



SPACE & ENVIRONMENT

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SPACE & ENVIRONMENT is primarily intended to help foreign experts and professionals in relevant fields understand overall present situations of spatial planning and policy of Korea, and published quarterly by KRIHS.

KRIHS is a government-sponsored research institute founded in 1978 to carry out research on territorial planning and policies of Korea.

Development of Korea Planning Support Systems (KOPSS)

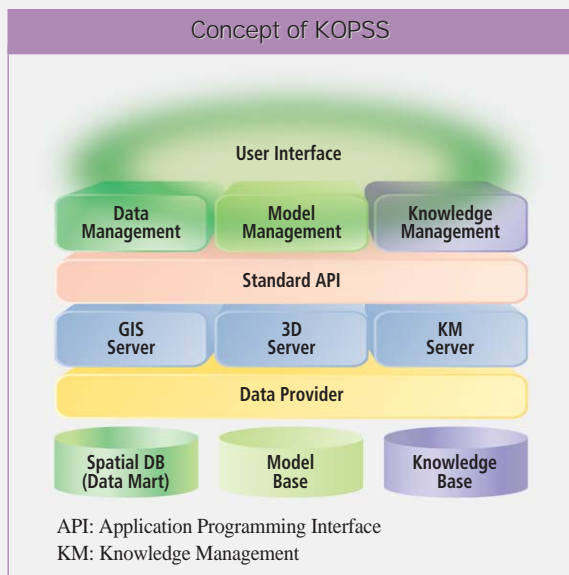
Concept of KOPSS

Government agencies employ diverse spatial plans to achieve livability in Korea. However, unanticipated conditions have often necessitated a trial-and-error approach to the planning process, in turn creating a variety of consequent problems. To address this issue, KRIHS is currently developing a comprehensive spatial planning support system in support of diverse planning questions and scenarios. With rapid development in geographic information systems (GIS) and spatial analysis, information technology is opening new opportunities for spatial planning. In particular, the utilization of information technology in Korea has been made possible through the development of comprehensive spatial databases such as KLIS (Korea Land Information Systems) and AIS (Architecture Information Systems), built over the last ten years.

The Korea Planning Support Systems (KOPSS) is a spatial decision support system that provides information necessary for devising rational spatial plans based on a variety of data and analysis methods. KOPSS supports spatial planning at both the central and local government levels. The analysis models in KOPSS have been developed as separate components, thus providing a flexible framework for obtaining information for different spatial planning processes.

The KOPSS project started in 2006, and will culminate in 2013 with a nationwide implementation of the system. KOPSS is funded by the Ministry of Land, Transport and Maritime Affairs, with the initial participation of two local governments (Daegu-si and Jeju Province) and two collaborative local governments (Seoul and Jeonnam Province). The initial pilot phase of the project is being used to understand required routine tasks and to develop methods for incorporating those tasks into KOPSS.

Building and operating KOPSS requires systematic management of data, knowledge and analysis methods. To this end, task tools are used for managing data, knowledge and analysis models, as



illustrated in the figure above. An important consideration here is the user interface, which is designed to facilitate the efficient retrieval and reporting of information in a comprehensible manner. Currently, KOPSS is at an early stage of system development, in which the focus is on the data and analysis model management. At this stage, a preliminary research is being carried out on the development of the knowledge management tool, as well.

Development of KOPSS Components

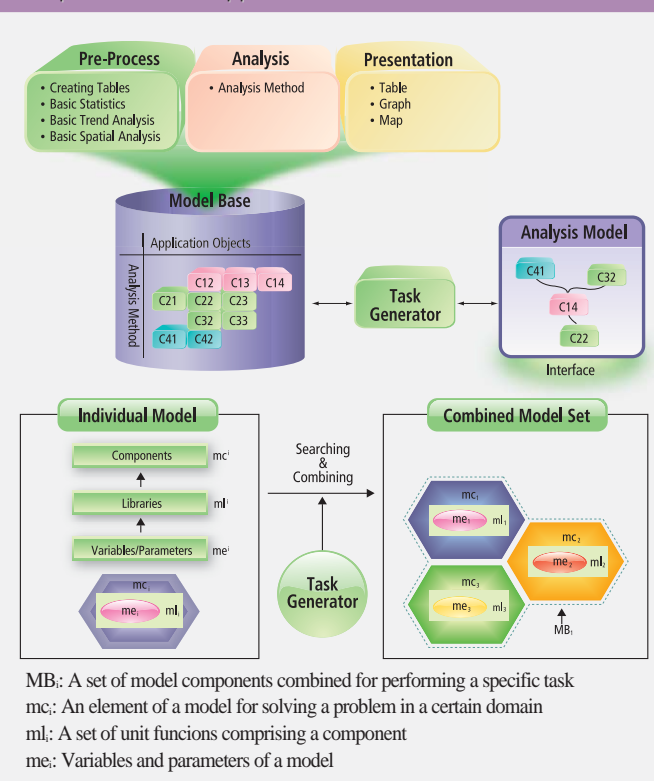
In most cases, spatial plans are developed with the focus on the procedure for processing tasks. In consideration of this task-oriented structure, every procedure for spatial planning is defined separately and developed as a corresponding independent component in the KOPSS. Communicating via a standard interface, some of these components are combined to perform specific tasks in the independent analysis system. This component-based approach to performing a specific task is necessary to satisfy the need for reusability, flexibility and extensibility of the analysis system in devising various types of spatial plans.

