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National Report for Habitat II

Final Report

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Ministry of Construction and Transportation
and
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Republic of Korea

Part I. Introduction

To support the activities related to Habitat II, Korean government has established national committee for Habitat II in December, 1994. The committee is composed of 15 members including local government officials, NGOs, professors and researchers from academic circle. Ministry of Construction and Transportation designated the Korea Research Institute for Human Settlements (KRIHS) as a main body preparing the national report.

One of the key problems of housing in Korea is housing shortage, being measured in terms of the number of housing stock over that of the households. Accordingly, government efforts have been concentrated on the expansion of housing production and provision of low-income housing. Only recently, such the effort of expanding housing production and provision of low-income housing are being materialized as evidenced by the Two Million Housing Construction Plan of 1988-1992. Shortage of residential land has been the primary factor that causes housing supply to be inelastic. The key strategy was to supply a large amount of residential land through new town developments. Another important strategy is construction of 250 thousand units low-rent public rental housing.

The committee unanimously chose new town construction and provision of low-rent public housing program as "Best Practices". As described in Part II, these two practices revealed some negative and positive impact on the housing market and housing conditions of low-income households. Nonetheless, they could provide a good example for other countries that are facing similar problems.

As for the National Plan of Action, the committee first reviewed the demographic, socio-political and institutional changes. These changes are anticipated to occur in relation to economic growth. They may reinforce each other, causing even more profound changes to

occur.

Changes are also expected to be noticeable in the area of housing. Therefore, the whole concept of housing policy needs to be redefined at this juncture, and housing programs must be reoriented and redesigned accordingly; otherwise, the housing problems, being characterized as housing shortage and unequal distribution of housing welfare, will continue, and even get worse.

Current government housing policy is geared to the expansion of housing construction, relaxation of housing related regulations, and improvement of housing conditions for the poor. The committee put the first priority for the improvement of housing condition for the low-income families. Accordingly, the National Plan of Action will focus on the urban renewal and provision of low-rent public housing.

Part II. Housing Situation and Housing Policy

I. Housing situation

1. Overview

Korea has experienced a remarkably rapid economic growth since the 1960's and its per capita GNP reached 8,498 US dollars in 1994. With the fruit of such economic growth, the housing situation also has substantially improved : the number of housing units per one hundred households is 76 units and the average size of housing unit is about 78m².

However, the country has yet to solve its housing problems. The most serious one is the shortage of housing stock in major metropolitan areas, particularly in Seoul, where the increase in housing stock fell short of the household increase due to continuing

in-migration and decrease in household size.

Coupled with these demographic phenomena, the increase of personal income drastically expanded housing demand, which, in turn caused a housing price spiral between 1987 and 1991. In response to such problems, the government has launched several new housing programs such as low-rent public rental housing and new town construction. As a result, there appears to be tangible improvement in the housing condition.

**Table II-1. Population, Household, and Housing Unit Change :
1960 to 1990**

	1960	1970	1980	1990
Whole Country				
Population	24,982	30,882	37,436	39,445
Households (A)	4,198	5,576	7,471	10,167
Housing Units (B)	3,464	4,360	5,318	7,160
B / A (%)	82.5	78.2	71.2	70.4
Urban Areas				
Population	6,995	12,709	21,434	29,137
Households (A)	1,209	2,377	4,362	7,604
Housing Units (B)	805	1,398	2,468	4,646
B / A (%)	66.5	58.8	56.6	61.1
Rural Areas				
Population	17,987	18,173	16,002	10,308
Households (A)	2,989	3,199	3,109	2,563
Housing Units (B)	2,659	2,962	2,850	2,514
B / A (%)	88.9	92.6	91.7	98.1

2. Housing Shortage

The most significant characteristics of the Korean housing is housing shortage, defined as the number of dwelling units that must

be constructed if every household were to have exclusive use of a dwelling. The shortage has its roots in the wartime destruction of a major portion of the existing stock and the north to south migration of over a million people during and after the Korean War. The large initial gap between housing units and households was further aggravated by the high population growth in the 1960s, rural-to-urban migration and changes in the family structure in the 1970s and 1980s.

The current situation is illustrated in the data presented in Table II-1. Between 1960 and 1990, the number of households expanded by 5.9 million, or 242 percent, but there was only a net addition of 3.7 million housing units to the inventory, or an increase of 207 percent. As a result, the housing shortage rate increased from 17.5 percent in 1960 to 29.6 percent in 1990 until the government launched the Two Million Housing Construction Plan(1988-1992). The geographic variation is large, however. In 1990, for example, the housing shortage in urban areas was 38.9 percent; whereas in rural areas it was only 1.9 percent.

