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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

PROJECT PAPER

Proposal and Recommendations
For the Review of the
Development Loan Committee

489-HS-006
Authorized 6/29/76

REPUBLIC OF KOREA - Korea National Housing Corp. (KNHC)

AID-DLC/P-2177

UNCLASSIFIED

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

UNCLASSIFIED
AID-DLC/P-2177
June 16, 1976

MEMORANDUM TO THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Republic of Korea - Korea National Housing Corp. (KNHC)

Attached for your review is the recommendation for authorization of the issuance of guaranties pursuant to Sect. 221 of the FAA of not to exceed twenty-five million dollars (\$25,000,000) in face amount, assuring against losses (of not to exceed one hundred per centum (100%) of loan investment and interest) with respect to loans by eligible U.S. investors (Investor) acceptable to A.I.D. made to finance housing in Korea.

This housing investment guaranty is scheduled for consideration by the Development Loan Staff Committee on Wednesday, June 23, 1976 at 2:30 p.m. in Room 3886 New State; please note your views are requested by close of business on Monday, June 28, 1976. If you are a voting member a poll sheet has been enclosed for your response.

Development Loan Committee
Office of Development Program Review
and Evaluation

Attachment:

Summary and Recommendations
Project Analysis
ANNEXES

- institutional aspects? P. 11/6 w/ extensions
- to work in part, what is this?
- PS - POKG study?
- Squatting program - P. 4/15

NOTES ON QUANTITIES

A. Apartment Area

1 pyong	=	35.5 sq. ft. (3M2)
7.5 pyong	=	265 sq.ft.
10 pyong	=	355 sq.ft.
13 pyong	=	460 sq.ft.
15 pyong	=	532 sq. ft.
22 pyong	=	781 sq. ft.

B. Currency Equivalent

480 Won	=	U.S. \$1.00
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C. Population

	<u>1970</u>	<u>1975</u>	<u>Percentage of Growth</u>
Korea	31.4 million	34.7 million	10.5%
Seoul	5.5 million	6.8 million	24.5%
Pusan	1.9 million	2.5 million	30. %
Urban	12.9 million	16.7 million	29.7%

D. Abbreviations

MOC	Ministry of Construction
KNHC	Korean National Housing Corporation
ROKG	Republic of Korea Government
EPB	Economic Planning Board
KID	Korean Industrial Development Research Institute
KHB	Korea Housing Bank

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8. Apartment Designs
9. Draft Authorization
10. Statutory Checklist

I. Summary and Recommendations:

Recommendations

Based upon review of the proposal set forth in this paper, it is recommended that the subject guaranty be approved as follows:

Amount of Guaranty: \$25 million

Term:

The consolidated loan will be for a term of up to 30 years with a grace period of the repayment of principal to be negotiated with the investor.

Interest rate:

The interest rate payable to the U.S. investor shall not exceed the allowable rate of interest prescribed by the AID administrator pursuant to Section 223 (1) of the FAA, and shall be consistent with rates of interest generally available for similar type loans.

Technical Assistance:

SER/H will provide consultants to the ROKG to assist the government analyze its existing housing finance system and develop alternatives required to meet the long-term housing finance requirements.

Description of Project

The H.I.G. project consist of : (a) \$15 million H.G. financing for construction and sale of approximately 2730 high density low income 13 pyong (460 square feet, gross area) apartments in Seoul and 9 smaller cities; 1955 high density low income apartments varying in size between 7.5 and 10 pyong (265 and 355 square feet, gross area) in Seoul and 2 industrial cities; (b) creation of a national institutional capacity to design and implement squatter improvement programs, beginning with \$10 million H.G. financing for upgrading and improvement of squatter communities in Pusan, Taegu and other secondary cities; and (c) assistance to the ROKG in the study of alternative housing financing systems for utilization in Korea.

