

Housing and Residential Environment in Korea**

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I. Introduction

One of the most pressing of housing problems in Korea is undoubtedly the absolute shortage of housing stock. The root of the problem goes back to the Korean war: a large number of dwellings were destroyed, and yet over a few million migrants from the north had to be housed at the same time. More recently, rapid urbanization, nuclear family formation and increase in household income have been largely responsible for worsening such a shortage.

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This paper is intended to describe and discuss the following aspects of Korean housing;

1. housing problems in Korea and the context where the problems arose
2. the ways the housing problems have been dealt with over the last fifteen years, and
3. a few suggestive directions in order to guide future housing policies and programs.

The main theme of this paper is the relationship between the evolutions of the society and housing. The problems of housing are viewed in the context of socio-economic and physical changes as well as the evolution of the value system of different social groups.

Economic development and urbanization have been key factors of such changes. The former helped increase people's income and made them economically and socially independent. It has partly been responsible for gradual breakdown of traditional family structure and nuclear family formation. Numerous studies verified the hypothesis that household formation rate is highly correlated with net household income. In fact households are being formed now at a rate of 3.5% per annum whereas the rate of population growth has been controlled at below 1.6% level since 1978. Some serious social problems begin to surface with the breakdown of traditional family structure; one of them is housing shortage and the other, provision of social services for the aged, including social housing.

On the other hand, urbanization has changed the nation's settlement structure. A massive number of rural population have migrated into large metropolitan areas, mostly into the primate city of Seoul and Busan, the second largest city. Many reasons are cited being responsible for rural-to-urban population movement. The wage differential theory seems to be most plausible, but other reasons such as quality education and social services, including housing and its related infrastructure appear to be also important. There are also "push factors" that accelerate inter-regional movements of population. One is an increase in farm labour productivity as the agricultural technology improves and farming techniques become mechanized. The agricultural sector produces more with less amount of labor and this has forced surplus labor forces out of rural villages. New migrants are still heading to Seoul and other large cities although the number is decreasing in both absolute and relative terms.

But economic growth and urbanization have exerted great pressure on the nation's housing market which can't adequately supply dwelling units over a short period of time. The quantity demand has been high in urban areas and is expected to continue. The quality demand is also increasing with nuclear family formation and higher net income. Newly formed households are better educated and earn relatively high income. They look

more sophisticated and urbane, and demand a diverse mix of housing with more and better residential amenities.

Continuous urbanization aggravates housing shortage problem in large urban areas. Low income households as well as newly migrated families must be also adequately housed, and simultaneously neighborhoods ought to be improved to meet the increasing demand for better quality residential environment. These are some of the pressing issues that the governments of all level, both local and central, must face.

The government has devoted much of the valuable resource to housing and urban development over the last ten years. Various policy measures have been devised to help the housing market cater to the housing needs of the low income families. However, the effectiveness of the government's major policies is in doubt. They have been rather critically evaluated. Some aspects can be justifiable on the ground of efficiency criteria. Recently the self-help, community-initiated development concept of "New Villiage Movement" has been adopted in urban areas for housing rehabilitation and neighborhood improvement programs. The movement has been highly successful in rural area development, but the degree of success remains to be seen in the urban setting.

New types of changes are imminent. They are basically technologically oriented and thus, the impacts will be even more diverse and deeper in magnitude. New technologies in the areas of transportation, communication, construction, and service related industries would directly affect not only housing industry on the production and the supply side, but residential location choice behaviors on the demand side. Thus the issues in housing and residential environment can't be separately discussed. The technological development and changes associated therewith influence the housing market behaviors one way or the other.

This paper examines these prospective changes and their impacts upon housing and residential environment in order to come up with a few suggestions regarding alternative courses of actions necessary to minimize any repercussions thereof. Changes pose both problems and opportunities, and if properly guided, they act as a vehicle through which we can move one giant step forward to achieve a welfare society.

II. Context of Korean Housing

As indicated earlier two primary factors have been largely responsible for the housing problems, both of which are beyond the control of the housing market. One is urbaniza-

tion; the other, the income increase. These two have affected the housing market to a great extent.

o. Urbanization

Concurrently with economic growth, Korea has experienced a rapid urbanization. The government-initiated industrial policies were largely responsible for rapid urbanization in the last twenty years. As the country rapidly underwent structural changes from agricultural to industrial economy, urban settlements became intensified. The rural-to-urban migration contributed heavily to urban growth. The net migration accounted for 45.5% of the total population growth in urban areas during the 1960-1965 period. The percentage share went up to 70% in the next five-year period and declined thereafter. This was when the government-initiated massive industrialization programs were implemented.

Much of the urban population growth during the fifteen-year period between 1960 and 1975 occurred in two largest cities, Seoul and Busan. Over 5.7 million (58%) people of 9.8 million new urban residents added between 1960 and 1975 settled there. However, since 1975, the rate of population growth of both cities has slowed down, with relatively faster growth occurring now in medium and small cities.

With urbanization, the primacy phenomenon appeared. Although Korea has never been ranked among the most primate countries in the world, the degree of primacy of Seoul as measured in terms of the ratio of Seoul's population to the next three largest cities rose rapidly from 0.86 in 1955 to the peak of 1.53 in 1975. The primacy fell to 1.43 in 1980 and is expected to fall continuously for the years to come. The population share of Seoul relative to that of other urban areas has changed from 29.6% in 1955 to 42.7% in 1970 down to 39% in 1980. The city's share of the nation's total population on the other hand increased from 9.8% in 1960, 17.6% in 1970, to 22.3% in 1980.

