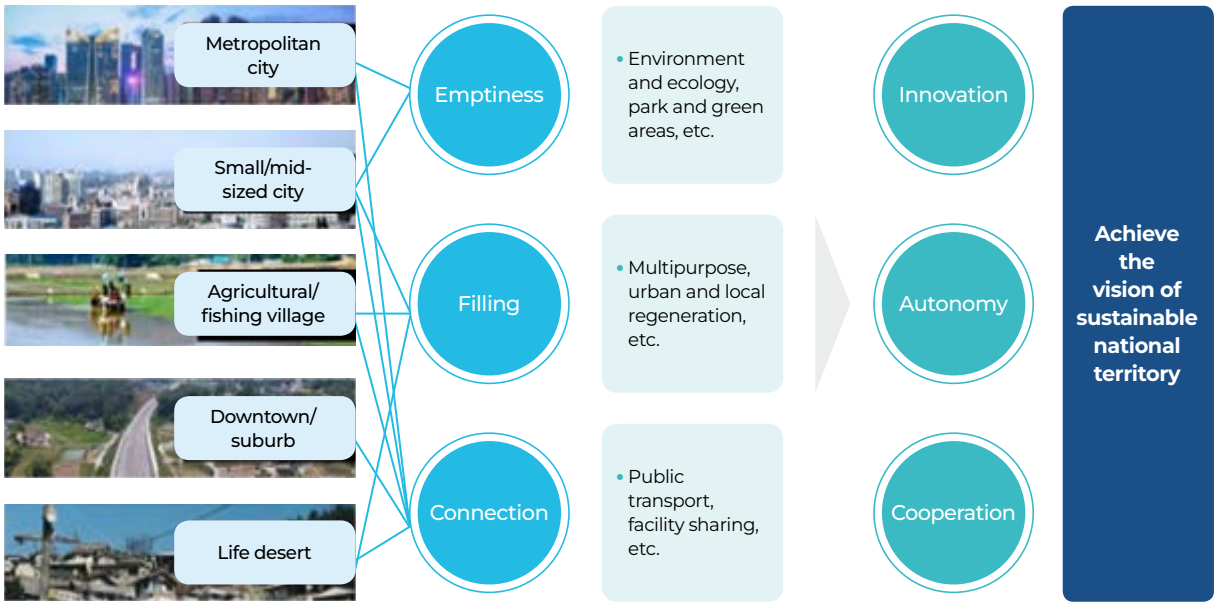
culture, environment to cities and provinces that may be excluded from the benefits of metropolitan economic zones.

The Fifth CNTP

The country needed to develop a new comprehensive national territorial plan to respond to changing inter-Korean relations and new international norms such as UN sustainable development goals (UN SDGs), Regional Comprehensive Economic Partnership (RCEP), and Paris Agreement, etc. at the juncture of the population decline and transition to the low growth era.

Under the visions of balanced national territory to transform everywhere a great place to live and a smart national territory that is safe and sustainable, innovative, healthy, and lively, the 5th CNTP (2020~2040) intends to build a flexible and smart national territory based on coalition and cooperation. As for the basic directions, the 5th plan aims for spatial planning and development of national territory living up to the demands of citizens and desire for the transition to the era when management and use of national territory is valued. Away from the enclosed and fragmented spaces divided by administrative districts, the government reinforces spatial policies blurring barriers and borderless spaces. Using highly resilient and advanced technologies based on Internet of Things (IoT), it provided strategies for the spatial structure responding to convergence policy demands. Specifically, the government plans to implement an integrated management approaches to the national territory and environment, strengthen cooperation system among agencies for spatial plans including CNTP, comprehensive plan for national environment, maritime space plan, and coastal management plan, and develop plans to establish a national territory-environmental monitoring system in the 5th CNTP.

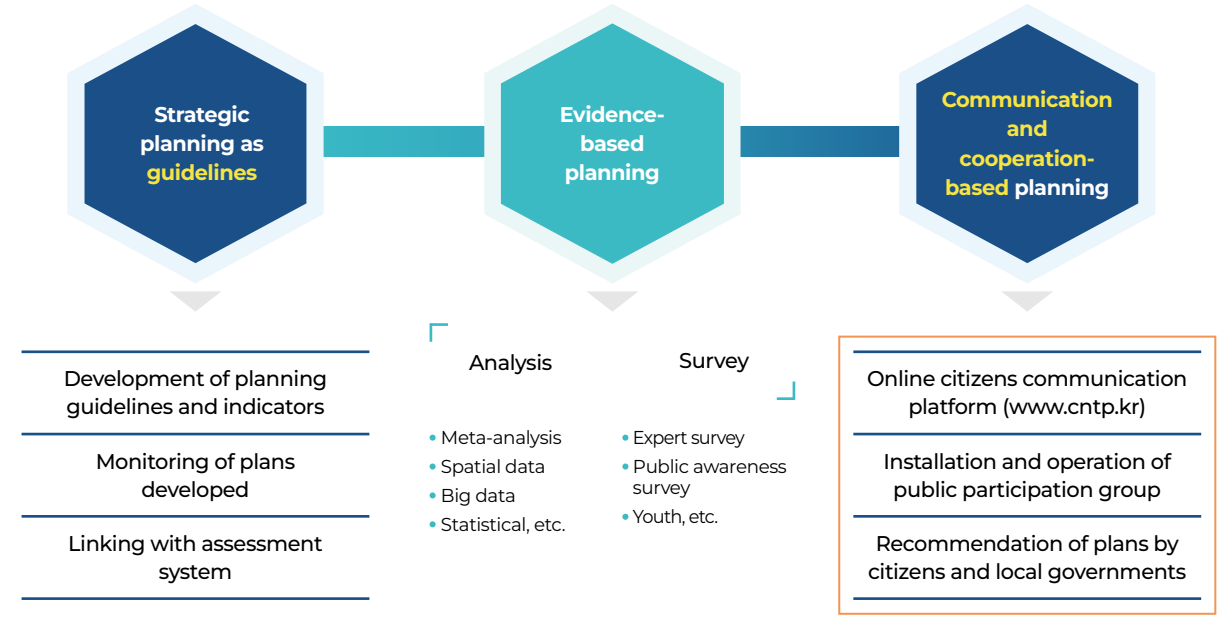
Figure 4-2. **Strategies for the formation of national territory in the 5th CNTP to respond to population decline**



Source: The Government of Korea. 2019, the 5th CNTP.

The central government, local governments, experts as well as children, adolescents, university students (young people) and other ordinary citizens participated in the development of 5th CNTP in an effort to respond to the changing policy environment including decentralization, growth of private sector, and increasing calls for citizen engagement.

Figure 4-3. **Roles and features of the 5th CNTP**



Source: The Government of Korea, 2019.

In an effort to encourage citizens to participate in the development of CNTP, the government has formed a citizen participation group and operated an online platform[16] to promote their participation. Through the deliberation by the citizen participation group, both the government and citizens joined hands to develop the 5th CNTP together, seeking values for the development of national territory for the future. The citizen participation group consists of 170 ordinary citizens.

After the three rounds of deliberations and votes by the citizen participation group consisted of 170 ordinary citizens, the 'charter for national territorial plan: our desire for better national territory' was proposed (in April 2019). The citizen participation group contributes to discussing main agendas such as visions of national territory in the future, core values, balanced development, local autonomy, environment and development, etc. publicly and developing a national territorial plan. The below figure provides an overview of the citizen participation group. The 1st CNTDP was devised by foreign experts, and the 2nd to the 4th CNTP was largely developed by domestic experts. However, the 5th CNTP is meaningful in that the plan was established with citizen engagement along with experts.

16) Installed and operated a dedicated homepage of CNTP (www.cntp.kr)

Figure 4-4. Operation of citizen participation groups

Citizen Participation Group

The government has developed a model to establish national plans together with citizens based on communication and cooperation by installing citizen participation group in consideration of changing roles of the 5th CNTP.

The 5th CNTP is particularly important in that it was developed jointly by both citizens and experts, unlike the previous CNTP. For instance, the 1st CNTP was established by foreign experts, and the 2nd~the 4th CNTP was mostly developed by domestic experts.

Composition of citizen participation group

Participation: Voluntary participation by submitting application. An honorary position without compensation in principle

- Notice to the dedicated website and home pages of MOTIE, KRIHS, and local governments (Aug. 27~Sep. 27, 2018)

Selection: 170 persons (allocate minimum number of members by region, random selection by gender, age, and stage)

- Distribution by gender (female: 69, male: 101), age (aged 20 and below: 22, 30s: 32, 40s: 34, 50s: 47, 60s and above: 35)

Operation

Hold general meetings (3 times: November 2018~April 2019) with the attendance of citizen participation group, release Charter for National Territorial Plan based on three times of deliberations and direct votes as an important foundation to provide visions for national territory and development strategies

- The 1st meeting (Nov 17, 2018): Share the present and future issues, and core values of national territory
- The 2nd meeting (Feb. 23, 2019): Exploring relations between decentralization of power and balanced development of national territory
- The 3rd meeting (Apr. 20, 2019): Make a clean and pleasant national territory

Proposal via an online platform (www.cntp.kr), direct participation as panelists through public hearing, survey and YouTube

Source The Government of Korea, 2019.

b. Other Spatial/Sectoral Plans and Relationship with CNTP

CNTP affects various plans for the use and management of national territory as a comprehensive national territorial plan in the top tier of the hierarchy. Under the policy directions of CNTP, regional and sectoral plans are developed, and the Seoul Metropolitan Area readjustment plan and balanced national development plan are also established in line with CNTP under relevant laws. The Seoul Metropolitan Area readjustment plan

and balanced national development plan are representative strategies for balanced development policy established to respond to changing situations and circumstances of Korea in the 1980s and the 2000s, respectively, and they are continued to be developed till today.

The Seoul Metropolitan readjustment plan is different from CNTP that covers the entire national territory. Under the government strategy to develop hubs to promote the national economy in the 1960s during the period of rapid growth, economic activities were taking place centering on the Seoul Metropolitan Area including Seoul, Incheon, and Gyeonggi Province, and which intensified relative stagnation of regions outside the Seoul Metropolitan Area. In 1982, the government enacted the Seoul Metropolitan Area Readjustment Planning Act to tackle such issues and the Seoul Metropolitan Area readjustment plan was established. As regional imbalances did not go away easily in the 2000s, the government established the Special Act on Balanced National Development in 2004. The government provides the Five-Year Balanced National Development Plan(hereinafter referred to as balanced development plan) under the Act, and which focuses on relieving regional imbalance, promoting mutual growth between the Seoul Metropolitan Area, and strengthening self-sustainability of regions for their innovative growth. Since the first balanced development plan was established in 2004, the 4th balanced development plan (2018~2022) was developed as of 2018. Both are considered as policy options prepared for responding to the imbalanced development of national territory that lasted for over 60 years, and their detailed plans are developed and implemented aligning with policy directions at the national level under CNTP.

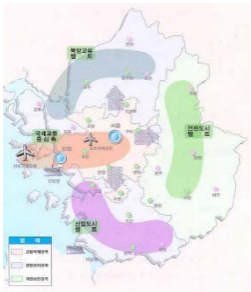
CNTP is also linked with national inter-modal transportation plan and affects the national territory in general both directly and indirectly. The 1st national inter-modal transportation plan (2000~2019) was established in parallel with the 4th CNTP, and the 2nd national inter-modal transportation plan (draft, 2021~2040) was developed in 2021. The recent 5th CNTP pursued to establish a governance structure for integrated management of national territorial plan and environmental plan for efficient response to ever-devastating global climate change and infectious disease threats. The 'Integrated management system of national territory and environment' jointly developed by MOLIT and ME presented 5 strategies for integrated management of national territory and environment. Likewise, CNTP serves the role of spatial plan in the highest layer of hierarchy in various aspects including balanced development of national territory, environmental conservation, regional development, etc.

Seoul Metropolitan Area Readjustment Plan

Korea has established and implemented the Seoul Metropolitan Area readjustment plan since the 1980s to address challenges of population concentration in the Seoul Metropolitan Area and the development gap with other regions. The concentration of population and economic activities in the Seoul Metropolitan Area was first noticed in the 1960s, and overcrowding of the Seoul Metropolitan Area and stagnation of other areas have become serious along with the hub-based development approach of the government. Therefore, the government established the Seoul Metropolitan Area readjustment plan as a vigorous measure for restrictions. Based on the Seoul Metropolitan Area Readjustment Planning Act (1982), the Seoul Metropolitan Area readjustment plan provides guidelines on other plans of the Seoul Metropolitan Area and other sub-plans as the highest plan of the hierarchy, while maintaining consistency with the long-term development directions of national territory in line with CNTP that is positioned in the higher layer than the Seoul Metropolitan Area readjustment plan. It is designed to contain the concentration of population and industries in the Seoul Metropolitan Area and distribute them accordingly, and reinforce restrictions on each zone by classifying it into overpopulation control region, growth management region, and nature conservation region. There were 4 Seoul Metropolitan Area readjustment plans developed and implemented up until now: The 1st plan (1982~1996), the 2nd plan (1997~2011), the 3rd plan (2006~2020), and the 4th plan (2021~2040).

The spatial scope of the Seoul Metropolitan Area readjustment plan includes Seoul, Incheon, and Gyeonggi Province. It provides the objectives and basic directions for the Seoul Metropolitan Area readjustment plan, and governs matters related to management of facilities and development projects that trigger the concentration of population, maintenance of transport facilities and water supply/sewage system, environmental conservation, and support for the maintenance of the Seoul Metropolitan Area. The four main objectives of the 4th Seoul Metropolitan Area readjustment plan established in 2021 include 1) promote the balanced development based on intensive management, 2) improve the quality of life of citizens to the world's highest level, 3) build the capacity for innovative growth of the Seoul Metropolitan Area, and 4) contribute to building peaceful economic system on the Korean Peninsula. As for the spatial structure to allocate the population and industries of the Seoul Metropolitan Area, the government envisaged a global innovation hub (Seoul) supported by 4 industrial belts (peaceful economy, global logistics/high-tech industry, ecological tourism and leisure, and smart semiconductor).

