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GREENBELT ZONE REGULATIONS ARE RELAXED ACROSS THE COUNTRY

WHY RELAXATION?

The system of development-restricted zone (greenbelt zone hereinafter) in Korea is referred to as one of the most successful urban policies in the world, which was introduced to Korea in 1972 after the model of greenbelt in England. It has contributed to preventing the disorderly expansion of cities and securing space in preparation for the future urban development by preserving the natural environment in suburbs. However, it is also true that it created many problems in the course of implementation due to its rigid application neglecting the rapidly changing social trends in Korea. As the designated greenbelt zones often included large settlement areas such as villages, it has caused lots of inconveniences to the residents living there. The strict greenbelt regulations that have long been in place also increased residents' complaints on the infringement of private property right and inconveniences in daily lives. In particular, as development was allowed in the quasi-agricultural zone that accounted for 26% of national land starting from the mid 1990's, residents living in greenbelt zones felt so much deprived that they even organized a group to put their demands to political issue before the 1997 presidential election. In December 1998, according to the decision of the Constitutional Court that infringed property rights within the greenbelt zones should be compensated, the need for the overall reconsideration of the greenbelt system itself was raised.

WHAT ARE MAJOR CHANGES?

The Ministry of Construction and Transportation responsible for the designation of greenbelt zones organized a 23-member council for the improvement of the greenbelt system in 1998 consisting of experts, environmental organizations, residents and government officials. The council deliberated over 8 months and came out with a framework. Based on it, the Ministry of Construction and Transportation announced comprehensive measures for the adjustment of greenbelt zones in July 1999. Major changes are as follows. Firstly, the designated greenbelt zones will be completely lifted in 7 small and medium-sized cities such as Chuncheon City in which there is little pressure for urbanization and little possibility for environmental deterioration. Secondly, the greenbelt zones in 7 metropolitan areas will be partially deregulated according to the results of environment impact analysis and a metropolitan plan. In addition, areas irrationally included in greenbelt zones such as large settlement areas will be free from regulations.

Seven Small and Medium-sized Cities for Overall Deregulation

Municipal governments in the 7 small and medium-sized cities for the complete lifting of greenbelt zone regulations should work on the revision of urban plans for their cities. In case of Jeju and Chuncheon, they have lifted the whole set of rules concerning greenbelt zones upon the reestablishment of urban plans. Meanwhile, Cheongju, Yeosu, Jeonju, Jinju and Tongyeong plan to map out their own blueprints by the first half of 2002 at latest.

In fact, many people were concerned that municipal governments would project large-scale development in deregulated greenbelt zones. However, when looking into the urban plans of Jeju and Chuncheon cities, most deregulated greenbelt zones are designated as pre-

Greenbelt zones in Korea			
	Region & Cities	Area (Km²)	Percentage(%)
Seven metropolitan cities for partial deregulation	Seoul Capital Region	1,566.8	29.0
	Busan	597.1	11.0
	Daegu	536.5	10.0
	Gwangju	554.7	10.3
	Daejeon	441.1	8.2
	Ulsan	283.6	5.2
	Ma-Chang-Jin	314.2	5.8
	Sub-Total	4,294.0	79.5
Seven small and medium-sized cities for overall deregulation	Jeju	82.6	1.5
	Chuncheon	294.4	5.4
	Cheongju	180.1	3.3
	Jeonju	225.4	4.2
	Jinju	203.0	3.8
	Tongyeoung	30.0	0.6
	Yeosu	87.6	1.6
	Sub-Total	1,103.1	20.5
Grand-Total		5,397.1	100.0

served green space or natural green space and nothing that arouses a concern is found. It is the result of the municipal governments' efforts in establishing environment-friendly urban plans through collecting opinions of environmental organizations and expert groups.

Seven Metropolitan Areas for Partial Deregulation

The introduction of a metropolitan plan system

Many experts in urban planning argued that greenbelt zones should be adjusted considering the green spatial structure in cities as a greenbelt zone has been designated primarily to prevent conurbation. In response to this, the government commissioned the study of the adjustment of greenbelt zones to the Town & County Planning Association (TCPA), England in 1999 and was advised that each metropolitan government establish a metropolitan plan to adjust greenbelt zones in their regions. Accepting this advice, the Ministry of Construction and Transportation adopted the metropolitan planning system in 1999 as a higher-level plan to city mater plan. The metropolitan plan commands spatial restructuring strategies by means of development axes, transport axes and green space axes in adjusting greenbelt zones.

The process of designating a potential deregulation zone

As a preliminary work for the adjustment of greenbelt zone, the government carried out environment impact analysis in greenbelt zones between 1998 and 1999. All 6 items such as altitude, gradient, flora, agricultural aptitude, forestry aptitude and water quality were analyzed to classify greenbelt zones into 5 grades. Grades A and B were given to the category that had so high an environmental value that the designation of greenbelt needed to be maintained, while Grades D and E to the category that had relatively little value in terms of environment. Then, potential deregulation zones were decided by the following principles considering the results of environment impact analysis:

- First, greenbelt zones with Grades D and E will be primarily considered for potential deregulation zones. When designating potential deregulation zones, they should be collectivized and smoothened to minimize environmental deterioration.
- Second, spatial restructuring strategies used in metropolitan plans such as development axis and green space axis should be utilized.
- Third, large settlement areas should be designated as priority deregulation zones in order to eliminate inconveniences to residents.
- Fourth, the criteria for the Seoul Capital Region should be differentiated from those for other cities. The opinions of local people should be fully reflected to the adjustment of greenbelt zones through deliberate discussion with each metropolitan government.