Between 1970 and 1981 the urban population has increased by 93% during a time when the national population has increased by less than 20%. A trend toward smaller household size has also resulted in even more rapid growth in the number of urban households a 116% increase between 1970 and 1981. Now 5.24 million of the country's 8.16 million households live in urban areas according to the 1980 census. Further increase in urbanization is expected over the next ten years. For example, KRIHS projects that over 75% of the nation's population will be living in urban areas by 1991, a level comparable to that of most advanced countries.

This rapid urban growth has put a great pressure on urban housing markets and will,

continue to do so in the foreseeable future.

o. Economic Growth and Income Distribution

Korea's economic growth has been remarkable over the last two decades despite rapid population growth, paucity of natural resources, reliance of raw materials on overseas, and the requirement to maintain one of the world's largest military establishments.

From 1963 to 1978, the real GNP rose at an annual rate of nearly 10%, with an average real growth of over 11% for 1973~1978. On the other hand, the population growth rate has gradually declined (1.59% in 1980), resulting in a more than twenty fold increase in per capita GNP between 1961 and 1980. The per capita GNP as of 1980 reached a \$1,600 and is expected to be more than \$2,000 in 1984.

The economic growth and high paying employment structure contributed to relatively higher standard of living. Expanded employment opportunities and increased income in real terms have reduced the incidence of absolute poverty to a considerable degree. Almost 41% of the nation's population was considered to be living in absolute poverty in the early 1960's, but it has declined gradually to the point that less than 8% now live in that condition.

As a result the overall quality of life has improved tremendously. Opportunities have been greatly expanded in the areas of employment, leisure activities, and particularly education. Over 60% of the nation's population enjoy benefits from sanitary water system. Nutrition and the general health improved tremendously, reducing infant mortality rate from 60 to 30 per thousand between 1962 and 1980. Signs of material well-being are now seen everywhere.

The nation's income has been rather equitably distributed as compared to other developing countries, but rapid economic growth has tended to cause some deterioration. The Gini coefficient increased from 0.3322 in 1970 to 0.3908 in 1975. The ratio of the aggregate income earned by the low 40% of income groups to that shared by the high 20% groups fell from 47% to 37%. It appears that the income distribution has been further deteriorating since 1975.

The economic growth tends to accelerate household formation rate. In fact many studies indicated that there exists a high correlation between household formation rate and increase in household income. Consequently economic growth and its subsequent effects on urbanization and household formation have resulted in aggravating housing shortage problem even more seriously. Worse yet, the deteriorating income distribution segmentates

the housing market to a serious level. This point will be further elaborated in the next section.

o. Impact of Income Growth on Housing Behavior

Given the income distribution housing resources are concentrated at the hand of upper income groups and thus, the housing market works against the housing welfare of the low income household. Housing demands are rising fast with increase in net income, but the production capacity of the housing industry is too limited to provide adequate shelter for all those who demand more and better housing.

In order to examine the impact of income growth on the housing market we have to closely look at income elasticity of housing demand. According to a study conducted by KRIHS, the income elasticity of housing demand increases with income. The income elasticity for the income bracket of 400,000~700,000 won is 0.70786 as against 0.92345 for the income bracket of 700,000 won (month) or more (Table 1). Another study⁽¹⁾ shows that the income elasticity for tenants (low income) is 0.42 as compared to 0.62 for owners (high income). On the other hand, the same study indicates that the price elasticity of housing demand does not vary much with the income level.

The worsening income distribution combined with the behavior of the income elasticity of housing demand leads inevitably to accelerated concentration of housing demand for larger and more expensive dwellings accessible only to upper income groups. This implies at the same time increasing scarcity of smaller and less expensive dwellings at the financial reach of low-income groups. The latter group finds itself in a situation where housing costs more and more while income increases at a slower rate.

The cause of housing shortage does not appear to be the lack of the country's investment in housing. Nor is it the increase in population whose growth rate has slowed down. It is basically the worsening income distribution combined with the behavior of the income elasticity of housing demand. The outcome of the situation is that, with

〈Table 1〉 Income Elasticities of Housing Demand

Income (Monthly)	Elasticities	Income (Monthly)	Elasticities
All	0.28771	400,000~700,000	0.70786
Less than 400,000 won	-0.003528	700,000 or more	0.92345

Source: Jeong-Ho Kim, "Empirical Analysis of Housing Demand and Evaluation of Housing Policy," The Korea Housing Bank, Dec., 1982, Vol. 15, No. 6, 4-16.

(1) Follain J., Gil-Chin, Lim, "The demand for housing in developing countries: The Case of Korea," *Journal of Urban Economics*, 1980, pp. 315-336.

increased housing resources, Korea has built too many large houses. To illustrate the point; if the average dwelling size were 15 pyeong in 1980 instead of 19.3 pyeong, Korea could have produced 1,500,000 more dwellings between 1970 and 1980. Since housing shortage was 1,868,000 dwellings in 1980, one would have almost eliminated the shortage problem by reducing the dwelling size to 15 pyeong.

One explanation of the prolonging housing shortage is the trend toward increasing lot and dwelling size. In Seoul area, the number of dwellings of 10 pyeong or less (3.3 M²/pyeong) decreased by 59% between 1970 and 1980. The larger the size, the more rapid has been the rate of the stock increase. The stock of dwellings of 40 pyeong or more grew by 378%. The average lot size doubled from 73 pyeong in 1970 to 143 pyeong in 1979, or an increase of 100%. In the case of single-family dwellings, the proportion of large lot (50 pyeong or more) steadily increased from 42% for the 1960~69 to 57% for the 1976~80 period.

The proportion of a lot of more than 70 pyeong in Korea as a whole increased from 29.5% in 1976 to 35.8% in 1980. In Seoul, the corresponding proportion increased from 20.3% in 1977 to 31.2% in 1980. In 1976, it was as high as 39.2%.

