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THE NEW TERRITORIAL MANAGEMENT STRATEGY (2003~2007) IN PROGRESS

The Comprehensive National Territorial Plan (CNTP) is Korea's foremost comprehensive plan, whereby far-reaching, long-term policies are to be established concerning land use, development, and preservation. It is specified under the Constitution and the Basic Act on National Territory.

The CNTP sets the policy goals and strategies for achieving desirable national and regional development, and provides direction for planning and policy implementation for various sectors, including industry, transportation, and housing. It also presents land management principles to guide local governments, companies and other institutions as they plan and manage development.

The New Territorial Management Strategy (2003~2007) is the 5-year action plan of the Fourth CNTP (2000~2020) for implementing the contents of the Fourth CNTP and adjusting for changes in circumstances arising after the establishment of the CNTP. Its goal is to prepare related work by relevant institutions. For this purpose, the heads of central administrative authorities, mayors, and governors should establish action plans within their respective jurisdictions for submission to the Ministry of Construction and Transportation (MOCT).

After establishment of the action plan, the relevant authority should also submit the outcome of the plan within its jurisdiction. The MOCT will gather all these results in order to evaluate the performance of the CNTP and report the integrated outcome to the National Territorial Policy Committee. The MOCT will review the CNTP every 5 years, taking into consideration the evaluated results of the action plan in each jurisdiction, and changes in circumstances up to that point.

CONTENTS OF THE NEW TERRITORIAL MANAGEMENT STRATEGY

The New Territorial Management Strategy (NTMS) will present the basic direction of national territorial management for 5 years (2003~2007), the same term as the "Participatory Government" launched in 2003. It will suggest specific measures for attaining the major policy goals of the "Participatory Government," such as construction of a new administrative capital, balanced national development, and establishment of Korea as the economic hub of Northeast Asia.

Regarding the basic strategies presented by the Fourth CNTP and the direction of development promoted by individual cities and provinces, the NTMS identifies 10 subject fields: regional development, transportation and information & telecommunication, land use and management, urban development and management, housing, environmental preservation and management, water resources, South and North Korea and Northeast Asia, finance and implementation, and urban and provincial development direction.

ESTABLISHMENT PROCESS

The central authorities will establish the action plan in 9 subject fields for the Comprehensive National Territorial Plan, excluding provincial development. Local governments are to set the development plan for specialization in each region on the basis of the provincial development direction of the

CNTP. The central authorities will review the major tasks for each field included in the guideline, and establish the action plan. Local governments will present region-specific development directions in consideration of the 10 area-wide development plans to be revised by the MOCT, as well as the relocation plans of national organizations.

For the establishment of the NTMS, the central authorities will organize a joint working group for each field with the Planning Research Group (PRG), in which the Korea Research Institute for Human Settlements plays a central role. The joint working groups are to continuously discuss the detailed tasks and strategies. Local governments should organize specific committees with regional research institutes in order to provide for region-specific development direction. The committee is to continuously discuss detailed matters with the working group in charge of provincial development of the PRG. At the same time, the MOCT, the competent ministry for the NTMS, is to closely work with the PRG to preserve the consistency and coherency of the Strategy. The NTMS is scheduled for confirmation and announcement at the end of December, 2003.

MAIN DIRECTIONS

The New Territorial Management Strategy has established 7 main directions: First, to establish the foundation for open and integrated axes of national territory. For making continental and oceanic pathways to nations and economic markets around the globe, it is critical to establish the Eastern Coastal Axis, the Southern Coastal Axis, and the Western Coastal Axis. For balanced inland development, the Southern Inland and Central Inland Axes must be established. Furthermore, the industrial structure of the Seoul-Busan axis should be rearranged, and population and industry moved away from crowded areas. Second, balanced national development in a new era of localization is to be promoted through construction of a new administrative capital, regional dispersion of national organizations, and establishment of a management framework for the Capital Region. Third, in order to develop Korea into the economic hub of Northeast Asia, the Incheon area is to be promoted for realization as an economic hub, and the Busan and Gwangyang area as a logistics hub.

Fourth, for sustainable conservation and management of the environment, a national environment management system is to be established, along with a plan for sustainable water resource management. Fifth, in order to improve the quality of life, it is necessary to promote an urban environment that harmonizes people and nature, maintain housing market stability, increase the residential welfare of the low-income class, as well as build an efficient and human-oriented urban transportation system.

Sixth, it is critical to establish a nationwide system for disaster prevention. Disaster prevention systems must be reinforced, and relevant institutional systems and policies must be improved. Lastly, in order to promote exchange and cooperation between South and North Korea, restoration and expansion of the transportation network between the two Koreas is planned, as well as the development and promotion of diverse projects for South-North Korean exchange and cooperation.

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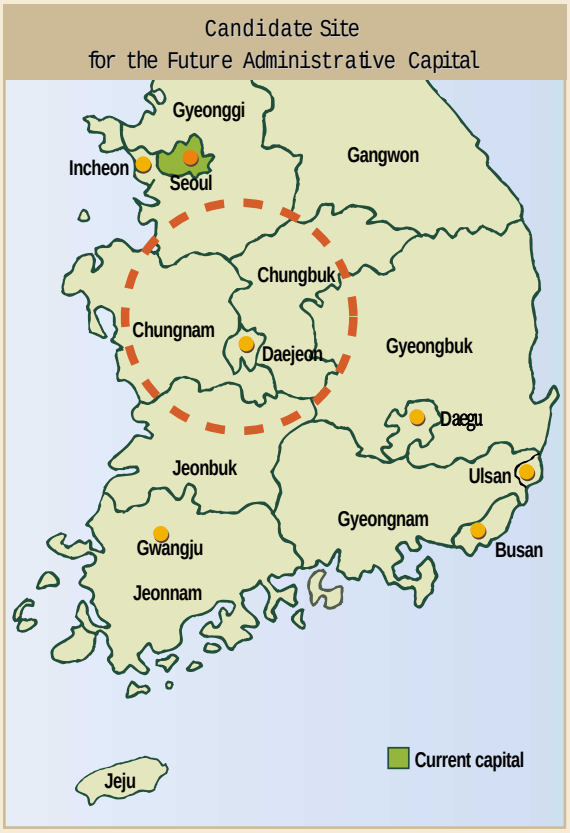
KOREA PLANS A NEW ADMINISTRATIVE CAPITAL

For the past four decades, the concentration of population and industry in the Capital Region has continuously increased as the result of economic growth in Korea. The government has implemented a variety of policies to regulate the Capital Region as well as promote development of other regions, but with few results.