The borrower of the H.G. loan for the construction of low income apartments (13, 7.5, and 10 pyong units) and the squatter improvement loans will be the Korea National Housing Corporation (KNHC). The KNHC will make subloans to Pusan, Taegu, and other secondary cities for the squatter improvement projects. The KNHC will be the project administrator for both the low income apartment loan and the squatter improvement loan. The ROKG will guaranty the loans to the U.S.

Summary of Findings:

Evaluation of the utilization of prior AID housing guaranty loans and analysis of the current proposals of the ROKG indicates that the KNHC is an efficient and well managed institution capable of carrying out the proposed project and achieving the project objectives. The ROKG has stated that the shelter sector is a priority within its 4th Five Year Plan. The projects proposed are consistent with AID shelter policy objectives. Pursuant to AID and ROKG housing policies, the projects will directly benefit the urban poor and contribute to the further development and implementation of the Korean National Housing Policy and low income housing programs in Korea.

Part II. Project Background and Detailed Description

A. Background:

During the period 1972-75 AID has worked with the ROKG to demonstrate alternative approaches to the supply of shelter. The H.G. program has supported three fundamental objectives in Korea during this period.

1. It has encouraged and supported the formulation and implementation of a National Housing Policy in order to provide an overall framework within which decisions on housing in the public and private sector can be made for all income groups.

2. It has encouraged the conservation of the existing housing stock. In many of the squatter areas, substantial housing construction has taken place and care must be taken to preserve this stock because of the total housing demand. Many of these areas can be made acceptable in terms of living standards and represent an irreplaceable part of the whole housing picture, both in terms of cost and social replacement.

3. It has encouraged public sector programming toward maximum contribution to low income groups.

In pursuing these objectives four H.G. loans have been negotiated. The first H.G. loan of \$10,000,000 financed the construction and sale of 1490 condominium apartment units in Seoul. The units were 22 pyong (780 square feet) in size with central heating and cost approximately \$9,000. This project was one of the first attempts in Korea to demonstrate and test the market acceptance of condominium apartments. All units were constructed and the H.G. loan disbursed within a 9 month period. Applicants desiring to purchase units exceeded the number available by a ratio of 10 to 1.

With the successful completion of this project, A.I.D. worked with the ROKG to expand the market to urban areas outside of Seoul and to reduce the construction standards in order to reduce costs and serve families lower in the income scale. In March 1974 A.I.D. authorized a second H.G. loan in the amount of \$20,000,000 which financed the sale of 2,700 centrally heated 15 pyong (530 square feet) and 1,000 ondol^{1/} heated 13 pyong (460 square feet) units in Seoul and 5 other cities. The price range of these units were (\$6,250) to (\$7,400) for the 15 pyong unit and \$4,065 to \$4,813 for the 13 pyong unit. All 3,700 units were constructed and the H.G. loan disbursed by December 1974. At the time the 1974 H.G. was negotiated, the ROKG also agreed to formulate a National Housing Policy as the basis for the development of housing programs responsive to the needs of its population and cognizant of the constraints on the housing sector. This policy was formulated by the Koreans, although A.I.D. provided substantial assistance in this effort through various consultants. The consultants assisted the ROKG in the development of a methodology for formulating a housing policy and identifying the types of issues a

^{1/} traditional style of radiant floor heating

policy should consider. In May 1975, approximately 12 months after its initial agreement, the ROKG promulgated its first national housing policy. The major elements of this policy are:

1. Increased housing construction investments of both the public and private sector. Emphasis on public sector investments in lowest, lower and lower middle income levels and private sector investments in middle, upper middle and upper income levels.

2. Improvement of basic infrastructures supporting the housing stock, both new and existing, including improvement of housing and environment.