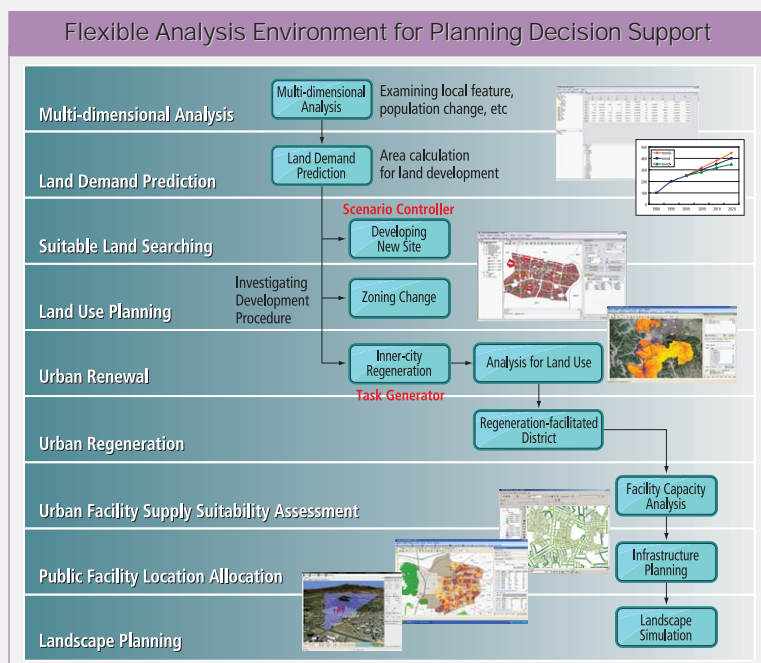
The figure to the right illustrates the

conceptual approach used for developing components in KOPSS. In the first stage, termed pre-processing, the relevant data is identified and extracted, and the present state is analyzed using common methodological procedures. Next, summary results are presented, often visually using tables, graphs and maps. In the third stage, a variety of analysis methodologies are available to the user. Libraries that focus on methodologies are defined and are combined into components depending on the degree of relevance among libraries. In summary, the analysis system or task for devising a specific spatial plan, can be defined as the sequential collection of preprocessing components, analysis components and visualization components.

The task generator is central in actually combining the components necessary for devising a spatial plan that is relevant to a particular scenario. The task generator thus allows the construction of analysis systems that corresponds to diverse scenarios. This flexible approach is expected to save a considerable amount of time in developing analysis systems, and thus facilitate the exploration of alternative methodologies. In particular, it is

Component-based Approach to Task Performance in KOPSS





predicted that this flexible approach will enhance the planner's ability to provide appropriate information in coping with the rapidly changing environment in a timely manner.

project, as shown in the figure above.

Choe Byongnam (bnchoe@krihs.re.kr)

Lee Jongyeol (jylee@krihs.re.kr)

Building Intra-regional Port Alliance in Northeast Asia

Background and Purpose

Presently, Northeast Asia is fast growing to become the most dynamic market in the world as China, referred to in prior times as global factory, is newly emerging as the global consumer market. In particular, China is extensively engaging itself in port development in the Bohai-rim region, primarily in Tenjin, following Shenzhen and Shanghai, with a view to facilitating the handling of the rapidly increasing imported and exported goods. Japan has been pushing for the Super Hub Port Scheme since 2002, with the intent to have its ports and harbors regain their old fame. Under the plan, the nation has selected the three ports of Keihin Port (Tokyo and Yokohama), Isewan Port (Nagoya and Yokkaichi)

and Hansin Port (Osaka and Kobe), and is presently making an extensive effort to improve the service standard including the port fee. In Korea, also, besides the plan for the development of sixty or so container terminals in New Busan Port and Gwangyang Port by 2011, ports along the southwest coast including Incheon, Pyeongtaek and Saemangeum have rolled up their sleeves for large scale port development.

The development of port infrastructure, and efforts to attract more traffic volume as seen above, which is being competitively pushed for among Northeast Asian countries, is a zero-sum game, however. That is, it is highly likely to result in an oversupply of ports within the region and a waste of investment, and consequently, inefficiency in

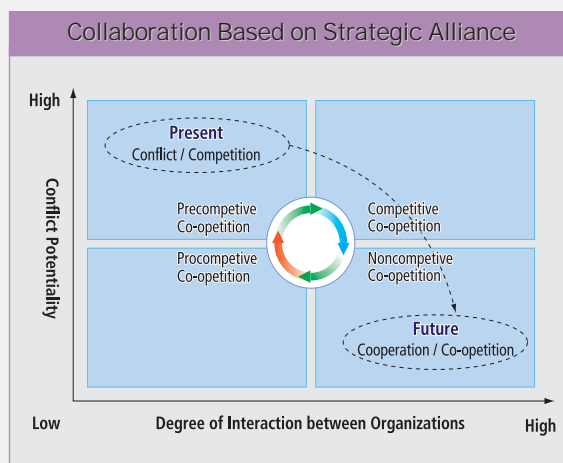
logistics activities of the entire Northeast Asian region. Under the backdrop, the study primarily aims to explore measures for effective resource distribution and logistics network construction within the region through the so-called port alliance, a strategic coalition of major ports in Korea, China, Japan and Russia, which will replace the competition based on hard power, or a competitive development of ports by individual countries. Through this creative way of collaboration, co-prosperity can be achieved among the nations in Northeast Asia.

Need for Collaboration of Port Alliance

It is true that shipping companies have historically resorted to alliances, sharing ships, and ports and inland transport facilities, in order for service network expansion and to strengthen market power. However, some experts are skeptical about the feasibility of building a port alliance considering the nature of the business purposes and implementing bodies. Despite this, building a port alliance in the Northeast Asian market is considered to be feasible enough for the following reasons: first, in spite of the rapid increase in the volume of maritime traffic in China, small- and medium-sized ports have no choice but to send the freights generated in their own regions to another region.

This is because freights are handled exclusively by some large ports. As a result, local governments are suffering from a massive decrease in revenue, stalled port infrastructure and a slump in the region's logistics industry; their discontent is growing. In particular, the strategies for balanced development under the 11th Five Year Plan for Territorial Development of China (2006~2011) are expected to speed up the regional distribution of the maritime traffic volume, and accordingly, there is a very real possibility of collaboration between small- and medium-sized ports of China and ports in Korea. Also, in Japan, ports on the west coast which were left out of the nomination for the Super Hub Ports including Niigata, Mogi and Hakata, and those in Hokkaido, are eager to build a collaboration system with ports in Korea for regional economic revitalization and survival of the port itself.

Secondly, considering the topographic characteristics of Northeast Asia with most countries having coasts, in order to construct an



effective logistics network, it is essential to build a multi-modal transport network. It can be said that, to combine ports as nodal points of maritime and overland transport with their supporting areas, or port alliance, is the starting point for the effort.

As such, a port alliance is defined as a strategy for affiliated ports to secure competitiveness by sharing common resources. More specifically, it is a strategic tool for port authorities to augment bilateral interest, which is based on collaboration among ports, including route connection through port fee reduction, information, technology and people exchange, joint establishment and operation of ports and the nearby logistics complex, and further, port integration including joint operation of the terminals. In reality, major ports of the world have been already resorting to port alliances for sharpening the competitive edge through new technologies and sharing of expertise, joint promotion of marketing activities, sharing of port resources, joint attraction and creation of freights, and joint construction of network and port infrastructure. Another key intention of port alliances is the maximizing of economic benefits by removing inefficiency in port operation.

