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Gazette**

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

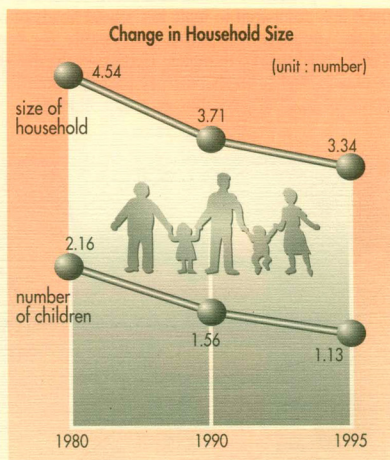
'95 Population and Housing Census Reveal 11.6% of Elderly Live Alone

According to the 1995 population and housing census, Korea's population was estimated to be 44 million 608 thousand 726 including the foreign residents, growing by 1 million 198 thousand over the past 5 years. The gender ratio was 50.2% male and 49.8% female. The population size ranks the 25th in the world and comprises of 0.78% of the world population. The number of foreign residents have grown 1.7 times from 20 thousand 525 in 1990 to 55 thousand 16. The increase can be attributed to the growth in the number of foreign industrial trainees.

Analysis by region shows that Seoul's population of 10.2 million, decreased for the first time by 382 thousand compared to 5 years ago, was still the largest, comprising 22.9% of the national total. Nevertheless, the population of the Metropolitan areas including Incheon and Kyonggi-do has grown to 20.2 million, comprising of 45.3% of the nation's total, which is an increase by 1.6 million from 42.8% of 1990, worsening the problems of population concentration towards the metropolitan areas.

Population density, estimated to be 449 per square km, is the third most dense in the world after Bangladesh and Taiwan, also grew by 12. Seoul had the highest density of 16 thousand 889 per square km, whereas Kangwon-do was the lowest with 89. Seoul's population density is the 13th in the world.

Actively working population, aged between 15 to 64 (excluding foreign residents), was 31 million 678 thousand



comprising 71.1% of the total population, an increase from 69.3% in 1990. The age group of 0 to 14 years decreased by 8.1% whereas the age group of over 65 increased by 22.1% to 2 million 640 thousand, indicating a continued aging of the population. The median age for Korea was 29.7.

More than half of the population had a religion, and the Buddhist population was the largest comprising of 23.2%, followed by Protestants 19.7%, Catholics 6.6% and Confucians 0.5%.

The population living alone has also grown. 11.5% of the age group over 60 live alone, whereas 21.3% of singles aged over 15 and 36.6% of the singles aged over 40 live alone. 84.8% of the adolescents aged under 15 live either with their parents or grandparents, whereas 3.0% live with their single mothers and 1.0% with their single father.

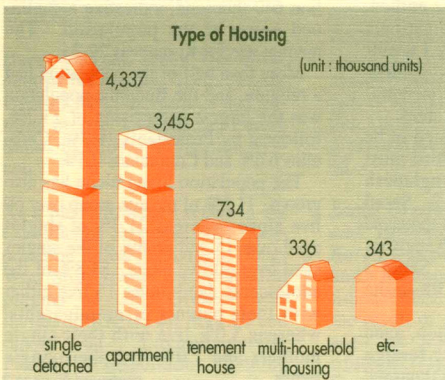
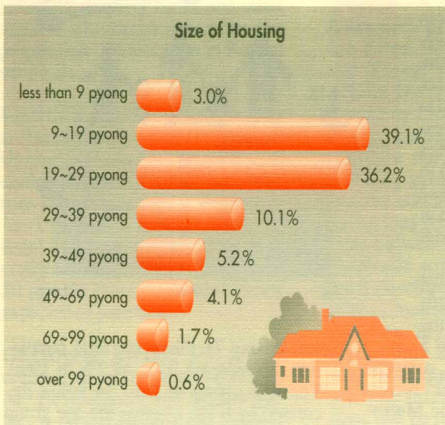
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'95 Population and Housing Census from page 1

The overall gender ratio did not change from the last census - 100.7 males per 100 female. The male ratio for age group of 0 to 4 years was the highest. There were 113.4 males per 100 female, a 2.2 point increase compared to 1990 census. 60.7% of those over 15 had a spouse, which is an 1.6% increase and 1.1% divorced.