3. Maximization of the use of existing housing stock.

4. Improvement of the housing and building material industries for better production.

5. Reorganization of Government housing administrative services.

Pursuant to this national housing policy, AID authorized two H.G. loans in May 1975. These loans focused again on the reduction of construction standards in an effort to reach still lower income families and a pilot project directed at the legalization and improvement of existing squatter areas. The first objective was implemented through a \$25,000,000 H.G. to the KNHC for the construction of 6,200 ondol heated 13 pyong units selling between \$4,738 and \$5,348 and 3,000 ondol heated 15 pyong units selling between \$5,565 and \$6,285. Construction on the 1975 program began in June and was completed in December 1975.

The second component of the 1975 program, the improvement of squatter housing is being implemented through a \$10,000,000 H.G. loan with the Seoul City Government. This project is now in the final stages of detailed design and will provide squatter residents with legal tenure to the land they now hold, improve the environmental conditions in the squatter communities and provide credit for home improvement and replacement.

The initial request for a H.G. loan for 1976 was submitted to AID by the ROKG in July 1975. The original ROKG request was for a \$50 million H.G. loan for long term financing of 13,000 13 pyong units (\$40 million) and rehabilitation projects in major cities (\$10 million). As the result of negotiations during the past year, the original proposal has been revised downward to \$25 million of which \$15 million will be used for long term financing of 13 pyong units, 10 pyong and 7.5 pyong units; and \$10 million will be used for squatter and slum upgrading in 4 secondary cities. The KNHC has also agreed to establish a minimal shelter program and planning function in its organization to undertake the analysis, planning, design and implementation of squatter improvement and other minimal shelter projects on a national basis in cooperation with the Ministry of Construction and local governments.

A national housing finance policy and system is fundamental to the long term success of any national housing program. At the same time housing finance in isolation from other housing forces is not a panacea for the housing problems of any country. It is clear that Korea does not have a housing finance system which is capable of generating the investment required to meet projected needs. Housing finance policy and procedures are perhaps the most complex and bureaucratically difficult housing issue in Korea and any attempt to change the existing systems would require fundamental changes in national economic and monetary policies. The ROKG has become increasingly aware of this fundamental problem in part due to AID's prior assistance in the development of a national housing policy. The ROKG has commissioned a study of its existing housing finance system in an effort to develop new or improved policies and procedures. AID assisted the ROKG in this effort through the services of a housing finance consultant in November 1975 who discussed with ROKG officials various issues and alternative housing finance systems and procedures in use around the world. The ROKG study which is being done by the Korea Industrial Development Research Institute will be completed in June and the ROKG has requested AID assistance in reviewing the report and recommendations on the next steps to be taken. AID now has an opportunity to make a meaningful input into Korea's housing finance system at the request of the Government of Korea and SFR/H intends to provide assistance in a fashion similar to that used in the process of Korea's development of its national housing policy which placed the burden for the development of the policy upon the ROKG with AID providing frequent consultant visits to assist the ROKG develop the major issues and methodology for the analysis. The goal of AID's assistance will be to assist the ROKG develop a housing finance system, policy and procedures which will generate increased investment required to finance both public and private sector housing. What such a system, policy and procedures will be cannot be determined at this time but most certainly will deal with increased private savings, interest rate policies, impact of inflation on savings and lending.

The objectives of the proposed 1976 H.G. loan are (1) to assist the ROKG meet a broader segment of the lower income housing demand utilizing high density to reduce the per unit land cost (2) test the viability of nuclear core apartment units (7.5 and 10 pyong) as a means of lowering shelter costs and reaching families not presently benefiting from public housing; (3) develop a national capability to design and implement squatter improvement and minimum shelter projects; (4) improve squatter communities in selected secondary cities and (5) assist the ROKG study its housing finance system and consider alternatives which could better meet the goals and investment requirements of the housing goals as outlined in the National Housing Policy.

1976 Korea Housing Program

The CY 1976 housing program prepared by the MOC sets a target for construction of 220 thousand housing units, 74,500 or 33.8% by the public sector and 145,500 by the private sector. The total financing budget is set at W112.8 billion or \$285 million. Financing for this program will be provided from the 1976 H.G. borrowing; National Housing funds; KHB savings inflow and sale of KHB debentures; Central Government budget allocations; retained earnings of the KNHC and local government budgets.