Basic Directions to Building Port Alliance

The basic directions to building a port alliance for revitalization of Northeast Asian ports is to pursue 'noncompetitive cooperation' that is conducive to improving the core capacity of domestic ports. To this end, local ports should continue developing bilateral relations with ports of China and Japan,

while learning competitive factors from them. In other words, local ports should build a strategic alliance with those in China and Japan, considering the potential conflicts and strategic collaborations with Northeast Asian ports.

Process of Port Alliance Promotion & Expected Effects

The process of the promotion of a Northeast Asian port alliance can be summarized as follows: first of all, the need for coalition and consensus building between partner ports should be presupposed. Secondly, the target ports should be selected based on the market research on Northeast Asian ports. Third, entering the first stage of port alliance building, routes should be opened, and common services developed by constructing a maritime network jointly with the partner port, for instance. Fourth, the performance of the port alliance should be evaluated. In brief, port alliance building may go through the process of selection of a partner port for a strategic coalition, route opening and development of common services, economic partnership building, and port integration and unification.

The expected effects of a port alliance in Northeast Asia can be reviewed by key participant as follows: first, the shipper, the port user, can secure swiftness in freight transport and reduce the costs for trans-shipment. The shipping company can enjoy expanded profits from inroads to new markets following the

opening of new routes, and benefits from lowered cargo wharfage and port dues. The port authorities can create new traffic volume, strengthen bargaining power against shipping companies through joint marketing, and promote the joint use of port facilities and the activation of nearby logistics complexes.

The Korean government will be able to consolidate the hub function of local ports since the alliance will strengthen the maritime network in Northeast Asia and increase the trans-shipment inducement. At the same time, it will be able to eliminate in advance future threats by potential rivals following the emergence of the ports in China. In particular, port alliance building between Northeast Asian ports is to improve the intra-regional maritime transport, the biggest chunk of the freight transport in Northeast Asia. As a result, the coalition is predicted to play a crucial role as the preliminary stage for regional economic cooperation represented by the FTA between Korea, China and Japan.

Lastly, the port alliance is expected to have the following effects on China and Japan: increase in exchange and collaboration involving logistics, effective maritime transport system construction, regional economic revitalization, expansion of international maritime network for small- and medium-sized ports, and job creation and economic effect increases through the location of Korean businesses to the nearby logistics centers.

Lim Youngtae (ytlim@krihs.re.kr)

Promotion of Port Alliance in Northeast Asia		
Stage	Contents	Remarks
One Target ports selection	<ul style="list-style-type: none"> • Market survey on ports of China, Japan and Russia • Consensus building on port alliance • Trust building through information, technology and people exchange 	-
Two Common services development	<ul style="list-style-type: none"> • Route opening with ports capable of creating traffic volume • Reciprocal reduction of port fees • Joint marketing and public relations • Port technology transfer and training • Improvement of port environment and safety • Information system construction 	<ul style="list-style-type: none"> • Contractual cooperation • Alliance of non-capital participation
Three Economic partnership establishment	<ul style="list-style-type: none"> • Participation in port operation and management <ul style="list-style-type: none"> - Joint investment in terminals and common use of terminal resources • Joint establishment and operation of nearby logistics centers 	<ul style="list-style-type: none"> • Alliance of capital participation
Four Port integration	<ul style="list-style-type: none"> • Port integration and unification <ul style="list-style-type: none"> - Establishment of joint company for terminal operation • Area-wide port governance construction 	<ul style="list-style-type: none"> • M&A

Area-wide Planning for Jeju Special Self-Governing Province

Jeju Special Self-Governing Province is an island located southwest of the mainland of South Korea. The term 'special self-governing province' means that the province has been endowed with a high level of self-governing authority under the former government's decentralization policy¹⁾. Also, the province is eligible to set up an Area-wide Planning without the approval of the central government, unlike the other provinces. Established under the above principles, the Jeju Area-wide Planning is the island's foremost urban and regional planning document to give direction to a long-term regional development²⁾. Covering the entire areas of Jeju Island (1,848km²), the plan has set the year 2025 as the end of the plan period. The joint research team of KRIHS and the Jeju Development Institute worked on the plan formulation over a year and a half from 2005, and the plan was finally deliberated by the City Planning Committee of Jeju Special Self-Governing Province in June 2007.

Jeju Island in Brief

Jeju Island is 73km wide and 41km long with a total land area of 1,848km², which makes it the smallest province of Korea. The land is oval-shaped and generally flat. Mt. Halla, in the center of the island, provides contour lines which form concentric circles, letting the cultivated lands spread on the sea coast. The total population is 560,000, and the regional GDP per capita in 2004 was 11.2 million won, which was 20% less than the national average. The major industries include tourism (17.4%), agriculture and fishery (18.1%), and manufacturing, with the last taking only 3.2% of the entire Jeju industries.



The foremost strength of the island is the beautiful and clean environment and unique ecology, along with well-preserved historical and cultural heritages. Also, the island is located at the center of Northeast Asia, and has five mega cities (totaling a population of over 10 million) within a two-hour flight. Jeju is famous among the international tourism society, thus having the potential to become a global city. However, Jeju is faced with challenges including low productivity, excessive outflow of human resources, and internal regional disparity. Furthermore, the rapid change in the external environment threatens the future development of Jeju especially for its tourism and agricultural industries.

Goals and Strategies

The ultimate goal suggested in the Jeju Area-wide Planning is, 'u-Jeju, a global city with an eco-friendly and high-quality cultural environment.' To achieve the goal, the plan pursues five sub-goals as

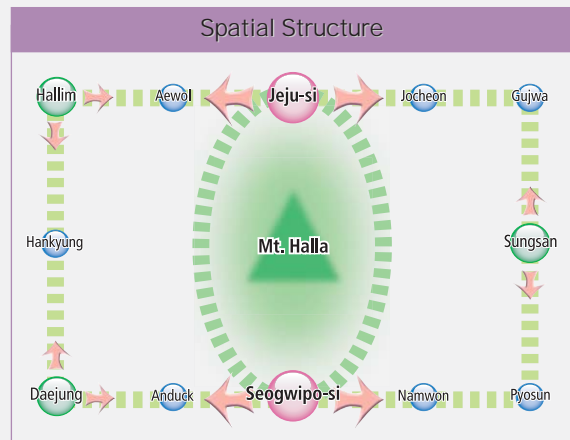
- 1) The former government promoted Jeju Province to 'Jeju Special Self-Governing Province' under the administrative philosophy of 'decentralization and autonomy.' The Special Act on Jeju Special Self-Governing Province was legislated in 2005, and officially went into effect on July 1, 2006.
- 2) This plan was necessary to set up a consistent urban planning dealing with the entire Jeju as a complete planning unit. Basically, this is a strategic plan for long-term development; yet, it is also supposed to work as a 'city master plan' by which specific managerial planning like zoning can be guided.

follows: international city where labor and capital move freely, high-tech city with convenient living, unique tourist city with exotic culture and nature, eco-friendly city where people live in harmony with nature, and a safe city, offering comfort and a safe infrastructure.