III. Housing Situation in Korea

a. Housing Shortage

The nationwide ratio of dwelling units to households (i.e., supply ratio) was 72% in 1980, a shortage of 1.7 million units as compared to 78.2% in 1970. <Table 2> shows the changing trends in households and housing units over the last ten-year period between 1970 and 1980.

The households have been formed at an annual rate of 2.9% between 1970 and 1980. The rate increased 2.5% in 1970 up to 3.5% in 1980. On the other hand the population growth rate has continuously declined from 2.09% in 1970 down to at at 1.5% level and expected to further decline over the next ten years.

The housing stock grew at 2.4% per annum over the same period, resulting in a housing shortage ratio of 23.5%. In numerical terms the number of households increased by 2,332,000 between 1975 and 1980 as against an increase in the housing stock by 958,000 units or 41% of the increase in housing need. Obviously the new housing production was unprecedentedly high during the same period. The total number of dwelling units constructed over the same period amounted to 1,357,000 units.

〈Table 2〉 Increase in the Number of Households and Housing Production, 1970~75 and 1976~80

Household, Housing (All Country)	Period	
	1970~75	1976~80
A) Number of Households ('000)	1,185	1,147
B) Number of Dwellings ('000)	374	584
C) New Production ('000)	721	1,136
D) Housing Loss (Demolition, Conversion)	347	552
E) Rate of Housing Loss (%) (D/C)	48.1	48.6
F) Rate of Housing Supply (%) (B/A)	31.6	50.9
G) Rate of Ownership:		
1970: 79.1%		
1975: 69.0%		
1980: 58.2%		

Source: EPB, Department of Construction

The situation is even worse in large urban areas. In urban areas as a whole the supply ratio was 56% in 1970, but it fell to 52% in 1980. This has a lot to do with continuous urbanization, fast rate of household formation, and increase in net income.

o. Housing Demolition

Ironically despite rising trends of net income and housing production, the supply ratio has continuously fallen. The housing production has not been fast enough to catch up with the increase in household number and subsequent increase in new housing demand among the newly formed households. Housing demolition was also partly responsible for aggravating the situation. For example, the largest number of housing units was constructed in 1978 (totaled at approximately 300,000 units), but the year also saw a record number of housing units demolished (approximately 130,000 units) largely due to urban renewal projects and rural housing modernization programs. Consequently the net addition to the nation's housing stock was only 170,000 units. 〈Table 3〉 illustrates a good case in point, an example taken from Seoul City.

o. Housing Prices and Rents

Housing shortage coupled with rapidly rising income in real terms have contributed to increase in rents and housing and residential land prices. The prices of housing rose at a rate of 20% per year in the 1970's as high as twice the rate at which the consumer price index (CPI) grew.

The land prices jumped up even more rapidly at a rate of almost 30% annually over the same period. In fact the land price in Seoul area rose by 19 times during the ten-year

<Table 3> Housing Demolition in Seoul

Year	No. of Dwellings Destroyed (1)	No. of New Dwellings (2)	(1)/(2)
1 9 7 2	2,540	19,203	13.2
1 9 7 3	4,332	35,681	12.1
1 9 7 4	5,584	45,182	12.4
1 9 7 5	20,039	52,925	37.9
1 9 7 6	18,828	55,847	33.7
1 9 7 7	14,919	61,909	24.1
1 9 7 8	12,992	79,574	16.3
1 9 7 9	9,420	52,354	9.1
1 9 8 0	1,080	53,375	2.0

Data: Municipal Statistical Year Book, Seoul

period between 1971 and 1980 as compared to an increase in net income of 4 times. These trends caused households to set aside increasingly larger share of their budgets for housing expenditure and made it rather difficult for them to accumulate enough capital for home purchase.

The increase in land cost has been such that in the case of a single-family in 1981 land cost represented 67% of the total cost while in that of an apartment it accounted for 57% in the same year. Such phenomenon is undoubtedly explained by the excess demand or housing shortage, and leads necessarily to land and housing speculation. Indeed, a recent study by Korea Research Institute for Human Settlements (KRIHS)⁽²⁾ shows that the housing shortage is one of the principal causes of speculation.

o. Housing Consumption and Housing Quality

Despite the continuing shortage and rising price, average space per capita has improved significantly in the 1970's. For example, the number of rooms per dwelling unit increased from 2.95 in 1970 to 3.32 in 1980. The number of persons per rooms also improved from 2.34 in 1970 to 2.03 in 1980. The space consumption level per person increased from 1.7 pyeong (5.5m²) in 1970 to 2.4 pyeong in 1980.

The most significant improvement has occurred in indoor living facilities. For example, the proportion of the dwelling units equipped with modern facilities that were built before 1950 was only 1.8%, modern kitchen, 31.7%, running water, 1.8%, flush toilet, and 3.5%, modern bath room. The corresponding proportion of the stock built since 1976 (1976-1980) increased to 56%, modern kitchen; 69%, running water; 53%, flush toilet;

(2) KRIHS, Analysis of the Causes of Housing Speculation, Evaluation of Policies and Orientation, Dec., 1982 (in Korean).

〈Table 4〉 Living Facilities by Year of Dwelling Construction

Facilities	Year of Construction					Total
	Before 1950	50~59	60~69	70~75	76~80	
<u>Whole Country</u>						
Modern Kitchen	1.8	2.5	7.8	25.2	55.2	18.1
Running Water	31.7	39.1	54.6	66.1	68.8	51.2
Flush Toilet	1.8	2.1	8.5	26.2	52.1	17.1
Modern Bath Room	3.5	4.3	13.3	35.0	57.8	22.3
<u>Seoul</u>						
Modern Kitchen	15.9	12.3	17.7	60.9	94.3	50.5
Running Water	93.2	91.6	82.5	94.8	95.6	91.3
Flush Toilet	22.0	15.7	22.7	66.5	96.6	54.9
Modern Bath Room	20.5	20.3	27.9	68.5	89.6	55.3

Source: EPB, Housing Census, 1980

and 58%, modern bath room.