As the distribution of greenbelt zones graded in D

The coverage of each metropolitan area			
	Population (thousand)	Area (km^2)	Administrative districts
Seoul Capital Region	21,900	11,754	Seoul, Incheon, 31 cities and counties in Gyeonggi province
Busan[1)]	4,340	1,708	Busan, Yangsan, Gimhae
Daegu	3,110	4,978	Daegu, 7 cities and counties in North Gyeongsang province
Gwangju	1,660	2,995	Gwangju, 5 cities and counties in South Jeolla province
Daejeon[2)]	2,580	5,122	Daejeon, 4 cities and counties in South Chungcheong province, 4 cities and counties in North Chungcheong province
Ma-Chang-Jin[1)]	1,460	1,614	Masan, Changwon, Jinhae, Gimhae, Ham-an
Ulsan	1,056	1,056	Ulsan

1) Gimhae city is included in the Busan metropolitan area as well as in the Ma-Chang-Jin metropolitan area.
2) Some parts of Cheongwon and Boeun counties, North Chungcheong province in the Daejeon metropolitan area also belong to the Cheongju Metropolitan area

and E showed a great variation among 47 cities and counties, a total area of greenbelt zone adjustment was allocated to each city and county considering their own circumstances. Furthermore, computer simulation was utilized for selecting candidate potential deregulation zones. In addition, the criteria for the selection of candidate potential deregulation zones were established as follows:

- First, the proportion of greenbelt zones in Grades D and E should be over 50% within the subject area and in case of the Seoul Capital Region, it should go over 60%.
- Second, a minimum area unit was set to 100,000m^2 in order to prevent reckless development as appeared in the development of quasi-agricultural zone. It is because a minimum land area is inevitably needed for the efficient supply of infrastructure such as roads and sewerage when a deregulated area is developed.
- Third, the designation of potential deregulation zone was restricted within 2km inside the boundary of greenbelt zone in the Seoul Capital Region to prevent conurbation.

Exceptionally, the development of government-supported projects or critical regional projects are allowed in C-graded greenbelt zones on the condition that the natural environment is not deteriorated too much. It is

Tentative data of potential deregulation zones				
	The area of greenbelt zone(km^2)	The ratio of D and E-graded greenbelt zones (%)	The area of potential deregulation zone (km^2)	The ratio of potential deregulation zone (%)
Seven metropolitan areas	4,258	9.5	333.7	7.8
Seoul Capital region	1,541	11.8	112.5	7.3
Busan	554	8.6	42.1	7.6
Daegu	537	4.1	34.9	6.5
Gwangju	555	9.6	47.7	8.6
Daejeon	441	10.6	39.7	9.0
Ma-Chang-Jin	312	7.7	30.3	9.7
Ulsan	319	9.9	26.5	8.3

because discords often happen between a locally desired project area and an area drawn by computer simulation.

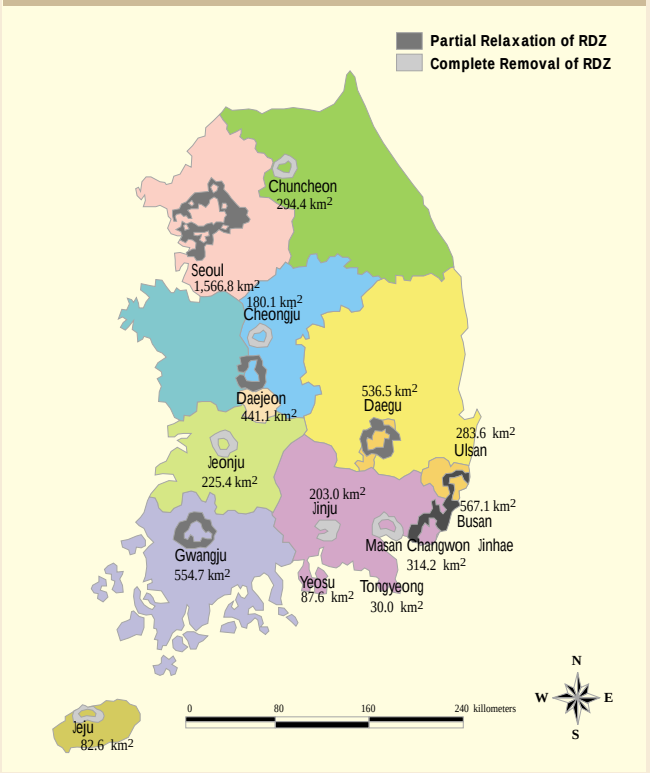
When summed up tentatively, the total area of potential deregulation zones amounts to 334km^2 or 7.8% of greenbelt zones in 7 metropolitan areas. It is noteworthy that the ratio of D and E graded greenbelt zones is 11.8% in the Seoul Capital Region, which is higher than those for other cities. However, when it comes to the ratio of potential deregulation zone, the Seoul Capital Region stops at 7.3%, which is relatively low compared to those of other cities. It is because higher standards were applied to the Seoul Capital Region.

The designation of settlement areas as a priority deregulation zone

As it is mostly residents living in greenbelt zones who raise civil petitions concerned with the greenbelt zone, settlement areas were designated as a priority deregulation zone. Experts in urban planning and environment also suggested that it is a desirable measure in the perspective of environment-friendly management of greenbelt zone as it utilizes settlement areas in which natural environment has been already deteriorated instead of newly developing well-preserved forests, rice paddies and fields. According to the measure, approximately 1,900 settlement areas each with over 20 households were designated as priority deregulation zones across the country and about 80% of housing units within greenbelt zones will be free to be constructed or remodeled.

There are some concerns that it might cause reckless development in deregulation zones. However, it is less of problem as these zones, once released from greenbelt zone regulations, will be subject to the zoning system to be designated as a green space preservation zone in which development is restricted. Furthermore, the government will allow changing it into a residential zone only when a district plan is established.

Restricted Development Zone(Green Belts) of Korea



TASKS AHEAD

It is fair to say that the government succeeded in finding a compromise in the acute confrontation of pros and cons without damaging the original purposes of greenbelt zone system. Actually, there was a big concern that up to 30-40% of greenbelt zones would be deregulated when the government announced measures for the improvement of greenbelt zone in 1999. Thereupon, the government worked to handle this matter and collected the variety of opinions of experts, environmental organizations and residents for more than 2 years. As a result, an upper limit on the lifting of greenbelt zone was set to 10% for the 7 metropolitan areas, whereas settlement areas with over 20 households were completely released from greenbelt zones. These measures were taken to prevent the deterioration of well-preserved natural environment in greenbelt zones and at the same time, to eliminate the fundamental causes of civil petitions.