Along with the goals, the plan formulates a set of action strategies and planning indicators. The major strategies include the following: to improve and expand basic urban infrastructure according to global standards, to encourage the establishment of international educational and training institutes, to construct a ubiquitous communication infrastructure and enhance the global flow of information, to remove border barriers (visa-free, less regulated air transportation, etc.), to reinforce preservation of the natural, historical and cultural resources, to provide places for diverse thematic tourism to promote long-stay tourism, to recover the interrupted and damaged green network and restore Jeju's unique ecology network, and to establish a disaster prevention system.

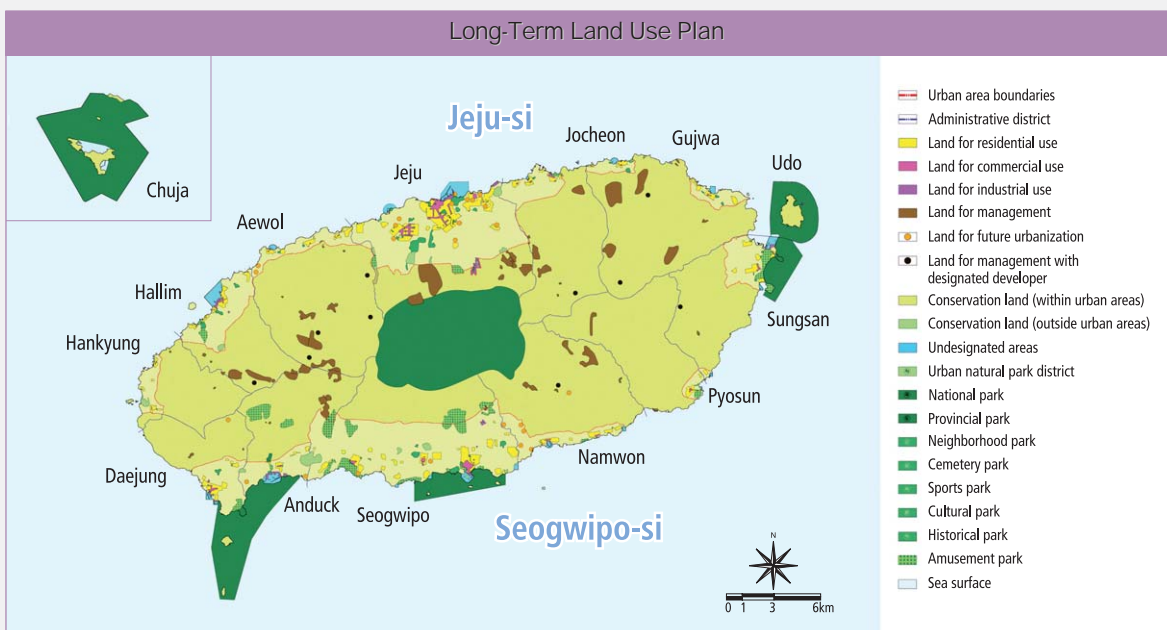
Proposed Spatial Structure and Land Use Plan

Considering regional disparity on the island, the Jeju Area-wide Planning suggests a multi-centric spatial structure. Especially, the plan puts focus on strengthening the urban functions of 'eup' and



'myon' - local small towns with populations of 5 to 10 thousand - in order to construct sub-regional development cores.

According to the goals and strategies, the Jeju Area-wide Planning posits a long-term land use plan, under which reasonable and efficient land use become possible, and specific land use regulations and zoning can be guided. In particular, the future land demand for urban use is estimated as up to 19.3km², and the special demand for tourism sites up to 39km². The plan distributes those demands over time and gives the principle of 'using land when real demand takes place.'



Implementation and Managerial Plan

As well as the aforementioned considerations, the Jeju Area-wide Planning contains long-term plans for housing, transportation, environment, landscape, and social development. More importantly, it contains sub-regional development plans for the local towns. Finally, in accordance with the Special Self-Governing Province Act under which Jeju Island has become a special regional unit, the Jeju Area-wide Planning deals with a set of financial,

administrative and governance issues. The most important conditions for the implementation of the plan are regarded as financial incentives and subsidies along with investment inducement. Also, for the long-term success of the plan, citizen participation is crucial, along with sound governance among the government, enterprises and the people.

Moon Jeongho (jhmooon@krihs.re.kr)

Housing Welfare Policy Based on Minimum Housing Standards and Affordability

Directions of Housing Welfare Policy

The final goal of the housing welfare policy is to satisfy the people's basic housing needs and improve the standard of housing welfare of both individual households and the entire nation, thereby, achieving social integration. To accomplish the goal, it is required to respond to diverse housing needs of the people through housing support programs for each income class as illustrated in the figure on next page. At the same time, it is crucial to allow more chances for the people to live in decent housing they can afford.