Figure 4-5. **Spatial diagrams under the Seoul Metropolitan Area rearrangement plan**

	The 1st Seoul Metropolitan readjustment plan (1982~1996)	The 2nd Seoul Metropolitan readjustment plan (1997~2011)	The 3rd Seoul Metropolitan readjustment plan (2006~2020)	The 4th Seoul Metropolitan readjustment plan (2021~2040)
Spatial structure				

Source: MOLIT, 2006; MOTIE, 2020; Seoul Urban Planning Portal.

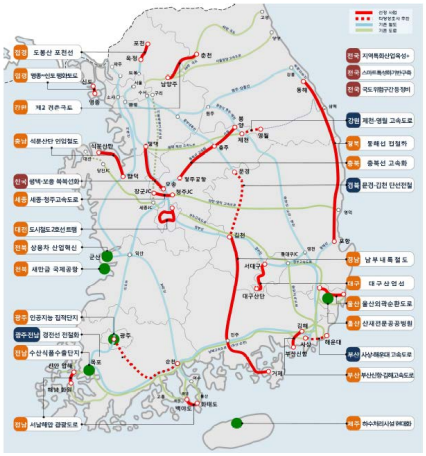
Five-Year Balanced National Development Plan

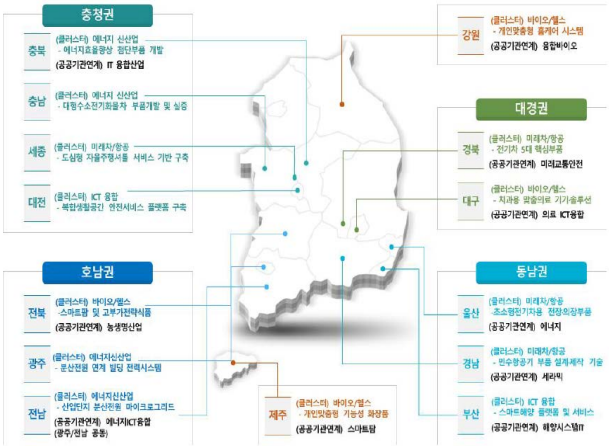
Korea has established the Five-Year Balanced National Development Plan under the Special Act on Balanced National Development (2004) alongside CNTP. The 4th Five-Year Balanced National Development Plan (2019~2023) established in 2019 aims to implement decentralized balanced development strategies led by regions and lay the foundation for self-sufficiency in growth based on the three core values of decentralization of power, inclusiveness, and innovation. The country develops plans for regional development in CNTP and balanced national development plans concurrently, and which is effective to increase implications on policies to vitalize the regional economy. By linking balanced national development project with investments in core infrastructure and strategic industries, it seeks to maximize the synergy effect of regional development. The 5th CNTP unveiled its directions to foster existing innovation clusters[17] as growth hubs for balanced regional development, and link the 5th CNTP with projects scheduled to be implemented under the 4th balanced national development project as guidelines to support technological innovation and promotion of investments to the region.

17) Innovation city, Sejong City, industrial sites, economic free zone, industrial complex, company town, special zone, etc. are combined together as a single commute zone to foster a cluster

Figure 4-6. **The 4th Balanced National Development Plan**

Balanced national development projects	Specialized industry and clusters by Innovation City





Source: Presidential Committee for Balanced National Development, 2019; MOTIE, 2018; as cited in the Government of Korea, 2019.

National Intermodal Transportation Plan

The National territorial plan of Korea is closely related to the national intermodal transportation plan. During the 1960s and the 1970s, strict economic development plans led by the central government were established to restore the country, and efforts to build transportation infrastructure such as construction of expressway, securing of roads, etc. served as the engine for the growth of the national economy. National transportation plans were developed and implemented under the Five-Year Economic Development Plan, and there was a growing consensus on the need to develop a master plan across the nationwide arterial roads in the mid-1980s. The 1st national intermodal transportation plan (2000~2019) and the 2nd national intermodal transportation plan (draft, 2021~2040) were established in 2000 and 2020, respectively, to build prompt, safe, and convenient eco-friendly transportation infrastructure to reinforce national competitiveness for the 21st century under the National Transport System Efficiency Act (current Integrated National Transport System Efficiency Act, No. 5891, enacted on Feb 8, 1999). Like CNTP, the national intermodal transportation plan is a long-term plan with a 20-year interval. It is to establish a national intermodal transportation plan in line with CNTP, and sub-plans include comprehensive plan for national road network, comprehensive plan for national railway network, comprehensive plan for the construction of airport, basic plan for national logistics,

basic plan for metropolitan transport, basic plan for Intelligent Transportation System (ITS), and basic plan for ports.

Figure 4-7. **Relations between CNTP and national intermodal transportation network**

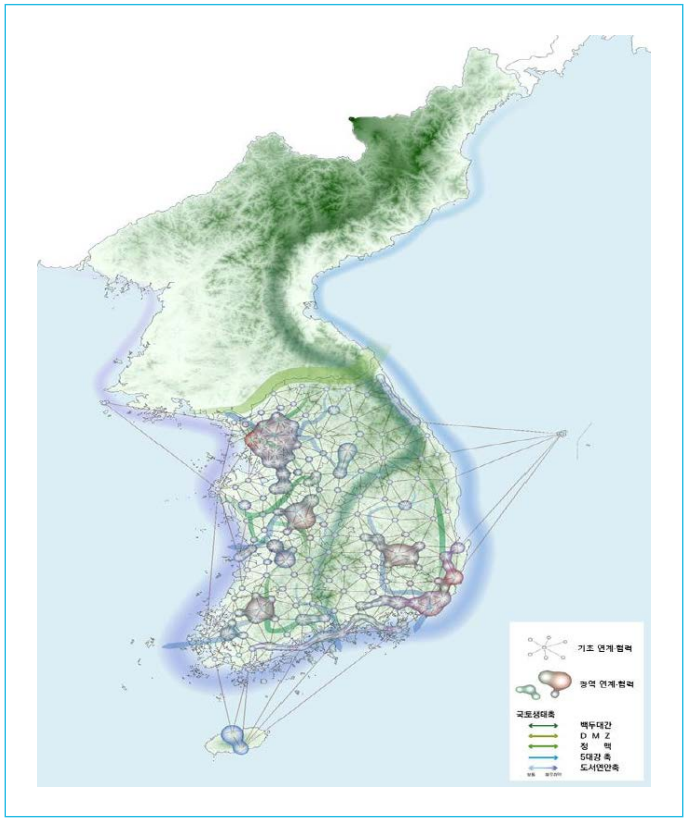
Source: MOTIE, 2010.

Comprehensive Management of National Territory and Environment

Management of the national environment has become the priority of the 4th CNTP due to intensifying climate change issues and calls for building a low-carbon national environment under the new climate regime. A governance structure for integrated management of national territorial plan and environmental plan was established in the 5th CNTP to reinforce the pan-governmental cooperation for the development of the national territorial plan and environmental plan and to promote sustainable development of land to strike a balance between development and conservation. To that end, MOLIT and ME jointly developed 5 strategies for integrated management between national territorial plan and environmental plan. To be specific, the 5 strategies include ①

restructuring of national space to respond to the era of population decline, ② systematic management of national territory to strengthen the link with national environment, ③ creation of safe national territory for a low-carbon future to response to climate change, ④ build innovative spaces of national territory and environment based on advanced technologies, and ⑤ improvement of global status through inter-Korean cooperation and international cooperation. In the future, the government intends to improve the consistency of CNTP with spatial plans of each ministry including national environment master plan, maritime space plan, coastal management plan, forest management plan and agricultural space plan, etc.

Figure 4-8. **Blueprint for comprehensive management of national territory and environment under the 5th CNTP**



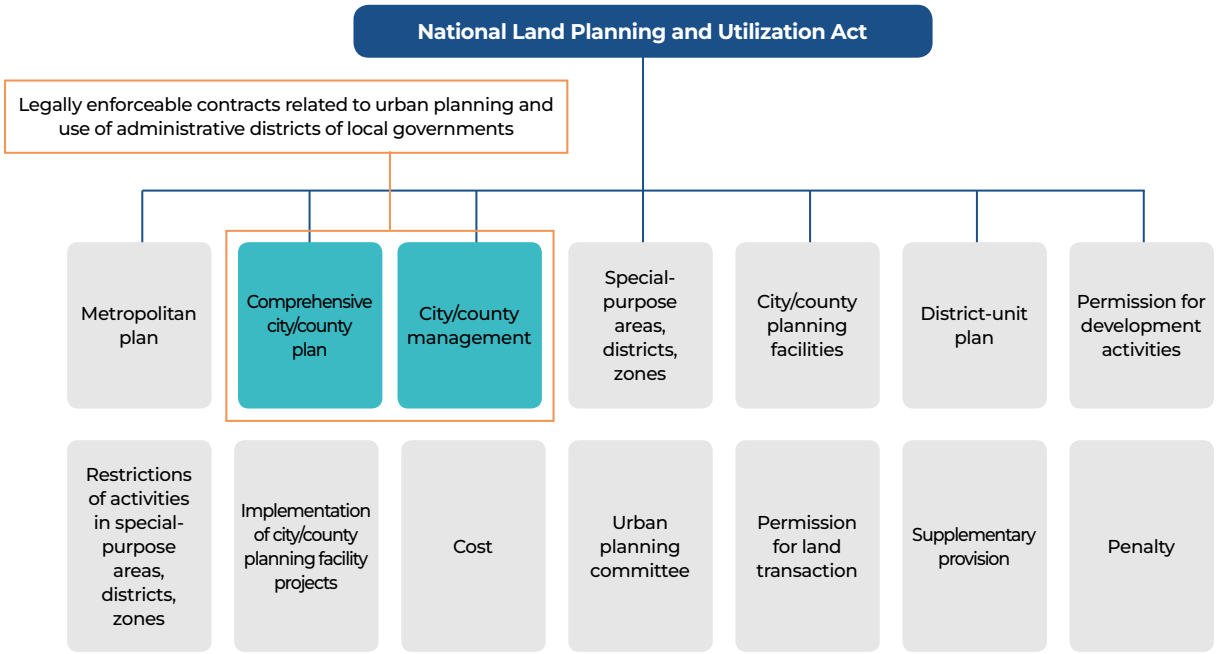
Source: The Government of Korea, 2019.

V. Spatial Plans at the Municipal Level

With regard to spatial plans at the municipal level, the government allows special metropolitan cities, metropolitan city, metropolitan autonomous cities, cities and counties (excluding counties within metropolitan cities) to develop comprehensive city/county plans and city/county management plans. Both plans share some similarities with comprehensive plan and zoning regulations of the US in an institutional context. A comprehensive city/county plan is in the top tier of spatial planning of a local government that is obliged to develop such an initiative. Urban management plan interacts with ordinances on urban planning and building ordinance, provides directions for the implementation of development projects directly and indirectly, and serves as assessment criteria for them. The government develops and provides separate guidelines on comprehensive city/county plan and city/county management plan to support local governments to establish such plans.

The urban planning system is affected by provisions of relevant laws. For instance, comprehensive city/county plan and management plan are developed and implemented in accordance with the establishment and implement of 'National Land Planning and Utilization Act' (hereinafter referred to as National Land Planning Act). Specifically, the scope of plans covered by the law includes metropolitan plan, comprehensive city/county plan, city/county management plan, and it also states matters concerning special-purpose areas/districts/zones, urban county planning facilities, district-unit plan, permission for development activities, restrictions of activities in special-purpose areas/districts/zones, and implementation of city/county planning facility projects.

Figure 5-1. **Structure of National Land Planning and Utilization Act**



Source: Created by authors

a. Comprehensive City/County Plan

This section explores institutional conditions for the development of a comprehensive city/county plan. First, comprehensive city/county plan is a statutory plan in compliance with the National Land Planning Act and ordinance on urban planning of the local government. According to the guidelines for the development of the plan, it is required to compile detailed items of 12 sectors in total to provide directions for land use and development of a city comprehensively.

Comprehensive city/county plan is designed to provide strategies or policy directions, and the current system and related guidelines do not necessarily define concepts of such strategies or policy directions in detail. It is due to that the government intended to ensure the autonomy of local governments in developing comprehensive city/county plans under the given authority so that they can envisage ones tailored to their conditions and priorities.

Table 5-1. Contents of Comprehensive City/County Plan

Classification		Description
1	Local features and status	Geological conditions and other status of the local government
2	Setting goals and indications	Setting goals, directions, and indicators of a plan
3	Spatial structure	Establishment of development axis, green axis, living zones and distribution of population;
4	Land use plan	Demand prediction and distribution of purpose of land, measures for the management of special-purpose areas, growth management measures for non-urban areas
5	Infrastructure	Transport, logistics system, IT, other infrastructure plan, etc.
6	Downtown and dwelling conditions	Adjustment of built-up areas and dwelling conditions
7	Environmental conservation and management	Low-carbon green city, encouragement of eco-friendly development approaches, atmospheric and water environment protection, waste and energy management, etc.
8	Urban landscape and aesthetics	Planning and management of the aesthetic environment of a city including activities to improve urban aesthetics, living environment, quality of life, publicness, and amenities of the region
9	Parks and green areas	Establish natural and ecological environment, parks and green areas of a region and metropolitan city
10	Safety, disaster and crime prevention	Plans to create an environment against disaster and crime and reduce vulnerabilities caused by changing urban environment in particular including climate change, population ageing, multiculturalism, informatization, etc.
11	Development and promotion of economy, industry, society, and culture	Identification of conditions on employment, industry, welfare, etc. and prediction and development of detailed plans for improvement
12	Execution of plan	Securing budget, financing, and implementation strategies by stage

* Source: Korean Law Information Center. (https://law.go.kr/LSW/admRulInfoP.do?admRulSeq=2100000174470)

Plans for each of the 12 sectors listed above included in the comprehensive city/county plan consist of development goals, sectoral directions and strategies of 9 policies. They also include items related to financing and roadmaps. The 9 sectoral plans that provide measures for improvement of policy areas in detail encompass most policy areas of the administrative authority such as urban space, land use, environmental management, creation of urban green spaces, enhancing social environment, etc. Among them, seven policy areas including spatial structure, land use plan, infrastructure, downtown and dwelling conditions, environmental conservation and management, urban landscape and aesthetics, parks and green areas are directly linked with physical spaces of a city, and the remaining two areas are related to its physical spaces as well indirectly.