Even though the basic framework has been completed for the improvement of greenbelt zone system after 3 years of extensive work, it is just a first step taken toward the actual adjustment of greenbelt zones. Difficult tasks still remain ahead such as the demarcation of potential deregulation zones and the effective management and use of potential deregulation zones by 2020. In addition, compensations and support measures for residents excluded from the lifting of greenbelt zone regulations should be also prepared in the perspective of equality.

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BUSAN ADOPTS A NEW MASTER PLAN

BACKGROUND

The Busan metropolitan city aims to leap into a maritime city that serves as the center of international exchange in the 21st century. With this goal, Busan city has come out with a revised master plan that specifies guidelines and directions to urban development and management with a plan period from 1998 to 2021. As an upgraded version of the Busan City Master Plan established in 1996, it is a comprehensive plan that deals with social and economic aspects of the city in terms of population, industries, regional development and finance as well as physical infrastructure.

The total area to be covered by the plan reaches 950.82km^2 including all urban planning districts within the city, harbors and fishing port areas. The population of Busan city was about 3.84 million as of 1998 and expected to increase to 4.5 million by 2021. The increase of population is expected to be rapid in the first half of the plan period and stable from then on.

In order to leap into the center of international exchange by 2021, the plan targets three subordinate goals at the improvement of the quality of life, the strengthening of competitiveness and the fostering of culture. Basic directions corresponding to each subordinate goal has been also set up as follows: the enhancement of living and welfare conditions for the improvement of the quality of life; preparation of footholds for harbor logistics, trade and finance, and information and tourism to strengthen competitiveness; and promotion of traditions and preparation of art centers for the fostering of culture. For efficient implementation, various policy strategies and policy tasks are also provided in the plan.

The plan puts emphasis on the following critical issues: mapping out a blueprint of what Busan should be like in the 21st century; providing directions for a systematic and sustainable urban development; creating an urban spatial structure with multiple sub-centers; distributing and adjusting urban functions uniformly; implementing the 3 largest new millenium projects such as the West Busan Region Development Project, Centum City Project and East Busan Region Development Project; and suggesting ways for the use and management of potential deregulation zones to be free from greenbelt zone regulations.

The plan has been laid out in due consideration of its constraints and potentials. One of the constraints is its geographical location that is characterized as 'mountains in the rear and water in the front' according to the theory of geomancy, which is considered to have hindered the expansion of the city. Usable land resources are running out with the designation of natural environment preservation zones and green belt zones. Manufacturing industries are increasingly relocating from Busan to neighboring cities and thus creating an extraordinary phenomenon of outgoing travelling to workplaces at rush hours. Urban infrastructure is insufficiently furnished as evidenced by its low sewerage provision rate and serious traffic congestion.

Despite these constraints, Busan city still has potentials. Located at the southeastern tip of the peninsular, it has advantages for harbor logistics by linking sea and land transport modes. The development of the West Busan Region is considered in this context. It

The Busan metropolitan area

has also a potential to grow into a trade center with the increase of trade volume between Northeast Asian countries. Its rich natural resources can be exploited for the development of tourism and resort industries, especially with the East Busan Region development. The highly-educated and affluent economic activity population adds to its potentials.

The division of Busan metropolis by the plan

URBAN SPATIAL STRUCTURE OF BUSAN

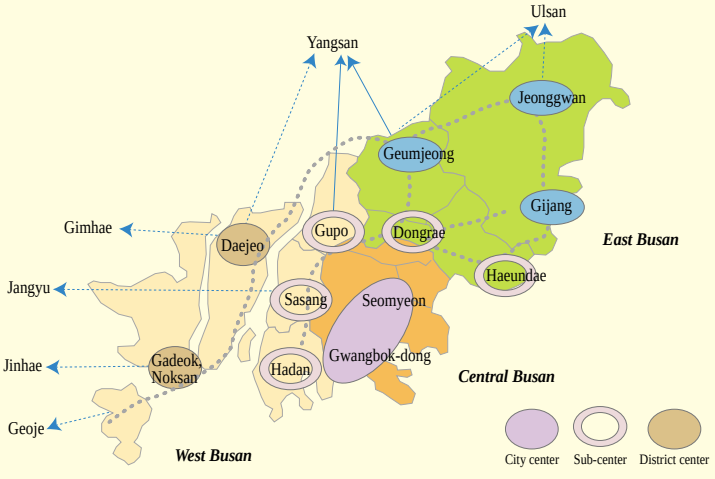
The plan divides Busan city into three parts such as East Busan, Central Busan and West Busan by the south-north mountain ridge axis and waterside green zone axis. Under these regions, there are 15 districts (*gu* in Korean term).

- The West Busan Region accommodates 88% of the national container transportation and is expected to play an important role in placing Busan as a gateway city in Northeast Asian region. Busan goes ahead with the Busan New Port Development Project and West Busan Region Development Project to strengthen the function of harbor logistics. It consists of 4 districts such as Buk-*gu*, Sasang-*gu*, Saha-*gu* and Gangseo-*gu* and had a population of 1.05 million as of 1998, which is expected to increase to 1.5 million by 2021.

- The Central Busan Region, which plays a central role in the economies of Busan and South Gyeongsang province, is aimed to become a center of the southeast coast economic belt. For this, management functions such as finance, trade, logistics, information and education will be strengthened in this region. It consists of 8 districts such as Jung-*gu*, Dong-*gu*, Seo-*gu*, Yeongdo-*gu*, Busanjin-*gu*, Suyeong-*gu*, Yeonje-*gu* and Nam-*gu* and had a population of 1.71 million as of 1998. The population is expected to increase to 1.6 million by 2021.

- The East Busan Region has a good natural environment with mountains, sea, coast and temples. It is aimed to become an environment-friendly and maritime sight spot by being connected to the South Coast Tourism Belt. It consists of four districts such as Geumjeong-*gu*, Dongrae-*gu*, Haewoondae-*gu* and Gijang-*gu* and had a population of 1.08 as of 1998. The population is expected to increase to 1.4 million by 2021.

The urban spatial structure of Busan metropolis(proposal)



Busan city designated 10 strategic industries such as film, tourism, logistics, auto parts, footwear, and textile and fashion industries and took them into account when designing the urban spatial restructuring.