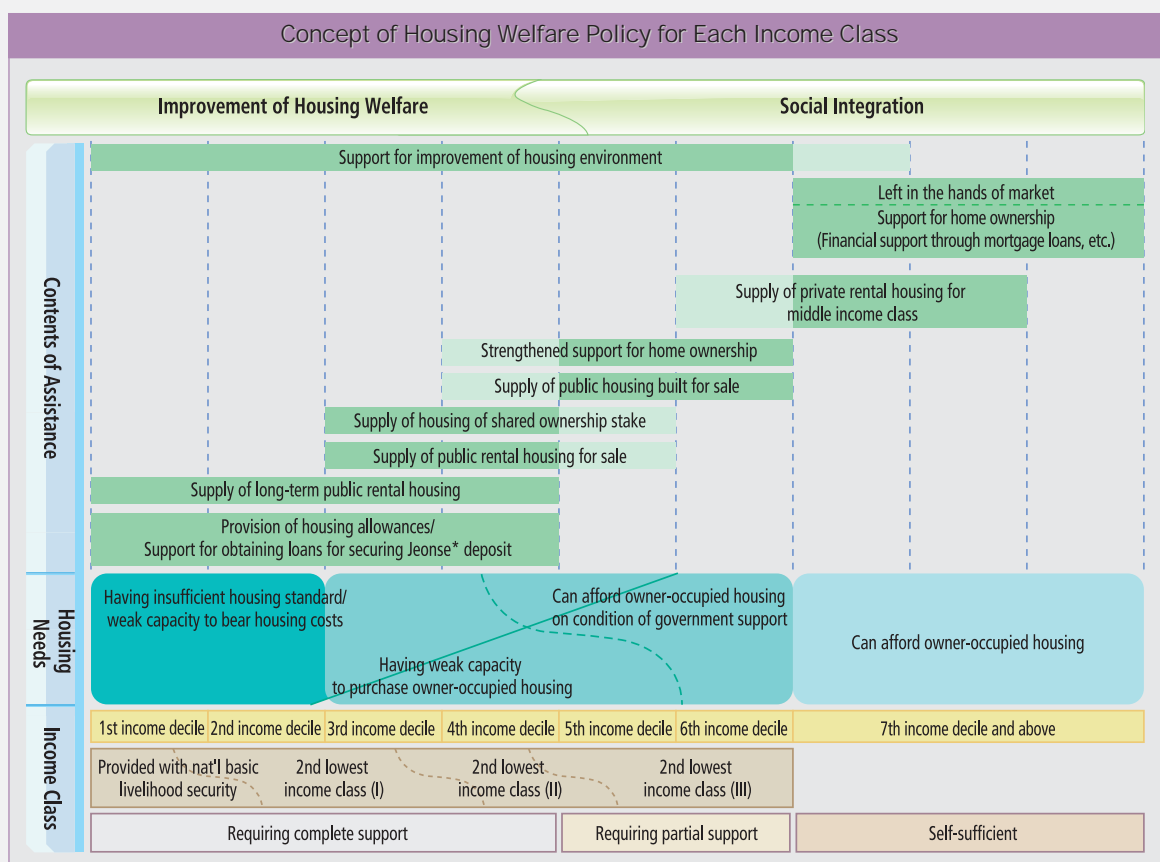
Target Households of Housing Welfare Policy

In the study, the households that should be given the first priority in the housing welfare policy are defined as the policy target households. The number of the policy target households is estimated primarily based on the housing needs of low-income households, considering the housing standards and housing affordability. For the analysis, the households are divided into several income classes as shown in the table on page 10, based on the minimum living costs officially announced by the Ministry for Health, Welfare and Family Affairs. Then, the number of the target households is estimated among the households requiring complete support. The minimum housing

standards used in the estimation were established and released by the Ministry of Land, Transport and Maritime Affairs in 2004. The housing costs include rent and overall housing management costs for heating, electricity, etc. The minimum housing costs are the costs required to maintain the minimum living standards.

In the study, if the ratio of housing costs to monthly income exceeds 20% to 30%, it is regarded as overburdened. For the analysis, the study has set the appropriate ratio of housing costs to monthly income for each income class: 20% for the households provided with national basic livelihood security and second lowest income class (I), and 25% for the second lowest income class (II). The owner-occupied households, who fail to meet the minimum housing standards, and the rental households living in substandard housing or overburdened with minimum housing costs are classified as the policy target households.

According to the above criteria, the study has analyzed the entire households nationwide to identify the policy target households. The results show that, first, as of 2006, the households provided with national basic livelihood security comprise 5% of the entire households. The second lowest income class (I) comprises 20.9% and second lowest income class (II) 9.1%. In other words, the households requiring complete support account for 35%, or 5,527,000 households. Of them, owner-



Note 1) Long-term public rental housing: National Rental and government-purchased/ leased rental housing

2) Public rental housing for sale: Sold after rented for 5 to 10 years

3) Housing of shared ownership stake: Based on the U.K. HomeBuy Project

4) Support for home ownership: Supporting the obtaining of home loans, granting tax deductions for home loan interest, exempting acquisition and registration tax upon home purchase, etc.

* In Korea, Jeonse, or the key money system, as opposed to monthly rent, requires the lessee to make a deposit of about two-thirds of the housing price. The key money is returned when the lease expires.

occupied households are 52.8% and rental households 47.2%. According to the results, the target households number 2,892,000, reaching 52.3% of the households requiring complete support. Of them, the number of the rental households (78.9%) is three times that of the owner-occupied households (21.1%). This reflects the fact that, 95.1% of the target rental households are overburdened with the minimum housing costs. In particular, the owner-occupied households with facilities below the standard, and the rental households living in substandard housing while overburdened with housing costs, need the government support the most. They amount to 1,169,000 households with the owner-occupied taking 48%, and rental households 52%. More

owner-occupied households live in rural areas, and more rental households live in urban areas.

Grouping of Target Households for Different Support Programs

The study refers to the results of the '2006 Housing Survey,' the responses to the question of 'whether you wish to move in public rental housing,' to be specific, in order to allocate the policy target households to existing individual housing support programs according to their preferences and needs. To this end, the study first divides the current housing support programs into public rental housing supply, and support for housing costs and housing improvement. Then, it identifies the program needs

Classification of Households by Minimum Living Costs		
Household Category		Income Criteria
Requiring complete support	Provided with nat'l basic livelihood security	Provided with nat'l basic livelihood security
	2nd lowest income class (I)	Less than 120% minimum living costs
	2nd lowest income class (II)	120% to 150% minimum living costs
Requiring partial support		150% to 200% minimum living costs
Self-sufficient		More than 200% minimum living costs

under the following assumptions: public rental housing is to be supplied for households having the intention to move into public rental housing. Housing support is to be provided for the rental households who do not wish to move into public rental housing. And lastly, support for housing improvement is to be provided for the owner-occupied households without the intention of moving into public rental housing.

The results show that, for the policy target households, a total of 888,000 public rental housing are required. The subsidies for housing costs are needed for a total of 1.44 million households, and support for housing improvement is required for a total of 564,000 households. The fact that the number of the households in need of the housing

support programs is so large hints that the performance of existing housing support programs is insufficient, failing to sufficiently satisfy the housing needs of the policy target. For example, as of 2006, the public rental housing stock remained low at 7.7% of the entire housing stock, even though the households requiring public rental housing amounted to 888,000 - either because they were failing to meet the minimum housing standard or because they could not afford minimum housing costs.