ROK

Significant innovations in the CY 76/housing program are the inclusion for the first time of squatter improvement projects and the introduction of 7.5 and 10 pyong units. To implement the latter component of the 1976 program, MOC has waived the limitation on the minimum size of legal housing currently set at 13 pyong.

The CY 76 program also increases the level of new unit construction in secondary and smaller cities as part of the government's effort to promote development of smaller urban centers and encourage migration to these centers rather than to Seoul. Under the CY 1976 MOC housing program, 30% of all new housing would be constructed in the major cities, 55% in smaller cities and industrial areas, and 15% in rural areas.

Under the overall Korea housing program prepared by MOC, the CY 1976 KNHC program sets a target of 30,000 units^{1/} to be constructed or improved at a cost of W97.2 billion (\$202M).

^{1/}

Including an estimated 10,000 squatter units.

B. Detailed Project Description

1. Low Cost Apartment Housing Program

The objective of the low cost apartment component of the 1976 H.G. project is to assist the KNHC introduce and test a variety of new apartment designs and financial terms in Seoul and secondary cities. The 13 pyong units in Seoul are included in the project to assist the KNHC meet a part of the low income housing development in the capital city, promote the development of satellite growth poles in the Seoul area, and to mix unit sizes and income groups in its project.

Three basic apartment types have been developed for this program: 7.5, 10, and 13 pyong (gross areas). They are designed to provide what is believed to be the least expensive apartment units marketable in Korea and planned so that at some later time, when presumably urban incomes will have improved and the need for units this small is outgrown, they can at minimum cost and waste of space, be converted to larger units. Optional heating systems in the smaller apartments further broaden the low income family's range of choices.

The 7.5 pyong apartment has two rooms, 1.7 pyong (59.5 sq ft.) and 2.3 pyong (80.5 sq. ft.) with a small kitchen and a bath for a total net living area of 6.1 pyong (220 sq. ft.). It also has a balcony which, among other uses, is for the storage and curing in large earthenware pots of Kimchi (a primary food in the Korean diet).

The 10 pyong apartments are similar to the 7.5 pyong apartments but have larger room sizes, 2.2 pyong (77sq ft) and 3.2 pyong (112 sq. ft.) a larger kitchen, and a total net living area of 8.4 pyong (300 sq. ft.). They also have a separate storage area for Kimchi.

The 13 pyong apartments are similar to those financed in the 1975 KNHC program with some improvements based on preferences indicated in surveys of 1975 purchasers by the Research Institute of the Corporation.

Approximately half the 10 pyong units will be built with traditional "ondol" heating systems, and half will be built with central heating and hot water which, will make the small apartments more attractive to some families. The ondol is a uniquely Korean system where heat from large, slow burning coal briquettes is conducted through flues in the floor to provide radiant floor heating. Burners located in the kitchen serve additionally for cooking. The ondol system provides winter comfort at a low cost. The initial capital costs of the apartments having a central heating system with radiant hot water piping in the floors are about 11% higher than an ondol apartment, but the central heating system is cleaner and frees the household from the chores of changing ondol coal briquettes and emptying ashes. Hot water can be supplied with the central heated apartments

eliminating the need and expense to use public bathhouses. Moreover, because of air pollution from ondols, the increasing cost to the cities of collecting and disposing of ondol ash, and safety hazards of poorly built ondol systems, it is expected that ondols will eventually be outmoded. Some families will prefer modern heating now, even if it costs them more initially. All of the 13 pyong units will be ondol heated since the cost of 13 pyong apartments with central heating would be beyond the means of the target income groups.