As such, the comprehensive city/county plan covers almost all areas of urban policy, and which can be interpreted as that we need a comprehensive approach to encourage the use and development of urban spaces in developing and implementing urban spatial policy.

Such comprehensive aspects of comprehensive city/county plan, however, have some limitations to secure consistency with statutory plans of each area. It also faces a challenge of low usage of policy as it covers extensive scope and contents, although it is the highest in the hierarchy of spatial plans bounded by laws. Among the items covered by the comprehensive city/county plan, the land use plan can be used to provide guidelines or ensure the enforceability within other plans. Thus, it serves as a framework to provide directions to facilitate the development and management of projects as an instruction in the higher layer.

Land Use Plan

The reason why a comprehensive city/county plan is considered as a statutory plan in the top tier of the spatial plan of local governments when it comes to policies and the execution of administrative plans is because it has an influence on the institutional system in the framework of the spatial management of a city through its land use planning. Land use planning is related to the purpose of use of every plot of land and facility under the jurisdiction of the local government. Namely, it concerns about matters of statutory plan to calculate proportions of housing, commercial and industrial areas, and green areas, and manage them. As the land use plan provides guidelines on the adjustment of development capacity and development period of each special-purpose area in consideration of demands on land development according to the policy and social conditions of a city, it serves as an important ground for assigning authorities for the management and control of the use and management of urban spaces to the local governments.

The purpose of land use planning is to predict the demands and changing aspects of land use in the future based on the analysis of land use status and assessment of the suitability of the land. The government guidelines on the development of comprehensive city/county plan define the characteristics of land use as areas that are developed already, available for development, ones where development is restricted, and others that are not

available for development to establish a comprehensive city/county plan. As for the areas that are already developed, the guidelines stipulate investigating and analyzing areas of which land use is inefficient and those where urban functions are distorted separately in order to secure grounds to change the plan, if necessary. The guidelines also instruct to conduct a site inspection on areas in which sprawling development activities are taking place, centering on the outskirts of built-up areas and ones with a huge potential for development to provide measures for systematic management according to the plan.

With regard to the guidelines on the development of comprehensive city/county plan for land use planning, local governments are required to establish their plan considering changes in urban population and population projections. Based on this, local governments can predict the demands on future land use and use them to estimate the required areas of land by purpose. Sites for purpose are largely classified into housing area, commercial area, and industrial area, and the essence of comprehensive city/county plan is to develop each area for intensive and efficient use of the site according to the assigned role. Also, the guidelines recommend to consider issues of sectoral plans including ones for population distribution, transportation, industrial development, dwelling conditions, social development, parks and green areas, environmental conservation and maintain consistency with them when it comes to land use planning.

Under the system, lands are largely classified into housing area, commercial area, and industrial area according to the development and purpose of use of land.

Housing area means the land designated for housing supply. Thus, the entire volume of housing supply is determined based on population change in the future and housing demands, and methods for the supply of housing include construction of new houses, reconstruction of houses or redevelopment of housing areas. Next, commercial area is provided along with the supply of housing area or with industrial demands in general. In the meantime, industrial areas are determined according to the demands of land required by industrial policies, and they are basically developed centering on undeveloped lands on the outskirts of a city up until now. Due to the changing industrial structure as well as changing characteristics of employees, however, there is a growing need to secure lands for advanced industry and knowledge industry, and industrial areas that were previously developed centering on the manufacturing sector now need to explore ways to shift their focus owing to the decline of the sector.

Table 5-2. Classification of lands based on predictions of demands by purpose of use

1. Housing area
① Estimate potential housing and land demands based on population projections and compare them with the size of residential area in the existing built-up areas to identify the size of housing areas that need to be newly secured. As for the development density, the size of the area should be calculated by applying 150% of the floor area ratio.
② The capacity of areas to be developed for new housing area should be minimized by considering abandoned lands, bare sites, and other undeveloped or underdeveloped sites in the existing urban districts or settlements as much as possible under the predictions on redevelopment/reconstruction projects and urban renewal programs.
2. Commercial area
① Estimate potential demands of the commercial area in proper size based on population predictions and characteristics of the city.
② Identify other special-purpose area that is changing its function to serve as a commercial district in the existing built-up area, and determine whether or not commercial areas are distributed in the city properly.
③ To determine the size of new commercial areas, consider the demand of commercial area, conversion of other special-purpose area, and proper distribution of the areas for urban areas, and the demands of distribution, leisure, and tourism for non-urban areas, respectively.
3. Industrial area
① Determine the demand for industrial area deemed necessary based on the industrial city/county plan and industrial policy included in the plan of the higher layer.
② To build a new industrial site in an urban area, refrain from securing new lands and use underdeveloped or undeveloped sites in existing industrial areas to the maximum for efficient and compressed use of land.
③ To estimate the size of new industrial area in non-urban areas, determine the size of land deemed necessary for agricultural and industrial complex, etc. exceeding certain scale that can be secured from a district-unit plan for non-urban areas.

* Source: Korean Law Information Center. (https://law.go.kr/LSW/admRulInfoP.do?admRulSeq=2100000174470)

There are three types of lands for urbanization including urbanized area, planned urbanization area, and conservation area. That is to distinguish a land of which development is completed from one of which development is planned or one that is available for development and use. Urbanized areas correspond to urban areas in which development is completed already, and planned urbanization areas refer to the ones with a huge development potential depending on the demands in the future, although they are not developed yet. Among them, conservation areas mean the areas of which development are disallowed and that need to be protected due to beautiful natural landscapes and ecological value.

Table 5-3. Classification of lands based on development status

1. Urbanized area
① Urbanized area refers to a built-up area in which development is completed and it is readjusted when there is a need to change the given purpose of use. To develop a plan, there are four types of urbanized areas: housing area, commercial area, industrial area, and conservation area, and the size of areas is marked by location in such four types of lands according to the base year of plan. ② Target areas a) Residential area, commercial area, and industrial area within urban area b) Planned housing site development district, national industrial complex, general industrial complex, and urban high-tech industrial complex, and electric power source development project zone c) Children's park, neighborhood park among urban parks d) A planned control area that is designated as a zone under a district-unit plan for non-urban area (planned as a control area) ③ The adjustment and management directions should be provided to maintain the urban landscape and create an eco-friendly urban environment in consideration of the infrastructure capacity and conditions of surrounding areas. ④ Need to develop a district-unit plan for up-zoning into special-purpose area for higher-density development.
2. Planned urbanization area
① If it is considered that it is not possible to achieve the goal of the project that falls into the category of matured and safe type in the target year due to the delay and cancellation of plan, it needs to be reviewed to prevent from excessive development. ② Planned urbanization areas refer to the areas secured for urbanization project for the year centering on development axis and areas available for development, and they provide quantitative and qualitative criteria for various services that a city can offer. ③ Planned urbanization areas are defined by the target year, total capacity by stage, and main purposes according to the demands of land required to achieve certain urban indicators for the target year such as population size, etc. and their locations are not indicated. The planned urbanization areas that are planned to be converted into control areas cannot be shifted into residential areas, commercial areas, and industrial areas. ④ Planned urbanization areas are distributed by region or living zone in consideration of the development status of neighboring areas, urban infrastructure, population capacity and demand, estimation of proper density. ⑤ Detailed purpose and location of planned urbanization areas should be determined by deciding to change the city/county management plan in accordance with following provisions: a) Designated where it harmonizes with development plan in higher layer and of which development validity is recognized b) Designated when population change and development demand reach a certain point c) Designate an area of which development plan is not prepared yet among natural green areas in urban areas and development promotion district in planned control areas. As for other areas, designate ones where development is need considering the growth direction of a city and general conditions of land use of the city and neighboring areas. ⑥ Need to provide district-unit plans to designate a planned urbanization area as a special-purpose area for development in order to prevent reckless development and use and develop lands according to the plan.

3. Conservation area

① The purpose of conservation area is to promote efficient use of land, environmental conservation and security of regions, and prevent disorderly spread of built-up areas to create a fine urban environment. Thus, designation should be made to areas that need to be conserved or of which development should be reserved among the ones in which development is contained, ones in which development is disallowed or allowed.

② Target areas

a) Development restriction zone, conservation green area, production green area in urban area and areas excluding planned urbanization areas

b) Areas excluding planned urbanization areas among agricultural and forest area, areas natural environment conservation areas, conservation and control area, production control area and planned control area

c) Urban parks (excluding children's park and neighborhood park)

d) Areas necessary to preserve cultural heritage assets, water quality, and water resources, rivers and streams, and waterfront areas

③ Basically, flood-prone areas with frequent disasters and upstream areas that may cause flood damage to downstream areas should be designated as conservation areas. To designate such areas as planned urbanization areas, however, disaster prevention measures such as increasing the proportion of green areas to absorb more rainfall infiltrating the region should be provided in advance.

④ Plan to secure a proper amount of conservation areas to create a pleasant environment and support for sound and sustainable development of the city.

⑤ Areas that need to be connected with green areas in and out of the city and ones that are deemed necessary to prevent the spread or conurbation of city should be designated as conservation areas.

* Source: Korean Law Information Center. (https://law.go.kr/LSW/admRulInfoP.do?admRulSeq=2100000174470)

There are three types of land management methods for areas where agricultural and forest area and urban area coexist where the characteristics of the conservation area and urban area overlap, centering on the outskirts of the city. There are subcategories of control areas. To provide detailed methods for management, control areas are designated as semi-agricultural and forest areas or semi-urban areas based on their ecological grade of land suitability assessment that is carried out as a part of comprehensive city/county plan.

Readjustment of development restriction zone is made for areas that need to be conserved including national parks and others. Development restriction zones are designated centering on the main streams and forests in general and they often conflict with surrounding areas in order to secure sites available for development when it comes to urban development projects for the supply of housing in a large scale. Social and political arguments to release the designation of development restriction zones protected as conservation areas for urban development projects are currently taking place across the globe.

Currently, measures to manage the growth of non-urban areas are designed to control reckless development of semi-agricultural and forest areas and semi-urban areas including planned control areas on the outskirts of a city. Yongin-si and a series of local governments

in the Seoul Metropolitan Area of which sprawling development is considered as a serious issue are seeking ways to control the development under the plan.

Table 5-4. Designation of other types of lands and management criteria

1. Subdivision of control area
① Basic directions for subdivision of control area including semi-agricultural and forest area and semi-urban area under the National Land Planning Act should be provided. ② The result of the land suitability assessment may be applied to develop a city/county management plan concurrently. ③ To subdivide control areas, there is a need to propose items to be considered in addition according to the policy direction of local government. Subdivision of control area should be made according to the land grade of land suitability assessment except in cases where there are certain reasons such as political necessity to implement the long-term development plan and spatial structure plan of local government.
2. Adjustment of development restriction zone
① Sites with a high value of conservation in development restriction zones should be designated as conservation areas. ② Sites with a low conservation value in development restriction zone should be developed in stages based on the land demands to prevent reckless development. ③ Areas in which development restriction is released should be developed to construct low-story buildings to maintain low density and they should be linked to share urban functions, transport, green areas and landscapes according to the plan. ④ Areas in which development restriction is released should be developed to create harmony with the land use status nearby in eco-friendly ways. ⑤ As for the metropolitan area of which the development restriction zone is released, matters related to the adjustment of such zone in the comprehensive city/county plan should be determined according to the development guidelines of the metropolitan plan and the adjusted items should be determined based on the prior discussion with the Minister of Land, Infrastructure and Transport and the result.
3. Growth management measures for non-urban area
Growth management measures for non-urban area should be provided for the prevention of sprawling development and rational growth management of non-urban areas.

* Source: Korean Law Information Center. (https://law.go.kr/LSW/admRulInfoP.do?admRulSeq=2100000174470)

Designation of land and management directions for land use is divided into ones based on demand predictions by use as listed in the above table, ones based on the development status, and ones with the purpose of prevention and management of sprawling development of other non-urban areas.

Designation of special-purpose areas based on demand predictions by use is to separate land use of urbanized area from one for development. Namely, designation of area by development status indicates the practical method of land use of urbanized areas. In the meantime, the designation of an area by development status is to determine the availability of development, and areas are classified into ones of which development is allowed and disallowed. The land allowed for development is subdivided into developed area (urbanized area) and planned development area (planned urbanization area).

Designation of other types of lands and management is related to the division and management of semi-agricultural and forest area and semi-urban area where the aspects of urban area and conservation area overlap. The main purpose of the designation of other types of lands and management is to control reckless and sprawling development of semi-agricultural and forest area and semi-urban area, largely focusing on the management and control of reckless and sporadic development of planned urbanization area.

Likewise, land use plan provides detailed strategies for major sectors of comprehensive city/county plan including preconditions to determine the capacity of available land, areas available for development, and allowable development ratio by purpose of use required to create physical urban spaces to install infrastructure, buildings, parks, etc. Land use can also be considered as a concept encompassing various activities to use undeveloped land (in its natural state) for production activities or create a settlement environment. Development of land changes its natural properties, and such land is used for various human activities such as agricultural area, industrial area or residential area. Therefore, land use plan takes on the delicate subject to estimate the size of land available for the development and confirm the location in line with the conservation of natural environment.

A land use plan has the force of law and provides an institution and system for land use and urban development. It is directly linked to the growth and development of the city and the improvement of the quality of life as well. Thus, there is a need to provide implement strategies to reinforce the enforceability of the plan in consideration of relations with other plans.

Other Sectoral Plans in Comprehensive City/County Plan

Comprehensive city/county plan has the legal force and it is a statutory plan with critical importance as it provides guidelines for the execution of spatial policy of local governments. Among the 12 sectors of master plan, areas concerning infrastructure and the development and promotion of economy, industry, society, and culture from the 5th to 11th items, legally binding execution plans are developed separately according to other laws and administrative systems in most cases. As for transportation, sewage and water supply system, urban and living environments, and landscape included in the

infrastructure, for instance, local governments provide statutory plans that are similar to the comprehensive city/county plan in terms of the purpose and role in accordance with relevant laws and ordinances of local governments.

Under such circumstances, the goal of securing enforceability of comprehensive city/county plan based on the development of comprehensive plan encompassing all related matters may appear difficult to achieve in reality. In order to reduce the gap and turn the intentions into reality, there is a need to review the consistency of comprehensive city/county plan with relevant laws and institutions centering on sectoral plans for physical spaces of a city.