The significance of the plan lies in that it has restructured the city's urban space in a new format consisting of 1 city center, 5 sub-centers and 5 district centers. According to the plan, Gwangbok-dong and Seomyeon together form a single city center and roads will be built as circular roads radiating in all directions and green space will be designated along the south-north mountain ridge and waterside. The plan is highly evaluated in that it simplifies the urban spatial structure and distributes urban functions uniformly across the city. In addition, it makes it easy to build roads in a radial shape. However, one shortcoming is that the city center extends too long.

Another notable feature of the plan is citizens' participation. The participation of citizens was encouraged in the planning stage. Citizens' opinions were collected through an internet website (http://www.pusan2021.or.kr), questionnaire survey and public hearings. Officials of the city also carried out research works in collaboration with local universities such as Pusan National University and Dong-a University and held meetings of research council with civil groups acting in Busan when establishing sectoral plans. In addition, corporations doing business in the Busan area were surveyed and interviewed in terms of business environment to reflect their needs and requests.

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ULSAN METROPOLIS'S MASTER PLAN IS ABOUT TO BE COMPLETED

BACKGROUND AND OBJECTIVES

Ulsan metropolis has revised its master plan to restructure its urban space according to the partial lifting of greenbelt zones that were strictly regulated for the last 30 years. The plan with a plan period of 2001 to 2021 is significant in that it is the first metropolitan plan established according to the revised Urban Planning Law in 1999. It is also noteworthy that it passed through an environment impact analysis. Community representatives, experts in academic circles, environmental organizations and relevant government officials participated in deciding the best solutions to readjusting green belt zones and selecting settlement areas to be released from greenbelt zone regulations. The plan was designed on the assumption that the metropolitan population would increase from current 1.027 million to 1.5 million by 2021. Changes in population distribution and land use thereby were also considered.

The plan has three objectives. Firstly, the greenbelt zones designated around the Munsu Mountain in the middle of the city generated a dual spatial structure with the coexistence of urbanized areas and lagging areas. The dual spatial structure will be restructured in consort with the city's directions to urban development and for environment-friendly land use. Secondly, the knowledge-based industry will be developed and the transition of industrial structure to tertiary industry will be promoted so that the city can leap into a hi-tech industrial city. Thirdly, an international trade harbor will be established so that the city can enhance its competitiveness to serve efficiently the Pacific Ocean Rim as a logistics center.

URBAN SPATIAL RESTRUCTURING

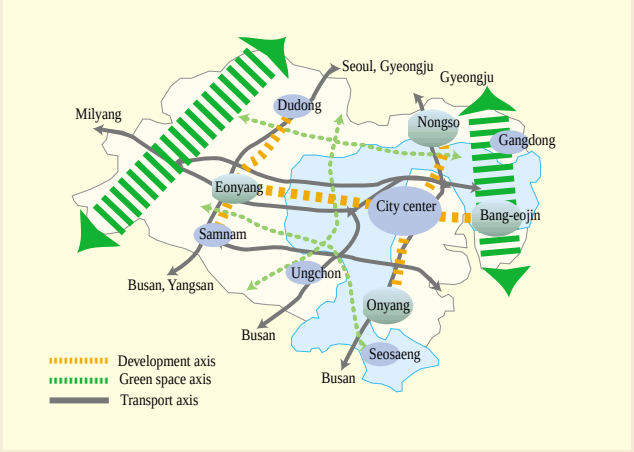
The plan suggests an urban spatial structure consisting of 1 city center and 4 sub-centers, 7 living zones - 3 in downtown areas and 4 in the surrounding areas of the 4 sub-centers, and 5 district centers in suburbs. City centers and living zones are designated following development axes, transport axes and green space axes.

The plan has three urban development axes: the east-west axis(Bangeojin- downtown-Eonyang-Milyang-Daegu), auxiliary south-north axis(Yangsan & Busan-Samnam-Eonyang-Dudong) and main south-north axis(Gijang in Busan-Woongsang-Onyang-Onsan-downtown-Nongso). As an interregional transportation network, Busan-Ulsan-Pohang expressway will be newly built in addition to existing Seoul-Busan expressway and Ulsan expressway. Two expressways for urban areas will be newly built in addition to the existing east-west expressway. Donghae-Nambu railway will be double-tracked and the

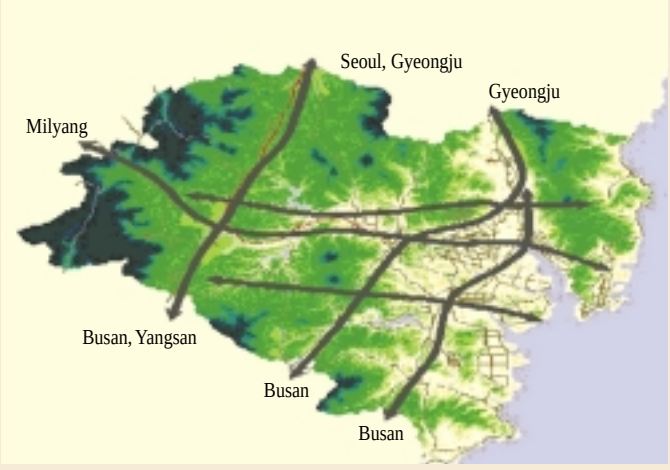
railway passing through the center of the city from Hyomun station to the border of Gyeongju city will be removed to the outskirts of the city. The plan has 4 green space axes as follows: 2 axes along the two mountain ridges stretching south-north; 3 axes along the auxiliary mountains surrounding the existing urban areas; an ecological axis along the Taehwa River for the preservation of riverbank; and green spaces from Ulsan Grand Park to Munsu Mountain.

In particular, the plan enables to use the surrounding areas of Gori Nuclear Power Plant for urban purposes by designating them as a priority deregulation zone. In addition, it is possible to shift the greenbelt zones in the middle of the city into residential zones. The total area of greenbelt zones in Ulsan amounts to 31.72km^2. Within this area, 1.78km^2 will be used for government-supported national projects and 2.43km^2 for critical regional projects such as auto valley project. In the meantime, the area of potential deregulation zones is 26.31km^2. Among 103 residential districts in greenbelt zones, 96 settlement areas (4,572 housing units) were selected as priority deregulation zones.