Korea's rate of population concentration in its Capital Region is 47%. When compared to Japan with 32%, Great Britain with 12%, and France with 19%, this indicates that the issue of population concentration in the Capital Region in Korea is serious. This concentration has been a great barrier to balanced regional development and national reconciliation by expanding the gaps between the Capital Region and other regions. In addition, the Capital Region itself is faced with many social issues including higher housing and land prices, traffic congestion, and environmental pollution.



In the 1970s, the government enacted the Special Law for Growth Management of the Capital Region, and implemented various policies to promote provincial development, but was unable to divert development to other regions.

In the latter part of the 1970s, President Park Chung-hee proceeded to build a temporary administrative capital in the Chungcheong area, which refers to Chungbuk, Chungnam and Daejeon, to resolve the capital concentration problem and enhance national defense, but the plan was halted with President Park's death. In the mid 1990s, as a part of the dispersion policy of the central administrative institutions, the Third Administrative Complex was built in Dunsan in the City of Daejeon, and 10 agency units of central government organizations were relocated.

Despite these efforts by the government, the concentration in the Capital Region has not shown signs of relief, and the construction of a new administrative capital in the Chungcheong area emerged as one of the important issues in the presidential election of 2002. President Roh Moo-hyun announced his vision of building a new administrative capital with 500,000 persons, with the groundbreaking ceremony scheduled to take place in 2007.

NEW ADMINISTRATIVE CAPITAL PLAN OF THE PARTICIPATORY GOVERNMENT

The Participatory Government of the Roh Moo-hyun administration, launched in February of 2003, first established an exclusive organization for promoting the new administrative capital. Planning and support teams for the new administrative capital were established in Chong Wa Dae (the office of the President) with approximately 30 specialists from the Ministry of Construction and Transportation and other related ministries, as well as the Korea Land Corporation and the Korea Research Institute for Human Settlements (KRIHS). As well, in order to facilitate concrete research on preliminary plans, criteria for location selection, and other issues of the new administrative capital, a research team was

formed consisting of specialized research institutes such as KRIHS, college professors, and specialists. Pursuant to the relocation schedule announced by the planning team of the new administrative capital, it will progress through preparation, planning, construction and relocation stages, and is planned to take tenancy of residents and administrative institutions by 2012.

First, the preparatory stage will be completed by the end of this year, and preliminary plans and location criteria are in preparation. Furthermore, the team plans to draft the "Special Act on the Construction of the New Administrative Capital," containing strategies for organization promotion, fund procurement, and real estate speculation prevention.

In the planning stage (2004~2007), the development site for the new administrative capital will be designated, and the institutions subject to relocation will be selected. As well, the parts of the development plan related to environment, transportation and other areas, will have been established, and the purchase of the site completed.

In the construction stage (2007~2011), infrastructure construction projects will be executed, including site build up, public building and road construction. In addition, legislative procedures concerning the legal status of the new administrative capital are scheduled for this stage. From 2012 onward, the central administrative institutions and residents will relocate step-by-step.

Relocation Schedule of the New Administrative Capital

Stage	Period	Tasks
Preparation	2003	· Preparation of basic plans and location criteria · Enactment of the Special Act on Construction of the New Administrative Capital
Planning	2004~2007	· Designation of the new administrative capital site · Selection of administrative institutions subject to transfer
Construction	2007~2011	· Capital site formation · Construction of basic facilities such as public institutions, roads, etc. · Enactment of the Act on the Legal Status of the New Administrative Capital
Relocation	After 2012	· Step-by-step relocation of central administrative institutions · Relocation of residents

MAJOR ISSUES FOR THE NEW CAPITAL

When the 'Special Act on Construction of the New Administrative Capital' is presented to the National Assembly in September of this year, the issues on construction of the new administrative capital are expected to be fully discussed. First, a variety of opinions will be presented on whether the construction of the new administrative capital would serve as the most effective policy means to lower population density in the Capital Region and promote balanced national development.

In addition, a discussion on whether it is reasonable to restrict candidate sites to the Chungcheong area would also be conducted. Along with this, whether the new administrative capital is to continue its role as the capital of a unified Korea in the future must be considered.

In more detail, the decision must be made whether the executive, legislative and judicial authorities should all be wholly relocated, or only partially, and if the relocation is to be done in stages. Further review should also be conducted to decide if these institutions should be assigned to one core area, or divided into several different areas. In terms of urban development, deep consideration should be made to the decision whether to develop the new capital as a new, independent city, or in the form of a new downtown core in a suburb of the existing city, the form of a "new town in town." Lastly, there is also a need to review plans to construct a new, self-sufficient city with 500,000 residents or more, or instead to build up a special administrative city with 100,000 to 200,000 residents.

For the past four decades, "Seoul-centered value" was formed in the rapid growth pro-

cess, and people in other regions have voiced considerable criticism, calling it the " Capital Republic. " Given this situation, relocation of the administrative capital is expected to create great opportunities for a new beginning in turning away from the one-way social and spatial systems centered on Seoul toward diversified systems for balanced national development. In the near future after completion of the national discussion process, the concrete appearance of the new administrative capital will be revealed.