For example, sectoral plans related to infrastructure, transportation, sewage and water supply system are largely carried out according to statutory plans or administrative plans in the highest layer, and which leads to inconsistency with comprehensive city/county plan, causing waste of budget and administrative efforts. Such statutory and administrative plans developed by sector often lack an understanding of spatial structures and physical conditions (at site) in practice in most cases, and strategies for the supply of services and facilities in a given area are described with proportions or quantitative data in general. They also have a very complex structure for the planning of transportation sector, making it hard to understand the hierarchy and consistency, and often fail to establish organic and logical relations with urban spaces. Thus, a need to ensure the consistency between transportation plan and comprehensive city/county plan centering on spatial concepts to strengthen the enforceability of policies is constantly pointed out.

Based on an understanding of the limitations on the establishment and implementation of comprehensive city/county plan, the system of comprehensive city/county planning is as follows. Comprehensive city/county plan is developed by the division in charge of urban planning of each local government singlehandedly. Therefore, there are various restrictions and limitations on expected outcomes upon execution. To implement items prepared by sector in the master plan, communication among the division in charge of planning and other agencies (departments) taking care of each sector is required. Considering the organizational structure and operating system of local government in general, however, it is hard to expect prompt and organic communication among the administrative authorities.

The author was engaged in the development of comprehensive city/county plan of the Seoul Metropolitan City. It was not possible for the Urban Planning Division to implement the comprehensive city/county plan alone during that time as well. Thus, cooperation with Planning and Administration Office under the Vice-mayor II for Administrative Affairs that has the authority to govern the entire divisions of city government was needed to reduce the gap. Considering the administrative situations of which priorities can be changed anytime due to the policy agenda of the Office, however, it was not easy to ensure stable implementation of comprehensive city/county plan.

In order to secure the enforceability of comprehensive city/county plan as a comprehensive plan, both the details of the plan and the organizational structure of the administrative authority should be improved. Comprehensive city/county plan faces challenges to compile sectoral plans and ensure the consistency to implement the plan. But it also provides basic directions to control and manage urban spaces through land use plan as stated above. Thus, an urban management plan is prepared and implemented to support the execution of comprehensive city/county plan as a system focusing on land use plan.

b. City/County Management Plan

The urban management plan is established to take care of matters related to land use and development activities in practice as a part of comprehensive city/county plan to implement tasks according to the topics and issues of the land use plan. The urban management plan means any of the following plans:

① A plan for the designation or alteration of special-purpose areas, districts and zones
② A plan for the designation or alteration of development restriction zones, urbanization-coordination zones, and fishery-resource protection zones
③ A plan for the establishment, maintenance or improvement of infrastructure
④ A plan for urban development projects, or maintenance projects
⑤ A plan for the designation or alteration of district-unit planning zones and district-unit plans

The five items constituting urban management plan further state the total capacity, period, methods, and purpose of development by purpose presented by land use plan as guidelines and provide a detailed implementation plan as well. Among them, items

②, ③, and ④ are closely linked with the development needs, and items ① and ⑤ can be considered as urban management systems for the control and restriction of land use and development activities. In the meantime, there are different views on item ⑤ related to district-unit planning zones for interpretation. Some argue that item ⑤ is related to regulations for the development, and the owner in charge of development control considers it as guidelines on the control and management of development activities.

Special-purpose Areas and Districts

Designation of special-purpose areas and districts is a tool to encourage the use of land and building in line with the purpose and direction of comprehensive city/county plan in the higher layer. It is also considered as the foundation for urban planning. Special-purpose areas should be determined properly according to the size of city or characteristics of built-up areas in consideration of the formation of rationale spatial structure, transportation plan, infrastructure allocation plan, protection of dwelling conditions, landscape, etc. In addition, the central or local governments should provide measures deemed necessary for the development, maintenance, and conservation of a special-purpose area for its efficient use and management. Land use or building construction in the special-purpose area should be carried out in accordance with the building-to-land ratios, floor area ratios, and purpose, types, and size of buildings for the area as determined by the law. Special-purpose areas consist of urban area, control area, agricultural and forest area, natural environment conservation area in consideration of the status of use and characteristics of land, future directions of land use, and balanced regional development. Also, urban area and control area are subdivided in accordance with the Enforcement Decree of National Land Planning and Utilization Act, and local governments may divide them further through their ordinances.

Figure 5-2. **Special-purpose system**

Source: Seoul Urban Planning Portal.

Plan for designation and alteration of special-purpose areas

Special-purpose areas are designated under an urban management plan for efficient and economical land use and promotion of public welfare to prevent development overlaps by posing restrictions on land use, and purpose, building-to-land ratio, floor area ratio, and height of buildings in the given area. Basically, special-purpose areas have 4 large categories, 9 middle categories, and 21 small categories.

Among the four types of special-purpose areas, urban areas defined as the ones requiring systematic development, maintenance, management, preservation, etc., as the population and industries are concentrated or such concentration is anticipated therein. Control areas are areas to be systematically controlled corresponding to the urban area in order to accommodate the population and industries of urban areas or those requiring control corresponding to an agricultural and forest area or natural environment conservation area in order to promote the agricultural and forest industry, and to preserve the natural environment or forests. Control areas consist of conservation and control areas, production control areas, and planned control areas. Agricultural and forest areas are necessary to promote the agricultural and forest industry and to preserve forests, such as agricultural promotion areas under the Farmland Act or conserved mountainous districts under the Mountainous Districts Management Act that do not belong to urban areas. Lastly, natural environment conservation areas refer to the ones necessary to preserve the natural environment, water resources, coastal areas, ecosystem, water supply resources and cultural heritage assets, and to protect and foster fishery resources, etc.

Table 5-5. Classification of special-purpose areas

Large category (4 areas)	Middle category (9 areas)	Small category (21 areas)
Urban area	Residential area	1st/2nd class exclusive residential area, 1st/2nd/3rd class residential districts, semi-residential area
	Commercial area	Central, general, neighboring, commercial distribution areas
	Industrial area	Exclusive, general, semi-industrial areas
	Green area	Conservation, production, natural areas
Control area	Conservation and control area	Conservation and control
	Production control area	Production control
	Planned control area	Planned control
Agricultural and forest area	Agricultural and forest area	Agricultural and forest area
Natural environment conservation area	Natural environment conservation area	Natural environment conservation

Plans for special-purpose areas are developed by the Minister of Land, Infrastructure and Transport (MOLIT), Mayor and Governor, or Head of other municipal governments. Minister of MOLIT, mayor and governor, or heads of city or province with a population of more than 500,000 have the authority to decide the designation (alteration) of special-purpose areas. Also, the designation of special-purpose area should be made following the process stipulated in the city/county management plan. The following table indicates the purpose of division of areas in detail (Enforcement Decree) or sub-categories. The development of land is carried out complying with the purpose given by area, and which provides legal grounds to determine the directions for area planning (division and designation of purpose).

Table 5-6. Purpose of division of special-purpose areas (overview)

Area (Act)		Subdivision (Enforcement Decree)	Purpose
Urban areas	Residential area	1st class exclusive residential area	Protection of sound housing environment centering on detached houses
		2nd class exclusive residential area	Protection of sound housing environment centering on apartment (multi-unit) houses
		1st class residential district	Creation of living environment centering on low-rise buildings
		2nd class residential district	Creation of living environment centering on mid-rise buildings
		3rd class residential district	Creation of living environment centering on mid/high-rise buildings
		Semi-residential area	Adding functions of commercial and business areas to a residential area
	Commercial area	Central commercial area	Securing functions of commercial and business areas of downtown and subcenter of a city
		General commercial area	Provision of functions of general commercial/business areas
		Neighboring commercial area	Provision of daily necessities and services in neighboring areas
		Commercial distribution area	Promotion of distribution functions within a city and between regions
	Industrial area	Exclusive industrial area	Allocation of heavy chemical industry and other pollution-emitting industries
		General industrial area	Allocation of industries without negative environmental impacts
		Semi-industrial area	Allocation of light industries and serving as residential, commercial and business areas in part
	Green area	Conservation area	Conservation of urban natural environment, landscape, forest, and green spaces
		Production area	Prevention of development for agricultural production
		Natural area	Conditional permit of development to protect the land

Area (Act)		Subdivision (Enforcement Decree)	Purpose
Control area	Conservation and control area	-	Required for agricultural production, forestry, and fishery, although it needs to be protected. In cases where the land should be managed systematically according to the plan as it is highly likely to be included in urban areas and difficult to be designated as an agricultural and forest area
	Production control area	-	
	Planned control area	-	
Agricultural and forest area		-	To promote the agricultural and forest industry and preserve the natural environment or forests
Natural environment conservation areas		-	Designated to preserve the natural environment, etc. and protect and foster fishery resources

As for the subdivisions of special-purpose areas, different building-to-land ratios and floor area ratios are applied according to the classification. The detailed criteria and scope of building-to-land ratio and floor area ratio are determined following the ordinances on comprehensive city/county plan to reflect the conditions and features of a given city and area.

Table 5-7. Building-to-land ratio and floor area ratio by special-purpose area

Area (Act)		Subdivision (Enforcement Decree)	Building-to-land ratio	Floor area ratio
Urban areas	Residential area	1st class exclusive residential area	50	50~100
		2nd class exclusive residential area	50	100~150
		1st class residential district	60	100~200
		2nd class residential district	60	150~250
		3rd class residential district	50	200~300
		Semi-residential area	70	200~500
	Commercial area	Central commercial area	90	400~1,500
		General commercial area	80	300~1,300
		Neighboring commercial area	70	200~900
		Commercial distribution area	70	200~1,100

Area (Act)		Subdivision (Enforcement Decree)	Building-to-land ratio	Floor area ratio
Urban areas	Industrial area	Exclusive industrial area	70	150~300
		General industrial area	70	200~350
		Semi-industrial area	70	200~400
	Green area	Conservation area	20	50~80
		Production area	20	50~100
		Natural area	20	50~100
Control area	Conservation and control area		20	50~80
	Production control area		20	50~80
	Planned control area		40	50~100
Agricultural and forest area			20	50~80
Natural environment conservation areas			20	50~80

The criteria and scope of application for building-to-land ratio and floor area ratio by special-purpose area are determined under ordinances of local governments tailored to their geological, environmental, social, and economic aspects.

Plan for Designation and Alteration of Special-Purpose Districts

Special-purpose areas are applied to all types of lands and are supplemented by special-purpose districts and zones. Special-purpose districts are designed to either strengthen or relax regulations related to land use and purpose, building-to-land ratio, floor area ratio, height of buildings, and other factors. These districts aim to promote specific functions, enhance landscape and aesthetic value, ensure safety and address other considerations under the urban management plan.

There are 10 special-purpose districts classified according to the functions and aspects of areas of a city. Unlike special-purpose areas, however, they do not need to be designated in every land. As for landscape, aesthetic, and special-purpose restriction districts, their title, purpose of designation and restricted activities are adopted and tailored to the circumstances of the city and province through ordinances separately, and they can also be included in city/county management plans. Although cities and provinces can newly install special-purpose districts under the

ordinances, they can install those that strengthen restrictions on activities besides the ones that release restrictions on special-purpose areas and zones. Meanwhile, the government permits the designation of multiple special-purpose districts simultaneously.

The Minister of MOLIT, mayors and governors, and heads of cities or provinces have the authority to develop special-purpose district plans. Designation or modification of these districts is decided by the Minister of MOLIT, the respective mayor or governor, or the mayor of a metropolitan city with over 500,000 residents, in accordance with city or county management plan procedures.

Table 5-8. Designation of special-purpose district and description

Classification	Subcategory	Description
1. Landscape district	Natural landscape district	Protection of natural landscape or maintenance of urban natural beauty
	Waterfront landscape district	Protection and maintenance of waterfront natural landscape
	Built-up area landscape district	Creation of sound living environment in residential areas and protection of the landscape in built-up area
2. Aesthetic district	Central aesthetic district	Maintenance and management of aesthetic beauty of frequently used areas
	Historical and cultural aesthetic district	Maintenance and management of cultural assets and monuments need to be conserved
	General aesthetic district	Maintenance of aesthetic beauty in areas excluding central aesthetic and historical and cultural aesthetic districts
3. Height control district	Maximum height limit district	Setting of maximum height limit to protect the urban environment and landscape and prevent congestion
	Minimum height limit district	Setting of minimum height limit to expedite land use and protect the urban landscape
4. Fire protection district		To prevent the risk of fire
5. Disaster prevention district		To prevent the damage from store and flood, landslide, ground failure, and other disasters

Classification	Subcategory	Description
6. Conservation district	Historical and cultural environment conservation district	Protection and preservation of cultural assets and areas with cultural values to be protected
	Key facility conservation district	Protection and preservation of key facilities for defense and national security
	Ecological conservation district	Protection and preservation of wildlife habitats and other areas with ecological values
7. Facility protection district	School facility conservation district	Protection and maintenance of school educational environment
	Utility protection district	Protection of common facilities and strengthening efficiency of public services
	Port facility protection district	Strengthening the efficiency of port functions and management and operation of port facilities
	Airport facility protection district	Protection of airport facilities and safe operation of flights
8. Community zone	Natural settlement district	District to adjust green areas and other settlements
	Community settlement district	District to adjust development restriction zones
9. Development promotion district	Housing development promotion district	Development and adjustment of districts centering on housing functions
	Industry/distribution development promotion district	Development and adjustment of districts centering on industrial, distribution, and logistics functions
	Tourism/leisure development promotion district	Development and adjustment of districts centering on tourism and leisure functions
	Complex development promotion district	Development and adjustment of districts centering on more than two functions listed above
	Special development promotion district	Development and adjustment of special purposes centering on other functions excluding ones listed above
10. Special-purpose restriction district		District to restrict the installation of certain types of facilities for housing and youth protection

As stated above, the planning and designation of special-purpose areas and districts are designed to provide detailed criteria for land development and construction of facilities. Local governments are obliged to develop plans and designate special-purpose areas, and they may decide to develop and designate special-purpose districts as an option.

As such, comprehensive city/county plan and management plan are statutory initiatives provided under the National Land Planning Act and they present comprehensive directions for the development of urban spaces as well as detailed criteria for land use and construction of buildings and creation of areas under the law.