Though small, all of the apartments are efficiently planned. Korean families spread bedding on the warm floor at night and then clear it for daytime living, storing the bedding in chests and getting double use out of the space. It can be expected, however, that with the development of Korea, even low income groups will eventually be able to afford larger apartments. The apartments can be converted to larger units with the simple opening of doorways between units. The extra kitchen can be converted into a bedroom; the extra toilet can be kept as it is or converted to a bath. This kind of expansion can occur when a family moves or decides to sell its apartment allowing a neighbor, if he desires, to purchase the apartment and add it to his living area.

The apartment buildings are designed as 5 story walkups with 2 to 4 apartments per floor sharing a stairway. Buildings vary from 20 to 100 apartments. The acceptance of apartment living in Korea has grown, in part, through the demonstration of KNHC programs. The densities achieved with apartment construction are an important factor in limiting urban sprawl and the resulting strain on land resources and infrastructure. The project areas include community and marketing facilities, parking, play grounds, green spaces, and special facilities such as, in Seoul, a center to assist women develop cottage industries or, in another project an old people's recreational area. Projects in all cities are comprehensively planned community developments, integrated with urban development plans of those cities. The KNHC staff assists City bureaus in the planning of infrastructure and any services, such as public transportation, that will be needed.

Location, Numbers of Units and Total H.G. Financing

KNHC proposes to build a total of 4685 units as follows:

	<u>Seoul</u>	<u>Secondary Cities</u>	<u>Total</u>	<u>%</u>	<u>Total HG Financing</u>
7.5 pyong	500		500	11.0	\$ 1. million
10 pyong	1,200	255	1,455	31.0	4. million
13 pyong	<u>1,000</u>	<u>1,730</u> ,	<u>2,730</u>	<u>58.3</u>	<u>10. million</u>
TOTAL:	2,700	1,985	4,685	100.0	\$15. million

The projects in Seoul include two areas. A total of 1,100 units, 500 of the 7.5 pyong apartments and 600 of the 10 pyong apartments all with central heating will be built in the Chamsil development where KNHC built 13,150 units (including rental apartments) in 1975 of which 6,230 were financed through the HG program. A total of 19,500 units are planned for the area which already includes commercial, recreational, and community facilities. Chamsil is an important element in the City's plan to attract growth on the South side of the Han River in order to balance and offset concentrations on the North side. Good public transportation is provided to the downtown area about 5 Km. away. Another 1,600 units will be built in the proposed program at Doguk, also on the South side of the Han River where KNHC is beginning another large scale new community. Of these, 600 will be 10 pyong and 1,000 will be 13 pyong apartments - all with ondol heating.

Secondary and industrial cities where projects are proposed include: Busan, Daegu, Incheon, Suwon, Buchon, Anyang, Pohang, Kumi, and Masan. All will be 13 pyong units with ondol heating except at Kumi and Masan where 10 pyong ondol heated apartments are planned for workers in connection with industrial programs and as a test of the market demand for smaller units and downpayment capacity of families in secondary cities. The extent of the smaller 7.5 and 10 pyong units proposed for Seoul and the secondary cities is limited because apartment living is still a new concept particularly in the secondary city areas and smaller units may not yet be accepted on the market as readily as 13 and 15 pyong units.

Based upon the estimated sales prices for different designs and downpayment requirements, the project should reach families earning as little as 39,000 won per month (\$81) for the 7.5 pyong unit in Seoul and 51,000 won per month (\$114) for the 10 pyong unit and won 71,000 (\$147) for the 13 pyong unit in the secondary cities assuming a 30% downpayment for the latter two units. If families in the secondary city elect to make downpayments of 50%, as has been the case in Seoul and in some other cities for larger units, the monthly income required to purchase the 10 pyong unit would drop to 41,000 won (\$85) and 53,000 won (\$110) for the 13 pyong unit.

The urban family median income for all cities in Korea is estimated to be between won 73,680 (\$154) per month and won 77,492 (\$161) per month. The median income for Seoul is estimated to be approximately won 3,000 (\$6,25) higher than the national urban income figure. (see annex 5) Based upon prior experience in Korea (see annex 3) purchasers of unit financed under the 1976 loan will be within AID's median income criteria and in fact significantly below the median income.