The number of households increased by 14.2% to about 13 million. The average family size dropped by 0.4 persons to 3.3 persons. The 4 member household comprised 31.7%, followed by 3 member (20.3%), 2 member (16.9%), 5 member (12.9%) and a single member household (12.7%).

The proportion of female household heads was 16.6%, much less compared to male household heads of 83.4%, but the increase was more remarkable for females, 20.2%, as compared to males, 13.0%. As the divorce rate increased, the proportion of female household heads increased by 20.8% for the age group 30 to 39.



The proportion of home owners rose from 49.9% in 1990 to 53.3% in 1995. Cases of a lump sum rental deposit also rose to 29.7%, whereas households in monthly rentals decreased to 14.5%. The average number of rooms increased by 0.6 to 3.1. Still a majority of 59.5% lived in individual housings, but the number decreased by 15.4%.

On the other hand, the proportion of those living in apartments, multi-household housings and tenement houses rose from 14.8% to 26.8%, 1.2% to 2.7% and 5.2% to 6.1%, respectively.

The total number of houses grew by 28.6% from 7.2 million units in 1990 to 9.2 million in 1995. The housing supply ratio also grew from 72.4% to 86.0%.

Single detached housing numbered to 4.3 million (47.1%), apartments 3.5 million (38.3%), tenement housings 734 thousand (8.0%), and multi-household housings 336 thousand (3.7%).

The average number of household per a house reduced by 0.2 from 1.6 in 1990 to 1.4 in 1995. The average number of room per a house was 4.6, whereby it was 5.3 for single detached housings, 3.8 for apartments and tenement housings, and 3.6 for multi-household housings. 39.1% of the total houses was between 9 and 19 pyong, 10.1% between 29 and 39 pyong, 5.2% between 39 and 49 pyong and 4.1% between 49 and 69 pyong. The number of houses of 69 to 99 pyong increased, about 155 thousand, which is 1.7% of the total. Those larger than 99 pyong also increased by 18.4% to about 60 thousand.

Apartment Size Getting Larger Every Year

Average size of apartments are getting larger as a result of increased income level and preference of larger houses. The proportion of apartments among all housing types rose by 62.0% from 1 million 952 thousand units in 1992 to 3 million 159 thousand in 1995. The increase was noticeable for medium to large size apartments over 30 pyong. During this period, while apartments larger than 30 pyong increased by two fold, apartments smaller than 30 pyong only rose by 30.5%. Accordingly, the proportion of apartments over 30 pyong rose from 24.8% to 30.5%. Apartments smaller than 13 pyong increased from 6.1% to 7.7%, however, due mainly to government's efforts to supply small rental housing for low income group.

The proportion of 'extra large' apartments of over 60 pyong increased from 0.5% to 0.7%. The most noticeable increase in 'extra large' apartments is observed in large cities such as Pusan, Incheon and Kyonggi-do Province. The increase was rather insignificant in Seoul.

Will Presidential Election Effect Real Estate Market?

How does a political event like a presidential election influence the real estate market? One of the alleged reasons for the upward turn in the real estate prices manifested early this year, is the upcoming presidential election scheduled for December of this year. This is because various campaign promises for development and deregulation of real estate markets expected to be made towards the election period coincided with the 10 year business cycle boosting house and land prices.

Over the two presidential campaigns held during the past ten years, the real estate market had shown contrasting patterns. In 1987 when the 13th presidential election was held, the house price rose 7.1%. House prices rose sharply by two digits until the early 90's. House rental prices rose even more sharply by 19.4%, and also continued to rise over the same period.

In contrast, the house prices dropped by 5.0% towards the next presidential election in 1992. House rental prices, however, rose by 7.5%. Although the effect of the 2 million housing construction project on the market cannot be ignored, the data indicates that the presidential election itself did not have much influence.