The establishment and implementation of comprehensive city/county plan and management plan, however, raise various issues and problems as in the case of every plan and system.

c. Other Implementation Instruments for Spatial Plans at the Municipal Level

The urban management plan provides the development directions for comprehensive city/county plan and detailed approaches for each sector, centering on the system adopted to realize them into urban spaces as mentioned above. Thus, it has a detailed organizational structure with regard to land use, creation and management of facilities, other than the designation of special-purpose areas and districts. Specifically, items ③ A plan for the establishment, maintenance or improvement of infrastructure, and ⑤ A plan for the designation or alteration of district-unit planning zones, and district-unit plans among the five areas of urban management plan are related to matters concerning the development and management of urban areas.

Urban planning facilities refer to the ones deemed necessary to provide services for citizens and they are generally called as infrastructure.

National Land Planning Act defines urban planning facilities as follows:

> Urban planning facilities mean facilities designated under the city/county management plan (hereinafter referred to as 'urban management plan') among 46 types of facilities listed in Article 2-6 of the National Land Planning Act (Article 2-7 of the same act)
>
> - To designate urban planning facilities, such facilities should meet the requirements stated in Regulations on Criteria for the Designation, Structure, and Installation of city/county Planning Facilities (hereinafter referred to as 'Urban Planning Facilities Regulations')
>
> (The study on the improvement of long-delayed urban planning facilities (2020), Ministry of Land, Infrastructure and Transport, p 9)

Urban Planning Facilities Regulations provide criteria to be designated as urban planning facilities with regard to transport, space, distribution and supply, public and cultural activities and physical exercise, disaster prevention, public health and environmental protection. Urban planning facilities under these regulations are designed to provide various functions and services for the daily lives of a city including settlement, movement, supply of goods and services, leisure activities, safety and personal hygiene. Thus, the installation of such facilities aims to improve the quality of life of citizens. For instance, Urban Planning Facilities Regulations define that the purpose of urban planning facilities is to contribute to the vitalization of cities as follows:

> **Article 4-2 (Vitalization of the city through city/county planning facilities)**
>
> ① To designate urban planning facilities, such facilities should be able to contribute to vitalizing a city in line with the urban regeneration plan.
>
> ③ Transport facilities such as roads and railways should be determined based on the land use plan and facilities that are frequently used should be assigned to transport nodes for more compressed use of land.

As stated in the provision "①", Urban Planning Facilities Regulations state to consider urban regeneration plan to determine the locations of urban planning facilities to strengthen the rationale of implementing policies by linking them with the plan. Also, the regulations demand to allocate facilities in consideration of transport nodes such as transfer portal destinations of comprehensive conditions (land use plan) of the potential locations.

Such approaches reflect the intention to achieve the policy goals of urban regeneration and compressed development at the same time through physical measures for the installation of urban planning facilities. It also demonstrates an example of linking the contents and system of urban planning with urban policy agendas such as the regeneration of a city and compressed development.

In the meantime, planning and installation of urban planning facilities are available through district-unit plan as well. This is because the district-unit plan is designed for the rational land use and promotion of its functions, improvement of landscape and aesthetics, securing of sound environment and systematic development and management of districts according to the plan. To that end, restrictions on the purpose,

type, and scope of buildings and other facilities as well as their building-to-land ratios or floor area ratios are reduced under the plan, and such matters are determined in accordance with urban/country management plan.

Guidelines on the development of the district-unit plan provide seven characteristics of the district-unit plan as stated in the box below.

Section 2 Characteristics of district-unit plan

1-2-1. District-unit plan is designed for rationale land use and promotion of its functions, improvement of landscape and aesthetics, securing of sound environment, and systematic development and management of the district-unit by reducing restrictions on the purpose, type, and scope of buildings and other facilities, and their building-to-land ratios or floor area ratios.

1-2-2. District-unit and related plan should be determined according to city/county management plan.

1-2-3. The scope of city/county management plan includes the entire special metropolitan city, a metropolitan city, a metropolitan autonomous city, a special self-governing province, city or country (hereinafter referred to as "City/County"), it focuses on land use planning including special-purpose areas and districts and infrastructure maintenance. The scope of construction plan covers certain plots of land centering on the planning of construction of buildings and other 3D facilities. District-unit plan is designed to coincide the land use plan with construction plan in a designated area in the jurisdiction so that the 2D land use plan and 3D facility installation plan can create harmony.

1-2-4. The purpose of district-unit plan is to collect the development demands to prevent sprawling development and install a proper level of infrastructure for systematic development and management of areas expected to be developed.

1-2-5. It is applicable to provide an impact on improvement in adjustment of zones and reestablishment of their functions, contributing to the enhancement of overall functions and aesthetic beauty of the city and country.

1-2-6. It is to create eco-friendly surroundings where humans and nature coexist and allow their sustainable development or management.

1-2-7. Lastly, it is developed based on predictions of changing conditions of the city and county for the next 10 years and blueprints for the lands, areas, or neighboring districts to be developed within 5 years.

Namely, the district-unit plan pursues a harmony between a plain land use plan and a multi-dimensional facility plan. It also serves as a spatial guideline to present the criteria

and measures to respond to development demands for the mid/long-term (5~10 years) to prevent sprawling development within the jurisdictions.

Development and alteration of district-unit plan should be carried out to reflect the detail and purpose of a plan in the higher layer of the hierarchy as a basic direction. Where city/county management plan is modified, the district-unit plan should be amended as well so that the two plans can be implemented at the same time. In the meantime, local governments can also develop a plan and project for district-unit according to the relevant laws. Also, a financial plan for the installation of infrastructure should be developed as well upon the development of district-unit plan to minimize the potential conflicts between them.

In a nutshell, city/county management plan is designed to manage physical environment of a city and promote rational land use through the five plans as described above including ① A plan for the designation or alteration of special-purpose areas, districts and zones, ② A plan for the designation or alteration of development restriction zones, urbanization-coordination zones, and fishery-resource protection zones, ③ A plan for the establishment, maintenance or improvement of infrastructure, ④ A plan for urban development projects, or maintenance projects, and ⑤ A plan for the designation or alteration of district-unit planning zones, and district-unit plans.

VI. The Current Status of Spatial Plans and Challenges

Korea has adopted urban planning approaches to cities and rural areas to address issues arising from the sprawling development of national territory under the National Land Planning and Utilization Act and developed a system to use national territory in environmentally sustainable ways under the plan. Local governments also have various tools for planning, management and development of land and they are classified according to the following objectives. Planning tools include metropolitan plans, comprehensive city/county plans, city/county management plans, and district-unit plans, which have different scopes and aims. Management tools include zoning regulation, permission for development activities, and urban planning facilities that focus on regulating unplanned development. Development tools include projects such as urban development projects and urban improvement projects, which designate a site for specific purposes and implement the spatial plans with the deliberation of the City/County Planning Committee. This chapter explores the status of comprehensive city/county plans across the country and indicators related to special-purpose districts, comprehensive city/county plan, and district-unit plan to identify the achievements and limitations as well as remaining challenges.

Figure 6-1. **Means of planning, management and development at the municipal level**

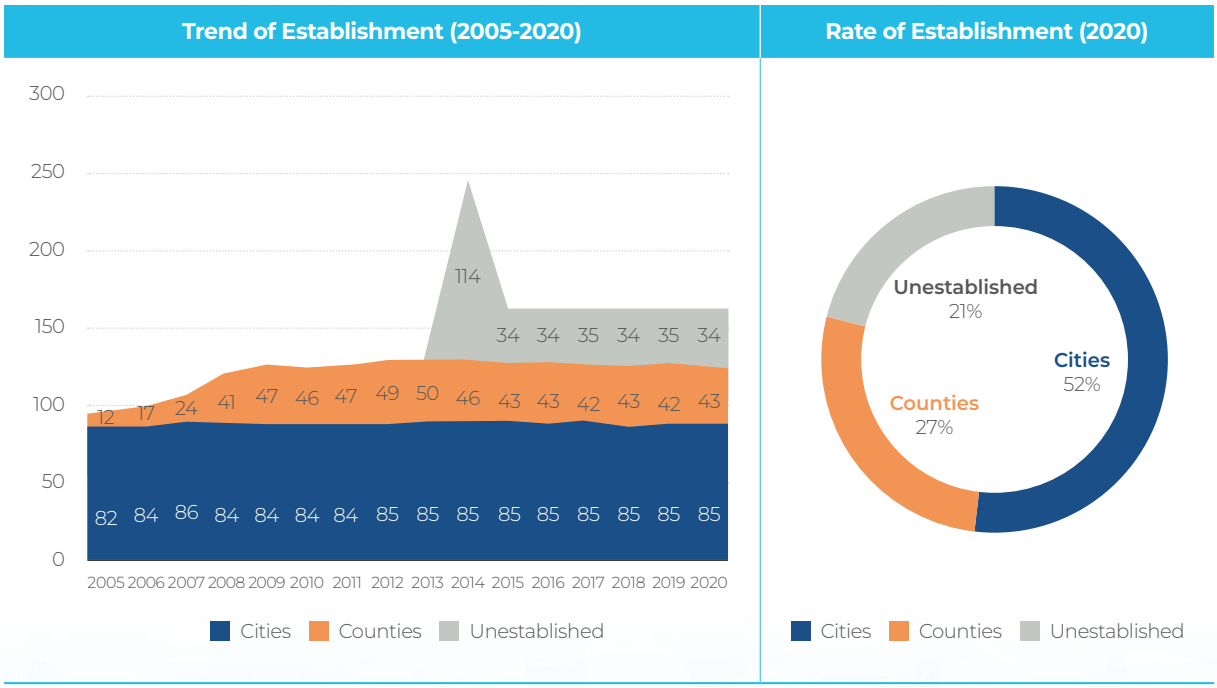
Source: Created by authors

a. The Current Status of the Spatial Plans and Results

Status Quo of Planning: Trends of Spatial Plans

Basically, every city in Korea develops its own comprehensive city/county plan which is considered as one of the most meaningful achievements made since the enactment of National Land Planning Act. Under the Act, both cities and counties may adopt master planning approaches for both urban and non-urban areas. Thus, cities and counties are providing their own plans to develop areas under their jurisdiction. Counties with a population of less than 100,000 people are not obliged to develop their master plan. As of 2020, 85 cities (urban areas) or 52% of the total have established comprehensive city/county plan among 128 cities. As for counties, the number of counties that developed comprehensive city/county plan was 43, accounting for 27% of the total, and only 34 regions did not prepare their master plan among counties with a population of less than 100,000 people.

Figure 6-2. **Status quo of Establishment of Comprehensive City/County Plan**

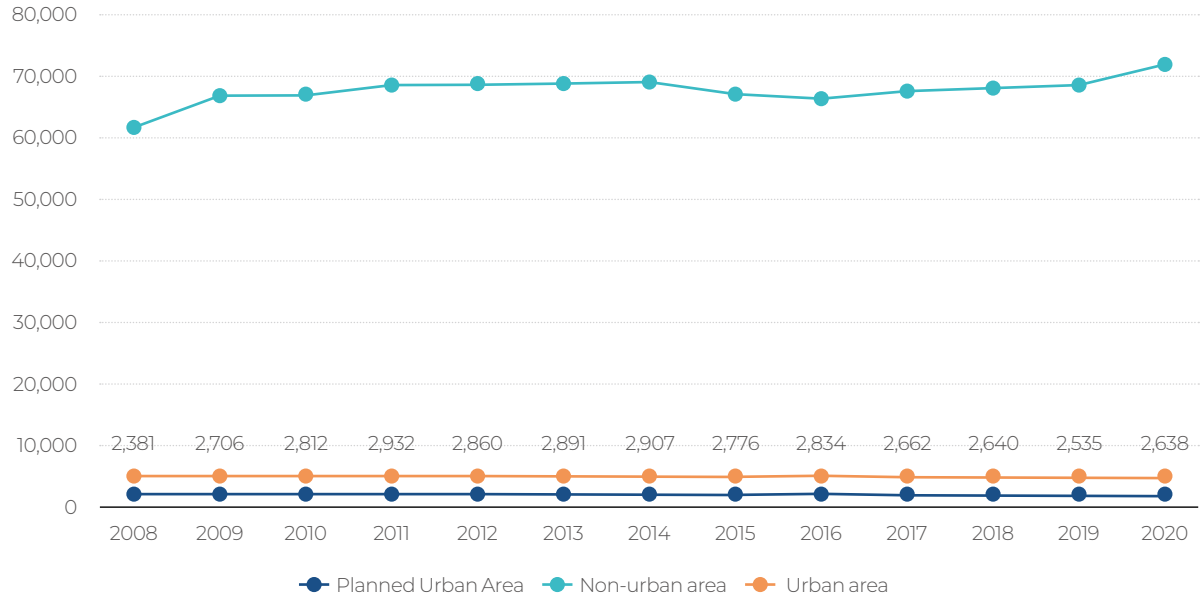


Source: KOSIS; Author's rework based on Donggeun Kim, 2021, "Achievements and Tasks of 20 Years of the National Land Planning and Utilization Act", 2021.10.19. KRIHS 42nd Anniversary Seminar.

Status Quo of Implementation

This chapter also examines the implications and effectiveness of the laws, system and institutions, and policies for efficient use of national territory by looking into urbanized areas, planned urbanized areas, and conservation areas under the special-purpose system. Planned urbanized areas are designated to be used as sites for housing, commercial districts and industrial complexes according to the spread or development of cities. They refer to the sites designated to secure the plots for development in advance to prepare for the upcoming expansion of cities under the comprehensive city/county plan of local governments. Areas for urbanization are largely classified into three types of land. Urbanized area refers to the site of which development is completed. A planned urbanized area is a site that is not developed yet, but it is highly likely to be developed according to the development demands in the future. Lastly, a conservation area is the land on which development is disallowed to protect the natural landscape and its ecological values to be preserved. With regard to the changes of urbanized land, planned urbanized land, and conservation area included in urban spatial planning during the period of 2005 and 2020, both urbanized areas and planned urbanized areas did not change markedly for the last 15 years. However, the size of conservation areas has increased significantly from 2005 to 2008. It means that the authorities increased the share of conservation areas to reserve the development of national territory in order to prevent reckless development and create an eco-friendly urban environment. Basically, the government designates conservation areas as greenbelts and manages them as environment conservation areas.