The improvement in these indoor facilities was most remarkable in Seoul as illustrated in 〈Table 4〉 above. Almost all the dwelling units built since 1976 were fully equipped with modern facilities. Similar improvements have been noted in other large cities and the satellite cities neighboring large metropolitan cities.

o. Housing Size

The trend toward smaller household and rising housing price suggests by itself the need for smaller units. However, in reality accommodations for smaller households are shrinking in both relative and absolute terms. For example, the number of dwelling units in urban areas smaller than 15 pyeong in size fell by about 12% from 2.82 million units to 2.47 million units between 1970 and 1980 the smaller units of below 10 pyeong declined by 59% while the larger ones (40 pyeong or larger in particular) rapidly increased as shown in 〈Table 5〉 below. The average size has almost doubled from 13 pyeong in 1970

〈Table 5〉 Number of Dwellings by Size 1970 and 1980

Dwelling Size	1970('000)	1980('000)	Variation (%)
Below 10 Pyeong	1,424	586	-59.0
10~20	2,230	2,697	20.9
20~30	526	1,377	161.7
30~40	115	369	220.8
40 Pyeong or More	65	311	378.5
Total	4,360	5,340	22.4
Average Size (Pyeong)	13.8	19.3	39.8

Source: EPB, Housing Census, 1980

〈Table 6〉 Single-Family Dwelling Lot Size of 70 Pyeong or More by Year of Construction, Korea and Seoul

	Korea (%)	Seoul (%)		Korea (%)	Seoul (%)
Prior to 1950	52.2	10.9	77	44.5	20.3
50~59	41.3	8.7	78	32.9	26.4
60~69	26.8	7.3	79	32.9	26.0
70~75	24.1	10.8	80	35.8	31.2
76	29.5	39.2	Total	36.8	21.9

Source: EPB, Housing Census, 1980.

to 20 pyeong in 1980, and the trend continues. An unofficial statistics indicates that the average size of the housing units built in 1983 reached 23.5 pyeong.

The housing lot size has also increased considerably. The average lot size almost doubled from 22 pyeong (72.7 m²) in 1970 to 43.29 pyeong (143.1m²) in 1979. In case of single family dwellings the proportion of large lot (50 pyeong or more) steadily increased by 54%. In Seoul, the corresponding proportion increased from 20.3% in 1977 to 31.2% in 1980 as shown in 〈Table 6〉 above.

o. Substandard Housing

The other problem is existence of a large number of substandard units which would significantly affect housing market. Over 30% of the existing housing stock were built before 1950. This points to the fact that almost one thirds of the existing stock are approaching replacement years. The problem of aged housing is more critical in rural areas where over a half the stock are built before 1945, necessary for either substantial repairs or even replacement.

A nation-wide housing condition survey conducted by Korea National Housing Corporation (KNHC) in 1978 found that 10.1% of the nations existing stock were totally inadequate for living; 20% of them required substantial repairs to meet the minimum code standards; and 35% required minor repairs. What it all comes down to is that only 34.4 % of the nation's housing stock are physically sound enough to provide adequate shelter. And because of limited supply of sound housing units an access to fairly decent housing would take severe competition.

Much effort has been made to replace the dilapidated housing units in both urban and rural areas, e.g., via Squatter Settlement Clearance Projects and Rural Housing Improvement Projects. And this effort has resulted in reduction of dilapidated housing units from 16.6% in 1971 to 10.1% in 1978.

o. Housing Tenure and Mobility

In Korea, the tenure system is directly related to income level and housing welfare.⁽³⁾ Basically there are three tenure types: ownership, chonsei, monthly rent and others. Under the chonsei system, the tenant pays a lump sum and the interest earning of this amount represents rent. The chonsei system includes those tenants who occupies the whole of the dwelling (total-chonsei) and the those who rent a part of the dwelling (partial-chonsei). The monthly rent system also has two subsystems. Under one, the tenant pays a lump sum plus monthly rent; under the other he pays only the monthly rent.

According to <Table 7>, 58% of households was owners in 1980. The chonsei tenants accounted for 23.5% while the monthly rent tenants represented 15.2%. In Seoul, the owner-ship was 44.5% as against 37% for chonsei and 17.4% for the monthly rent. <Table 8> shows the distribution of the housing stock by dwelling type. In the whole of Korea, single-family dwellings accounted for as much as 89.5% as against 4.9% for apartments, 2.6% for row-houses and 3.1% for mixed-dwellings. In Seoul, the corresponding proportions were 79.6% (single-family), 10.9% (apartments), 4.9% (row-house) and 4.6% (mixed-dwelling). It is amazing that in a country which has serious housing

<Table 7> Number of Households by Tenure and Dwelling Type, Korea, 1980

Dwelling Type	Owner-occupied	Chonsei	Monthly-rent	Others	Total
Single-family	4,180,825	1,615,628	1,137,016	107,767	7,043,236 (89.5)
Apts	252,171	93,360	20,379	22,465	388,375 (4.8)
Row-house	110,867	66,950	27,994	11,496	217,307 (2.6)
Store-dwelling	66,490	79,159	85,263	28,960	259,872 (3.1)
Total	4,610,353 (58.1)	1,855,097 (23.5)	1,270,652 (15.2)	172,688 (2.2)	7,908,790(100.0) (100.0)

<Table 8> Distribution of Tenure by Dwelling Type, Korea, 1980

Dwelling Type	Owner-occupied	Chonsei	Monthly-rent	Others
Single-family	90.6	87.1	89.5	63.5
Apts	5.4	5.1	1.6	13.2
Row-house	2.5	3.6	2.2	6.6
Mixed-dwelling	1.5	4.2	6.7	16.8
Total	100.0	100.0	100.0	100.0

Source: EPB, Housing Census, 1980.