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THE COMPREHENSIVE HOUSING POLICY PLAN (2003~2012)

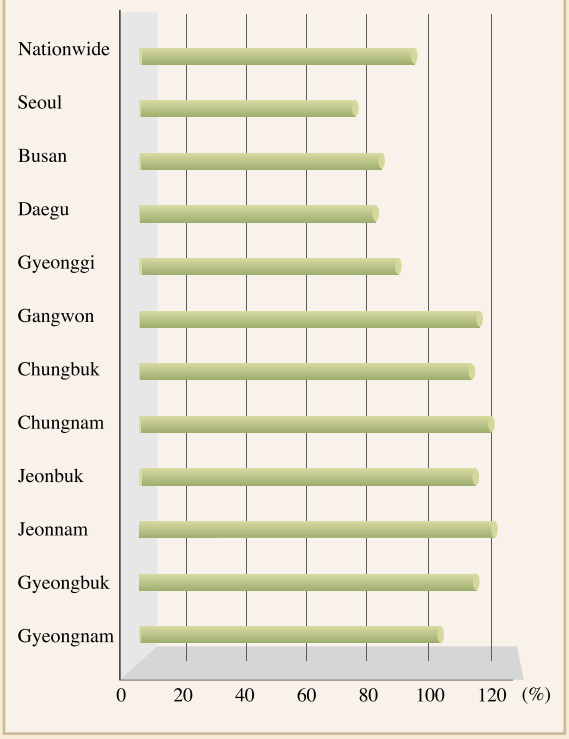
CURRENT HOUSING MARKET SITUATION AND HOUSEHOLD LIVING CONDITIONS

In the last decade, housing stock in Korea has greatly increased due to the policy for mass housing construction supply. The housing supply rate, defined as the percentage of the number of housing units to that of households, was 85% for the country as a whole in the mid 1980s. As of 2000, the supply rate had increased to 96.2%, and the modified rate of housing supply, defined as the percentage of the number of housing units including multi-family housing type to that of households, reached to 97.7%. Multi-family housing units are increasing in the Capital Region, which continues to suffer from a housing shortage, and thus has somewhat eased its housing problem.

Notwithstanding the housing stock increase, housing related problems still remain to be dealt with such as skyrocketing housing prices, the poor living environment of low-income families, so as to enhance housing welfare for the people.

The increase in housing prices is attributable to the imbalance of housing demand and supply in some regions such as the Gangnam area in Seoul, as well as factors of unrest in the financial market such as low interest rates and excess liquidity. Apartment prices in Seoul have increased over 60% since 2001. According to a survey in 2000, 3.34 million households, that is, 23.4% of the total, are still living in substandard housing units and suffering from poor living conditions and excessive housing prices. Steep rises in housing prices negatively affect equality of household incomes, and the Gini coefficient that represents the degree of skewness of housing asset distribution is 0.51, much higher than the Gini coefficient representing income distribution.

Housing Supply Rate in Korea



PURPOSE AND DIRECTION OF COMPREHENSIVE HOUSING POLICY PLAN

Based on the background mentioned above, the Korean government has established a comprehensive housing policy plan, which will guide housing policy for Korea for the next 10 years. This plan aims to improve housing welfare and to curb social and regional inequality in terms of housing allocation and

access. The policy direction to promote these goals is formulated as follows:

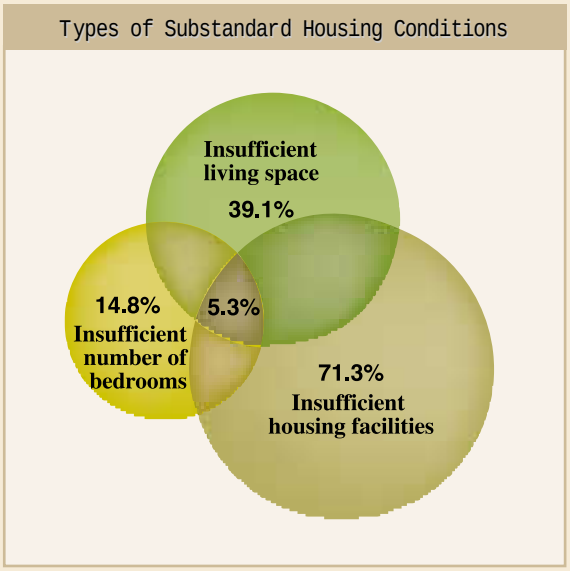
- Sustainable housing supply to cope with housing demand
- Housing policy focused on supporting low-income households with the expansion of public housing supply
- Maintenance of a stable housing market and fair market values
- Efficient utilization of housing resources with coordination of housing construction supply and housing renovation

HOUSING CONSTRUCTION SUPPLY

The comprehensive housing policy plan (2003 ~ 2012) to ease housing shortage aims to raise the housing supply rate to 116.7% by the year 2012, which would place Korea at the same level as that of developed countries. It also plans to increase the number of housing units per 1,000 persons to 320. The housing rate in the Capital Region is expected to increase to 112.4%, thereby reducing the imparity of housing demand and supply.

For housing construction, 23.3 square km of housing sites in the Capital Region and 19.6 square km in other regions are planned for acquisition by the public sector, and housing demand in the central district of the Capital Region is to be distributed to the s outhern and northern districts for the purpose of redu

Types of Substandard Housing Conditions



cing the housing shortage and encouraging balanced housing development. It is necessary to promote environmentally friendly, low-density development of housing sites, develop more large-scale housing sites and establish an individual development plan, so as to enhance resident self-sufficiency.

In addition, based on the Comprehensive Housing Policy Plan it is required to establish local housing policy plans and to put forth efforts to increase the effects of housing policy by supporting the strengthened role of local authorities well acquainted with regional conditions.

HOUSING ASSISTANCE FOR LOW-INCOME HOUSEHOLDS

One of the core issues in the Plan is to promote housing welfare for low-income households. In this regard, housing assistance is to be concentrated on households with substandard housing conditions, which will be supported by public housing policy. It is necessary to divide these households into direct and indirect assistance classes in order to provide efficient housing assistance, and to establish various housing assistance plans that take into account the reasons behind households living in substandard housing conditions, housing type, income, and so on; housing assistance, public housing construction supply, assistance for housing expense or housing renovation, and other measures may be suggested.

To improve public housing supply, firstly, one million public rental housing units are planned for construction in the coming ten years, and these will be distributed based on regional housing demand. Also, a program to make available various types of public housing units to low-income households according to housing type and locational preference will be instituted.