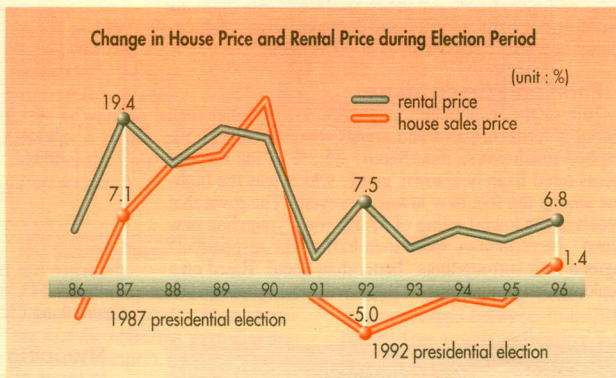
One of the main factors of house price rise in 1987 was attributable to the inflow of capital due to the large international trade surplus amounting almost to 10 billion US dollars. The trade surplus continued until 1989 resulting in excess liquidity and the GNP grew by 11.5%. In contrast, house supply ratio remained at less than 70%. The situation changed dramatically in 1992. The growth rate dropped to 5.1% with a trade deficit of 4.53 billion US dollars.

Observations of these two past election periods lead us to speculate that the real estate market will be more or less stable this year. The economy will continue to be

sluggish with the growth rate remaining at 6% level or lower and the trade deficit is expected to be approximately 16 billion US dollars, or even higher.

Other conditions have changed as well. For example, various controls to deter speculation in the real estate market are in full operation. House supply ratio increased to

88% which is about 20% rise compared to 10 years ago. Furthermore, control and surveillance measures for election campaign activities deter the use of election funds above a legally stipulated amount. Despite all these signs in the market and the government's assurance, however, public concern still remains.



Unsold Land Reserve of Public Corporation Causes Heavy Financial Burden

Unsold land reserve of the Korea Land Corporation (KLC), which is a public corporation established to develop low cost residential and commercial land, amounts to 8 million pyong which is about 6,800 billion won in value. This is due largely to the downturn in the business cycle for Korean real estate market. The industrial land with the biggest proportion totalled 5.6million pyong whereas residential land amounted to 1.8million and land for public purposes 873 thousand pyong.

The land reserve with the highest price was the distribution facility area(34 thousand pyong) located in

Ilsan new town amounting to 94.4 billion won, followed by Tongil-Dongsan(Unification Hill) leisure facility and folk village area (310 thousand pyong) and Pundang new town business district(70 thousand pyong).

The huge amount of land reserve blocks revolving funds and burdens KLC with high interest payments on loans, thus causing financial hazards. In an effort to reduce the land reserve, KLC is now undertaking various marketing activities such as advertisements and investment seminars together with administrative measures of modifying land use regulations.

New Suburban Towns Are Transforming to Self-Sufficient Cities

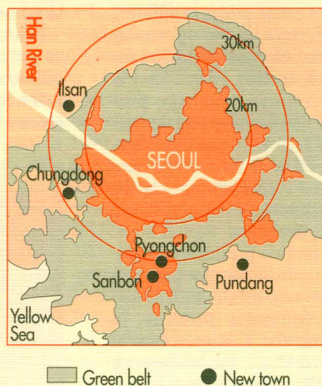
Are new suburban towns, which have been built recently around Capital region, just bedtowns for city commuters or are they self-sufficient towns? According to a recent survey, the male residents visit the city 3.4 times a week on the average and the female residents visit 1.4 times a week. The frequency of the city commuting is an indication that new suburban towns are now in the process of transforming to self-sufficient towns from solely satellite cities serving as bedtowns.

New towns rated better than Seoul in terms of convenience and pleasant surroundings such as shopping, cultural facilities, parks and green space whereas opinions were divided for security and transportation. Educational facilities were rated 'as good as Seoul.'

Parks and Green Space

70% of the respondents rated new towns better than Seoul in terms of parks and greens whereas only 11.5% replied much worse than Seoul. 85.2% of the respondents rated Ilsan new town 'good' which was the highest among the five new towns surveyed. The town that received the lowest rating of 57.5% was Pyongchon new town. Nevertheless, more than half of the respondents agreed their surroundings 'better than Seoul. Rated on a scale of 'very satisfactory' (5) to 'very unsatisfactory' (1),

Location of five new towns around Capital region



the score was highest for Ilsan (4.3), followed by Pundang (4.04), Sanbon (3.92), Pyongchon (3.56) and Chungdong (3.51).