Housing shortage has affected the housing tenure pattern. Korea had long been a nation predominantly of owners, as indicated in Table 2. In 1970, 91.7 percent of the housing units were owner occupied; whereas 8.3 percent were of rental status. In the last 20 years the ratio of home ownership has decreased substantially to 78.9 percent.

While the pattern of change is pervasive, there are substantial geographic variations in home ownership. As shown in Table 2, less than three quarters of urban households (73.6 percent) owned their homes, a sharp decrease from 85.8 percent in 1960; whereas still more than 88 percent of the rural households were owner occupied in 1990.

Table II-2. Changes in Home Ownership: 1960 to 1990

	1970		1980		1990	
	Number	Percent	Number	Percent	Number	Percent
Whole Country						
Total Units	4,360	100.0	5,318	100.0	7,160	100.0
Owner Occupied	3,996	91.7	4,621	86.9	5,653	78.9
Renter Occupied	364	8.3	697	13.1	1,507	21.1
Urban Areas						
Total Units	1,397	100.0	2,468	100.0	4,646	100.0
Owner Occupied	1,198	85.8	1,970	79.8	3,420	73.6
Renter Occupied	199	14.2	498	20.2	1,226	26.4
Rural Areas						
Total Units	2,961	100.0	2,850	100.0	2,514	100.0
Owner Occupied	2,797	94.5	2,650	92.9	2,233	88.8
Renter Occupied	164	5.5	200	7.1	281	11.2

3. Overcrowding

Overcrowding, another important aspect of substandard housing, is not a property of housing quality per se, but rather of the "fit" between the size of the unit and the number of occupants. It is believed that the effect of overcrowding on mental health and family may be more severe than the effects of physically substandard conditions (Frieden and Solomon, 1977).

The degree of overcrowding is measured in (1) the ratio of persons per room and (2) per capita floor space. The former is a better indicator of function and privacy to determine over- and under-occupied dwellings.

The data in Table II-3 show that living conditions have been improved in the last three decades. Average persons per room decreased from 2.5 in 1960 to 1.5 in 1990; and per capita floor space increased from 6.6m² in 1970 to 13.9m² in 1990. For International comparison, United Nations' recommend room occupancy density is 1.5

persons per room and per capita floor space is 13.2 m². It should be noted, however, that the improvement in room occupancy density and floor space has been attributable primarily to the decrease in household size rather than the improvement in housing size per se.

Table II-3. Average Persons Per Room and Per Capita Floor Space : 1960 to 1990

	1960	1970	1980	1990
Persons per Room				
Whole Country	2.5	2.3	2.0	1.5
Urban Areas	2.8	2.7	2.2	1.5
Rural Areas	2.4	2.1	1.7	1.5
Per Capita Floor Space (Unit : m²)				
Whole Country	NA	6.6	9.9	13.9
Urban Areas	NA	5.5	8.3	13.3
Rural Areas	NA	7.5	11.6	15.6

NA : Not available

4. Service Levels

The availability of public water and electric power systems constitutes other indicators of the quality of housing. Clean water is a basic requirement for public health; and the availability of electricity provides not only the source of power for domestic lighting but also access to some amenities of modern living, such as the use of appliances (Yeh 1979).

As shown in Table II-4, there has been a substantial increase in the availability of public water and electricity, especially of the latter. About 76.6 percent of all households had public water service in 1990, compared with 26.6 percent in 1970. The rural-urban differential is large. This is partly due to the fact that the rural households are spread over a large area and therefore the provision

of services is difficult and costly unless operated through several local schemes.

Electrification is fairly widespread in Korea. About 100 percent of all households had access to electricity in 1990; almost 100 percent in urban areas and 99.0 percent in rural areas. This is a result of the government's effort since the early 1960s to promote industry by providing electric power throughout the country.

Table II-4. Households by Availability of Public Water and Electricity: 1970 to 1990 (Numbers in Thousands)

	1970		1980		1990	
	Number	Percent	Number	Percent	Number	Percent
Public Water						
Whole Country	1,543	26.6	4,002	54.6	8,694	76.6
Urban Areas	1,494	49.8	3,935	77.2	7,880	93.1
Rural Areas	50	1.8	1.8	3.0	814	28.1
Electricity						
Whole Country	3,463	59.8	7,188	98.0	11,357	100.0
Urban Areas	2,714	90.4	5,046	99.0	8,464	100.0
Rural Areas	748	26.8	2,142	95.4	2,864	99.0

II. Review of Government Housing Policies

1. Housing Policies Before 1988

A series of policy measures was attempted in dealing with housing problems. They were of the two types; one type related to those measures being intended to control over the excess demand for housing, including those to combat housing speculation, and the other primarily geared to controlling the sale price of housing.

Tax measures were frequently used to discourage speculative

demand. Real estate transfer income tax was extensively employed to control speculative demand for both housing and land, and it had remedial and preventive purposes. This tax measure was modified many times; the tax rates were downwardly adjusted when the real estate market was in recess, and upwardly adjusted when it was overheated.