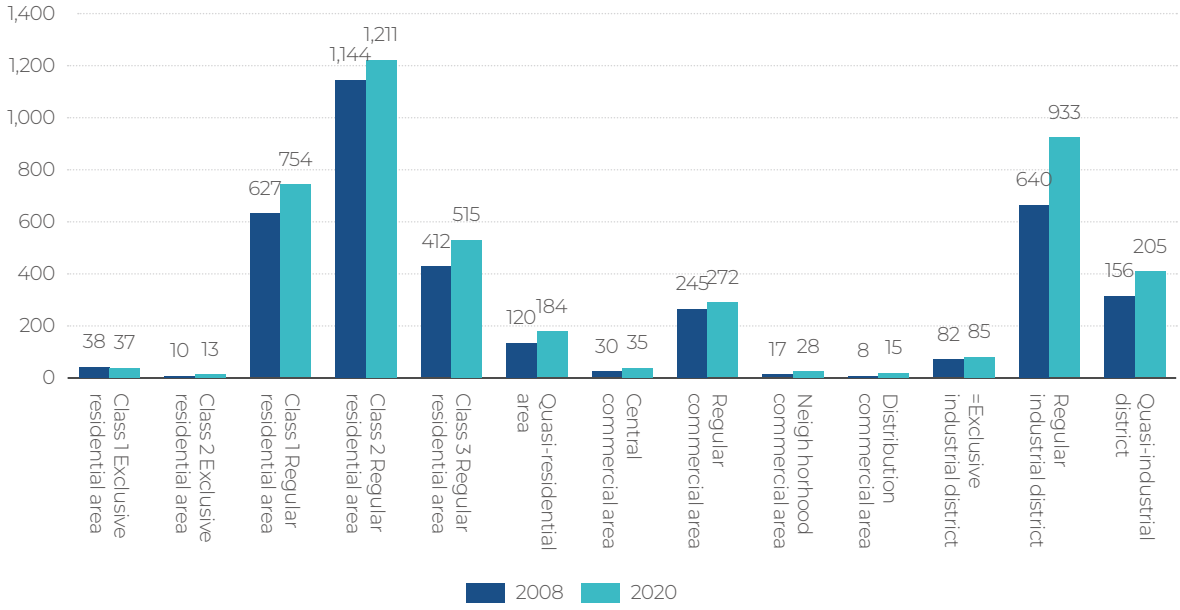
Figure 6-3. **Planned urbanized areas under comprehensive city/county plan (nationwide, unit: ㎢)**



Source: KOSIS; Author's rework based on Donggeun Kim, 2021, "Achievements and Tasks of 20 Years of the National Land Planning and Utilization Act", 2021.10.19. KRIHS 42nd Anniversary Seminar.

To compare urban area and non-urban area in the special-purpose initiative in 2008 and 2020, class 2 regular residential took a large share in both 2008 and 2020 among other areas in sub-categories. To be specific, growth rates of class 1 regular residential area and class 2 regular residential area were particularly high compared to others, and quasi-residential area has shown a high growth trend. Regular industrial district also recorded a high growth rate with an increase of 1.5 times.

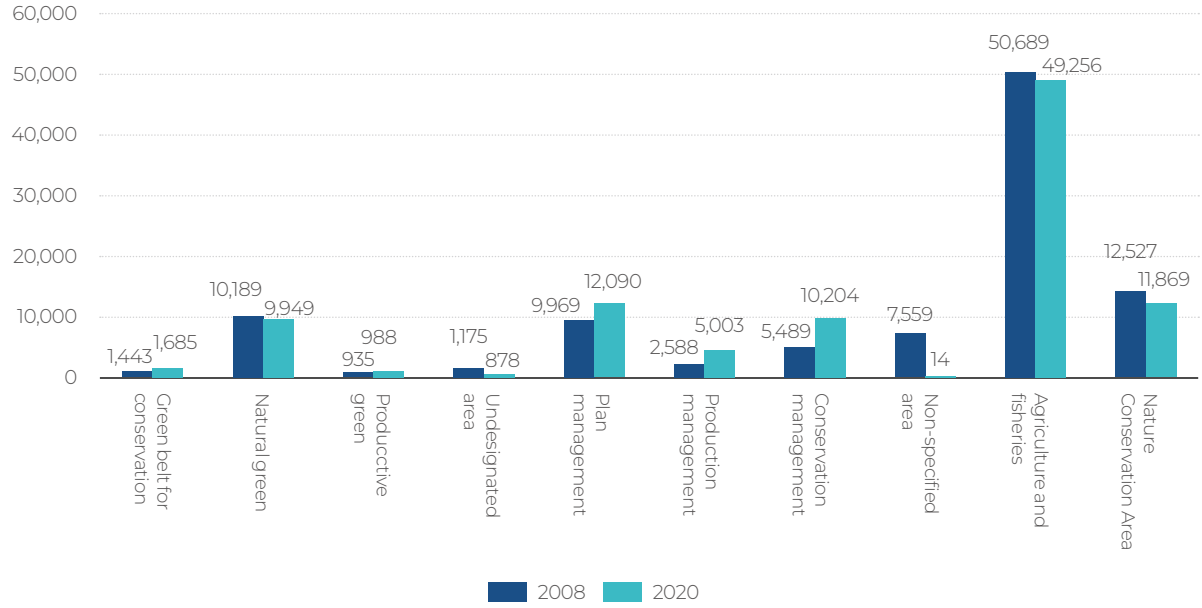
Figure 6-4. Changes in Urban Areas (2008 vs.2020) (unit: ㎢)



Source: KOSIS; Author's rework based on Donggeun Kim, 2021, "Achievements and Tasks of 20 Years of the National Land Planning and Utilization Act", 2021.10.19. KRIHS 42nd Anniversary Seminar.

To compare the figure of non-urban area in 2008 and 2020, agriculture and fisheries area accounted for a large share both in 2008 and 2020 among areas in the sub-categories. Shares of non-urban areas have largely declined in 2020, compared to 2008. Among management areas, however, three areas of plan management, production management, and conservation management rose from 2008. It appears that the difference came from the fact that management areas began to be subdivided since 2008.

Figure 6-5. **Changes in Non-Urban Area (2008 vs. 2020) (unit: ㎢)**

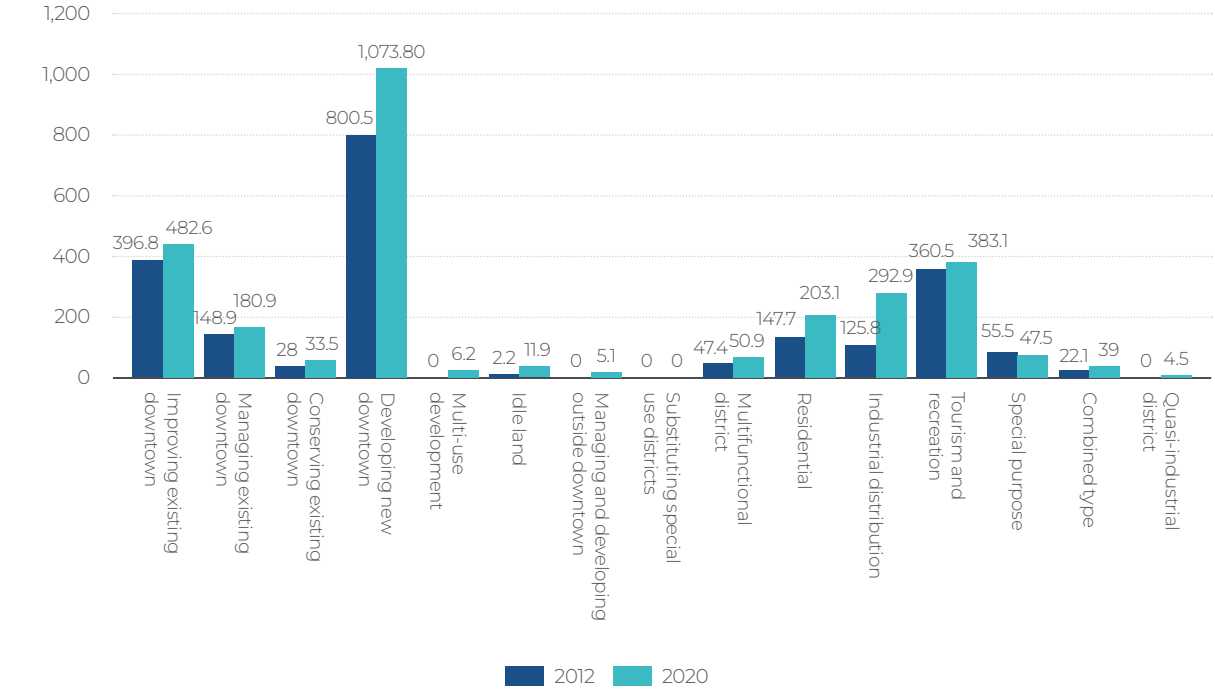


Source: KOSIS; Author's rework based on Donggeun Kim, 2021, "Achievements and Tasks of 20 Years of the National Land Planning and Utilization Act", 2021.10.19. KRIHS 42nd Anniversary Seminar.

The size of land designated as special-purpose districts in 2020 rose significantly from 2008, with an increase of 1.5 times. To be specific, the size of community districts, of which purpose is in deregulation, increased by threefold compared to 12 years ago, and the number of landscape districts increased by about 10 times with the integration of aesthetic districts. With regard to the comparison by size, the size of community districts was smaller than that of other special-purpose districts.

The number of district-unit plans was on the rise each year during the period of 2012 and 2020. As for the analysis on the status of district-unit plan by type, the number of district-unit plans for the management and conservation of existing downtown was relatively small compared to other types. However, district-unit plans for the development of new downtown took the largest share among the total types of district-unit plans and recorded the highest growth rate for the last 8 years. It may be due to that new downtown development projects require to provide district-unit plans. In the meantime, the number of district-unit plans for residential, industrial distribution, tourism and recreation in non-urban areas were all rose in 2020 compared to 2012.

Figure 6-6. Establishment of District-unit Plans by Type

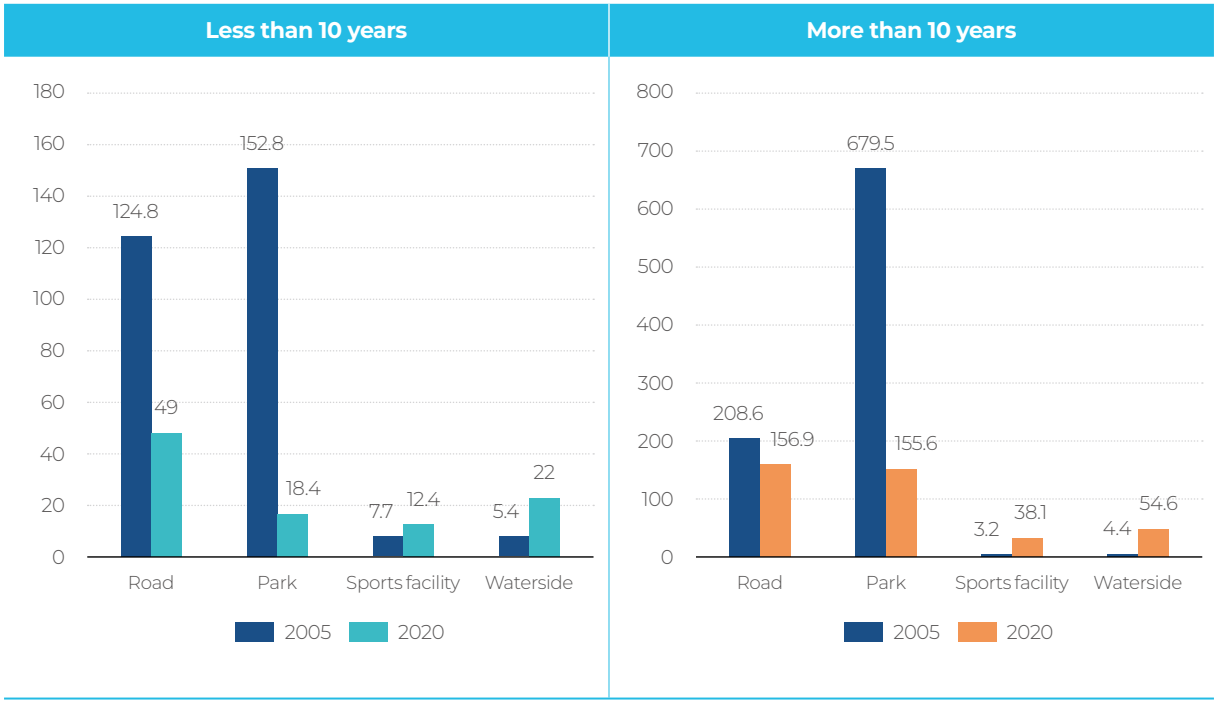


Source: KOSIS; Author's rework based on Donggeun Kim, 2021, "Achievements and Tasks of 20 Years of the National Land Planning and Utilization Act", 2021.10.19. KRIHS 42nd Anniversary Seminar.

As for city/county planning facilities, the number of facilities of which city/county plans failed to be implemented for over 10 years during the period of 2005 and 2020 has declined gradually, and showed a sharp decline in the recent 1~2 years. Although roads and parks comprised a large proportion among those facilities in the list, their numbers decreased rapidly in 2020 from 2005. It was because of the release of lands that were assigned to locate city/county planning facilities, but construction projects had not commenced yet as of July 2020 as the government intended to prevent them from remained undeveloped with the amendment of National Land Planning Act[18].

18) National Land Planning and Utilization Act. No. 16492, amended on Aug. 20, 2019. Article 88-7, 88-9, amended addenda.