2. Description of Secondary Cities Squatter Improvement Program

The Squatter Improvement Concept: The National Housing Policy of Korea states, "The existing housing stock should be maintained to the fullest possible extent to insure a sustained increase in the housing stock and to mitigate the housing shortage. This will also prevent considerable loss of national economic wealth".

To do this, squatter and other low income housing areas must be improved and made permanent, viable communities where families can conserve the investments they have already made and improve them at the lowest cost to themselves and to the City.

The Housing Promotion Law passed in 1972 enabled these kinds of improvements by establishing the mechanism whereby publicly owned land in designated squatter areas can be sold to the occupants. The proceeds of the sales provide funds for upgrading infrastructure and community facilities in the area and the security of tenure provided by the sale will allow and encourage improvement of housing in the area by the owners thus making the communities decent places to live at significantly less cost and lower financing requirements than new housing.

The AID HG financing will enable financing of land sales and home improvements on long terms to the residents thus making the land affordable even by low income families.

The City of Seoul has already initiated a pilot Urban Improvement Program with AID HG financing. The KNHC proposes to establish a capacity to assist secondary cities which also desire to undertake similar programs.

The specific objectives of Urban Improvement Programs will be as follows:

1. The maintenance of the existing housing stock to the fullest extent possible.
2. Implementation of a community wide shelter and environmental improvement program in selected squatter and low income areas.
3. Legalization of squatter occupancy through land sales and ownership.
4. Improvement of community infrastructure including improved access, water supply, sewage disposal, and community facilities.
5. Development of institutional capabilities of KNHC and the City governments to plan and carry out squatter area improvements on an ongoing basis.
6. The recognition of selected squatter areas as permanent communities and the maintenance of the existing housing stock to the fullest extent possible.

Institutional Framework for Program: KNHC, the "Borrower" from the U.S. Lender, will make subloans to secondary cities under the auspices of the Ministry of Construction. The Cities will make loans to individuals for land purchase and home improvement and will upgrade infrastructure and community facilities. KNHC will work with the cities on program and project design. An agreement between KNHC and each of the cities will parallel the Implementation Agreement between AID and KNHC. In the process, KNHC will establish an office which, through the proposed program, will gain experience and the capacity to initiate and develop urban improvement projects on a continuing basis.

This framework will develop a relationship between KNHC and the cities in many ways similar to the relationship between the Office of Housing and the "Borrowers" in the HG program. KNHC will become a channel for financing of this kind of program which at the same time will help the cities formulate policies, design and implement programs and projects, and evaluate results. In this case it will also provide staff and assume responsibilities for detailed design. The cities will have responsibility for implementation and collections with technical assistance from KNHC where necessary. As the "sublender", KNHC will be responsible for control of the use of funds by the cities and will thus have a significant role in supporting the National Housing Policy.

KNHC already has experienced programming staff, design technicians, and field supervisors. It will draw from these resources the people it needs to set up the core of the Urban Improvement Program Office. Budget and staffing is now being prepared. This core will do the base work. The various financial and engineering sections of KNHC can be called upon for detailed design and management.

For the cities, their Housing and Planning Bureaus which already have responsibility for regular housing programs will have main responsibility for implementation. Coordination with other city departments, an important part of this kind of program, will be directly through the Mayor's office.

Criteria for Selection of Urban Improvement Areas:

The objectives set the overall directions of the programs. It becomes important that the initial projects selected for planning and implementation demonstrate the concept and that conditions in those areas should not preclude reaching the objectives. It is not intended that these criteria be inflexible, but that they serve as a basis for evaluation of preliminary project selection and planning.

1. The area should consist of at least 70% public land. Where privately owned land is included in the area, special assessments will be made to recuperate the costs of upgrading the infrastructure.

2. Planning of infrastructure improvements should not require demolition of more than 15% of existing dwellings in the area.