Shopping and Cultural Facilities

In terms of cultural facilities and shopping centers, 58.5% of the respondents rated 'better than Seoul' whereas 24.3% replied 'worse than Seoul.' Only in Sanbon new town, 62% responded 'worse than Seoul.'

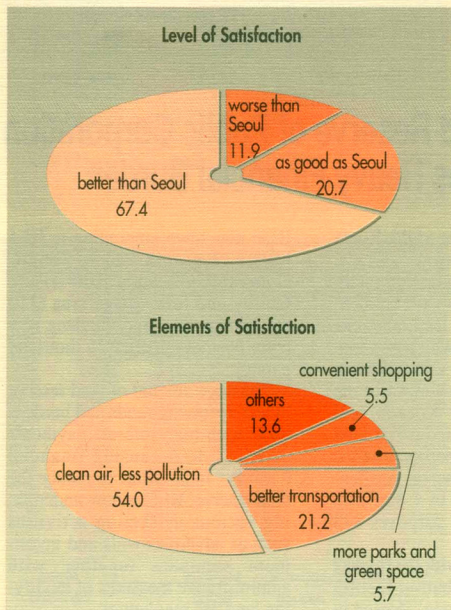
Ilsan and Chungdong rated the most satisfactory. 73.4% of the respondents of Ilsan which has large scale department stores and discounted outlet stores rated the city better than Seoul in terms of convenient shopping and cultural facilities. Chungdong (67%) and Pundang (66%) were also rated satisfactory. However, only 22% of respondents of Sanbon replied 'better than Seoul.'

Rated on a scale from 5 to 1, Ilsan (3.93) was rated the highest, followed by Chungdong (3.66), Pundang (3.63), Pyongchon (3.58) and Sanbon (2.52).

Security and Safety

The new towns, except for Ilsan, were generally evaluated as safer than Seoul with 'better' (total average 36.5%) responses leading 'worse' (total average 23.9%) responses by 15 to 30%. Sanbon new town received the highest ratings in terms of security and safety, followed by Pundang, Pyongchon, Chungdong and Ilsan. In Sanbon's case, as in other towns except for Ilsan, 42.6% responded that their towns were 'better than Seoul' in terms of security and safety, whereas 42.6% responded 'similar' and 11.1% 'worse.'

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Housing Purchase Still Long Term Dream for Most Middle Class

To explore the path to become a first time homeowner, the study was conducted for 13 cities on randomly selected two thousand households with either apartment-application deposits or with home loans from the Housing & Commercial Bank in 1996. The study revealed that the average years to buy a house for the first time was 8.1 and the average times people moved until they finally became homeowner was 4.4.

The average years to purchase housing continued to shorten with 9.0 years in 1993, 8.5 years in 1994, and 7.9 years in 1995, but in 1996, it took longer(8.1 years).

The average home-buying fund also rose by 7% from 66.1million won in 1995 to 70.8million won, of which 48.7million(75%) was self-financed and 17.7million(25%) a loan from the Housing & Commercial Bank. The average monthly loan payment was 249 thousand won.

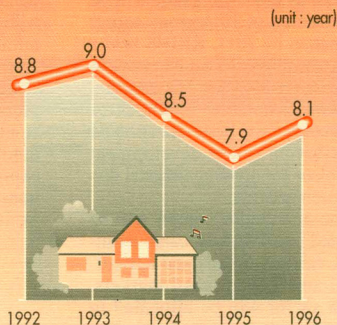
The average age of the household head of the homeowners were 40.3 years old with average family size of 4 and an average monthly income of 2.3million won. The average rental deposit was 32.0million won, an 8.4% increase from 29.5million won, in 1995. Average monthly saving ratio was 31.8% amounting to 687thousand won. The purpose of the saving was mainly for 'home-buying' (31.5%), educational expenses(22.2%) and preparing for the old age as well as for recreation(17.1%).