Expansion of the scope of housing assistance in the National Basic Living Security Act is expected, as well as promotion of a plan to provide housing expense assistance by way of housing vouchers if housing expenses for minimum standard housing exceed 30% of income. It is also planned to provide financial aid and tax benefits to low-income households in possession of dilapidated housing requiring replacement, and to actively promote housing renovation through housing partnerships between the public and private sectors.

STABILIZING THE HOUSING MARKET

It is critical for national housing welfare to maintain housing market stability. The government plans to continue housing construction, so as to ease the imbalance of housing demand and supply in the Capital Region, and to establish stable housing market settlements by securing public rental housing stock. By doing so, we can achieve stable housing prices through stabilization of the level of jeonse (a tenure system in Korea, whereby the tenant makes a lump sum deposit with the landlord to rent housing and the deposit is refunded when contract expires. The tenant does not pay a monthly rental fee and instead gives up the interest on the deposit.). In addition to strategies to deal with housing supply, it is also necessary to establish a plan to control housing demand. The government plans to promote the development of housing sites with self-sufficiency, and improvement of the traffic network and living conditions in existing districts, as well as establish a living environment system in each neighborhood unit so as to distribute excessive housing demand in Gangnam and other districts in Seoul.

Aside from the strategies mentioned above, it is necessary to restrict speculative and excessive competition for housing purchases and tighten management and control of the housing market. The planned introduction of a housing warranty system, housing performance indicators, and other measures should lead to stronger consumer protection.

In order to minimize housing market instability caused by external factors such as the financial market, the government plans to stimulate indirect investment and promote funding of housing construction by absorbing market liquidity. Along with this, the government plans to support the secondary mortgage market and convert housing fund loans with short-term floating rates into long-term loans, thereby reducing the impact of an unstable housing market on the general economy.

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OPENING OF THE SEOHAEAN EXPRESSWAY MAKES A BIG IMPACT

The Seohaean (western coast or Yellow Sea coast) Expressway, with a total length of 353km and running south to north along the western coast of Korea, was completed at the end of 2001. This expressway, starting from Incheon, passes through Dangjin, Seocheon, Gunsan, and Muan, and ends in Mokpo. The opening of the Seohaean Expressway has reduced the travel time between Incheon to Mokpo to four hours from the previous seven hours.

The Seohaean Expressway, as one of main axes in the national traffic network, accommodates the increasing demand for transportation in the Capital Region, and promotes development of major regions along such as the Seohaean industrial cluster. In addition, it plays a role in improving the national logistics system as well as promoting balanced national development.

In particular, the western coastal region, through which the Seohaean Expressway passes, faces China across Yellow Sea. It is expected that harbors, industrial clusters and cities such as Dangjin, Gunsan, Janghang and Mokpo located along the Expressway will play a central role in trade between Korea and China.

IMPACT ON PRODUCTION, INCOME AND LOGISTICS COSTS

According to a recent survey, the opening of the Seohaean Expressway has stimulated a record 9.322 trillion won in additional production, and will potentially have huge impact on domestic economic growth.

It is expected that the resulting reduced transport times could lower total logistics costs by as much as 10,140 billion won by 2020. Transport time has decreased especially in the transportation of freight and agricultural, livestock and marine products. The decrease in logistics costs is estimated to be less than

2% in 36% of all surveyed industries, 2~5% in 33%, and 5~10% in 23%.

IMPACT ON INDUSTRY, TRANSPORTATION, TOURISM AND SETTLEMENT SYSTEM

The survey showed positive effects from the opening of the Seohaean Expressway as follows: improvement of SOC (Social Overhead Capital) facilities, reduction in raw materials and logistics costs, and invigoration of development in the surrounding areas.

In terms of utility costs paid by enterprises using the Seohaean Expressway, the costs to sales ratio before the opening was 1.2% in electric power, 0.1% in water use and wastewater disposal, and 0.03% in waste disposal in 2001. In the first half of 2002, the costs to sales ratio was 0.4% in electric power, 0.1% in water use, 0.04% in wastewater disposal, and 0.01% in waste disposal, indicating significant secondary benefits from the opening of the expressway.

Furthermore, the expressway is expected to lead to increased investment in the private sector through a variety of development projects. In particular, entrepreneurs are now showing interest in projects for industrial distribution complexes and tourism sites. Such development projects will likely be promoted centering around interchanges.

As more development axes are established or rearranged nationwide, traffic patterns will undergo change as well. The traffic volume passing through main arterial roads, such as National Roads No. 45 and No. 36, has been increasing, and the traffic pattern shift is also occurring on other national roads, expressways, and regional roads.

The opening of the expressway seems to be contributing to tourism development of marine resources as well as cultural and historic sites. The number of visitors has been increasing to tourism sites around the Seohaean Expressway, while the number is decreasing for nature-based tourism sites in inland areas. In particular, a number of tourists from Seoul and the metropolitan area have visited the tourism sites around the expressway, exceeding 40% of the total number of visitors.

Seohaean Expressway Route

TASKS AHEAD

In addition to the positive effects of the expressway, it is necessary to consider how to deal with its negative effects.

Specific plans such as provision of public facilities are required for surrounding regions, which suffer from weak economic independence. A town with a population of less than 30 thousand will likely become a much smaller town, and lose its specialized characteristics.

In this regard, it is necessary to allocate specific functions and characteristics to each small and medium living sphere, and establish a foundation for self-reliant growth with cooperation networks between regions and spheres. It is necessary to foster region-specific industries as strategic industries, and to develop the high value-added agricultural and fisheries industries, which are presently the basic industries of the western coastal area.

" Forward and backward linkages " which refer to the complex and overlapping interlink-

ages between industries, should be established in order to attract new industries such as mechatronics, theoretical chemistry, advanced materials and bio-industry. In addition, it is necessary to promote central tourism sites in each living sphere, for specialization as hubs of marine leisure, four-season experience tourism, etc.