3. Replacement housing (other than that required as a result of demolition for infrastructure improvement) should not be necessary for more than 10% of the remaining housing stock in the area.

4. The area should not require related off-site infrastructure improvements in excess of 5% of estimated overall infrastructure costs for that area.

5. On the basis of a preliminary social and economic survey, no more than 10% of the area's residents should have reported family incomes in excess of the median household income for the City and the terms for land sales in Urban Improvement areas should be established on the basis that at least 90% of area residents can afford to purchase the land they occupy.

Description of Urban Infrastructure Improvements:

It is important that projects be designed on the basis of a coordinated and comprehensive master plan for the area that addresses needs in terms of infrastructure, community facilities, and housing improvements so that the area will be a permanent and viable urban environment with the least possible disruption to existing dwellings. Design standards will be determined jointly by AID, KNHC, and the cities and may vary with the requirements and problems of each site. Improvements include:

a. Access - Roads will be provided to enable reasonable passage of firefighting, sanitation and service vehicles with pedestrian walkways serving dwellings not located on vehicular roads. Road and walkway widths and layouts will be designed to minimize demolition of existing housing stock even if standard City regulations must, in some cases, be waived. Roads 12M or wider will be financed from the general accounts and not charged against area improvements. Where pedestrian walkways are steep, stairs will be built.

b. Utilities - Water and electrical lines will provide the same City service standard for residential areas.

c. Sewers - Water borne service will be provided where adequate treatment facilities exist or are feasible. Where not feasible, adequate access will be assured for vacuum evacuation of holding tanks by City trucks. Alternative systems will also be evaluated.

d. Storm drainage and slope protection - Sites will be engineered to provide adequate storm drainage and where necessary slopes will be protected to prevent slides and erosion.

e. Green areas - Unusable and unneeded portions of the site will be landscaped and small parks will be included in each area.

f. Community facilities - Where needed the area improvement plan will provide sites for neighborhood markets, baths, schools, administrative units, or other community facilities. Costs of community facilities may be included as an infrastructure costs.

g. Demolition of existing dwellings - The removal of houses for infrastructure work will be limited. Where only a portion of the unit must be removed for passage or widening of a road, the cost of making repairs necessary so that the dwelling remains liveable may be included as an infrastructure cost. Where all or most of a dwelling must be demolished for infrastructure work, the City will indicate in the Area Development Plan satisfactory plans for alternative housing for the residents of such dwelling. Such plans may include payment of reasonable subsidy or compensation for the demolished dwelling, opportunity to purchase another site, in the same area if possible, and supplementary financing for a replacement home. Payments for demolished dwellings may be included as an infrastructure cost.

Land Sales: As infrastructure improvements are being made the City will enter into sales contracts with squatter occupants and 10% downpayments collected. When infrastructure improvements are completed, the site will be surveyed, metes and bounds of individual lots will be defined. The Korea Appraisal Board will set values of the improved lots which may be discounted by the City. The City will offer financing of up to 90% of the purchase price at terms of at least up to 25 years and an interest rate assumed for planning purposes to reflect the cost of borrowing under the H.G. loan for the infrastructure improvement.

The City will transfer and record title assuring security in the ownership of the lots, existing dwellings, and improvements. No minimum lot size will be required, but the City may adjust existing lots to the extent possible without requiring the removal of any existing dwellings. Lot adjustment plans will be approved by the community following standard City procedures prior to the start of infrastructure improvements.

All squatter occupants residing in the Improvement Area will be eligible for land purchase loans, and no credit review will be required. Occupants electing not to participate will be offered rental and purchase options on City apartments according to standard City procedures for displaced squatters. Land not purchased by occupants will be held for community facilities or otherwise sold in accordance with plans consistent with project purposes and objectives.