This is considered to be huge. In the future, housing support programs should put first priority on those households, and further, they should be made more sophisticated so that the programs can effectively support the households concerned in

Target Households by Income Class and Tenure Type							
unit: ten thousand households							
Household Category		Total households	Target households	Owner-occupied		Rental households	
				Living in substandard housing		Living in substandard housing or overburdened with minimum housing costs	
				With substandard facilities		Living in substandard housing and overburdened with minimum housing costs	
Provided with nat'l basic livelihood security	Sub-total	79.0 (5.0%)	64.7	7.6	7.2	57.1	19.2
2nd lowest income class (I)	Sub-total	330.2 (20.9%)	179.1	43.1	40.8	136.0	36.3
2nd lowest income class (II)	Sub-total	143.6 (9.1%)	45.3	10.1	8.1	35.2	5.3
Total (Requiring complete support)	Total	552.7 (35.0%)	289.2	60.9	56.1	228.3	60.8
	Urban	391.2	214.3	16.8	12.9	197.5	50.6
	Rural	161.6	74.9	44.1	43.2	30.8	10.2

Note: The number in the brackets refers to the ratio of the households concerned to the entire households.

Source: The Ministry of Land, Transport and Maritime Affairs & The Korea Research Institute for Human Settlements (2006), 2006 Housing Survey.

Allocation of Housing Support Programs						
unit: ten thousand households						
Household Category		Target households	Owner-occupied		Rental households	
			Public rental housing supply	Support for housing improvement	Public rental housing supply	Support for housing costs
Requiring complete support	Provided with nat'l basic livelihood security	64.7	0.4	7.2	19.3	37.8
	2nd lowest income class (I)	179.1	3.0	40.2	47.5	88.5
	2nd lowest income class (II)	45.3	1.1	9.0	17.5	17.6
	Total	289.1	4.5	56.4	84.3	144.0

Source: The Ministry of Land, Transport and Maritime Affairs & The Korea Research Institute for Human Settlements (2006). *2006 Housing Survey*.

actually meeting the housing standard and living in housing at a proper level of housing costs.

Financing of Housing Support Programs

Lastly, the study has estimated the amount of money required for meeting the housing needs of the policy target households by program. First, it has assumed that 13 trillion won from the national budget and 31 trillion won from the National Housing Fund are required for the supply of public rental housing, which is based on the government

scheme for financing the construction of one million national rental housing units. In regard of the funds for housing costs support, the annual budget required for supporting monthly rent is estimated at 1,487.1 billion won. The amount of the National Housing Fund required for supporting the households concerned to obtain a loan for securing Jeonse deposit, is estimated at 10 trillion 888.3 billion won, under the assumption that the annual interest rate is 2%.

However, in reality, it is not feasible to rapidly expand the budget and funds in a short period and

Estimated Budget and Funds Required for Housing Costs Support							
Household Category		Target households		Monthly housing subsidies (10,000 won)	Annual budget required (10 billion won)	Funds required for each household (10,000 won)	Total (trillion won)
		Paying Jeonse deposit for rent (ten thousand households)	Paying monthly rent (ten thousand households)				
Requiring complete support	Provided with nat'l basic livelihood security	7.6	30.2	14.4	521.9	2,469	1.9
	2nd lowest income class (I)	34.7	53.6	13.7	881.2	2,349	8.1
	2nd lowest income class (II)	7.4	10.3	6.8	84.0	1,166	0.9
	Total	49.8	94.1	-	1,487.1	-	10.9

Note 1) The monthly housing subsidies are the median of the subsidies used to support housing costs, which is intended to prevent the ratio of minimum housing costs to household income from exceeding the proper ratio of housing costs of each income class presented previously.

2) The annual budget required refers to the annual total to be provided to the households living on a monthly rental basis of the households requiring housing subsidies.

3) The amount of the National Housing Fund required is the estimation under the assumption that, part of the Jeonse deposit is loaned to the households concerned who are currently Jeonse tenants: the amount which makes the monthly subsidies equal to the benefit from the difference between the market interest rate and the government rate. Here, the assumed market interest rate is 9% and the government rate is 2%.

Source: The Ministry of Land, Transport and Maritime Affairs & The Korea Research Institute for Human Settlements (2006). *2006 Housing Survey*.

* 1,000 won is valued at approximately 1USD as of July 2008.

meet all the requirements for housing costs support at once. Instead, considering the limited financial resources, it is recommendable to explore measures of giving first priorities to lowest-income families, households overburdened with minimum housing costs and living in substandard housing at the same time, and disadvantaged households with old or handicapped family members. With regard to support for housing improvement, currently, it is

difficult to correctly estimate the funds required for the program due to insufficient data. It is expected that in the future, more detailed criteria should be prepared on target houses and target types of improvement, based on which, the costs to be actually incurred should be met, such as building costs and related administrative costs.

Kim Hyesung (hsungkim@krihs.re.kr)

Activation of Spatial Function of Roads for Quality of Life Enhancement

Background

It is noted that in Korea, priorities are given to passenger cars on the road, and the transportation function of roads, or rapid movement, is greatly valued. This has resulted in insufficient use of road space that could otherwise contribute to enhancing the convenience of local residents and road users. The use of space for human beings and the environment is significantly limited as it stands, and

the arterial roads overflowing with cars every day disconnect the sphere of life and greatly lower the standard of living. Despite improvement in public transportation and overall conditions for pedestrians, the convenience for local residents and road users has improved little compared to previous period.

Therefore, to address this issue, a paradigm shift is urgently needed in the policy for road space towards prioritizing human beings, environment and quality of life, as well as public transportation and walking.