Additionally, the government introduced "bond-bidding" system in 1983 as a device to discourage speculative motives in housing purchase on the one hand, and to "tax away" a large portion of windfall gains from both real and potential speculators. A home purchaser had to participate in the competitive bidding process when purchasing a newly built condominium unit. The highest bidder won the unit and was obliged to purchase government bonds (the type II bonds) in an amount as pledged in the bid before the sale was officially executed.

Some measures were administrative in nature. For example, the government modified the regulations on apartment sale to disqualify some people from apartment purchase. Previously, one was allowed to bid for the second newly built apartment unit three years after purchasing the first one. But the new regulation extended the period to five years, and thus, it helped reduce the number of market participants substantially. At the same time, the Office of National Tax Administration occasionally investigated "professional speculators" for tax evasions and the source of funds when purchasing real estates, and announced in public their names and "wrong doings."

The other important measure was the sale price ceiling system. It was basically designed to control the sale price of the newly built condominium unit and thus, to stabilize housing price. Home builders could not set the sale price on their own. They had to abide by the price as "uniformly" set forth by the government. This scheme was initiated in 1983 as a temporary device to put a lid on "escalating" sale price of newly constructed apartment unit. No attempt was made, however, on the part of the government to do away

with the measure until very recently, although it was recognized that such a device had adverse effects on the housing market. It controlled only the sale price and thus, indirectly the costs of housing production, and had nothing to do with the market price.

Thus far, some of the key policy measures have been highlighted. Evidently, some of them were adversely affecting the housing market, thus, leading eventually to "market failure." First of all, the anti-speculation measures were basically intended to discourage "speculative minds," but there was little evidence that they had been effective in controlling speculative behavior. Some worked, but only temporarily, and none of them provided permanent solution. Besides, most of the anti-speculation measures cost the government a lot of tax money to enforce. Furthermore, since almost all of them were taken remedially, i.e., after the facts, those who had earned speculative profits already left the market, and thus, the preventive functions of them were in doubt.

Worse yet was that some of them had been counter-productive in a sense that they reduced housing production as a result of constraining land supply, and thus, raising housing price in the long run. For example, the strengthening of the real estate transfer income tax was often accompanied by "lock-in effects," and therefore, it substantially reduced the supply of residential land.

Tightening up the regulations on apartment sales and five year mandatory requirement of residence would also result in a significant reduction of housing supply, because these measures might have prevented a large number of households from upward residential mobility. As pointed out, the sale price ceiling system would not necessarily contribute to stabilizing the market price; instead, it might have raised the housing price in the long run as it had "impaired" financial position of the builders, thus, discouraging them in expanding housing production.

The price ceiling system also unnecessarily stimulated home

purchase demands, as the gap was widening between the market price and the government-set home sale price. For example, the market price of a condominium unit of 130m² was worth about 300 million won, but the comparable unit was sold for only one third of the market price to the holders of the Housing Subscription Time Deposit (HSTD).

1) Similarly, the National Housing Funds (NHF) subsidized 66m² units the unit price of which was worth over 100 million won at the market, but the sale price of the unit price comparable unit was less than a half of the market price. One must, however, hold the National Housing Preemption Subscription Deposit (NHPSD) to be eligible for the purchase of the NHF-financed unit.

There were as many as 2.1 million participants as of December, 1994, waiting in line to purchase new apartment units, but the number of housing units being sold under these schemes averaged only 200 thousand units a year.

Consequently, the competition for acquiring a decent condominium unit was very severe indeed, thus raising the price of housing. Therefore, the "rationing" device seemed to encourage, rather than discourage, speculative behavior of home purchase.

Government policies of this nature seemed to have distorted the housing demand structure. Housing demand was less sensitive to the changes in market price and in income as evidenced by a number of studies.²⁾

1) There are two types of homeownership schemes, both administered by the Korea Housing Bank (KHB); the Housing Subscription Time Deposit (HSTD) and the National Housing Preemption Subscription Deposit (NHPSD). Those who join the former scheme make a lump-sum deposit ranging from 5 up to 15 million won, and wait for two years to be eligible for receiving the "priority" in purchasing a multifamily condominium unit. The NHPSD, on the other hand, is designed to draw deposits from the prospective purchasers of the National Housing Funds (NHF) financed condominium units, mostly provided by the Korea National Housing Corporation (KNHC) and municipal governments. The participants make monthly installments at the subscribers' discretion in order to receive "priority" in purchasing publicly assisted housing units.

Instead, the demand turned out to be more responsive to the changes in capital gains (or user costs), i.e., the difference between the purchase price and the price at which the unit was sold, being discounted at the curb market interest rate.³⁾ Therefore, government policies seemed to be partly responsible for change in housing demand behavior in a way that housing was viewed more as an investment asset than as a consumption good.

