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The Korea Research Institute for Human Settlements is a non-profit research institution established in 1978. It specializes in the field of national planning, housing and land policies, transportation, regional development, urban design, environment, and construction economy.

KRIHS seeks to improve knowledge and understanding of the conditions and problems of the nation's resources and their interaction with people, to assist the government in formulating long-range development plans and make policy recommendations on related matters, to collaborate with the international research community in solving theoretical and practical problems concerning human settlement issues and planning, and to provide research expertise and consulting services as well as training programs for foreign governments and institutions.

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# SPACE and ENVIRONMENT

## Green Belt Policy Open to Debate

The green belt system was introduced in Korea to curtail urban sprawl in the early 1970s when there was a rapid population shift from rural to urbanized areas. Around Seoul, Pusan and other major cities, land areas of nearly 5,400 square kilometers, or 5.4% of the nation's total land area, were designated as green belt.

The green belt has been effective preserving the natural environment around metropolitan areas and taming urban sprawl. It has created problems as well. The land available for housing became inadequate to accommodate the sharply increasing urban population. In Seoul, a large number of people still live in small substandard "rabbit houses," and the homeownership rate is a mere 51.9%. Mounting resentment among people in need of suitable housing turned into political pressure, pushing the government to build five "New Towns" simultaneously outside Seoul's green belt in the late 1980s. However, the housing supply still lags far behind housing demand, resulting in constant debate concerning utilizing the green belt areas for residential purposes.

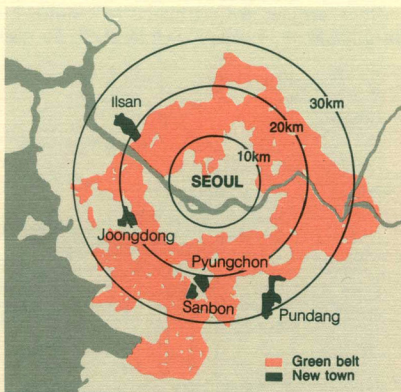
There has also been a growing concern about the private property rights of the green belt landowners. About one million people living in the green belt suffer from the stringent restrictions against development. They are strictly prohibited from renovating or reconstructing their homes other than for basic maintenance. As the new administration was launched, residents in the green belt have formed

a coalition and collectively stepped up their demands for the easing of development controls in the area.

The public hearing was held by KRIHS on August 31, where the following issues were discussed.

To improve living conditions within the green belt, the ceiling on the size of a house and a barn allowed should be increased. Also, restrictions should be eased on the expansion and construction of public buildings, libraries and facilities for the young and elderly. It was also suggested that existing houses or factories be allowed to be converted into public halls, super markets or car washing facilities and that in-house work areas of less than 99 square meters (30 pyong) be allowed.

While maintaining the integrity of the green belt, the government plans to gradually ease development controls in the green belt areas based upon recommendations proposed at the hearing.





## Year 2011 Transportation Plan for Seoul Metropolitan Proposed

**T**he car ownership rate in Korea is only about one-fifth of that of advanced nations. As such, traffic problems in the capital area and other major cities in the country are certain to deteriorate in the future as this percentage grows. To address this problem, KRIHS completed the Comprehensive Transportation Plan of the Seoul Metropolitan Region for the Year 2011.

The primary objective of the project is to map out a long-term plan for the development of a comprehensive roadway and electric railway network for 2011 in line with efforts to develop a gridiron-type orientation in the capital area. The second goal is to formulate a medium and long-term investment plan for the proposed roadway and electric railway network by the year 2001.

For the comprehensive transportation network, major development strategies were set: A full-scale urbanization of the area; the promotion of self-reliance of neighboring cities; a wide distribution of automobiles; unification between South and North Korea; and better accessibility between cities and neighboring counties. The structure of the network was formed in such a way that the area has a grid iron-type layout, and traffic demand is met through an efficient sharing of burdens. For that purpose, the plan proposed the construction of 774.4 kilometers of expressways and 925.7 kilometers of highways.

The electric railroad for the area was planned in such a way that full-scale urbanization is achieved. Also, express electric railroads were proposed to enable the development of satellite cities around Seoul. For an inter-regional railroad, a belt railway was proposed and the simultaneous operation of an electrical railroad was also suggested. The plan calls for the construction of 654.4 kilometers of railroads, including those already decided.

Such project are estimated to require a total investment of 14 trillion won by 2001. To meet the

### Investment in Capital Area Highway and Electric Railway System from 1991 to 2001

|                    | in one trillion won |                |             |
|--------------------|---------------------|----------------|-------------|
|                    | Total Fund Need     | Available Fund | Difference  |
| Central Government | 13.8                | 4.6            | -9.2        |
| Local Government   | 0.4                 | 1.5            | 1.1         |
| <b>Total</b>       | <b>14.2</b>         | <b>6.1</b>     | <b>-8.1</b> |

(note: US\$1 equals to 820 won)

huge funding requirements, the plan proposed special charges against the developers of new residential areas which will utilize such facilities.