Paradigm Shift in Road Space Utilization



Quality of Life

Human Beings
& Environment

Efficiency

Past

Early 2000

Future

Efficiency

Human Beings
and Environment

• Aging society & Urban greening
• Quality of life
• Value re-creation of existing facilities

Value · Beauty
Culture · Information

Coverage of Spatial Function by Road Hierarchy and Zoning				
Spatial Function		Arterial Road	Collector Road	Local Road
Pedestrian Space	Consideration of pedestrians (Universal Design)	Residential/ Commercial	Residential/ Commercial	Residential/ Commercial
	Concept of living street (Improvement of residential convenience)	Neighborhood commercial	Neighborhood commercial	-
	Pocket park at crossroads	Central · General commercial	Central · General commercial	-
Accommodation of Transport Means	Public transportation	Residential/ Commercial	(Residential/ Commercial)	-
	Green transportation (Walking & using bicycles)	-	Residential/ Commercial	Residential/ Commercial
Meeting & Culture	Urban · village festivals	Central · General commercial	Central · General commercial	-
	Accommodation of open cafes	-	Commercial	Commercial
	Meeting place created using part of building or private land	-	Neighborhood commercial	(Neighborhood commercial)
Information & Communication	Information on village & communication	Central · General commercial	Central · General commercial	Central · General commercial
Social & Leisure Activities	Programs of social participation (i.e. environmental beautification of roads, plant bed maintenance, etc.)	-	Residential	Residential
	Leisure activities on road space (i.e. creation of suburban space)	-	Residential	Residential
Urban Greening	Planting trees along the streets, beautification of streamsides, waterfronts, etc., wind corridor creation & landscape improvement	Residential/ Commercial	Central · General commercial	-
Accommodation of Infrastructure Facilities	Common duct for telecommunications, electricity, water supply, sewerage, gas, etc.	Residential/ Commercial	Central · General commercial	-
Improvement of Public Interests	Restrictions on vehicle use for air quality improvement	Residential/ Commercial	Commercial	(Commercial)

Source: Yi Choonyong, Ryu Jaiyoung & Lee Woojin (2007). *Reallocation of urban road space*. Korea Research Institute for Human Settlements.

In addition, it is important to actively promote the activation of the spatial function of roads that are equipped with culture and beauty. To be specific, it is necessary to revitalize the spatial function of roads in accordance to the preference of local residents and road users, and by road hierarchy and zoning: such functions as a venue for citizen interaction, cultural exchange, information and communication, social and leisure activities, and urban greening. What is the most important here is the leading role of the central government, which includes supporting citizen participation and public-private partnership building, and the revision of the Road Act and other regulations concerning roads and urban planning facilities.

It is noticeable that in foreign countries, re-distribution of the road space is being actively pushed for, which puts public transportation and walking prior to private cars. Such initiatives are implemented through active participation of the private sector, and road policies including such concepts as Smart Growth, Transit Mall, Sustainable Transport, Universal Design, and restoration of the road function.

Concept of Spatial Function of Roads

The spatial function of roads is to support diverse urban activities and upgrade the quality and value of life, by re-arranging and re-distributing the two-dimensional space of existing roads, in addition to the

transit function. This is intended to enhance transit convenience of local residents and road users, and promote a sound urban residential environment. The concept can be divided into a number of sub-functions such as a venue for citizen interaction and culture, information exchange and communication, and social and leisure activities, and functions for urban greening, accommodation of infrastructure, and improvement of public interest. Additionally, in the process of actual application of the functions, it is necessary to put the opinions of local residents and road users first according to the ‘coverage of spatial function by road hierarchy and zoning,’ as illustrated in the table on page 13.

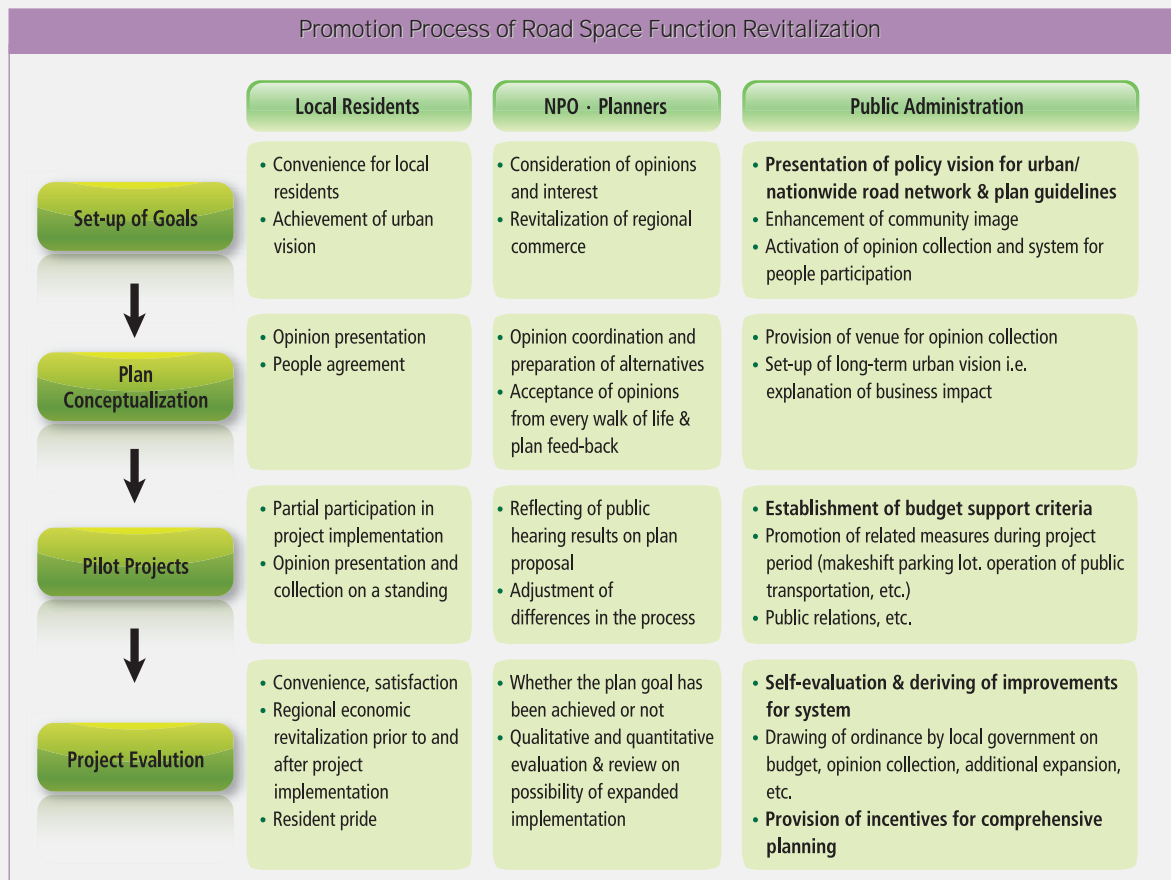
Improvement of Related Systems

To activate the spatial function of roads, it is necessary to add the definition of the ‘spatial function of roads’ to the Road Act, and flexibly

approach the road space, considering the current policy paradigm and the conditions of the use of the surrounding land. This way, public welfare can be improved. Also, for the regulations involving roads and urban planning facilities, the spatial function types of roads that are applicable to both existing towns and new towns, should be sub-divided.