(3) Chung, Joseph H., Housing and Residential Land in Korea: An Overall Evaluation, KRIHS, Working Paper 2001, April 1980.

problems has such a high proportion of single-family dwellings.⁽⁴⁾

For the country as a whole, 87% of chonsej people and 89% of monthly rent tenants live in single-family dwellings. This is really amazing compared to other countries. In Seoul, about 84% of both groups lives in the same types of dwelling. This raises an interesting question as to the suitability of single-family dwellings for rental purpose.

o. Mobility and Improvement in Housing Welfare

Housing shortage combined with worsening income distribution has prevented the low-income people (tenants) from improving their housing welfare. In the Korean context, upward housing welfare mobility means the following change in tenure: monthly rent-lump-sum payment with monthly payment (sak-wol-sei)-partial chonsej-total chonsej-ownership. The downward mobility means the opposite change. According to a survey by KRIHS in 1982, only 38% of household could have the upward mobility, which means that 62% could not improve their housing welfare.⁽⁵⁾

<Table 9> indicates the degree of improvement of housing welfare through four moves

<Table 9> Mobility of Housing Welfare by Tenure

Housing Welfare	Order of Previous Moves			
	Present House	3rd Move	2nd Move	1st Move
1. No. of Rooms Per Dwelling				
Over	3.0	2.5	2.2	2.0
Total Chonsej	2.6	2.4	2.1	2.1
Partial Chonsej	1.6	1.7	1.6	1.5
Sak-wol-sei	1.4	1.5	1.6	1.6
Wol-sei	1.5	1.5	1.4	1.4
2. Modern Kitchen (%)				
Owner	46.8	17.7	10.6	7.8
Total Chonsej	48.8	29.4	14.7	10.8
Partial Chonsej	18.4	10.3	5.6	4.0
Sak-wol-sei	5.6	5.8	3.0	3.8
Wol-sei	15.6	11.2	8.4	5.4
3. Flush Toilet (%)				
Owner	42.7	18.8	12.2	9.4
Total Chonsej	48.1	30.0	17.2	12.3
Partial Chonsej	27.4	15.9	9.3	5.4
Sak-wol-sei	12.1	10.9	7.1	9.1
Wol-sei	20.0	13.8	10.1	7.6

Source: KRIHS

(4) Chung, Joseph H., Housing Crisis in Korea: A Working Paper, KRIHS, September 1983.

(5) Housing Policy Development Research, KRIHS, Seoul, 1983, pp. 82-85.

over a ten-year period. In the case of owners and chonsei people the number of rooms increases from 2.0 to 2.6~3.0 whereas, in that of other tenants the number of rooms virtually remains constant (1.5-1.7). The increase in the proportion of dwellings equipped with modern kitchen appears to be tremendous for owners and chonsei group (from 7.8~10.8% to 46.8~48.8%). The partial chonsei people seems to do relatively well; the proportion increases from 4.0% to 18.4%. However the sak-wol-sei people appears to be incapable of improving their housing welfare. Much the same observation can be made of the proportion of dwellings equipped with flush toilet.

What comes out of <Table 9> is that owners and chonsei tenants accounting for about 70% of households in Korea seem to do very well as far as improving their housing welfare is concerned. However, the remaining 30% appears to be having serious difficulty in moving up the housing welfare ladder.

o. Distributional Aspects of Housing

Increasing unit space and improvement in quality per person, though desirable, indicates growing distributional problem in the housing sector. The number of relatively small units is declining rapidly at a time when the need for such units appears to be increasing with smaller household size. The average household size has steadily decreased from 5.29 persons per household in 1970 to 5.0 in 1975 and further down to 4.8 in 1980. The corresponding household size in large metropolitan areas is 4.2 persons on average. One may argue that large units are required to accommodate housing needs of the large households. It is partly true that the number of households (or the number of persons) per dwelling unit increases with the dwelling size. Analyzing the 1980 housing census data we have found that the number of persons per dwelling in 1980 was 4.82 for housing units of less than 7 pyeong in size as opposed to 8.42 for the units of 100 pyeong or more. However, the per capita floor space increases even more rapidly than the number of persons per dwelling unit. For example, the ones living in the smallest unit (below 10 pyeong) consume only 1.24 pyeong on average while the others in the largest units consume 13.2 pyeong.

Many reasons can be cited to describe the trend toward lesser number of smaller units. Basically it has to do with net increase in household income and the value that one puts upon a home. People demand more and better housing with rising income. In fact the income elasticity on housing demand among relatively high income households is getting closer to a unity. On the other hand a home bears traditionally a symbolic meaning. A

large estate with well tended garden is a dream and the dream can come true with rising income for many Koreans. This is one of the important reasons why multi-family housing concept is not well accepted in local cities throughout the country.

The above being the primary factor, other related factors can also explain the fast decline in smaller units. One is a high rate of demolition that tends to be more concentrated among smaller units. In other words, small units were destroyed to make room for larger ones. Housing rehabilitation is another factor that contributed to decreasing number of small unit. Normally home owners expand existing small units to form larger ones. For example, about 275,000 units were expanded from less than 15 pyeong to larger than 15 pyeong between 1970 and 1975.

This trend has increased over time particularly in recent years. Even more important reason is also that both private and public sectors have focused on building larger units. Only 24% of the units constructed between 1970 and 1975 were smaller units than 15 pyeong in size. In 1970 almost 60% of the newly built housing units were less than 15 pyeong. Obviously the trend toward constructing larger units has put quite a pressure on housing prices for smaller units, being mostly used as renting quarters, and accordingly low income renters have been burdened with higher rents per space consumed, given the housing quality constant. Furthermore, the consumption of land and other housing resources has been increasingly concentrated in large and expensive dwelling units. This implies that lesser amount of resources are available for smaller units to build, and consequently housing shortage problem will aggravate if the trend continues.