The urban spatial structure of Ulsan metropolis(proposal)



The transport axes of Ulsan(proposal)



As a first metropolitan plan established by the Urban Planning Law revised in 1999, the plan is expected to guide other metropolitan cities in establishing their city master plans. When fixed in the first half of 2002 after passing the review by the Central Urban Planning Committee, the plan will enable residents living in greenbelt zones to exercise their property right.

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THE LAND MANAGEMENT INFORMATION SYSTEM (LMIS) IS DEVELOPING IN KOREA

THE NEED FOR LMIS

Land information is managed in three ways in Korea: cadastre, land register book, and administrative mechanism. The cadaster specifies the tangible facts of land, which is represented by a land ledger and cadastral map. The former lists the lot number, classification and area of land and the latter indicates the demarcation and coordinates of a land parcel. The Ministry of Government Administration and Home Affairs started the computerization of land ledger in 1986 and completed the work in 1991. They have been working on

the computerization of cadastral maps since 1996. The land register book defines the legal rights of land and the Ministry of Court Administration has been going ahead with the computerization of land register books since 1990. The Ministry of Construction and Transportation is responsible for land administration and has been carrying out the computerization of land information concerned with land policy, land appraisal, land transaction, land use, etc. since the early 1990's.

Among these three means of land information management, introduced herein is the land management information system development project that the Ministry of Construction and Transportation has been carrying out since 1997. It is to computerize the operations of land administration, which follows the laws pertaining to land appraisal, transaction, land use plan, etc., and in the process of administrative operations, land information is exposed either internally or externally. It is very important that correct information is efficiently produced, managed, utilized and disseminated. However, there are more than 80 different laws and regulations regarding the use of the land in about 170 zones, which results in discrepancies among information in various maps and land register books. Overlaps in investment often occur as various government organizations are involved in information production and management. Furthermore, people have to travel far to visit a city hall, county office or district office just to get information on land use regulations and even after arriving there, have to wait for a long time to get answered.

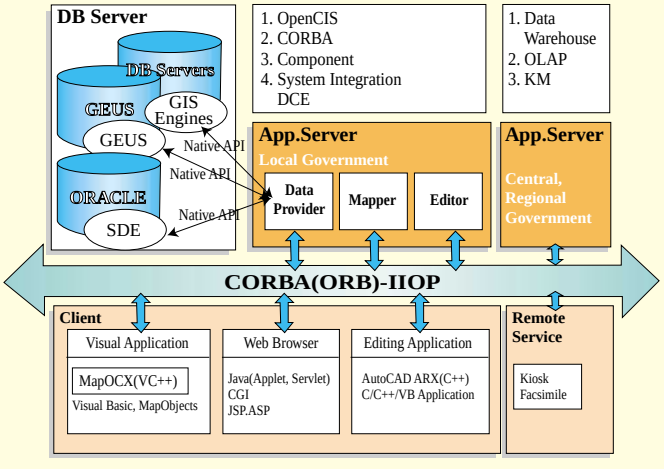
To solve these problems, the project has tripartite objectives: to provide land-related services to the people at any time and at any place, to enhance the productivity of the operations of land administration, and to collect correct information quickly help to establish land policy in timely manner.

THE DEVELOPMENT OF LAND MANAGEMENT INFORMATION SYSTEM

Considering the different operational environment and computer systems in municipalities, an open type information technology that emphasizes interoperability, portability, extensibility and reusability was used in developing a land management information system. The open type information technology enables free access between different types of platforms and application programs made in different languages and it is also possible to allocate a data layer to a specific server, desktop computer, internet or intranet. Korea has adopted a three-tiered client server architecture that applies the standard specifications of CORBA suggested by the Open GIS Consortium.

The land database will provide spatial data such as topographical map, cadastral map, and zoning map and non-spatial data such as publicly announced land price, land use plan, land transactions, etc. As for topographical maps, major data layers concerned with land management operations such as roads, buildings, rivers and contour lines in 1/1000 and 1/5000 maps produced in the National GIS project* were utilized. As for cadastral maps, those produced in the computerization of cadastral maps project by the Ministry of Government Administration and Home Affairs was used. However, data on zoning maps were newly built into a database by using national land use plans and urban plans kept by municipalities. In addition, non-spatial databases were built on land transactions, land appraisal, land use plan including publicly announced land price and land characteristics data for 32 million

The architecture of land management information system



* The Korean government proceeded with the 1st phase construction of National Geographical Information System in 1995. With this project, the large portion of the nation was mapped in scales of 1/1000 and 1/5000.

land parcels.

The application systems were established suitable to the hierarchical characteristics of the operations of land administration in ministerial, city-provincial, and city-county-district levels. For example, the Land Policy-Making Support System is an application system designed for the Ministry of Construction and Transportation, the Land Use Plan Management System for metropolises and cities, and the Land Administration and Management System for city-county-district. In particular, the Land Administration and Management System is composed of 6 application systems each for land transaction, publicly announced land price, development charges, foreigners' land acquisition, the management of real estate brokers, and the management of spatial data. Users of land databases can be divided into government organizations and civilians. The former accesses land databases through the national administration information network and the latter through the internet.