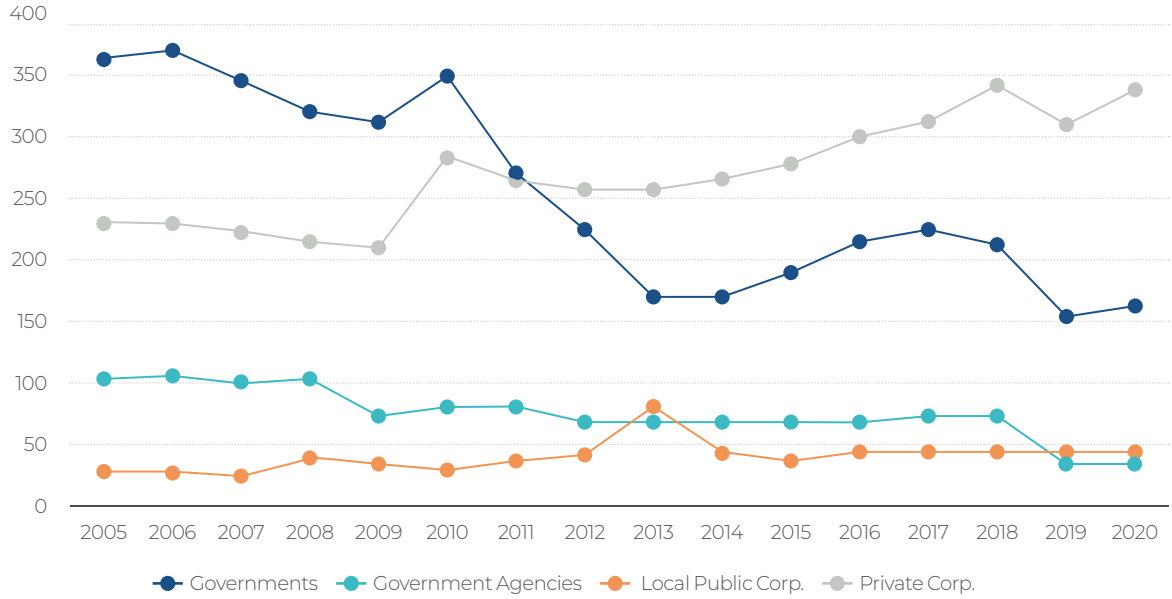
Figure 6-7. **Unimplemented urban planning facilities (less and more than 10 years) (unit: million ㎢)**



Source: KOSIS; Author's rework based on Donggeun Kim, 2021, "Achievements and Tasks of 20 Years of the National Land Planning and Utilization Act", 2021.10.19. KRIHS 42nd Anniversary Seminar.

Urban development projects are implemented under the Urban Development Act to build urban areas or complexes with multiple functions for planned urban development. In 2008, the Urban Development Act was completely amended to introduce a democratic urban development process led by local governments and residents. The private sector establishes a development plan and proposes the designation of development project zones. Since 2008, when private developers were allowed to propose projects and zone designation, the number of government-led projects has decreased significantly, and the private-led projects have accounted for the largest number of cases.

Figure 6-8. **The Number of Urban Development Projects (2005-2020)**



Source: KOSIS.

b. Limitations of the Spatial Planning System

As seen from the comparison and analysis of the status of the spatial plans, it is true that spatial planning system of Korea partly provided the impact that it was intended to deliver. However, it was often ineffective or event led to an unexpected outcome. This section focuses on the limitations of the existing spatial planning system.

Limitation of Spatial Plans at the National and Sub-National Levels

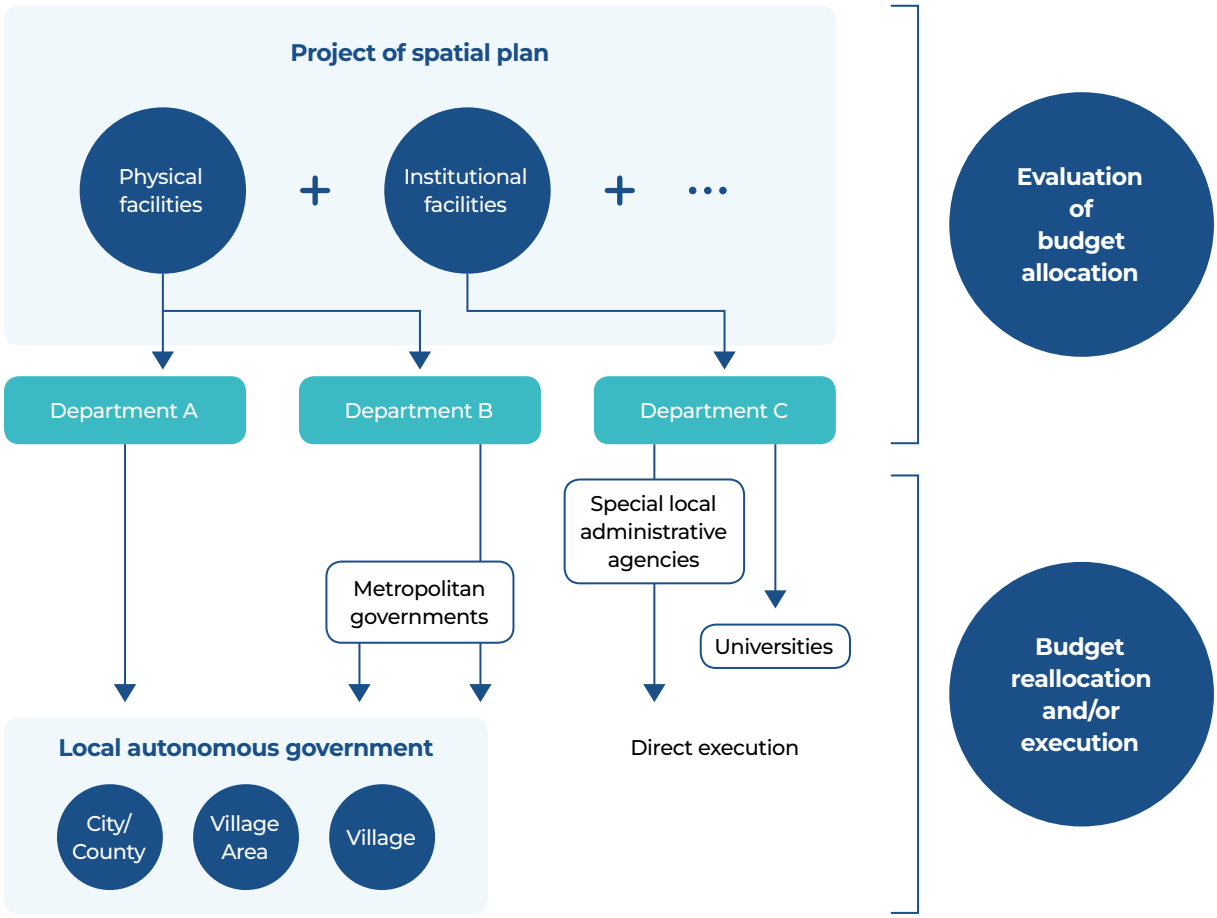
Limitations of spatial plans both at the national and sub-national levels are largely comprised of three points. First is related to the effectiveness of spatial planning implemented in large areas. The comprehensive national territorial plan (CNTP) has evolved and played different roles in line with the changes of the times. For instance, it provided a blueprint for national territory during the development era when the country pursued economic development led by the government to support the efforts to achieve policy agendas. However, CNTP has narrowed its scope to serve as a norm

or declarative plan these days, along with changes when the scope of roles assigned to the public sector has reduced. Previously, CNTP had an impact on sub-national plans through its spatial planning concept. But now, its role has changed to simply provide basic directions for national territory, and its implications on sub-national plans have reduced. Today, it is difficult to solve social problems through national project led by the central government. For example, national and regional plans provide directions to reduce regional gaps for balanced development. Still, such gaps did not go away and remained intact. It is due to that master plans in higher layers do not serve as grounds for the application of regulations or implementation of development projects anymore, and social problems have become complicated to the extent that they are hard to be solved through government projects alone.

Some argue that CNTP fails to adapt and respond to the internal and external environment surrounding the nation that is changing fast these days. The amendment of relevant laws in 2002 intended to establish the roles of CNTP during the process of a paradigm shift in planned environment from development-centered approaches to focus on conservation and regeneration, from government-led development and implementation to activities that were mostly led by local government. Unlike the government response to such a paradigm shift, efforts to prepare for emerging issues such as COVID-19 and carbon neutrality were not reflected to the spatial planning system. For instance, the 5th CNTP established in 2020 does not provide items included in the government declaration released in December of the same year to achieve carbon neutrality by 2050. Namely, CNTP does not respond to the emerging issues and changes and it even reveals some limitations to serve as a norm or declarative plan.

Lastly, the national territorial plan has limitations when it comes to coordinating roles among plans that can be said as its core function as well. Execution of city/county plan that is considered as a guideline of local government projects is commenced by the approval and cooperation of the central government, and related agencies approve them and allocate and provide budget according to the priorities. Such projects are implemented by region centering on metropolitan government and other local governments. Therefore, a local government may implement several plans as developed by separate departments simultaneously, which may lead to project overlaps or excessive plans. As the coordination role of national and sub-national plans has weakened, the number of unit projects by local governments that need to be adjusted under higher plans has increased enormously.

Figure 6-9. **Implementation Structure of Spatial Plans in Korea**



Source: KRIHS 2013.

As such, the declining role of coordination relates to the effectiveness of spatial plan. To develop a metropolitan plan, a metropolitan governance structure is established for the joint response of local governments against issues overlapping jurisdictions. Metropolitan plan is expected to increase the efficiency of metropolitan transportation system and other common assets, and prevent the sprawling development of urban boundaries. However, the metropolitan plan of today is hard to regulate ambitious plans of cities and counties in practice, and matters on which local governments fail to reach an agreement are not included in the plan. When a metropolitan governance does not play the role of coordination to address differences among the participants, it is nothing more than a document without the essence of the agreement.

Limitation of Spatial Plans at the Municipal Level

Discussions on the limitations of spatial plans at the municipal level date back a long time. Kim et al. (2008) pointed out five elements to be improved in land use plan or a sectoral plan under comprehensive city/county plan, and they are: First, strengthen the linkage between planned population and land use plan; Second, diversify the criteria for analysis on areas of development; Third, designation of planned urbanized area and measures for the management of nearby areas; Fourth, development of land use plan of non-urban areas, and; Five, Minimize the number of city/county basic plan agendas. Still, no substantial outcomes and performance came out with regard to the five areas for improvement of the land use plan presented by the 2008 study even today.

However, efforts are made to reorganize systems of central government related to comprehensive city/county plan to reflect conditions of the times and changing aspects of the society by building on database. First of all, people began to discuss a paradigm shift to develop land use plan based on population projections. As the country has become aged society in 2017, population decline in small/mid-sized cities as well as Seoul and other large cities is expected to take place anytime soon. Nevertheless, population distribution plan and land use plan in comprehensive city/county plan are not that different from those adopted in the development era when constant population increase is noticed.

Statistics Korea predicts that the population of Korea will decline to the level of 1990s starting from 2040. Thus, the paradigm shift of population projections to prepare for the comprehensive city/county plan of today, of which development was rooted in the population growth model of the past, is unavoidable. To make this happen, the history-long growth paradigm that is, predictions on economic growth along with increasing population, should be changed first, and an alternative to replace this model should be established again when it comes to the values of economic growth and population projection. Changing paradigms of growth and population projections require long discussions among multiple stakeholders across the border. Therefore, we should start to consider the framework and system for a new population distribution plan required under the comprehensive city/county plan without a moment's delay. Speedy response to the market and actual site supported by the development of IT and improvisations under the unfolding situation may provide some clues on providing new directions for the growth of cities and population projection systems.

As the population decline is expected to be continued, balanced policy approaches and development process and system based on the agreement in consideration of measures to tackle pending housing supply imbalance and environmental conservation such as the protection of natural green space concurrently are required for the development of planned urbanized area.

Also, institutional measures to tackle the issue of sprawling development of non-urban area and land use in non-urban area should be prepared. The development of agricultural technology based on the convergence of scientific and technological advances such as seed war and urban gardening has become the topic of the 21st century. However, the plans and systems for agricultural area and non-urban areas contained in the city/county plan are scarce, as stated above. Compared to urban areas, criteria for the designation of special-purpose areas and districts when it comes to control area and conservation area are very simple, but of which development system is rarely visible. In the meantime, the Ministry of Agriculture, Food and Rural Affairs (MAFRA) is developing a system for agricultural space planning and is currently working on adjusting the system under the National Land Planning Act. Thus, the reorganization of insufficient system related to semi-agricultural and forest area and urban area and preparation of spatial planning system have become urgent policy agenda of MOLIT.

With regard to the issue of minimizing agendas of comprehensive city/county plan, the authority of central government on land use and development and interests of local governments (self-governing bodies) related to the management and use of the administrative/planned control areas under their jurisdictions conflict with each other. The authority to determine comprehensive city/county plan was handed over to metropolitan local governments in 2003. Before 2003, the implementation of comprehensive city/county plan was largely led by the central government. It appeared that Korea finally entered into the age of decentralization with the transition of authority. However, the central government continued to take charge of implementing large development projects, and the government-led implementation of large development projects and housing supply at the convenience of administrative execution such as the enactment of special laws did not go away. Thus, the transition of authority to local governments with regard to the autonomous use of land use and management under the development of comprehensive city/county plan has not changed yet.

The above five measures for improvement of comprehensive city/county plan are still effective today and they remain as policy tasks that should be pursued constantly.

c. Challenges of the Spatial Planning System

The spatial planning system of Korea has changed completely in 2002, and 20 years have passed since then. Although conditions surrounding spatial planning have changed significantly over the 20 years, limitations are still found in the existing spatial planning system when it comes to rapidly changing social conditions and future challenges. In this regard, the Korean government engaged in a series of policy activities to reorganize the existing spatial planning system completely in 2021. The spatial planning system and conditions for operating the system are entering into a new phase. The current spatial planning system particularly considers the following five megatrends in order to respond to changing conditions both at home and abroad (Kim et al., 2022).

① Decentralization of power and enhanced engagement of citizens
② The fourth industrial revolution and post-COVID-19
③ Climate change and carbon neutrality
④ Structural change in population/households and increasing extinction risk of regions
⑤ Response to outdated urban areas and efficient use of national territorial resource

KRIHS embarked on a study to improve the spatial planning system to provide measures for the reorganization of the current system in an effort to respond to the five megatrends as listed above. The study examines matters related to the improvement of various systems and institutions including amendment of the National Land Planning Act and related regulations. KRIHS especially focuses on reorganizing the information system related to the development of comprehensive city/county plan to solidify the foundation for spatial urban planning based on scientific methods.