IV. Housing Policies in Brief

In the 60's, the Korean government did not pay much attention to housing. Housing was far from being the priority sector as the government put the major investment efforts on economic growth through industrialization. As a result, the public sector's contribution to housing construction was minimal, to say the most, comprising no more than 12% of the total housing units constructed during to 10-year period between 1962 and 1971.

o. Evolution of Housing Policies; A Chronology

The 1960's, however, was important to the extent that the government attempted to set the momentum for promoting housing construction in an organized manner. Two organizations were established in the 60's; the Korea National Housing Corporation (KNHC)

and the Korea Housing Bank (KHB). The former, created in 1962, was intended for public housing construction and the latter was created in 1967 to mobilize and channel through housing funds and to stimulate private sector's participation in housing construction activities. Both of these institutions were not active enough to have any significant impact on housing market in the 60's.

More committed effort of the government was manifested in early 70's, when the government developed a long range housing plan and introduced the Housing Construction Promotion Law. The primary intent of the law was to support the plan by setting straight the functions and responsibilities of various agencies involved in housing policy formulation, including fund mobilization and allocation, implementation procedures, and coordination schemes.

The year of 1972 was a turning point in so far as housing was concerned. The nation demanded higher standard of living and as people's real income rose, so did the demand for housing. In response to this social demand and housing needs, the government developed a 10-year long term housing plan and as a supporting measure, the Housing Construction Promotion Law was enacted.

The plan was an ambitious one, setting its goal of new housing construction level at 2.5 million units, more than twice as many as that of the previous period. The plan also called for a drastic increase in public sector's share of construction funds by 30%. The achievement has thus far been quite remarkable. Nevertheless, housing still remains a major problem that is difficult to manage. Housing shortage is as critical as ever, to which the plan was primarily addressed. Most difficult of all is the provision of low-income housing in urban areas.

o. Public Housing Program

The annual construction of public housing units increased from 8,400 units per year up to 1966, to 14,000 units between 1967 and 1974, to 42,500 units between 1974 and 1977. They were far too short of planned construction targets, however.

According to the 1972 government estimate, over one million units were required to meet the housing needs for the low and moderate income families. Additionally 75,000 units were required to replace squatter settlements of 160,000 households in large urban areas. The total number of housing units actually supplied, however, amounted to 213,000 units, and approximately 30% of them were low income families. In the true sense of the word public housing policy was not necessarily low income housing policy, because

much of the benefit generated by the public housing programs had been diverted to middle and upper middle income families.

o. Squatter Housing Clearance Program

The first massive-scale squatter housing clearance project was undertaken by the Seoul Metropolitan Government in 1966. The project was overly ambitious as it attempted to clear all the squatter settlements of 136,000 units within the next 3 years. The government planned to construct 90,000 public housing units to resettle the squatter families.

About half of the squatter housing units were cleared up by 1970, but only 16,000 public housing units were constructed. They were far too short to accommodate over 230,000 displaced households. The remaining households were provided with serviced lands located away from the centre of the city. Up until the early-70's squatter settlement policy had been ill-conceived and misguided; squatter settlements were simply regarded as social diseases and the people's welfare was over-looked.

The early squatter housing clearance project was a failure in terms of its effectiveness as well; although half of the total squatter families were relocated by 1970, the total number of squatter settlements increased by 30% in the same year. In other words, many relocated families moved back to the city in search for job opportunities and urban services.

Recognizing the failure, the government devised a different approach to squatter housing problem. The new approach emphasized conservation rather than relocation. The Housing Improvement Law of 1972 was enacted, which allowed local government to take a full control of the squatter area improvement projects. The law stipulated that the government provide infrastructure and community services. And it further stated that in order to secure legal title, squatter families must purchase the land and improve the structure thereon to meet the minimum code standards.

In doing so, however, the number of squatter families was reduced from 225,697 in 1970 to 150,498 in 1976. And further expansion seems to be contained, but approximately 9% of the households in large cities still remain at squatter areas.

o. Institutional Approach to Low Income Housing

As discussed above, the role of the Korea National Housing Corporation, supposedly an agent for low income housing, has been minimal. It has produced only 103,000 units for 16 years between 1962 and 1978. Given the limited amount of government contribution to housing development, the Corporation devised a cross subsidy scheme to subsidize low

income housing construction. They built homes for upper middle income families and sold them at market prices. Profits made out of this practices were being used to financially subsidize low income housing construction.

Two financial institutions have been engaged in housing finance activities in urban areas; the Citizens National Bank (CNB) and Korea Housing Bank (KHB). The former is only partially involved in housing business as it lends housing loans to mortgage secured lenders at a normal market rate of interest. The latter, however, has been responsible for over 373,000 units of dwelling construction in the period 1969-1978. The activities of KHB include loans to the private sector for home purchases and short-term loans for the builder's interim financing, loans for land assembly and land purchases and so on. The real significance of the Bank's role is that it is the only experienced institutional mortgage lender and is expected to remain so for years to come.

The funds to facilitate KHB are primarily from two sources; the national housing funds and the Bank's own housing funds. The latter is generated through savings deposits and housing debentures. The national housing fund (NHF) come from the national housing bonds, the government long-term loans, foreign borrowings, and housing lottery. The Bank finances about half the total fund on its own and the remaining half are being disbursed under the government directions.

The law governing the banking activities of KHB recently directed the bank to finance company/corporate housing construction as well. Private corporations become eligible for low-interest, easy term housing loans to house their employees if they form a housing association with membership for over 20. The association members ought to subscribe to the Asset Formation Savings Deposits with the bank to be qualified for the benefits.