STANDARDIZATION AND PROJECT PARTICIPANTS

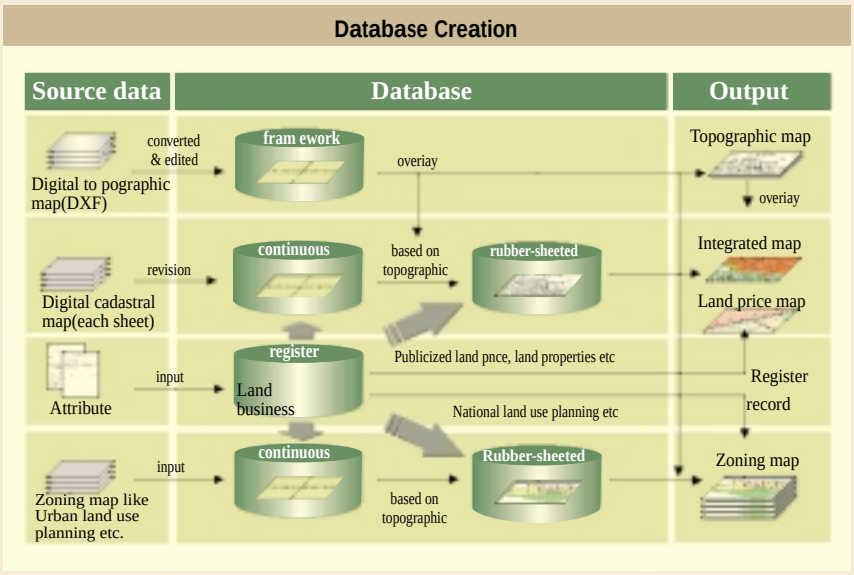
The government worked on institutional adjustment and standardization to convert the analogue settings that ruled the production, utilization, management and dissemination of land information to the digitalized environment. In addition, a set of guidelines was prepared such as guidelines to the correction and renewal of existing maps produced in analogue methods, guidelines to the conversion of numerical geographic map files in DXF(Data Exchange Format) to GIS data, guidelines to the extension of individual cadastral maps, guidelines to conforming an extended cadastral map to a numerical geographic map, and guidelines to moderating or inputting zoning map data. The data model and contents of databases were standardized for the sharing of land information between relevant organizations so that land databases could be used as a spatial data infrastructure in municipalities.

The Ministry of Construction and Transportation plays the leading role in promoting the land management information system development project, whereas municipalities are responsible for the adjustment and examination of data. However, a considerable proportion of works that need to be carried out by the Ministry of Construction and Transportation and municipalities has been commissioned to expert groups by outsourcing. Among outsourcing expert groups, the Korea Research Institute for Human Settlements carries out practical planning, management and standardization, whereas SI companies develop technologies for database building, application, hardware and network building.

PROGRESS AND IMPACT OF THE LMIS

The master plan for the land management information system development was established in 1997 and demonstration projects were carried out in Nam-*gu*, Daegu Metropolis in 1998. As of the end of 2001, 12 project areas have completed installing the land management information system and are now utilizing it in operations or in trial operation and 88 areas are still under construction. Sixteen metropolises and provinces and 232 cities, counties and districts plan to complete the development of land management information system by 2004 and additionally install a land information center to manage and maintain the land management information system.

The land management information system was introduced as one of information technologies to



solve the problems arising in the operations of land management and administration. It inevitably accompanies a radical change of working environment, from analogue to digital. It is obviously not a simple job and largely depends on how to entice the officials working in analogue settings into a digitalized world. Therefore, it is not too much to say that the success of the land management information system development project depends on how to rationally adapt the analogue land administrations to a digital environment.

When the land management information system is installed across the country, it will bring remarkable changes in land-related services in the country. Remote issuance of document will be possible and people will be able to check land information anytime and anywhere. Municipalities will be able to produce and manage land data uniformly and correctly, which will conduce to the enhancement of operational productivity. The central government organizations, for example, the Ministry of Construction and Transportation will be able to collect and analyze land data in real time and establish land policies more scientifically and in timely manner.

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ENVIRONMENT-FRIENDLY TERRITORIAL DEVELOPMENT STRATEGIES WERE DISCUSSED

Since the UN Conference on Environment and Development held in Rio de Janeiro, Brazil in 1992, the concept of sustainable development has risen as a new territorial development paradigm for the 21st century. Every country tries to take strategic approaches to the new paradigm and Korea is not an exception. The Korean government established the 4th Comprehensive National Territorial Plan(2000-2020) in 2000 with four major objectives, one of which is 'the creation of a green territory in harmony with the nature'. Even though environment-friendly territorial development is emphasized in all the sectors of territorial development in Korea, concrete strategies and measures to achieve this are still insufficient. This is because the plans driven by the environmental policy characteristically focus on the particulars of environmental elements and so have limitations to be used in connection with the spatial plans for national land development or regional development. On the other hand, the environment-friendly development strategy discussed in the level of national land development plan lacks not only in concreteness but also in the association with other sectoral plans. Therefore, it is necessary to consolidate existing programs and plans drawn up separately by the national land policies and environment policies into feasible plans and programs at the appropriate spatial scale.

In this context, the Korea Research Institute for Human Settlements, the Korea Transport Institute and the Korea Environment Institute under the Korea Council of Economic & Social Research carried out a joint research on environment-friendly land development strategies. As part of the research, they held a seminar on November 9 in the KRIHS conference room to seek ways for environment-friendly land development and to discuss lessons and suggestions from foreign cases with experts in relevant fields.

MAJOR ISSUES AND PROPOSALS

The seminar was proceeded in 4 sessions and participants suggested diverse and concrete strategies to develop the nation in environment-friendly manner. The excerpts of major presentations are provided below:

Yang-Soo Yun, senior research fellow of KRIHS, explained the current situation of territorial development in Korea and problems therefrom in the perspective of environment-friendly territorial development and proposed some principles for the establishment of tasks and strategies. The following problems in the perspective of environment-friendly territorial development were pointed out. 1) Demand for a good environment exceeds supply. 2) Environmental pollution gets aggravated but efforts to deal with them are insufficient. 3) Inefficient land use and reckless development deteriorate the natural environment and cause the extinction of ecosystem. 4) Despite the fact that the supply of resources is limited, resources

are used inefficiently. 5) Disputes increasingly occur over development and preservation. In order to overcome these constraints, the following suggestions were made: the efficient use of land, energy-saving and environmentally sound transport network building, the preservation and restoration of the natural environment and ecosystem, the efficient and environment-friendly use and management of resources, and the prevention and appropriate management of environmental pollution. Also stressed are the principles of the harmony between the nature and human beings, development with a long-ranged vision, economic feasibility, a broad outlook on the horizon of the environment, environmental receptivity, pollution prevention, equality, and people's participation. As for strategic directions, the following eight points were listed: 1) the systemic management of developable areas; 2) the creation of energy-saving spatial structure; 3) the securing of ecosystem in urban areas; 4) the strengthening of the management of transport demand and the securing of public transportation means including railways; 5) the designation of preservation zones and the construction of national environment database; 6) discreet use of resources including water resources and resources recycling; 7) leisure and tourism development utilizing the nature and cultural resources; and 8) prevention of environment pollution in local areas and the establishment of a system to deal with it.