As critical as the distortion of the demand side of the housing market were the production and supply sides. A recent study on the Korean Housing Industry suggested that the industry exhibited a number of problems; the industry was poorly structured and disoriented. It was highly concentrated, given the fact that the share of housing production of the ten largest firms was as high as 20 percent. It was also poorly integrated, both horizontally and vertically, with such industries as financial and manufacturing industries which supplied construction funds and building materials. A large majority of home building firms revealed weak asset structure.⁴⁾ The management did not adequately respond to changes in the price of production inputs, land prices in particular, as evidenced by various production parameters recently estimated.⁵⁾ All

2) There are a few studies which attempted to estimate the price and income elasticities of housing demand among the urban households in Korea. Most of the demand studies strongly suggest that overall, the consumer demand for housing is not elastic with respect to both price and income. Income elasticity improves substantially when permanent income is used, but still below measured through instrumental variable approach.

3) For further discussion, see Kim J. (1987)

4) For example, the debt to asset ratio ran as high as 354 percent and the ratio of net worth to total assets, only 18 percent on average. The capital stock turnover rate was about 10 times, while that of the net worth was only 5 times. Profits vary widely depending on the cyclical change in housing market. The profit ratio to total asset ran negative in 1987.

5) The elasticity measures ranged from the lower .03, the elasticity of substitution between land and labor input, to the highest .46, the cross price elasticity between labor and construction material input.

the elasticity measures were estimated to be very low, including the own price elasticities, the elasticities of substitution, and the cross price elasticities, suggesting that the firms were not making timely adjustments of production method in response to price change of one input relative to those of other inputs. Cost overruns resulting from the increase in input prices appeared to be rarely absorbed by the firms themselves through improving building technology and management. The industry was still highly labor intensive despite the fact that construction wages were rising rapidly. In fact, the analysis found that the productivity, being measured in terms of the increase in value added, was very low as compared to that of other comparable industry. The supply elasticity, as expected, was very low too; as low as one tenth of the comparable measure obtained in the U.S., and as one fourth of that found in a newly developing country like Thailand where the housing market was relatively free from government intervention.

In conclusion, the government intervention with housing market seems to be largely responsible for market distortion. In other words, policy failure seems to have led to market failure, thus, aggravating the housing situation.

2. Housing Construction Plan of 1988-1992

(1) Strategies to Expand Housing Production

Such a piecemeal approach to housing problems, as described in Section II, would not work after all as long as there existed a significantly large amount of excess housing demand to be met. A permanent, and in fact, the most feasible, solution would be to expand housing production in a massive scale, and only recently, such an effort was materialized by the two Million Unit Housing

Construction Plan of 1988-1992. The key strategies were; supply of a large amount of residential land, expansion of housing credit, and removal of various regulations restricting residential developments.

First, the government designated close to 68 million pyong of land for residential development purpose throughout the country in accordance with the National Land Use and Management Law. They were mostly located in large urban areas, some within the developed area, but mostly in peripheral areas currently zoned as "greenery space". The quasi-governmental bodies such as the Korea Land Development Corporation (KLDC) and the municipalities were authorized to purchase a large amount of cheap land, mostly agricultural and greenery lands, and to convert them into residential uses with some improvements thereupon. The serviced lands were sold either to such public entities as the Korea National Housing Corporation (KNHC) at cost or to private builders at the market equivalent prices.

In order to expand housing construction in the capital region the government announced five new town construction in 1989. In the 1970s and early 1980s, the government launched several large-scale housing project in Seoul in the form of "new town in-town." In the late 1980s, the new town in-town strategy pursued by the government, however, revealed its limitation due to lack of development land in Seoul. This forced the government to move outside of the Green Belt Zone.

Simultaneously with this measure, the government relaxed land use regulations. In particular, density control was substantially eased to allow for more intensive housing development. Deregulation of land use control was followed by relaxation of design standards in certain districts of large cities. Land use conversion was also made easier for housing developments. The primary intent of these measures was obviously to build more housing units, given the limited amount of residential land in urban areas, but they also brought about disorderly developments in downtown areas where lands was very

costly.

Equally important was the supply of large amount of housing funds. Table II-5 compares the amount of housing funds supplied by financial institutions before and after the plan was actually implemented in 1988.