The other institutionalized effort in relation to low income housing was through land banking. The primary objective of the land bank program was to acquire idle lands held by businesses in excess of business needs. Land thus acquired were either leased back when definitive uses were identified, improved or sold for low income housing projects, industrial estate projects, and provision of public facilities. It is considered as a powerful tool in acquiring land for low income housing construction, considering the price of raw lands in the free market. Korea Land Development Corporation (KLDC) manages and controls land banking program.

V. Housing Perspectives and Future Policy Guidelines

o. Macro-aspects of Changes and Implication to Housing

The nation's economic growth is expected to sustain on a continuing basis in the 1980's and even after. The average growth rate per annum is projected to be 7.3% in real terms. The percapita GNP is estimated to increase over \$2,100 in 1985 and close to 3,000 in 1991, about twice that of 1980. Such a growth is bound to accompany a considerable change in the nation's living standards.

The population and employment structure will also change. Due to the continued advancement of family planning and the people's changing attitude toward family the population growth rate is expected to decrease to 1.3% in 1991 from 1.5% in 1980. Nevertheless, the total population is expected to reach 44,856 thousand persons in 1991. The age structure will also change from a pyramid type to a bell-shaped type where the ratio of the young and aged are particularly high in proportion. The population over 65 years of age is projected to increase to 2,075 thousand persons in 1991 from 1,456 thousand in 1980.

On the other hand urbanization will continuously accelerate throughout 1980's. The pace of urbanization is expected to slow down and be stabilized at the level of 80% in mid 1990's. This, together with increase in per capita income, will greatly diversify people's life style with shortened time and distance. Accordingly the demand for living facilities will be highly diversified with the growing sense of social value in pursuit of the "quality of life".

Opportunities for women to participate in economic and social activities are expected to expand due in part to the lowering birth rate and the growing number of nuclear families. Leisure activities will also increase with rising income and reduction in working hours. Furthermore similar living patterns will prevail throughout the country as communication and transportation facilities expand and promote inter—and intra—regional integration.

<Table 10> illustrates the projected changes of selected indicators over the next 6~7 years.

Then the question is how these changes would influence housing consumption and production. In the first place, the quantity demand will rise at a rate faster than now, particularly in urban areas. The quality demand will accelerate as much.

〈Table 10〉 Selected Indicators

	1980	1986	1991	Annual Area of Growth Rate (1982~91)
GNP	35,301	53,677	75,358	7.3%
Per capita GNP (\$)	1,506	2,103	2,754	5.7%
Pop. (Total)	38,124 (100)	41,839	44,856	1.3%
0~14	12,951 (34)	12,715 (30.4)	12,754 (28.4)	0.1%
15~64	23,717 (62.2)	27,394 (65.5)	30,027 (67.0)	2.1%
Over 65 yrs	1,456 (3.8)	1,730 (4.1)	2,075 (4.6)	3.3%
Urban Pop. (1,000)	25,428	30,510	34,500	
Urb./Total (%)	(66.7)	(72.9)	(76.9)	
Auto Ownership (1/100 HHs)	7.2	13.2	18.3	
Telephone Sub. (1/100 persons)	7.4	22.1	32.0	
Per capita Water Supply (liters/day)	265	300	350	
Working/week House	54	47	45	

There is no way to forecast the housing demand behavior correctly, but we can get some idea by looking at the consumers' housing preferences as analyzed through a nationwide survey conducted by KRIHS.⁽⁶⁾

o. Consumer Preferences in Housing

〈Tables 11, 12 and 13〉 indicate preferred dwelling types, sizes and number of rooms. Almost the totality of the consumers prefer the ownership of dwelling as a preferred tenure. Single family housing units are most popular (64.8%) among the tenants who wish to own a house. On the other hand, those owners who wish to remain owners will prefer single-family dwellings even more than now. For the tenants who will remain

〈Table 11〉 Desired Dwelling Type by Tenure Mobility, 1982

Tenure Mobility	Dwelling Type				
	Single-Family	Row-House	Low-Rise	High-Rise	Store-Dwelling
1. Rental to Owner	72.4(64.8)*	6.0 (8.3)	9.2(18.1)	1.4 (4.6)	11.1 (4.2)
2. Owner to Owner	67.0(71.4)	8.2 (2.1)	11.0 (7.5)	7.1(16.4)	6.7 (2.5)
3. Rental to Rental	85.0(74.8)	4.4 (3.6)	2.7(11.5)	—	8.0 (9.9)
4. Improvement Without Move	88.0(73.8)	1.6 (9.8)	0.8 (6.6)	0.8(—)	8.0 (9.8)

* Desired

Source: KRIHS, Survey, 1982.

(6) Housing Policy Development Research, KRIHS (Korea Research Institute for Human Settlements), Seoul, 1983, Chap. I Study on the Demand Side of the Housing Market.

〈Table 12〉 Preferred Dwelling Size by Tenure Mobility 1982

(Pyeong)

Tenure Mobility and City Size	Lot Size		Floor Area	
	Actual	Desired	Actual	Desired
1) Tenure Mobility	44.0	47.0	26.1	28.4
A	—	38.7	—	24.2
B	44.2	53.0	26.3	31.6
C	—	—	—	—
D	43.7	—	25.5	—
2) City Size				
• Big Cities	40.7	42.0	26.3	30.1
• Small and Medium Cities	51.9	52.0	24.2	26.3
• Satellite Cities	49.2	44.4	26.7	25.3
• Industrial Cities	48.4	48.9	26.8	27.7

Source: KRIHS, Survey, 1982.