Yong-Woo Lee, research fellow of KRIHS, and Jung-Hyung Lee, professor of Chung-Ang University. talked about environment-friendly land use strategies and introduced foreign cases. The efficient and systemic use of land was emphasized. For this, they argued that the first consideration should be given to the rationalization of national land use system, restructuring urban spaces in efficient manner and land use in due consideration of ecosystems. As for strategic directions, the following items were suggested: 1) the designation of developable zone; 2) the reform of the zoning system; 3) the development of land in planned manner for the systemic management of developable areas; 4) the efficient use of land inside urbanized areas; 5) the strengthening of land re-use; 6) structuring the urban spaces in a concentrated form for efficient energy use; 7) the preparation of the habitats of living creatures in urban areas and linkages; 8) the adjustment of riverbeds in environment-friendly manner; and 9) the utilization of riverbeds in preserving the ecosystem in urban areas and its linkage. In addition, the possibility to introduce infill development, tax support to promote redevelopment projects in the central parts of a city and the policy that makes the most of regional characteristics were discussed. Other than these, considering meteorological characteristics, rooftop afforestation to prevent a heat island and land cover type were also suggested as institutional devices to be introduced.

Yeon-Kyu, Kim, research fellow of the Korea Transport Institutes, and Sun-Ha, Lee, professor of Kongju National University, introduced energy-saving transport networking strategies. As for strategic directions, the following points were suggested: 1) A railway-centered arterial transport network should be established and railway should be built more so that it can take the role of arterial transportation not only for inter-regional traveling but also for travels within a city. 2) Ways for easy transfer between different transport modes should be exploited and the use of public transportation should be promoted by providing financial incentives or building an efficient public transport network. 3) Transport demand should be regulated by means of working at home system, staggering work-hour system, and imposition of traffic congestion fee. The use of green transportation means such as bicycles and natural gas buses should be expanded. The German Environmental Agenda 21 was introduced in terms of prevention against environmental damages in the transportation sector. In conclusion, it is necessary to look into environmental damages by types, scales

and factors and then to devise strategies to deal with them not only in the local level but also in broad perspective on the national land.

Byung-Sul Byun, research fellow of the Korea Environment Institute, and Chang-Woo Lee, research fellow of the Seoul Development Institute, explained the current situation of the national land resources and problems. As for directions toward the preservation of land resources and its use in environment-friendly manner, the major suggestions were: 1) The preservation zone should be designated to preserve environmentally important ecosystems in the Grand Baekdu Mountain, riverbeds, tidal flats and swamps and such zones should be managed in integrated manner; 2) A national environment database should be built including a systemic survey of national environment, drawing environment maps and the building of environment data network; 3) Efforts should be made for the reduction of wastes, resources recycling, the development of alternative energy sources and the preparation of ecological industrial complexes; 4) Ecological and green tourism and leisure should be developed through utilizing the natural environment and culture; and 5) An environmental pollution prevention system and handling process should be established in local areas with a focus on the establishment of environment pollution prevention measures including the regulation on the total amount of pollutants, the management of non-point pollutants, and the sharing of environment basic facilities. Foreign cases were introduced such as the preservation zone in Germany, and river restoration projects in urban areas, the promotion of urban agriculture and ecological tourism as a means of the restoration of ecosystems in urban areas, local governments' water management and energy saving in the U.S.

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NEW APPROACHES NEEDED FOR INTER-KOREA ECONOMIC COOPERATION

KRIHS organized a seminar to diagnose the effects and problems of inter-Korea economic projects that have been carried out for the last 10 years. In the seminar, experts suggested that new policy directions should be established in due consideration of changing international and domestic circumstances. The seminar was held in collaboration with the Korea Council of Economic & Social Research on October 26 at the Bank Hall in Seoul. The summary of discussions is as follows:

The government's policy for inter-Korea economic cooperation should be overhauled and stick to the principles of transparency, consistency, reciprocity and continuity. When the government works to promote mutual interests and the private sector invests in profitable projects through a thorough market survey, the inter-Korean relationship can be improved. However, the government should go ahead with humanitarian aid separately from economic cooperation.

Diversified strategies should be employed for South Korea to take the initiative in the international movement to help the North Korean economy and financial resources should be secured for the stable and sustainable promotion of inter-Korea economic cooperation. As one of strategies, joint comparative advantage between South and North Korea should be exploited. In case of investing in infrastructure facilities, it is better to start with the areas and fields that can produce the result of joint comparative advantage the most effectively and in a short period of time.

Continuous and long-term investment is critical for the rehabilitation of the North Korean economy. For this, North Korea should be enticed into the planning process that are proceeded by international society as well as South Korea to get it out of the chronic economic depression. Such plans should be established basically in the direction toward integrating the plans separately carried out for the North Korea's economic stabilization and South-North Korea economic cooperation in phased manner. The integrated plans then should be associated with sectoral plans in such sectors as energy, transportation infrastructure, tourism, etc. It is desirable to undertake small-scale, demonstration projects along the border areas in the

The location of demonstration projects

initial stage and then move on to the west coastal axis and east coastal axis that will be the two backbones of territorial development in North Korea in mid-to-long term. It is necessary to develop North Korea in planned manner refraining from sporadic development.

Five short-term demonstration projects suggested in the seminar are as follows:

1) the environment management along the Imjin River basin and ecology tourism development;
2) rehabilitation of railway in the northern border areas facing China and Russia;
3) modernization of major hydropower plant and thermoelectric power plant and small-scale electricity production project;
4) east coast cruise tourism development; and
5) principal officials training center development project.

It is necessary that an international consortium participate in these projects to enhance effectiveness and to secure financing sources. In addition, the investigation of the actual conditions of North Korea should go first in order to provide reliable information to potential investors.

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KRIHS HELD AN INTERNATIONAL CONFERENCE ON THE CULTURE AND ECONOMY OF CITIES

KRIHS held an international seminar on The Culture and Economy of Cities on October 11 and 12. The seminar was organized in collaboration with the University of New South Wales, Australia to celebrate the 23rd anniversary of KRIHS. Some key issues concerning the culture and city economy were discussed in depth and presentations made in the seminar touched upon conceptual clarification, empirical studies in major cities and strategic approaches. In particular, major Asia-Pacific cities such as Seoul, Busan, Kanazawa, Tokyo, Hong Kong, Shanghai, Singapore and Sydney were analyzed in terms of their cultural industries and strategies and then participants tried to give policy suggestions. In the concluding session, participants argued that it is necessary to seek strategies that will sustain cultural development as well as revitalize the economies of cities and regions. The University of New South Wales will arrange the 2nd seminar in August 2002 in Australia to further investigate the topics discussed in the 1st seminar held in Korea.