Specific plans need to be generated to prevent disorderly development and environmental pollution caused from the stimulation of development in the areas surrounding the Seohaean Expressway. In the western coastal region, where there is great contrast between high and low tide, beaches are losing sand and are being contaminated from a variety of developments and construction of tide embankments for land reclamation projects. Therefore, it is critical to establish comprehensive strategies for management of the landscape and beach sand as well as prevention of environmental pollution through cooperation between private organizations, NGOs, and central and local authorities.

In particular, the opening of the expressway may affect the way of thinking and values held by people, becoming factors that have the potential to change regional communities. In this regard, a comprehensive plan is currently being formulated to cope with these changes.

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Model Projects for the New Urban Planning System

In the year 2002, the Korean government consolidated the“ National Land Use and Management Act ”and the“ Urban Planning Act ”into the “ National Land Planning and Use Act (NLPUA) ” to improve the land use control system. Because non-urban areas have been developed without specific long-term planning system, the NLPUA was established to systematically integrate and manage non-urban areas within the urban planning system. Non-urban areas are now included in the urban planning system, and considered to be the same as urban areas. It is possible to create concrete urban planning for non-urban areas such as counties (called“ gun ”in Korean), which were previously excluded from the urban planning system, after going through the Land Suitability Assessment process. Model projects have established the first basic urban plan for non-urban areas such as Paju-si (a small city) and Namhae-gun (a county) with the NLPUA.

These projects are to establish long-term development plans for Paju-si and Namhae-gun following changes in national and regional conditions in the 21st century, and formulate a basic urban plan as an example corresponding to the readjustments of the legislative framework of national land planning. They will guide urban management by administrative authorities not only by reporting the region’s specific urban concerns but also by suggesting future directions for urban activities. In the meanwhile, the Land Suitability Assessment (LSA) is to define and classify land use according to its physical, social, economic, spatial and geographical elements. It is to be used as basic data to decide which land area is to be preserved and which land area is to be developed for urbanization.

Paju-si and Namhae-gun have unique characteristics and specific urban problems. In the case of Paju-si, located in the Capital Region, its urban and non-urban areas co-exist. It is critical to evaluate external pressures and the inherent features of Paju-si, and to concentrate on formulating an environmentally friendly urban plan. Namhae-gun is located on an island with fishery and agricultural characteristics. For the LSA of Namhae-gun, it is necessary to evaluate high-value marine resources, landscape, relevantly decreasing population, and its stagnant regional economy. The Namhae-gun and Paju-si Basic Plans and LSAs are planned for completion by February and September 2004, respectively.

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NATIONAL SPATIAL STRUCTURE FOR ENERGY SAVING

While there are all kinds of energy saving measures which should be implemented in each household and industry as well as in the transportation sector, in response to the“ high oil price period ” caused by the ratification of the Kyoto Protocol to the United Nations Framework Convention on Climatic Change and the rapid increase of oil prices, fundamental measures for a long-term response must be taken, so as to promote national and urban development.

There is a close relationship between national spatial structure, transportation system and energy consumption. Transportation energy consumption has increased to 22% (2001) of the nation's total energy consumption, and so there is a need to seek national development for energy saving by linking national and urban planning with the transportation system. In particular, in relation to the national policy goals of “ diffusion of power and balanced national development, ”and spatial reorganization of the national territory such as the“ relocation of the administrative capital ”of the current“ Participatory Government, ” there is a need to scientifically and systematically review the spatial disposition of population and economic activities, as well as the transportation system, to minimize transportation energy consumption and seek fundamental policy measures.

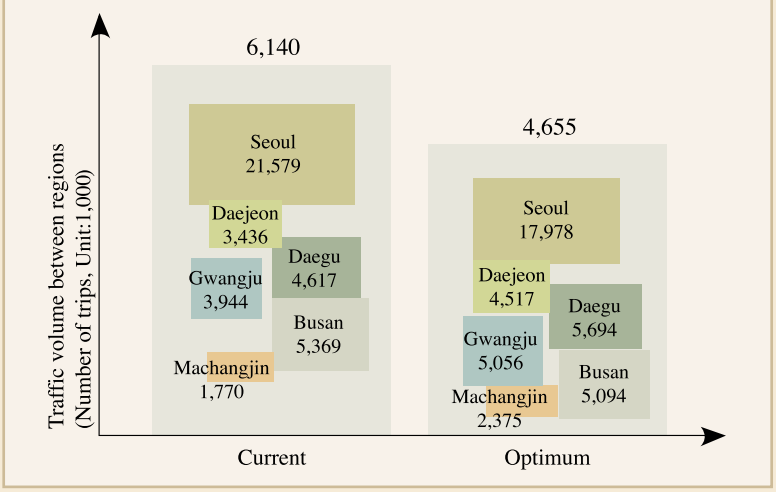
As such, interest in‘ Mobility, Space and Energy ’ has steadily increased since the mid 1960s on the basis of efforts of scholars such as Newman, Kenworthy and Rickaby. Factors that affect transportation energy consumption are population density, population spatial disposition, etc. Also, the concept of “ decentralized location of compact cities ”was presented as an example of national and urban spatial structures for energy saving through case studies of the world's major cities.

After the UNCED in 1992, the EU and Japan have been discussing national spatial structure for energy saving through reorganization of national and urban spatial structures and improvement of the transportation system as tenets of sustainable development.

TRANSPORTATION ENERGY SAVINGS FOLLOWING MULTIPLE DIVERSIFICATION OF NATIONAL LAND USE

Under the premise that national spatial structure for energy saving involves“ decentralized location of compact cities, ”an attempt can be made for verification analysis with the area of national territory on how city size, population density, spatial disposition of population and other factors affect traffic volume between regions and energy consumption. Seventy-seven cities from every part of the country were divided into 6 metropolitan areas - the Capital Region, the Daejeon region, the Daegu region, the Gwangju region, the Machangjin (Masan · Changwon · Jinhae) region, and the Busan region. A comprehensive analysis of the variables of energy consumption for road transportation per person, urbanization rate of each region,

Changes in Transportation Energy Consumption by Population Distribution



population density, urban dispersion, and other factors was conducted.