A : Rental to Owner

B : Owner to Owner

C : Rental to Rental

D : Improvement without Move

〈Table 13〉 Preferred Number of Rooms Per Dwelling by Tenure Mobility 1982

Tenure Mobility	Number of Rooms		Tenure Mobility	Number of Rooms	
	Actual	Desired		Actual	Desired
A	2.0	3.1	D	3.1	—
B	2.9	3.8	Total	2.5	3.2
C	1.6	2.1			

Source: KRIHS, Survey, 1982

tenants, low-rise apartments appear attractive. The same applies to those who do not intent to move. In short, single-family dwellings will remain most preferred, though its importance declines in the case of tenants. The relatively preferred dwelling type for them appears to be low-rise apartments of five stories or less.

In 〈Table 12〉, one observes that the desired lot size is 47 pyeong, or 7% more than the present size, while the desired dwelling size is 28.4 pyeong, or 9.2% more. The desired number of rooms, 3.2 rooms, is 28% higher than the actual number of 2.5. The desired increase in the number of rooms per dwelling is 31% for the owner-owner as against 55% for the tenant-owner.

The foregoing analysis of Koreans' housing preference suggests the following; First, their ambition of having larger houses seems rather excessive. Second, though row houses and apartments appear to be more preferred in the future than now, single-family dwellings will remain the preferred dwelling type. The government's plan of increasing

drastically the production of multi-family dwellings might encounter some resistance from the demand side.

Third, the vast majority of Koreans prefer ownership, which will make the perspective of rental dwelling construction somewhat gloomy. Fourth, housing will remain the top priority in the household budget. One thing clear from all these is that, apart from the dwelling size question, Koreans' housing ambition appears to be too excessive, and they should be informed of real difficulties in meeting their demand from the national viewpoint.

o. Future Strategies in Shelter Provision

First, the government's role must be emphasized in mobilization, allocation, and management of housing funds as much as in the direct provision of low-cost housing and improvement of residential amenities. Housing should be recognized as the priority sector and the basic strategy must be "filtering" whereby the housing opportunities for low and moderate income families would increase as less favorable houses vacated by the middle income families would be filtered down to the low and moderate income families. This suggests a good mix of moderate and middle income housing in both quantity and quality to make the strategy work in the long run.

A large proportion of residential land must be acquired and developed either directly by the government or by the publicly authorized agencies to minimize inflationary facts. The planned unit development (PUD) method should be utilized for a large tract of residential development to integrate residential activities with commercial and open space activities of various kinds on a neighborhood basis. The development method is strongly suggested in medium sized and growth-inducement cities where residential amenities need improvements to retain existing population and to attract spill-over population and industries from large cities.

Housing rehabilitation must also be stressed as an effective means to conserve and expand housing stock. A substantial proportion of the current housing inventory is inadequate for safe and sanitary living, but majority of them can continuously provide adequate shelter if properly renovated.

The other important aspect is a substantial improvement of the rental housing system to promote housing welfare among low-income families. A large number of newly constructed housing units should be multi-family rental apartments. Various incentive measures must be devised to promote rental housing business and to channel private funds into rental

housing construction. The supply of rental housing in relation to owner-occupied housing is viewed important as it serves not only the housing needs of the low-income and mobile families, but stabilization of owner-occupied housing prices. Rents have gone up fast as demand for rental housing has accelerated, but the supply of rental units is relatively inelastic. Considering the expected rent hike over the next few years, the country must produce a large number of rental housing units to offset the rent structure.

Concurrently the government effort to increase homeownership will be continuously pursued. Nevertheless, the policy of one-household one-unit ownership objective as characterized in the housing plan of 1972 and the subsequently revised plan of 1976 should not be held, because it is neither realistic, nor necessary. As noted, a significant mismatch exists between the affordability on the one hand and the housing price on the other. Such a mismatch can't be closed with government subsidies alone.

A continuous housing investment should be encouraged at an average ratio to GNP of 6% annually. Translating the figure in terms of annual housing production it would range from 300 up to 350 thousand units. Housing, though vital, is one of the many sectors of the economy and must compete in overall resource allocation with other sectors in terms of the country's investment priorities. To maintain such a level the government ought to promote more balanced interest structure as well as to create a capital market where the return on housing investment is as compatible as that of other investment. The key strategy is to give an interest subsidy on home purchase long-term savings in order to facilitate the flow of funds into the housing sector.

Maximum efforts must be deployed to improve the general income distribution in favor of the poor. The housing size distribution should be modified in such a way that the minimum adequacy be maintained while the production of larger units be discouraged through various disincentive measures.

The housing finance must be improved to offset the worsening affordability problem. In the long run a mortgage loan system must be introduced in order for moderate income households to gain access to homeownership. At the same time various subsidy programs must be devised to guarantee the low income families with minimum adequacy standards.

Finally, the housing industry must be promoted to achieve higher productivity and also to make it less sensitive to cyclical fluctuation in housing production. Adequate supply of residential land is as much important as financing and technological development for the sector. The elasticity of land supply must be increased through easing the land use regula-

tion and encouraging mixed uses. Various incentives must be provided to encourage more intensive use of residential land.

VI. Conclusion

To sum up, rapid economic growth accompanied by industrialization and urbanization has meant more income and higher expectation. It has meant a phenomenal increase in household formation, population concentration in large cities. It has also meant rising housing need in terms of more and better quality dwellings. On the other hand, the scarcity of residential land, lack of mortgage money, demolition of existing dwellings along with low productivity of the housing industry have all contributed to rising housing price and weakening effective demand. Thus a part of housing need has not been met and, as a result, the rate of housing shortage has increased.

The problem of housing shortage has been aggravated because of worsening income and dwelling size distributions. This is basically the nature of housing problem in Korea. The situation is likely to get worse in the future unless some drastic changes in policies do take place. The current housing policy framework involving the Korea Housing Corporation, The Korea Housing Bank and The Land Development Corporation is not good enough. We must develop a full fledged residential mortgage market. Dwelling production should not be used as a general economic stabilization policy tool. More equitable income distribution should become a part of housing policy. In short it is not too early to take housing a little more seriously.