Table II-5. Housing Funds Supplied

(Unit: in billion won)

	1987	1988	1989	1990	1991	1992
NHF ^{1/}	5,914 (45.4)	6,311 (38.4)	11,739 (38.6)	31,481 (50.6)	29,129 (48.5)	27,639
NHB ^{2/}	5,219 (40.0)	7,725 (47.0)	15,535 (51.1)	18,542 (34.9)	19,389 (36.9)	25,494
CNB ^{3/}	1,530	1,941	1,485	3,298	5,000	N.A
Other Banks	348	214	268	206	500	N.A
Life Ins.com.	26	252	1,363	4,253	2,000	N.A
Total	13,037	16,443	30,390	53,205	51,500	

. Source : The Korea Housing Bank

1/ NHF : National Housing Funds

2/ NHB : Korea Housing Bank

3/ CNB : Citizens National Bank

* Parenthese are percentage shares

The supply of housing funds quadrupled in less than four years from 1.3 trillion won in 1987 to 5.32 trillion won in 1990. Note also the way that the government controlled National Housing Funds (NHF) had grown during the period.

Another main feature of the plan was that different housing supply schemes were adopted for different income groups of people. Particularly, the bottom ten percent of households in terms of income level were supposed to be provided with 190 thousand units of low rent public rental housing. For this, the government allocated 3.5 trillion won of government budget, which was 85 percent of the total construction cost.

(2) Plan Implementation

The plan was very successful in promoting housing construction in a massive scale. As shown in table II-6, the first year saw new construction of 317,000 dwelling units (on the basis of building permits issued); a ten percentage point short of the planned target of 350,000 units, but the figure represented an increase of 31.2 percent over that of 1987.

Table II-6. Numerical Achievements

(Unit: 1,000, percent)

	88	89	90	91	92	88-91	88-92
Permit Based							
Total	317	462	750	648	600	2,177	2,777
- Public	115	161	270	220	250	766	1,016
- Private	202	301	480	428	350	1,411	1,761
Completion Based							
Total	287	353	572	695	631	191	2,538

. Source : MOC, and EPB

From the second year on, the number of residential building permits issued accelerated to a maximum level of 750,000 units in 1990. The 1989 figure represented an increase of 40 percent over that of 1988. Even in 1991 over 648 thousand units of building permits were issued, and the four-year aggregate amounted to over 2.17 million by the end of 1991. In other words, two million unit construction target was achieved a year ahead of the scheduled time period. The year of 1992 issued over 600,000 units of building permits, implying that over 2.77 million units were supplied for the entire five-year planning period, approximately 35 percent more than initially-targeted two million units. Overachievement was also foreseen even on the basis of housing completion. Housing completions doubled within a two-year period from 287,000 units in 1988 to 572,000 in 1990. This was quite substantial, given the fact that the total number of housing units produced up until 1987 averaged less than

240,000 a year. The housing completion rate peaked at 695,000 units in 1992.

Expansion of housing stock obviously helped reduce the housing shortage ratio. The housing supply ratio reached 79.1 percent by the end of 1994, up almost by 10 percent from 69 percent in 1987 when the plan was drawn up. Massive housing construction also helped stabilize home price and rent. In fact, house price gradually declined at a rate of 0.3 to 1 percentage point per month since May 1991 according to a monthly housing market survey conducted by the Korea Housing Bank. The same survey found rent falling between 0.7 percent and 1.6 percent over the same period. Further declines in both house price and rent were recorded in ensuing months.

(3) Macro-economic Impacts

Housing and the national economy are connected in a number of ways. Housing construction generates jobs and income. Its employment impact is significant because the construction industry is basically labor-intensive. The industry is also an integral part of the national economy in terms of its share in national output and fixed capital formation. It also affects the cyclical component in GNP, and therefore, it has been used as a macro economic tool in adjusting and moderating economic cycle; housing construction is encouraged when an economy is in recess, and the reverse action is taken when the economy is in full employment.

Effects of the housing construction upon the national economy are not easy to assess, but they are generally known to be substantial. For example, The most recent input-output analysis found that the income multiplier was 1.98, implying that one unit of housing investment generates almost two units of value added in real terms.⁶⁾

6) For the detail, refer to "Impact of the Two Million Housing Construction Plan on the National Economy" Ro Chung Hyun of the Han Yang University

This implies that housing investment significantly affects nation's output, and thus, economic growth. Employment generation coefficient is also high relative to those generated by other investments. The figure estimated runs as high as 0.27.

It also contributes to the national economy in terms of fixed capital formation. In 1990 somewhere near the peak of the housing construction cycle, gross housing investment was 21 percent of the total fixed capital investment and contributed 8.4 percent to the nation's GNP, far above the desirable level of 6 to 6.5 percent. As shown in table 6 below, the ratio may rise as high as 9.7 percent in 1991.