Papers presented in the 1st seminar are as follows: The Cultural Economy of Cities by Peter Murphy, prof. of University of New South Sales, Australia; Cultural Industries and Local Culture: the British

Context by Sophie Watson, prof. of University of East London; Cultural Resources, Environment, and Network: Dynamics of Dongdaemun by Jae Yoon Yoo of KRIHS researcher and Do Sam La of Seoul Development Institute; Tokyo and Kanazawa: Culture and Economy of Contemporary Japanese Cities by Masayuki Sasaki, Ritsumeikan University; 'Culture for Sale' in a One-Dimensional City: Tourism Promotion in Hong Kong by Mee Kam Ng of University of Hong Kong; The Cultural Economy of Sydney by Chris Gibson, Peter Murphy and Chung-Tong Wu of University of New South Wales; Manufacturing Fun: Producing Culture and its Consequences by K. C. Ho of National University of Singapore; Rejuvenating a Cosmopolitan Culture: Globalization and Shanghai's Culture Industries by Weiping Wu of Virginia Commonwealth Unviersity; Aiming for Hollywood in Asia; The Case of Pusan International Film Festival and Other Events by Jung Duk Lim and June Woo Kim of Pusan Development Institute; Strategic Approaches for Sustainable Cultural Development in Asian Cities by Won Bae Kim, KRIHS researcher; and Capitalizing on Culture: Emphasis in Australian Regional Development Planning by Peter Murphy and Chris Gibson of University of New South Wales.

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NEWS & ANNOUNCEMENTS

Land & Housing Research Division held the 2nd workshop on Land Policies in Korea and China at Zhejiang University on September 4 as part of the joint research with the College of Southeast Land Management of Zhejiang University, China. The 1st workshop was held on May 16 in KRIHS. Participants discussed the land policies and regulations of both countries based on the research result produced in the 1st workshop. Participants in the conference had an opportunity to visit the Land Management Department of Shaoxing city, Zhejiang province near Hangzhou city and were informed about the transactions of land use right and relevant policy in local government level.

Land & Housing Research Division organized a workshop on urban squatter policies with the Center for Urban and Regional Studies(CURS) in the University of Birmingham, England on October 31 in the KRIHS lecture hall. In the workshop, participants looked into the urban regeneration policy and new deal for communities in England and investigated the need for the introduction of a comprehensive program that deals with social and economic aspects of a squatter area as well as physical environment. The titles of papers presented in the workshop include "Characteristics of housing poverty in Korea" by S.J. Munsu Park, former professor of sociology at Sogang University, "Policies on urban squatter areas in Korea: limitations and future directions" by Soon-Suk Bae, research fellow of KRIHS, "Urban regeneration on the improvement of low-income settlements in Korea" by Seo-Hwan Lim, Korea National Housing Corporation, "Housing and urban regeneration in the United Kingdom" by Christopher Watson, University of Birmingham and "Illustrated examples of regeneration projects" by Richard Groves.

Infrastructure & Construction Economics Research Division is working on the project to establish an intelligent transport system (ITS) in Jeonju city, North Jeolla province jointly with the Ministry of Construction and Transportation. Jeonju has been selected as an advanced transport model city together with Daejeon and Jeju in 2000. The project is aimed to enhance the quality of transport services though information provision to the people. Advanced transport information collection equipment will be installed along the transport networks around Jeonju city to provide information on ever-changing traffic conditions to the people through variable message signs (VMS) and the internet. Traffic signs will be controlled according to traffic volumes and detour information will be provided efficiently in case a traffic accident occurs. Private investment will be invited for the establishment of Bus Information System (BIS) and Electronic Payment System. The project will be completed by the end of May 2002 to meet the Worldcup Games to be started in June 2002.

A 8-member U.S student delegation discussed urban problems in Seoul and plans and policies for the Seoul Capital Region with researchers of KRIHS in the KRIHS seminar room on July 24.

Twenty Vietnamese government officials visited KRIHS as part of administration officials training program on August 23. They talked about the Korean strategies for national territorial development focusing on the 4th National Comprehensive Territorial Plan.

The vice president of the National Land and Resources Department of China visited KRIHS on September 20 to collect information on land regulations and policies in Korea.

Chung Chin, Minister of State, Executive Yuan, Director General of Southern Taiwan Joint Services Center, EY visited KRIHS on November 26 and discussed land use plan, industrial land management, land regulations and real estate policy of both countries with KRIHS researchers.

KRIHS had a training workshop, 'Korean Experiences in New Town Development and Urban Renewal' for 22 government officials from 16 developing countries from August 20 to September 1 in collaboration with Korea International Cooperation Agency. The curriculum consisted of lectures on assorted subjects such as Korean economic development, new town development policy and case studies in the Seoul Metropolitan Area, urban infrastructure development and its financing in Korea, changes in housing policies in Korea, national territorial development planning toward 2020 in Korea, management and strategies of city government, issues and policies of land market in Korea, urban renewal in Korea, and the application of GIS technology in urban planning. Participants also enjoyed cultural sightseeing to Sokguram Grotto, Bulkuk Temple, Gyeongju National Museum and industrial site visits to Hyundai Heavy Industries Co., Ltd., POSCO Co., Ltd. and Samsung Electronics Co., Ltd.

KRIHS has published an English edition of the Fourth Comprehensive National Territorial Plan in Korea (2000-2020) in November. Those who are interested in purchasing the document can inquire the publication unit (Soon-Up Park, *supark@krihs.re.kr*).

The Territorial Development Policy Committee under OECD has published a report, "OECD Report on Territorial Policy in Korea" in December. This report touches upon the overall aspects of the nation such as economic development and territorial disparities, governance framework, fiscal decentralization, spatial and economic development policies and social policy.

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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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