The study also showed that the primary elements people considered when they selected housing was in the order of traffic conditions (22.6%), residential amenity(14.2%) and educational environment(14.0). However, when buying a house in the future, they would give top priority to the educational environment (26.9%), then residential amenity(26.0%) and traffic conditions (13.3%).

The amount of housing loans

people hoped to get for the future home-buying was 32.6million won with repaying period of 15.9 years. 67.8 % of the respondents replied that the most important aspect of the housing loans was the interest rate. In comparison to 36.9% in 1993, 39.2 % in 1994 and 42.5 % in 1995, the sensitivity for interest rates is getting higher as a result of the liberalization of interest rates.

Years to Become a Homeowner After Marriage



New Suburban Towns from page 4

'Worse' responses outweighed 'better' responses for Ilsan showing that the residents were dissatisfied in this respect.

Transportation

Pyongchon was rated the most convenient in terms of transportation, followed by Sanbon, Pundang and Chungdong. Ilsan was rated the most inconvenient. The rating order matched the order in which subways were made available. The scores for Chungdong came out low probably because the subway stations near Puchon are quite distanced.

Pyongchon with highest ratings had 56.7% 'better than Seoul' responses as compared to 24.9% 'worse' responses. Ilsan with the lowest rating had more 'worse' (47.1%) responses than 'better' (35.4%) responses.

Waste Disposals and the Environment

77.6% of the respondents replied that the new towns were 'better than Seoul' in environmental aspects whereas only 6.9% replied

'worse.' In general, 'better' responses ranged between 76 to 79% for all five towns indicating that environmental aspects were overwhelmingly more satisfactory for the new towns than Seoul.

Educational Facilities

43.4% of the respondents rated educational facilities 'better than Seoul,' 36.5% 'similar' and 19% 'worse.' Pyongchon had the highest rating of 49.8% whereas Sanbon had the lowest rating of 34.7%.

Contact us with a response or a question, or comment on ideas we cover in the Gazette.

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National Distribution Network With Thirty-Nine Regional Centers Recommended

39 distribution centers processing import and export cargos as well as domestic goods will be constructed in 10 regions across the nation by 2011. KRIHS held a public hearing on a Comprehensive Long-term Plan for Distribution Center Construction, on March 21 to announce the basic direction on distribution center development and plans for building national distribution network.

The distribution centers will be divided into 4 sectors; cargo terminals, carriers, retails and agricultural and fishery retail markets. Each sector will be allocated in areas suitable to the regional characteristics.

The basic direction of development will be to collectivize and to induce economies of scale by building coast-inland link and new distribution axis connecting nation wide distribution network and adjacent transportation system.

The first stage is to build 10 distribution centers on 8.5 million pyong by 2001. The local government will decide the specific location of the distribution center for each region. The second phase (2002~2006) will involve 13 million pyong and the third phase

(2007~2011) 9.7 million pyong. Participation from private sectors will be encouraged in collaboration with the local authorities providing infrastructures such as land acquisition and road construction.

KRIHS claimed that various supportive measures such as granting companies the right to change the land use as well as the right to expropriate the land, prioritizing transfer of national and other public land, providing national and

regional tax incentives, reducing or exempting development charge and providing infrastructures.

It was estimated that, based on the cost saving effect of the existing distribution centers already in operation in Uiwang, Pugok, and Yangsan, the completion of the first phase for a 8.5 million pyong distribution center is expected to save 3 trillion won, 6% of the total annual logistics cost of 48 trillion won.

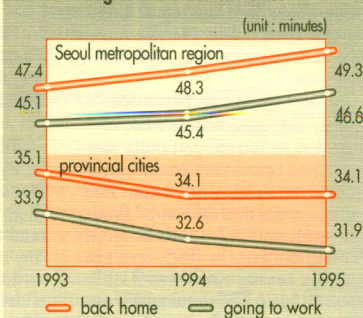
Commuting Hours Are Longer for Mid-Income Office Workers

Average daily commuting hours for office workers living in Seoul Metropolitan Region were estimated to be an hour and 36 minutes, 46.6 minutes for going to work and 49.3 minutes for coming back home. This is 30 minutes longer than the average commuting time for provincial cities. Commuting times are longer for males than for females, for more educated than for less educated, for professionals than for simple laborers, and for homeowners than for renters.