One recent study using macro-economic model found that a ten percent increase in housing investment contributed to 1 percent increase in GNP, 1.4 percent increase in money supply (M_2), 1.5 percent increase in employment, and 2 percent increase in fixed capital formation. The same study, using 1989 real figures, also pointed out that a ten percent increase in housing investment induced 0.6 percent increase in imports and increased overall balance of payment deficit by 93 million US dollars. It also affected overall price level as it raised GNP deflator by 0.5 percent and money supply.⁷⁾

Table II-7. Housing Investment

(Unit: trillion won)

	88	89	90	91	92	Total
Housing Inv. ^{1/}	5,968	7,867	14,660	19,060	18,515	66,070
Ratio to GNP ^{2/}	4.7	5.5	8.7	9.7	8.2	-

Such impact does not seem to be quite substantial, given the size of the nation's economy, but the cumulative effects would be

(Unpublished research paper).

7) These figures were derived from the parameters estimated by Professor Sun Seong-Hwan of the Yonsei University, using a recently developed macro-economic model.

enormous in the long run. Excessive investment in housing were hardpressing various input markets; land, capital, construction material and labor market in particular. Equally serious was that non-housing construction activities were expanding in a similar pace. According to recent statistics released by the National Statistical Office, the total construction activities increased rapidly; 18.5 percent in 1989 and 27.9 percent in 1990, and they represented 22.4 percent of the nation's GNP in 1990. And the investment figure remained at the approximately same level during the first half of 1992 (22.5%).

Domestic awards for residential and office buildings as well as commercial establishments were worth 10.65 trillion won, up 48.6 percent from that of 1989. Approximately 60 percent of them were for housing construction.

The monthly average number of construction employees rose by 9.1 percent to 903,317 persons in 1990, but the average number of construction workers in the year's first quarter hit a record high of 1.8 million. The number, however, fell to 1.5 million in May 1990. The statistics also indicate that the per capita arrange labor cost grew by 26.8 percent to 25.4 million won in 1990. The average wage of construction workers increased by 34.3 percent annually during the 1989-1992 period. The prices of construction materials also soared substantially during the same period. The wholesale price for ready mixed concrete, for example, rose by 34.3 percent in April 1992 and 29.7 percent in May, while those for cement and reinforces steel bars rose 1.6 percent and 6.6 percent, respectively, in the month of June 1992.

The government attempted to discourage construction activities rather drastically. Various measures were taken to reduce construction activities of commercial structures and government buildings, but they affected housing construction only minimally. Tighter measures were put into effect, being primarily geared to

reduce the number of housing construction starts to a desirable level of 500,000-600,000 units down from 680,000 units.

It is very clear that the housing sector has been overly invested to the extent that it almost jeopardized the normal operation of the national economy. This problem seems to have occurred primarily because policy and planning efforts in housing area have been pursued in isolation from the macroeconomic perspective.

III. Best Practices

1. Public Rental Housing Program

(1) Introduction

Enhancement of low-income housing services has been a big concern in many countries and several countries have implemented public rental housing programs to tackle low-income housing problems. Comparisons of benefits among various housing subsidy measures such as public housing, housing voucher, and cash grants have shown that the low-rent public rental housing program has better redistributive effects than other subsidy measures, especially for the most deprived families (Olsen and Barton, 1983; Hammond, 1987; Min. of Construction, 1989). On the other hand, there have been some worries that public rental housing will suppress the private sector rental housing activities and thus will weaken the functioning of low-income housing market in the long run (Ohls, 1975).

Mass production of housing has comprised major housing policies in Korea for the past 20 years. While it has contributed to the alleviation of housing shortages among the middle income households, low-income housing market has been reduced considerably through the

replacements of low income areas to middle income areas. Demolition of existing housing stocks has reduced housing opportunities among low-income households and affected quite seriously to rental families. This is because low income housing markets have been largely operated by individual homeowners who rent out a part of their houses, so removal of one housing stock usually takes two or three living units.

Public rental housing program, entirely supported by government budget, was launched in 1989 in the middle of rent hike crisis and it was the beginning of public housing tradition in Korea directed to low-income households. A construction of 250 thousand units were initially planned by 1992. Although public rental housing has been demonstrated as an effective measure to deal with low-income housing problems in many developed countries, equity and efficiency issues have often been raised due to a large amount of initial government investment, a continued need for operating cost support, and a limited number of beneficiaries. However, it is generally understood that construction of public rental housing is the most effective way to relieve low-income housing problems when depressions in low income housing market have been persisted for long time due to the lack of supplies.

Since it is the first time to run the public rental housing program in Korea, many operational problems are expected. Above all, financial resources to support the construction and management of public rental housing, and the establishments of tenant eligibility criteria and consistent management policy have become pressing tasks for effective management of the program.

This section attempts to discuss some problems and issues in light of the significance of public rental housing program for solving low-income housing problems in Korea. In addition, the effects of public rental housing supply on the low-income housing market are examined through the analysis of housing market

characteristics of potential tenant groups.