In addition, KRIHS continues to discuss on the operation of a system tailored to local needs in consideration of their characteristics and conditions on areas for development in an effort to improve institutional limitations centering on special-purpose areas and district-unit plans of city/county management plan. Special-purpose area and district-unit plan directly affect the land use, development, and construction activities in practice,

and KRIHS explores the possibility to reorganize the system to create spaces available to respond to challenges arising from population decline, the fourth industrial revolution, the era of coexisting with COVID-19.

Also, discussions on providing measures for systematic management of non-urban areas including semi-agricultural and forest area, and control area have begun. Particularly, preparing for the system and means for systematic management of non-urban areas corresponding to agricultural spatial planning system is considered as an urgent task with regard to system improvement. In this regard, a special-purpose area designation system enabling precise and substantial allocation of land should be established in accordance with the context of agricultural spaces, which is similar to that of urban area among matters determined under detailed criteria for special-purpose areas (enforcement).

Korea enters into the stage to prepare for a new leap forward for the city apart from the development era focusing on quantitative growth of the national economy. As we charter a new chapter, elements that may lead us to face both challenges and opportunities including population decline, low growth rate, the spread of infectious diseases, the 4th industrial revolution and expansion of virtual space await us. Urban planning and policy should be able to provide stable spaces to improve the quality of life for both cities and citizens in the midst of rapidly changing conditions.

To make this happen, we need to change our mindset to remove barriers and explore the possibility of coexistence like virtual space, rather than excessively focusing on fragment topics blinded by sectoral plans as we did in the past.

KRIHS plans to develop various measures for reorganization in the spatial planning system from the perspectives of urban planning, land use, laying the foundation, and governance. Kim Dong-geun et al. (2021) provides examples of systems that need to be adopted as follows.

Classification		Description
Urban spatial planning	Metropolitan plan	Categorization of metropolitan plans according to the purpose, differential application of obligations to designate metropolitan plan zones
	City/county plan	Development of long-term development plan, minimum items of city/county plan and reorganization centering on issues, deletion of population projection criteria, proposal of strategic projects
	Living zone plan	Inclusion of living zone plan as mid-level plan, strengthening and materialization of development criteria, concurrent execution with comprehensive city/county plan
	Preliminary study based on data	Reorganization of preliminary study data gathering system, adoption of monitoring system, support for evidence-based urban planning
Land use	Special-purpose area	Adoption of new special-purpose areas (urban industrial area, housing management area, etc.), operation of special-purpose area tailored to local features, expanded delegation of ordinance on city/county plan by local governments, provision of objective grounds for criteria
	Special-purpose district	Integration with similar systems, linkage with agricultural spatial planning, spread of proposal on special-purpose districts by the private sector
	District-unit plan	Reorganization of district-unit types, specification of guidelines and descriptions, diversification and differential application of incentives, development of operating and management guidelines and strengthening enforceability
	Development activities permit	Improvement of growth management plan, establishment of management measures for sprawling development areas, improvement of land use system for agricultural and forest area, strengthening citizen participation process
Laying the foundation and governance	Citizen engagement	Installation and operation of citizens council, provision of legal grounds for non-statutory citizen engagement options
	Restitution of development gains and urban development fund	Securing independent revenue of local governments including urban planning fund and linking funds related to urban planning with accounting. Government support of city/county planning facilities, improvement in installation and operation of urban planning fund
	Mandatory implementation	Additional punishment of frequent violation of development activities, strengthening penalties, introduction of enforcement fine

VII. Lessons and Recommendations

a. Lessons

Policies, laws and institutions of Korea related to its spatial planning system discussed in previous chapters provide implications to countries in Latin America and the Caribbean (LAC) region in various ways. As for Korea, the central government has demonstrated strong leadership during the evolution process of spatial planning system. The country faced multiple challenges to develop national economy through industrialization and modernization, and the government promptly responded and flexibly adapted to changing circumstances. Especially, the government has recognized its important role to lead national development and the significance of plans for the public sector to carry out its given activities. Thus, the government constantly made an effort to build a system encompassing the entire process of spatial planning from development, implementation, assessment, monitoring, feedback, follow-up measures.

As such, the central government took the initiative for the development of the national territorial plan which provided unfavorable conditions for local autonomy and decentralization. However, it can be considered as one of the most effective ways to address problems as the downsides of rapid economic development. During that time, spatial planning was the first step to tackle challenges and the focus was put on finding answers that the public sector wanted and providing clear visions to keep up with the times. For instance, the government has laid out comprehensive national territorial plan (CNTP) for seven times, and it provided different priorities for each round of plan and presented a blueprint for the national territory so that government agencies and institutions could join hands to achieve the same goals under the leadership of central government. Likewise, there is a need for an entity with the authority for the plan, whether it could be the central government, metropolitan government, or local government, to provide clear visions and answers, and take the lead to implement the strategies by facilitating cooperation among related bodies.

Second, the Korean government has amended laws and improved the system to demonstrate its enforceability in an effort to reduce the rigidity that the institutionalization of spatial planning system might bring. Korea was bold to adopt rather ambitious plans and promptly improved the approaches when side effects occurred. The enactment of

National Land Planning Act to completely reform the spatial planning system in 2002 can be an example. As the dual management and control of cities and rural areas created adverse effects, the government decided to integrate and repeal related laws to take unified approaches for the management, and it constantly amended the law to reduce the loopholes.

The government also focused on the development of national territorial plans that could trigger and facilitate the implementation of strategies, rather than the completeness of the plan. Some argued that the spatial plans of the government were confusing and nothing more than makeshift measures. Under the environmental upheaval during the process of rapid economic development, such an approach served as an alternative for responding to the changes promptly. In addition, the structured flexibility led the movement to develop a procedure to constantly complement plans along with the changing environment under the plan.

Third, various elements of support are required to develop and operate the spatial planning system, and the country worked hard to build a system for a constant supply of such elements. The establishment of Korea Research Institute for Human Settlements (KRIHS) can be an example. From the beginning, KRIHS was founded to support the government to develop comprehensive national territorial plan as the one in the highest layer of the national territory hierarchy. When the 1st CNTDP was established, agencies of the central government did not have the capacity to solely develop a national territorial plan covering the entire sectors of the land. Thus, the country should be dependent on cooperation with foreign agencies. Soon, the government realized that it should stand alone away from the help of experts from the outside to improve the consistency and enforceability tailored to the circumstances of the country, and decided to establish an institution dedicated to the development of the national territorial plan and run the spatial planning system. Namely, the government recognized the need of supporting elements to operate spatial planning system and carried out activities for the execution of plan.

KRIHS conducts various activities including planning, policy study, evaluation, and monitoring of national territory to support the central government and other government bodies. It has become an essential institute for the operation of spatial planning system of Korea. Not only the establishment of institutions, various elements to support national territorial plans are needed as more advanced policies are developed and the means of spatial planning

get sophisticated. Thus, the government needs to design and implement such supporting elements in extensive areas as well as systems.

Fourth, the structure of the spatial planning system has evolved as well with the emergence of the local autonomy era and decentralization of power, and local governments are playing an increasing role for development of spatial plans and implementation of strategies. The country has shifted its strategies for spatial formation from the top-down development approaches led by the central government of the past to autonomous and decentralized development of national territory led by local governments along with changes of the times. Today, the spatial planning system of Korea intends to support the independence of local governments based on their own plans and achieve balanced development of national territory. In this regard, the 5th CNTP presents the directions and strategies for long-term national territorial plan and focuses on the role of serving as guidelines on sectoral and sub-national plans. That is what makes the 5th CNTP different from previous plans that put much emphasis on spatial planning.

Each region provides its own plan to provide directions for the development based on its unique features and contributes to balanced development of national territory. Thus, the role of central government is limited to supporting the coalition and cooperation among regions to resolve pending issues of overlapping regions. The role of national territorial plan from the government level is to prevent the fragmentation of local plans and encourage the development of regions through cooperation. The increasing capacity of local governments when it comes to planning and enforceability as well as more citizen engagement, serve as the background of such change. Also, the current spatial planning system in which authority was handed over to local governments in multiple sectors provides an opportunity for learning-by-doing to them through practice and direct participation of citizens.

Fifth, Korea has provided various measures for the collection and analysis of empirical data on spaces to support the operation of current spatial planning system. To establish an evidence-based spatial plan, it is essential to secure objective data and information on the status and projections on change for the region. Korea has engaged in projects to build national spatial information system since the end of 1990s and provided various spatial data. It also developed and managed an integrated database containing diverse topics such as geography, records of land registration and other basic geological data, urban planning diagram, land use, regulations and stock maps. Based on this, the government established

urban planning information system (UPIS) and KOrea Planning Support Systems (KOPSS) in the 2000s to support the decision-making process and solidify the spatial planning system based on evidence.

Although the government strived to provide various spatial data since the launch of national spatial data system development project, the scattered service structure made it difficult to use spatial data easily. Therefore, the government integrated spatial data generated by the central government, public and private sectors to open the National Spatial Data Infrastructure Portal (NSDI) for easy access to anyone. Currently, NSDI provides information and data from 41 datasets including urban planning, permission for development activities, national territory, spatial convergence, building and construction, real estate, etc. As such the development and use of spatial data serves a pivotal role in the spatial planning system.

b. Considerations

The above five lessons are based on the unique experience of Korea in the given circumstances. To apply them, countries need to consider several elements as follows. With regard to the first point, the approach of Korea that the central government largely took the initiative to develop and implement plans may generate a series of negative effects. Thus, counties need to provide measures to tackle such issues. Under the control of the central government, the change of regime greatly affects the policies to lead the change. For Korea, the government provided adjustment, readjustment plans repeatedly as the conservative and liberal governments took the reins, and which markedly changed the directions of national territorial plan. Mid/long-term projects lost the momentum or even key elements of the initiatives were modified during implementation alongside changing directions. Therefore, measures to maintain consistency of main goals, implementation directions, and key elements of planning regardless of leadership change.

Second, the enforceability of spatial planning may be changed with the binding force and toughness of executive order against illegal activities and transparency of public power. Public awareness and tolerance on violation of laws and corruption in public sector may differ by country, and which may provide a great influence on the operation of spatial planning system. Illegal activities found in urban planning and development and implementation of urban development projects are often ignored as a part of local politics in many countries.

The situation is not that different from other countries. Although the country is closely designed to provide grounds to curb and punish illegal activities within the legal framework, violators still circumvent the laws deftly. For efficient operation of the spatial planning system, we need to establish the legal framework to strengthen the enforcement and impartiality in public power and further enhance the enforceability of law in general.

Third, efforts to provide elements supporting the spatial planning systematically should be made in parallel with capacity-building activities. To establish an institution to utilize it as a support system as in the case of Korea, proper supply of human resources and social consensus on the need to develop internal capacity is required. The obsession with education during the period of high growth rate led to the increase of highly skilled professionals completing higher education. Against this background, the country was able to minimize the gap in human resources and nurture the related industries linked with the supporting elements. As such, the institutionalization of supporting elements should be carried out in phases to narrow the gap between the design and application of the system as much as possible in consideration of surrounding conditions.

Fourth, there are fundamental limitations in spatial planning and there are always winners and losers as various conflicts of interest in spaces. Under the national spatial territorial planning led by the government, some regions may enjoy the benefits and others may face disadvantages. As for Korea, regional imbalance in national territory became permanent, despite efforts by the central government. It was originated from the policy direction of government to sacrifice fairness and balanced development in return for efficiency and economic growth during the development period. Imbalanced spatial structure made the country pay an enormous cost that is hard to calculate today, and it was an improper decision for the society, environment and sustainability. Seen from this lesson, there is a need to build a governance in structure and process, and establish it as a system so that winners share the burden in return for the benefits and make up for the damage of losers to reach an optimum consensus.

Fifth, the operation of an evidence-based spatial planning system requires budget and technological capabilities. Building of spatial data is possible through mid/long-term projects, rather than short-term ones. It should also be advanced further by phase to keep up with technological development. Korea began to become aware of the importance of spatial data in the 1990s when its economic level reached a certain point, and provided

master plan for national spatial data policy to advance the system in stage. The government focused on setting standards and developing technologies in the early stage of Database (DB) development, and gradually improved the system including expanding the scope of data collection by sector, reinforcing the use and spread of data, and strengthening linkage and integration of data. The establishment and operation of the evidence-based spatial planning system of today needs to adopt technologies according to the conditions and affordability of each country and also consider the possibility to adopt leap-frogging strategies through the introduction of innovative technologies.

c. Recommendations

The current spatial planning system of Korea is being reorganized from scratch. For over 20 years after rapid economic development, it fulfilled its role to present spatial development directions in line with national agenda and provide proper policy options. Based on lessons learned from the 20-year experience of Korea, we recommend for the development of spatial planning system of LAC countries as follows.

First, countries need the leadership to recognize the importance of spatial planning as well as activities to enhance the understanding on spatial planning. A spatial plan is an effective tool to support for the efforts to achieve policy goals of the jurisdiction regardless of appointed or elected leaders. Thus, efforts for cooperation are required to strengthen the leadership on the development and implementation of spatial plans among related bodies.

Second, many countries are still talking about the importance of spatial planning only without action. The driver for the implementation of strategies does not come from a perfect plan, and there is no such thing as situations surrounding the plan continue to change. Therefore, we need to develop a flexible spatial plan to constantly complement and fix the shortcomings during implementation stage and attempt to embark on the implementation of the plan even in part.

Third, efforts are needed to strike a balance between external support and strengthening of internal capability. If a country solely depends on external help to cover the technology shortage, it will never have a chance to learn and build its capacity. Thus, countries should cooperate with the outside to prepare for the independent operation of spatial

planning system by gradually establishing their own system considering the possibility of discontinuation of support from the outside.

Fourth, the establishment of spatial planning system must include a precise division of roles and incentives for cooperation. Although there is necessity to build governance among spatial plans to maintain consistency, the ministry and agency that are in charge should be determined with the responsibility and authority in accordance with the hierarchy and purpose of the spatial plan. Without precise division of roles in a complex governance structure, it will end up leaving a system that does not operate properly.

Lastly, there is a need to use foreign aids effectively with regard to evidence-based spatial planning system with restrictions on capital and technology. Through cooperation, donor agencies can provide funds and technologies, and obtain spatial information and data in return. Recipient countries can also collect their spatial data and build DB as an outcome. This type of cooperation requires the proactive involvement of the recipient country to design the system tailored to their conditions, and update and operate it easily.

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