To test the premise that the local cities of Korea have a certain level of self-sufficiency in terms of economy and culture, and that dispersing the population appropriately would be effective in transportation energy savings, confirmation can be made through simulation analysis.

It is projected that traffic volumes between the regions would be reduced. If we distribute approximately 16.7% of the population from the Capital Region and 5.1% of the population from the Busan region into the Daejeon, Gwangju, Daegu and Machangjin regions, it is expected to reduce traffic volumes between regions by approximately 26.3%.

PRACTICAL STRATEGY FOR NATIONAL SPATIAL STRUCTURE FOR ENERGY SAVING

In order to establish a national spatial structure for energy saving, some practical strategies should be followed:

First of all, we should not pursue population distribution policy without first developing self-sufficient cities. Before population dispersion, we must develop cities with economic and cultural self-sufficiency, and policy to strengthen connectivity between cities on the basis of the size and rank of each must be pursued with priority.

Secondly, we need to properly distribute population in the Capital Region and central functions of the country to other regions. The unilateral system of concentration of population and important functions in the Capital Region should be reorganized into a multiple diverse system to achieve balanced national development and energy savings at the same time. Key administrative functions should be relocated into the central location of each area, and secondary central locations with functions and facilities to support these primary functions should also be established.

Finally, we must prepare methods and procedures to integrate land use planning and transportation policy. There is a need to recognize that it is important to improve the policy on land use planning, to develop transportation policy as well as to save transportation energy and ease traffic congestion. For new developments such as construction of a new city, capital relocation, and distribution of central and administrative functions, it is necessary to prepare strategic planning guidelines to minimize transportation energy consumption in consideration of changes in transportation demand and supply.

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GEOGRAPHIC INFORMATION INFRASTRUCTURE FOR BALANCED REGIONAL DEVELOPMENT

Thanks to the progress of informatization, the importance of knowledge based on information infrastructure has been emphasized. Most local governments have taken interest in informatization pertaining to their daily work.

Until recently, most aspects of informatization in local governments were concentrated in attributable data such as statistics and documents. However, a recent trend has been to consolidate spatial data and attributable data, and thus, Geographic Information System (GIS) has become a crucial means for local governments to improve its diverse internal operations and service to citizens. GIS is emerging as new Social Overhead Capital (SOC) in information societies.

Since the First Master Plan of National Geographic Information System was established in 1995, many GIS projects, such as the Land Management Information System and Urban Utilities Management System, have been launched by many local governments.

Despite the rapid spread of GIS projects in local governments, most small cities and rural counties (called“ gun ”in Korean) are only in the initial stages of GIS or have yet to introduce GIS. In particular, because rural counties are excluded from the central government's NGIS policy, the foundation for GIS in those local governments is very weak.

Geographic Information Infrastructure (GII) is a very important factor in the success of GIS projects

of local governments. Without this infrastructure, their efforts to develop GIS will encounter many difficulties.

CONCEPT AND MEASUREMENT OF GEOGRAPHIC INFORMATION INFRASTRUCTURE

From a national perspective, Geographic Information Infrastructure has been defined as National Spatial Data Infrastructure (NSDI) for the realization of National Information Infrastructure by the government of the United States in 1994. Nevertheless, the concept of GII is unfamiliar to local governments. For the purpose of measuring the present level of GII and analyzing the differences in GII level between local governments in Korea, a model of GII was developed.

The GII measuring model was constituted with 5 factors; institutional base, GIS Database, GIS Application, H/W and S/W for GIS, well trained human power and GIS organization. Institutional base refers to the establishment of a master plan for GIS projects and regulations on building and operating GIS applications in local governments.

Local governments in Korea are composed of 81 cities and 84 rural counties. Level of GII can be differentiated by local government size. Thus, we divided 165 local governments into two groups: large and medium-sized, and small cities. Then, we measured the difference in GII between these two groups, and we reviewed the difference in GII between the Capital Region and non-capital regions.

CURRENT SITUATION

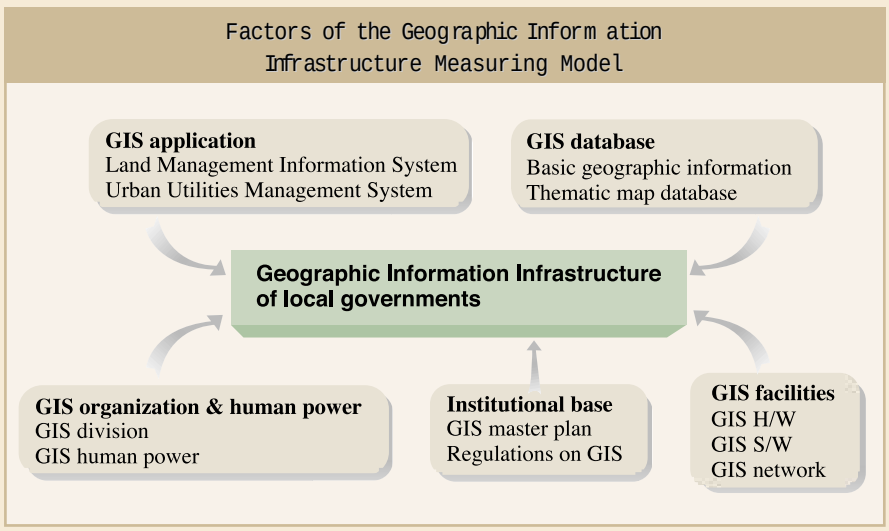
Based on the analysis, there is a huge difference in GII between large and medium-sized cities and small cities. Small cities have a weak base compared with large and medium-sized cities. In addition, there is also significant difference in infrastructure between the Capital Region and non-capital regions.

Large and medium-sized cities have a comparatively higher level of GII. As an example, although all the large and medium cities had set up a master plan for GIS, it was very difficult to find small cities which had done the same. The number of GIS database and GIS applications in large and medium-sized cities was more than 5 to 10 times that of small cities. As such, the conclusion is that there are severe level discrepancies in GII between large and medium-sized cities and small cities.