(2) An Outline of Public Rental Housing Plan

Public rental housing program can be characterized in many aspects such as tenant qualification, financing mechanism, rent level, dwelling size, facilities, and operation system. Social welfare recipients have been largely designated as a target group. Priorities have been given to two other groups: displaced people who would be evicted from urban redevelopment activities, and low-income veterans. Homeowners and single member households are excluded. Resident selection criteria and point system are demonstrated in Table II-8. Households residing in overcrowded condition with larger household sizes, and long-time city dwellers have more chances to enter public rental housing according to the point system.

Table II-8. Selection Criteria for Public Rental Housing

	Points
Room density	20
Age of household head	10
Residence period	15
Household size	20
Household composition*	10
Others*	15
Total	100

Note : * # of applicable types among the following household groups: an extended family, a single parent family, a family with handicapped members and a child household head.

** to be determined by the each municipalities.

As for financing mechanism 85% of construction cost is financed by the central government budget. The rest are supplemented by tenant deposits. Tenants are required to pay initial deposits of 1

to 2 million won depending on the size of the unit. Total monthly payment of 50-70 thousand won has to be made; 30-40 thousand won for rent and 20-30 thousand won for maintenance fee.

Six municipalities and the Korea National Housing Corporation are in charge of management of the program and facility maintenance. Operating costs are partly subsidized by rental earnings from commercial facilities in each estate. Social welfare facilities and apartment type factories are constructed as common facilities in order to fulfill demands for welfare services and job opportunities among residents.

Tenants who are proved to be self-supportable will be withdrawn from permanent rental housing after 5 years of residency. One extra year will be allowed at that time in order to allow searching time for a new house for those tenants. Characteristics of the permanent rental housing program are outlined in Table II-9.

Table II-9. Outlines of Public Rental Housing Program

Construction Body	Local Government KNHC
Supply Plan	250 Thousand Units Seoul 84000, Pusan 49000, Daegu 35000, Incheon 18000, Kwangju 21000, Daejon 28000, Other 15000
Financing	Government Contribution : 85% Tenant Deposits : 15%
Rent	Deposit : 1-2 Million Won Monthly Rent : 30-40 Thousand Won * Management Fees : 20-30 Thousand Won Per Month
Management	Local Government, KNHC
Dwelling Size	Apartment Type Factory, Communal Workshop, Social Welfare Facilities (Job Information Ctr., Meeting Place, Day Care Ctr.)
Contract Periods	5 Years Initially and to be Renewed Every Year After That.

(3) Socio-economic Characteristics and Housing Conditions of Welfare Recipients

It has been pointed out in the previous section that welfare families show very low as well as unstable income elasticities, which implies that incomes increase far less than housing prices. Socio-economic characteristics of welfare households appear quite different from average households, of which household head is older and household size is smaller. Four different kinds of welfare programs are run for the welfare families: the in-house care program for the elderly, the facility care program, living expense support program for the poor, and the medical care program. Households on the medical care program tend to be better off than the other welfare recipients and they are comparable to those average low income households. Medical welfare recipient counts 42.2% of total welfare families.

Table II-10. Socio-Economic Characteristics of Welfare Recipients in Seoul

	Type A	Type B	Type C	Total
Age*	62.7	50.8	49.2	53.5
No. of Years Educated*	3.4	6.0	6.5	
Income* (in 10,000won)	4.4	14.8	18.6	14.1
Total Income (in 10,000won)	8.3	28.5	30.4	25.7
No. of Household Members	1.9	3.4	3.6	3.2
No. of rooms/Household	1.1	1.3	1.3	1.3
Per Capita Space (in pyong)	3.9	3.9	6.0	5.2

Note: Type A: In-House Protection Program for Elderly

Type B: Living Expense Support Program for the Poor

Type C: Medical Care Program

Source: Korea National Housing Corporation(1989)

For income levels more than 50 percent of total households have incomes less than 300 thousand won and more than 50% of the employed holds temporary jobs as unskilled or manual workers.

Housing supply for low-income household has been largely relied

on private sector activities, especially on individual homeowners. Housing condition has been poor due to high price of housing and rent increase in 1970s and 1980s. Housing conditions have become very much the same regardless of income levels and tenure types. There appears a weak correlation coefficient of 0.18 between income and housing size. On the other hand, household sizes seem more associated with housing demands than income levels, with correlation coefficients of 0.8 and 0.30, respectively (KNHC, 1990).

Table II-11. Number of Rooms Per Households by Tenure

(Unit:%)

Tenure Types	No. of Rooms			Total
	1	2	More Than 3	
Monthly Rent	80.6	18.5	0.9	100.0
Chonsei Rent	71.3	25.7	3.0	100.0
Homeowners	33.7	50.5	15.9	100.0

Source: KNHC (1989)

Mobility tend to be less frequent among the older household heads and the long-time city dwellers. On the other hand, rental families tend to move more frequently and downward mobilities to cheaper rental houses are dominant among them. Observations of households who experienced moving for the past two years show that rental families consist of 97% of movers. More frequent movings occur among families with their household heads in 40s and 50s, which is in contrast to average households with less movements in their later stages of life cycle.