There is a precedent for this financial scheme. In the process of developing five satellite cities, including Pundang and Ilsan, which are nearing completion, the developers paid a total of 2.9 trillion won to help construct regional connecting roads and electric railroads.

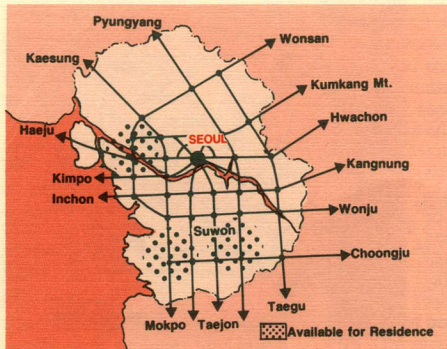
## National Land Use Zoning System Revised

**A**fter a year-long study and a series of public hearings, a new national land use zoning system was recommended by KRIHS and passed by the National Assembly last August.

There are two salient features of the revised national land use zoning system. First, the number of land use zones classified under the national land use plan has been reduced to five from the previous ten.

Particularly among the agricultural and forestry areas, land with lesser priority for preservation is now zoned into Semi-agricultural and Forestry Area, thus opening it up for development. Second, the mode of land use control has been streamlined. Previously, the government regulated land use by listing the types of permitted activities (what can be done) for each land use zone category. Under the new system, the government will instead list the activities which are not permitted (what cannot be done) for each land use zone.

As a result, the amount of land now open for development accounts for 41.7% of the nation's total land area, up from 15.6% in the past. This measure represents a key turning point in the nation's land policy by fundamentally shifting its focus from demand control to supply expansion.





## New Approach to Evaluate Public Investment Policies

Infrastructure has regained its position as an important tool to lead economic growth in recent years. Dr. Kim, Eui-June of KRIHS has recently completed a study developing a Computable General Equilibrium (CGE) model for Korea to analyze the economic consequences of public investment policies. The model enables us to scrutinize how the sectoral allocation of total government resources affect the Korean economy in a dynamic manner. It is based on a neoclassical approach with a few institutional elements, such as limitations on commodity substitutions and the existence of unemployment, focusing on the real side of the economy in 1990. Public investment is classified into nine sectors: road construction, railroad construction, harbor construction, airport construction, river improvement, water and drainage work, communications facilities, electric power facilities, and others.

A SAM was estimated to provide the CGE model with comprehensive data. The CGE model is composed of three main modules: supply, demand and price. The supply module includes production, labor demand and supply, sectoral wages, and commodity market equilibrium, while the demand module includes economic activities of the private and government sectors, foreign trade, and private capital. The CGE model contains 255 equations with 317 variables including 62 exogenous variables such as foreign exchange rates, world commodity prices, and government consumption and investment. In particular, the model is expected to be applied to the evaluation of public measures proposed for the provision of infrastructure projects for the New Five-Year Economic Plan (1993-1997)

## Seoul Introduces Special Charges for Building Permits

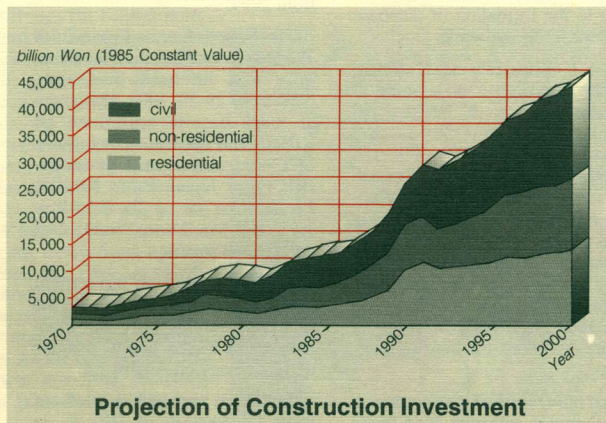
Beginning next year, the construction or expansion of commercial buildings with a total floor area of more than 3,000 square meters in Seoul and its vicinity, will involve a special charge. Dr. Hahn, Yeong-Joo of KRIHS suggested that the special charges be about 10% of land and construction costs. Of the estimated 600 billion won to be raised every year through this special charge, 50% will be spent on transportation, environment, water, parks, parking lots and other basic infrastructure projects in the Seoul region. The other 50% will be used as a special account to promote balanced regional development.