According to a survey conducted with 1,867 office workers across the nation, commuting hours for Metropolitan areas are getting longer every year with 92.5 minutes in 1993, 93.7 minutes in 1994 and 95.9 minutes in 1995. In contrast, commuting hours for provincial cities are becoming shorter with 69 minutes in 1993, 66.7 minutes in 1994 and 66 minutes in 1995.

Commuting hours were longer for males than for females. This probably reflects the females with housekeeping responsibilities and more flexibility in reducing the

Average Commuting Hours in Seoul Metropolitan Region and Provincial Cities



commuting distance.

In terms of age, commuting hours were longest for the twenties bracket and became shorter with increasing age. Primary school graduates had the shortest commuting hours, whereas university graduates had the longest commuting hours. Commuting hours for mid income workers were longer than for low or high income workers. This may probably be because people move to nearby suburban cities as soon as they can afford to own a home, then move back to Seoul as their income levels increase.

Planned Regional Distribution Centers



Payment of Construction Fees with Long-Term Bill Raise Financial Burden

Construction companies are financially overburdened by the high rate of long-term bill as a payment for construction work. In a status report on a study titled 'Structural Investigation and Analysis of Construction Industry' conducted by the KRIHS on 694 construction companies, the proportion of bills as construction fee payment was getting higher and the term longer.

26.9% of the general construction companies replied that, in 1996, more than 30% of their fees were paid by bill, whereas for specialized construction companies the proportion was larger, 57.7% for original contractors and 81.3% for subcontractors.

The payment period was also getting longer. The proportion of bills over 90 days, which exceed the legal period, was 24.4% for general and 41.8% for specialized companies, higher than 15.04% and 37.6%, respectively, 3 years ago.

Only 39.6% of the general and 53.3% of the specialized companies cashed the bills at banks or at secondary monetary markets, whereas the others cashed them at private loan markets or kept them until the due dates.

9.6% of the general and 17.8% of the specialized companies paid these bills to subdealers for material cost and subcontracting fees.

'Bill shifting' was one of the main causes for series of bankruptcies following bankruptcies of large construction companies.

Higher proportion of bill payment together with extended payment period is causing additional financial burdens for the construction companies whereby the proportion of financial cost in relation to the revenue increased from 7.1% in 1992 to 7.8% in 1995 for the general and 12.7% to 14.1% for the specialized.

The research pointed to the urgency of normalizing payment practices of construction fees and

material cost. The research also suggested that the burden of financial cost be alleviated through policies enabling to raise long-term

finances by the companies such as extending the list of Bank of Korea for 'rediscount,' and activating long-term bond market.

Financial Burden of General and Specialized Construction Companies

(unit : %)

	general construction companies	specialized construction companies
ratio of financial cost to total revenue	7.8	14.1
proportion of bills over 90 days	24.4	41.8
percentage of cashing bills at formal financial institution	39.6	53.3

Low Density Garden City Will Be Developed Near Chonan High Speed Rail Station

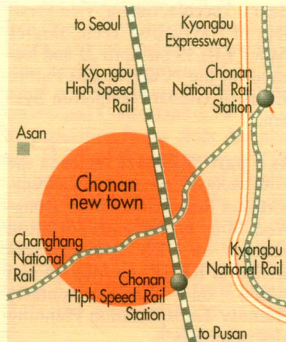
The 10 million pyong (1pyong=3.3 m²) scale Chonan New Town, planned in the vicinity of Kyongbu high speed rail station, 84km south of Seoul, will be developed as a garden city with a population of 250,000.

Chonan New Town, which will be jointly developed by Korea Land Corporation and the local government of Chungchongnam-do, will have medical and cultural facilities suitable as a health resort for the mid-career and elderly population.

Korea Land Corporation will undertake developments for 3 million pyong and 7 million pyong in sequence in accordance with phases specified in the Chonan Station Impact Area Development Plan, prepared by KRIHS.