Table II-12. Age of Household Heads Among Movers for the Past 2 Years

(Unit:%)

tenure	age					Total
	Less Than 30	30-39	40-49	50-59	More Than 60	
Renters	3.5	13.1	28.8	27.3	27.3	100.0
Owners	0.0	0.0	37.5	37.5	25.0	100.0

Source: KNHC (1990)

Movings are more frequent among those who reside in small places of less than 5 pyeong(16.5 sq.meters) or in one room. A search for a cheaper rental house has been a major reason for move. Comparisons of living conditions in terms of tenure type and number of rooms show that more families in "chonsei" rental type experienced downward movements. Deposit ranges of 3-4 million won are most frequently asked for a chonsei rental house and 60,000-90,000 of monthly rents are asked often for a monthly rental house.

From the above, it can be inferred that movings of low income households are marginal in their nature. The analysis shows that 73.3% of households has experienced equal or downward moving and it seems more conspicuous among the more deprived families and small size households. Although permanent rental housing is expected to provide stable places for those direct beneficiaries, its effects are not likely to spread out to other low income groups since tenant rotations are not expected to occur due to low income levels among tenants. Therefore, it can be assumed that confinement of permanent rental housing supply to welfare households will hardly trigger upward moving among low income households in the long run. Moreover, differences in rent and housing qualities between permanent rental houses and private sector rental houses may encourage the black market formation, thus resulting in substantial confusions in low income housing market.

(4) Issues of the Public Rental Housing Program

Significant housing improvements, as expected, have been made through the public rental housing project. The residents are very much satisfied with the present housing condition, especially with the availability of such facilities as flush toilet, modern kitchen, and hot water bath. The benefit is estimated approximately 239 thousand won per month in Seoul.

However, limiting benefits to welfare recipients have raised equity questions among the displaced people who have been uprooted from their previous houses by urban development activities and have not been able to find an alternative place to live in since then. Approximately 80,000 households are reported to live in vinyl plastic houses converted as a temporary shelter at the periphery of Seoul. They believe that public rental housing program should provide opportunities for solving their housing problems. This will also eventually help the city government to remove illegal houses.

In addition, there are many other low-income households who are not designated as welfare families. In fact, it has been pointed out that welfare families cover just all the poor people who are in need of food or shelter subsidies (KRIHS, 1989).

Table II-13. Low-Income Households by Type

No. of Welfare families ¹⁾	1,022,000
No. of households earning below the minimum living costs ²⁾	1,096,000
No. of households living in one room ³⁾	2,517,000

Note: 1) Ministry of Public Health and Social Affairs, '89 welfare

* Welfare Income for 4 Members: 192,000won

2) The Korea Institute for Population and Health, A survey on the Minimum Living Expenses, 1990

* Minimum Living Expenses for 4 Members: 359,700won

3) EPB, Reports on Population and Housing Census, 1985.

The analysis of income elasticities for housing demand shows very low and unstable results among welfare families, which implies that their income increases are substantially lower than housing price increases.

Second, since construction expenses are entirely supported by central government budget, the public rental housing program has to compete with other programs for government budget annually, and this will make the program unsettled. In addition, there are no

considerations for the subsidization of operating cost against management cost shortages. From experiences of public housing management in other countries operating cost shortages appear to be a big concern at the moment. It has been reported from a survey of welfare families that approximately 43% of welfare families are able to pay rent and maintenance fees. Currently each management body has plans to subsidize only a part of management fees with rental revenues from the operation of commercial facilities in each estate.

Third, expenses for daily and long-term repairments take only 8.3-9.6 percent out of the total management costs and only 20% of the necessary long-term repairment costs is included in it. It should be noted that deterioration of public rental housing has been a major obstacle for the continuation of public rental housing program in U.K. and many other countries. In case of council housing in U.K. repairment costs take up 20-30% of total rental revenue in addition to these supplementary grants from government. Currently only minimum level of management services is expected for public rental housing since lowest management fees is charged to tenants with little subsidies from management companies.

2. Constuction of Five New Towns

(1) History of New Town Development: 1960-1990

The Korean government, has pursued a "new town" policy to alleviate the problems of old inner cities, especially Seoul, on the one hand, and to support its industrialization policy on the other hand. The first new town for the latter purpose was Ulsan Industrial City, launched in the late 1960's as a support city for the Ulsan petro-chemical industrial complex. The first instance of the former was the Kwangju Housing Complex (later renamed Seongnam City) developed as a part of the Squatter Clearance Program of the