The planning criteria should be re-established as well. For example, the breadth of the lanes should be flexibly adjusted by road hierarchy and zoning. The breadth of the footpath should be expanded, and the co-use of roads for pedestrians and cars should be activated for roads with little traffic. Lastly, it is crucial to increase the integration of road planning into land use planning, add the criteria for flexibly adjusting a road section according to the conditions of the nearby roadside, and adopt a forward-looking policy of offering incentives in case a building or a private property is provided.

Yi Choonyong (cyi@krihs.re.kr)



Note: Bold letters represent central government programs.

INTERNATIONAL COOPERATION

Int'l Seminar on Growth Management of Metropolitan Regions

KRIHS held the 'International Seminar on Growth Management of Metropolitan Regions' on April 15. The seminar was co-organized by the Ministry of Land, Transport and Maritime Affairs, Seoul City, Incheon City and Gyeonggi Province, and co-hosted by the Seoul Development Institute, Incheon Development Institute, and Gyeonggi Research Institute, along with KRIHS. Renowned experts from the U. K., France, Japan, and China attended the seminar, and offered presentations on visions and strategies for growth management of their respective countries aimed to strengthen urban competitiveness of the nations.

Int'l Seminar on Better Architectural Design

On April 30, the international seminar, 'Policies and Programs for a Better Architectural Design' was held in the auditorium of the Korea Institute of Registered Architects. The seminar was jointly hosted by the KRIHS-affiliated Architecture and Urban Research Institute (AURI), the Korea Institute of Registered Architects, the Korea Institute of Construction Technology, and Konju University. Architectural experts from home and abroad, including Mr. Hawkins from the U. K. contributed to the presentations and discussions on a variety of related topics.

Int'l Workshop on Community Regeneration

On May 8, the Land and Housing Research Division hosted the international workshop titled, 'Development of Governance System for Community Regeneration.' The researchers and those concerned from the Korean Urban Regeneration Corporation attended the workshop, themed, 'Building Participatory Governance for Urban Regeneration: East Asian Experiences.' The participants exchanged information on

relevant domestic and international cases of the construction of governance for urban regeneration, and held discussions.

French Delegation Visit to KRIHS

Three delegates from France, led by Mr. Fulda, of the Ministry of Ecology, Energy, Sustainable Development and Town and Country Planning of France, along with Mr. Kwiatek, Commercial Attache from the French Embassy in Seoul, visited KRIHS on May 21. They held a discussion session with KRIHS researchers, providing an opportunity to mutually understand current research trends in sustainable development in both institutions, and discuss fields of future collaboration in relevant research.

Training Course for Officials from Global Developing Countries

In an effort to share Korea's experiences in land and housing development with developing countries, KRIHS invited a total of 15 public officials from eight countries around the world, and offered a training program titled, 'Land and Housing Policies' from June 19 to July 4. The participating countries include, Ethiopia, Indonesia, Laos, Mongolia, Morocco, the Philippines, Tanzania and Vietnam. Professional lectures on a variety of themes related to land and housing development, such as urban land development and housing financing, were given by Korean experts including KRIHS staff.



NEWS & ANNOUNCEMENTS

The KRIHS-affiliated Architecture and Urban Research Institute (AURI) held on March 28 the first AURI Humanist Forum titled, 'Humanist Interpretation of Space.' Opening with the keynote speech by Prof. Naehui Kang from Chung-Ang University, the forum invited young scholars from various fields, and provided a venue for reflecting on the significance of space as a ground of life. Raising issues, the participating presenters provided interpretations of different perspectives on space. Discussions followed the presentations on the value and philosophy of space.

On April 1, the Environment and Culture Research Division hosted a seminar on disaster prevention under the theme, 'Establishment of Disaster-proof Territorial Infrastructure.' The seminar was held on the occasion of the 30th anniversary of the inception of KRIHS. At the seminar, there were expert presentations on four sub-themes of urban floods, forest fires, yellow dust and risk management, followed by discussions among professionals and public workers from relevant fields. The discussants endeavored to explore policy alternatives geared to tackling disasters that tend to increasingly grow and have repeatedly occurred in recent years.

On April 10, the SOC Construction Economics Society invited Dr Boknam Lee, Director of the Construction Management Division of the

Construction and Economy Research Institute of Korea, and held the seminar themed, 'Challenges for New Market Exploitation for Construction of Korea.' Dr Lee provided a forecast for a future society along with a diagnosis on the future Korean society, predicting consequent change in the local environment for the construction industry. In the following remarks, Dr Lee stressed that in order to stay competitive in the changing environment, it is imperative for concerned businesses to explore new business models, construct global networks and intensify the network between business and projects.

On April 17, the Land and Housing Research Division held the KRIHS 30th anniversary seminar on land policy, under the theme of the 'Introduction of Floor-Area-Ratio (FAR) Trading System for Recapturing of Development Gains and Loss Compensation.' At the seminar, Mieoak Chae, Director of the Land and Housing Research Division offered a presentation on the practical measure, the introduction of the FAR as a policy tool to normalize the land market functions through development gains recapture and loss compensation. At the following discussion session, the participants examined the feasibility of the FAR Trading System introduction. Also, they discussed how to tackle problems predicted in the process of application and implementation of the system, and explored the overall conditions to be met for an early introduction of the FAR Trading System.

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Korea Research Institute for Human Settlements (KRIHS) is committed to improving knowledge and understanding of the conditions and problems of the nation's resources and their interactions with people. It assists the government in formulating long-range development plans and makes policy recommendations on related matters.

KRIHS carries out various activities to collaborate with the international research community in solving theoretical and practical problems concerning human settlement issues and planning. Also, it provides research expertise and consulting services along with training programs for foreign governments and institutions.

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Korea Research Institute for Human Settlements
224 Simin-ro Dongan-gu Anyang-si Gyeonggi-do, 431-712, Korea
TEL: 82-31-380-0429 FAX: 82-31-380-0474

E-Mail: ymchoi@krihs.re.kr

Homepage: www.krihs.re.kr

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Editorial Committee:

Bae Soonsuk, Cho Chunman, Choi Youngmee,

Jo Jincheol, Kim Hyunsik, Kim Myoungsoo,

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