It was of particular interest to note that the level difference of GII of small cities in the Capital Region is much higher than that of small cities in non-capital regions. These level differences can be seen in the GIS master plan, GIS specialized division, GIS database, and GIS application.

These regional differences may cause a widening of the digital divide and regional inequalities. At the same time, the weakening of GII may become an obstacle to promoting NGIS projects, and deteriorate the public services of local governments.

These level differences among local governments create regional inequalities in local governmental administrative services for their residents. Hence, it is an urgent necessity to diminish these differences in GII, and we should develop policy to equalize infrastructure across regions and regardless of size.



STRATEGIES FOR IMPROVEMENT

The central government's policy on the National Geographic Information System has focused on encouraging local governments to accelerate the spread of GIS. As a consequence of that policy, a severe regional gap in GII level has developed between large and medium city governments and small city governments.

Level of Geographic Information Infrastructure by Size of Local Government

	Capital Region		Non-capital region	
	Large · medium cities	Small cities	Large · medium cities	Small cities
GIS master plan(%)	100.0	73.7	100.0	37.8
GIS specialized division(%)	100.0	89.5	100.0	71.1
GIS database(No.)	6.0	4.1	5.9	4.8
GIS S/W(No.)	43.1	4.9	25.3	2.0
GIS application(No.)	6.1	1.1	6.6	1.7
Server/WS(No.)	12.4	2.5	12.1	1.5
Other facilities(No.)	2.8	2.4	11.1	1.7

We suggest that the central government institute specific policy supports to improve the level of GII in small cities, counties, and especially, non-capital regions. NGIS policy direction should emphasize the importance of this infrastructure in small local cities and counties. The central government would have to arrange a support system for the relatively poor local governments. However, the demands for GII are not the same for all local governments. First of all, we need to set up a minimum level of infrastructure. If a small city in a non-capital region falls below the minimum level, the central government should offer subsidies and provide other systematic supports.

Next, NGIS policy must include a special training center to offer GIS education for local government employees. Anyone desiring to learn GIS could be educated at this center. Also, the central government would have to stress advertising the NGIS project to enhance GIS in the minds of local government political leaders.

Furthermore, the central government can offer incentives to upgrade GII in small cities in non-capital regions, while provincial governments (called "do" in Korean) would provide financial, technical and institutional supports. Lastly, we suggest that local governments themselves attempt to upgrade their abilities by recognizing the numerous benefits of stronger Geographic Information Infrastructure.

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International Cooperation

Throughout the first half of this year, a wide variety of delegations from overseas visited the Korea Research Institute for Human Settlements (KRIHS) for the promotion of international research exchanges with their countries. They expressed deep interest in the research activities conducted by KRIHS, and asked for close, active, and sincere relations, so as to continue and enhance fruitful cooperation.

Exchange MOU with Mongolia

On May 20, 2003, Dr. Shairai Batsukh, the Chairman of Administration of Land Relations, Geodesy and Cartography (ALRGC) of Mongolia, visited KRIHS to discuss further cooperation and the direction for national territorial planning and land use and management of Mongolia.

Dr. Kyu-Bang Lee, President of KRIHS, and Dr. Shairai Batsukh of ALRGC signed and exchanged a Memorandum of Understanding (MOU), a contract-like document that creates an

official alliance between the two organizations and provides a formal agreement to work towards common goals, and share interest in future joint activities. The two parties committed to three types of collaboration: 1) Staff exchanges and visits to assist technology transfer in research and training; 2) Collaborative research in the fields of comprehensive territorial planning, land use and management, and other fields of mutual interest; and 3) Assistance with research materials and information.

Finally, Dr. Shairai Batsukh thanked KRIHS for its in-depth introduction and presentation on land management operation in Korea and hoped for continuous support and cooperation from KRIHS.

Dr. Kyu-Bang Lee, President of KRIHS, shakes hands with Dr. Shairai Batsukh, Chairman of ALRGC, after signing an agreement on research exchanges between the two organizations at the KRIHS building.

Ministry of Land and Resource of China

On February 20, 2003, thirteen delegates from China's Ministry of Land and Resources (MLR) visited KRIHS to reinforce the cooperative relationship between the two organizations. A luncheon held by KRIHS was followed by a lecture on the comprehensive national territorial management and related institutional systems in Korea.

Both parties agreed upon further intensification of cooperative ties between the two countries and expressed hope that there will be more collaborative meetings such as this in the near future.

High-ranking officials from Sri Lanka

A delegation from Sri Lanka visited KRIHS to exchange views on the territorial development strategies of Korea on January 8, 2003. The twelve officials in charge of national planning, public finance and budget of Sri Lanka discussed issues relating to national development with the research staff of KRIHS.

The meeting with the KRIHS President was followed by a presentation given by Dr. Lee, Won-Sup on "The Fourth Comprehensive National Territorial Plan in Korea" as well as a "question-and-answer" session on national development in Korea.

Korean and Japanese student delegation

On March 12, 2003 twenty-five students from Kunkook University in Korea and twenty-five students from Meikei University in Japan visited KRIHS. The delegation's visit to KRIHS was part of a study tour to learn about the national territorial development processes of Korea.

During their visit, Dr. Lee, Dong-Woo introduced organization and its research activities and give a presentation on "The Fourth Comprehensive National Territorial Plan in Korea" to the delegation. Each of the students, who are majoring in real estate studies, showed his or her appreciation for the invaluable information obtained during the visit.

Delegates of the Ministry of Land, Infrastructure and Transport Government of Japan

A delegation from the Ministry of Land, Infrastructure and Transport Government of Japan visited KRIHS on March 12, 2003. The Japanese officials, in charge of the national territorial development plan of Japan, discussed issues relating to territorial development, national long-term vision, and land management knowledge-sharing with the research staff of KRIHS.

Most importantly, the delegation's key interest was on sustainable land use in Korea's national territorial planning and management. In the last part of the meeting, the Japanese delegates expressed hope for increased future cooperation and opportunities to be shared between the two organizations.

NEWS & ANNOUNCEMENTS

The Northeast Asia Research Team held several forums on developments and cooperation in Northeast Asia.