The new town is designed to have a relatively low average floor space ratio of 95%, lower than Kwachon new town (130%) which is currently the lowest density new town in Korea. Pundang, one of the five recently completed new towns, accommodates 500,000 in 6 million pyong.

Following the designation as residential development area by the Ministry of Construction and Transportation this year, Korea Land Corporation will launch the project early next year, aiming to complete the first phase construction of 3 million pyong in time for the opening of Chonan high speed rail station with a total budget of 1 trillion won and move on to the second phase by 2011.



Sang Yol Ryoo, former Vice Minister of Construction and Transportation assumed office of President of KRIHS on March 26, 1997. Former president, Gun Young Lee, moved to Korean Transportation Institute (KOTI) as president. His new address is Ildong Bldg. 968-5 Taechi-dong, Kangnam-gu, Seoul, Korea (Tel. 82-02-538-1451 Fax. 82-02-538-1390).

Klaus Toefer, Minister of Construction of Germany, was invited to KRIHS on January 21 for a special lecture meeting. Minister Toefer addressed critical issues and policy experiences of infrastructure development for unified Germany. Discussions were followed on property rights and other matters of consideration for the preparation of unification in Korean peninsula.

KRIHS is planning on conducting a "Technical Training Program on Human Settlements" for mid-level civil servants of developing countries from August 29 to September 12, 1997. This program is sponsored by Korea International Cooperation Agency(KOICA) and about 30 people from 13 countries are expected to participate.

OECD and KRIHS will jointly organize an international workshop on "Development and Sustainability : A Global Agenda and National Strategies" on September 4-5, 1997 in Seoul.

Harry Voccola, Senior Vice President of Navigation Technologies visited KRIHS on April 21 and lectured on the "Current and Future Status of Global Navigation System."

As a part of lecture series in the Construction Economics and Transportation Research Division, Dong-Woo Son, senior transportation planner of URS Greiner, was invited to KRIHS on May 16 and talked on "Environmentally Friendly Transportation Planning Methodologies."



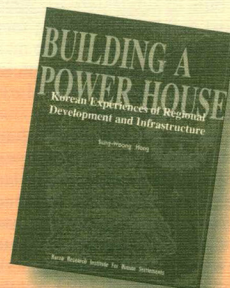
Professor Bin Ran of Wisconsin University came to KRIHS on May 13 and had a round table discussion session with transportation research division staff members on "Automated Highway System of the United States."

A research proposal on Comparative Urban Development of France and Korea, prepared by Urban Affairs Division of KRIHS, was granted by French government. The primary purpose of the project is to compare the structure of urban planning system, related policies and the actual implementation of the various urban development projects between France and Korea. Emphasis will be placed on new town development, urban renewal project, multi-purpose development complex, high speed rail station impact area development. Planning techniques, project financing scheme, intergovernmental relations will be reviewed with specific policy implications for both countries. In line with this project, KRIHS president Sang Yol Ryoo received an invitation for an official visit to France. The French counterpart of this project is Alain Bourdin, Director of Institute Francais d'urbanisme, University of Paris VIII.

Social Overhead Capital Statistics and Information Yearbook of Korea was published by KRIHS under the auspices of National Statistical Office. The publication was the result of collaborative efforts with the Korea Transport Institute(KOTI), the Korea Energy Economics Institute (KEEI), the

Korea Environment Technology Research Institute (KETRI), and the Korea Information Society Development Institute(KISDI). Most up to date statistics on socio-economic indicators, social overhead capital investment, the Five Year Socio-Economic Plan, the National Comprehensive Development Plan, transportation and traffic, industrial estates, water resources, energy and environment, information and communication were compiled with comparable statistics of selected foreign countries including North Korea. A brief summary of major recent national SOC projects was also attached.

Building A Power House : Korean Experiences of Regional Development and Infrastructure is recently published by KRIHS. The author, Sung-Woong Hong, is former vice president of KRIHS and now president of Construction and Economy Research Institute of Korea(CERIK). The book presents the role of development state through Korean experiences of economic development strategies coupled with regional and infrastructure investment policies. Issues of agglomeration economies at different stages of development, the cost of unbalanced growth policy, environmental degradation, distributional justice are thoroughly reviewed with critical evaluation.



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