It was proposed that the special charges be imposed on typical commercial facilities, wholesale and retail buildings and entertainment facilities. Supermarkets and small commercial facilities near residential areas were proposed to be exempted from the charges to reduce the burden of middle and low-income people. Currently under study is the idea of reducing the special charge rates on downtown redevelopment and satellite city construction projects because of their public nature.

## KRIHS Regional Model Ready for Application

The Institute is now developing a new version of KRIHS Regional Input-Output Model. The essence of this research is to develop a multi-stage hybrid approach which can improve the accuracy of the model under time and budget constraints. The model consists of three phases and ten steps. Its core utilizes the MRIO model of Chenery-Moses through the study of merchandise trading structure by region. The phase one estimates regional

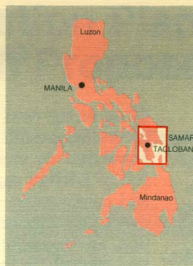
technical coefficients and regional trade coefficients at phase two. Then, inter-regional input-output tables are produced at the final phase. Another main feature of the model is its ability to sort through existing statistics and research data to come up with more reliable results. Based on this model, KRIHS is now developing interregional input-output tables for the capital and other areas in 1990.





## KOICA Funded Master Plan for the Philippines' Industrial Center

**K**RIHS has been formulating the master plan for the Eastern Visayas Regional Industrial Center in the Philippines since October. This project was launched upon a formal request from the National Economic and Development Authority of the Philippines. The Korean and the Philippine governments signed a Memorandum of Understanding in March for the implementation of the project, jointly managed by the Korea International Cooperation Agency and the Ministry of Trade and Industry of Philippines. The project covers the vicinity of Tacloban city (Leyte state) in the Eastern Visayas region, about 500 kilometers southeast of Manila, the capital of the Philippines. The total area of the



industrial complex is 264.89 hectares.

The primary objectives of the research include a master plan covering the development direction, land use, road network and other necessary infrastructures for the overall complex. Also included are economic and financial feasibility studies for the 40.12 hectare first-phase area that

outlines investment plans as well as ways to attract businesses. The project will be completed by June, 1994. (For more information, contact Dr. Lee, Jeong-Sik and Dr. Kim, Dong-Ju)

## NEWS AND NOTES

The founding convention for the establishment of the Training, Research and Information Network in Human Settlement (TRISHNET) was held in New Delhi, India from September 27 through October 1. It was organized by the U.N. Economic & Social Commission for Asia and Pacific (ESCAP) and the Human Settlement Management Institute of India.

During the convention, KRIHS Vice President Hong, Sung-Woong was elected Vice Chairman of TRISHNET and a standing member of its executive committee. KRIHS agreed to actively participate in the formation of database systems for the network.

**An Evaluation of Housing Policy in Korea** is undergoing in collaboration with the International Bank for Reconstruction and Development (IBRD). The 13-month project that started December last year involves the development of indices to assess housing policy from a macro perspective, an analysis of the effects of policy tools from a micro view, and long-term projection on housing demand. The final part suggests future directions for housing policies.

An international conference on development strategies for China's

three northeastern provinces was hosted by KRIHS from August 24 through September 2. The conference was a part of the research efforts which have been jointly pursued by the East-West Center of the U.S. and the Science and Technology Commission of China since January 1992.

A public hearing was held on June 10 on the government's new policy to significantly ease regulations on land acquisition by foreigners. The final draft bill is to be presented to the National Assembly in its fall session and, if approved, will become effective from 1994.

The Fourth Korea-Japan Joint Workshop on Construction Economy will be held in Osaka, November 29-30, 1993. This annual workshop is organized by KRIHS and the Research Institute of Construction and Economy (RICE) of Japan. From KRIHS, Dr. Kim, Jae-Young, Dr. Kim, Eui-June and Mr. Yoon, Young-Sun will present papers.

KRIHS signed an agreement for research collaboration with the School of Architecture and Planning of the Massachusetts Institute of Technology on August 12.

The joint research agreement with University of Illinois at

Urbana-Champaign, which was adopted in November 1983, was extended for another five years.

Professor Manas Chatterji of New York State University visited KRIHS on June 15 for a special lecture on "Urban and Regional Management: Regional Science in New World Order."

A special lecture on "Effects of European Integration on Urban Areas" was presented on May 26 by visiting professor Michael Fredrick Dunford of Sussex University in Britain.

Ms. Sharon Greenberger joined KRIHS as an intern researcher from September this year through next July. She is sponsored by the Luce Foundation of the U.S. She is a graduate of the Massachusetts Institute of Technology.

Contact us with a response or a question, or comment on ideas we cover in the Gazette. Fax to **SPACE and ENVIRONMENT**

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