On February 12, the theme was ' The State and Forecast of Korea-Russia Train Cooperation, ' presented by Seo, Hun-Tack from the Ministry of Construction and Transportation.

On Feb. 14, ' Spatial Effects of Regional Integration and Its Implications for Regional and Transportation Policies ' by Kim, Beom-soo from USC.

On April 22, ' Korea-Russia Economic Cooperation and Siberia/Far East Russia ' was addressed by Han, Jong-Man from Baejae University.

On May 27, ' Vietnam Reform and Openness Policy and the State of Industrial Complex ' by Kwon, Yul from the Korea Institute for International Economic Policy.

The forums hosted by KRIHS to provide precious opportunities to share attendants ' knowledge and opinions on issues concerning Northeast Asia.

KRIHS organized a workshop on Innovative Clusters and Regional Economic Development: International Perspectives. The workshop was held for two days on Feb. 13 and 14. The participants were 12 Koreans and 5 foreigners who came from Canada, Italy, German Thailand and the OECD. It was composed of five sessions: the Present Condition of Clusters and Main Policy, Cluster Formation in Domestic and Foreign and Development Cases 1, 2, and 3, as well as General Discussion. Jean Guinet from the OECD opened the workshop with a paper and closed it with a speech.

KRIHS held the International Symposium on Environmental Management of Siwha Lake on March 27 in collaboration with the Korea Water Resources Corporation.

The Symposium was composed of 5 lectures with almost one hundred people from various academic and civil organizations and local governments. The five main speakers, from Germany, Japan and Korea, presented case studies on lake preservation and development from each country. Then the floor was opened for a discussion on how to preserve and manage Siwha Lake.

KRIHS has embarked on a research project to create comprehensive geographic records of spatial aspects as well as natural and cultural conditions of individual regions, which are called " Jiji " in Korean. It formed a working group for this long-term research project in March, 2003, and held a forum with relevant experts to discuss the contents, research trends, and directions of the project.

As a government-sponsored research institute, KRIHS is called upon to make efforts to analyze and record Korean history related to economic and geological changes of national territory for the last five decades. KRIHS plans to organize, in or around October, 2003, the " National Territorial Jiji Research Forum " with concerned expert groups, such as the Korean Geographical Society, as well as local historians and cultural organizations, and hold quarterly meetings for the national geographic survey. KRIHS is expected to play a central role in the research project on comprehensive geological records.

The GIS Research Center has completed its " Research on GIS Educational System, " outsourced by the Ministry of Construction and Transportation. This research project focuses on the " On-line GIS Educational System through Internet " and " Introduction of GIS Professional Certification. "

GIS Research Center held a workshop, on April 17 - 19, in order to learn from the experiences of other research institutes currently providing GIS on-line education, and to collect opinions of experts in the public, private and academic sectors.

KRIHS plans to provide a web service for GIS on-line education from July 1, 2003, that reflects the results of the workshop. And it has decided to give careful consideration to the introduction of the GIS Professional Certification.

KRIHS and the Institute of Geographic Science & Natural Resources Research of China held the Joint Seminar on Regional Development of the Yellow Sea Coast from May 20 to 25 in Beijing, China. This seminar was organized to review the results of the research project on Yellow Sea coast development conducted by the two institutes, and suggest future desirable directions.

The Korean government began the establishment of the regional development plan of the Seohaean (western coast or Yellow Sea coast) Expressway in May, 2002. The plan was formulated by KRIHS in collaboration with the Institute of Geographic Science & Natural Resources Research of China and the Nomura Research Institute of Japan. With the valuable opinions presented during the seminar, KRIHS plans to report the research results at the end of July, 2003.

KRIHS organized a lecture on Foreign Countries ' Capital Relocation Case Studies. The lecture was held under the joint auspices of KRIHS and the Korea National Housing Corporation (KNHC) on May 28 at the Conference Hall in KNHC, Sungnam, Korea. Dr. Charles Steger, the president of Virginia Tech. of the USA was invited as a lecturer. Cases from Washington D.C., Brasilia, Canberra, Islamabad and several other foreign capitals were presented and discussed, and suggestions were made concerning the complex issues surrounding relocation of the Korean capital.

The Private Infrastructure Investment Center of Korea (PICKO) hosted its second domestic consultative meeting targeted toward foreign investors on June 26. Its goal was to promote more foreign investment in Korean infrastructure through working together to identify difficulties and create solutions, gathering feedback on the investment process, and promoting mutual understanding and improved communication between investors, government officials, and construction companies.

The chair of the meeting was PICKO managing director Heung Soo Kim, Ph.D., and the keynote speech was given by Mr. James P. Rooney, president and CEO of Market Force Company, a worldwide consulting company. Four presentations were made by concessionaires of domestic infrastructure projects, including Veolia Water, Hyundai E&C, Bouygues, and Shinhan Macquaire Financial Advisory.

The meeting concluded with an open floor discussion on ways to improve the PPI project implementation process in Korea with a panel of distinguished infrastructure experts from national government agencies and domestic and foreign firms.

It is hoped that the results of this meeting will pave the way for the cultivation of a deeper and stronger investor base for Korean infrastructure projects, as well as improvement of the entire domestic infrastructure implementation system.

KRIHS held a joint workshop on urban and regional planning on June 30 in collaboration with Tsukuba University in Japan. The workshop was composed of 6 main speakers and was proceeded in 5 sessions including opening ceremony, land use management, housing land development, metropolitan policy, and discussion. It was the second workshop after establishing a sisterhood relationship in research between two organizations.

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The Korea Research Institute for Human Settlements is a non-profit research institution established in 1978.
It specializes in the fields of national planning, housing and land policies, transportation, regional development, urban design, environment, and construction economy.
KRIHS seeks to improve knowledge and understanding of the conditions and problems of the nation's resources and their interaction with people, to assist the government in formulating long-range development plans and make policy recommendations on related matters, to collaborate with the international research community in solving theoretical and practical problems concerning human settlement issues and planning, and to provide research expertise and consulting services as well as training programs for foreign governments and institutions.

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