Home Improvement Loans: No owner will be required to improve his property. It is expected that with the security of tenure obtained through the land purchase, residents of the areas will begin to make improvements and investments in their property that as squatters would not have been secure. To encourage home improvements, the City will make loans available for example to : repair, or replace roofs; repair, paint or refinish walls; repair or replace ondol heating systems; repair or install windows; repair or install electrical or plumbing work; repair foundations; build or repair retaining walls, stairs, and earthworks. Construction of additional rooms will also be eligible, but new construction must meet building code regulations. Improvements or additional rooms used for cottage industries or lightcommercial purposes will be eligible so long as they are a family business of the occupant, and are a part of his dwelling. Essentially, decorative improvements; garages; or enterprises employing more than 5 persons (family and non-family) will not be eligible.

All residents who have entered into sales contracts with the City for the purchase of their lot or who already own their lot will be eligible. Home improvement loans will initially be limited to .5 million won and by the monthly payment which they can afford which, including the monthly payment due on their loan for land purchase, shall not exceed 30% of demonstrable family income.

Schedules of terms and monthly payments will be determined by KNHC and the Cities and reviewed by AID after preliminary analysis of socio/economic conditions in each city.

The City will inspect each property prior to making loans to check that the loan requested is needed and that the loan amount is adequate. To simplify implementation, the KNHC will prepare with the assistance of AID a schedule of eligible loan types with standardized cost estimates, loan amounts, terms, monthly payments disbursement criteria and inspection requirements. The schedule or handbook may include technical material such as typical plans details, and contracting forms to assist the borrower.

Home Replacement Loans: The City will make loans available to those occupants whose homes must be entirely rebuilt. These will be limited to:

- Occupants of dwellings which must be demolished due to infrastructure improvements in the improvement area.

- Occupants of dwellings which under the law have been legally condemned as unsafe for habitation.

All occupants qualifying as noted above will be eligible, but the maximum home replacement loan will be limited to one million won (or 1.4 million won if offsite replacement housing) and by the monthly payment which together with the monthly payment on the loan for the land purchase shall not exceed 30% of demonstrable family income. The loan will be offered with the same terms as for land purchases.

Plans and cost estimates will be reviewed by the City and disbursements made by stages in accordance with the progress of the work as determined by an inspector.

Estimated Program: It is difficult to estimate the size of the program that will be financed with the proposed \$10 million HG loan, until specific areas are selected and surveys made of infrastructure and housing conditions, incomes of residents, and land values in those areas.

Four Cities: Busan, Daegu, Iri, and Masan have made requests through the Ministry of Construction to participate in the proposed program. KNHC is undertaking surveys and will begin preliminary planning of 8 areas in the 4 cities. They estimate that initially they will be able to handle improvement programs with a total of 5,000 units per year. Based on estimations for the Seoul Urban Improvement Program, KNHC projects an average cost of \$1,000 per unit for the cost of upgrading infrastructure and making home improvements.

Costs for the initial project in the Seoul program are estimated at about 200,000 won (\$410) per unit at mid 1975 prices. Projecting 15% increases in the cost of construction to the end of 1975 and 10% per year, the cost of infrastructure prices would be 230,000 won (\$479) in 1976; 250,000 won (\$521) in 1977; and 275,000 won (\$573) in 1978. For planning purposes, it is estimated that 10% of the units need and the occupants can afford 1.0 million replacement loan. Costs of general home improvements needed for about 25% of the units in the initial project of the Seoul program are estimated at an average of 350,000 won (\$729) at mid 1975 prices. Projecting increases in costs on the same basis as infrastructure, the average cost per unit of general improvements would be 400,000 won (\$833) in 1976; 440,000 won (\$917) in 1977; 485,000 (\$1,010) in 1978. Costs for the program in the secondary cities may be somewhat less.

AID HG financing will be based on the costs of upgrading infrastructure and community facilities and on home improvement and replacement loans issued. The appraised market values of the land in the Seoul program are higher than the costs of infrastructure. The City will discount the appraised values and set sales prices within the means of the residents but as close to appraised market values as possible to limit speculative forces. The City effectively provides the financing for the difference between sales prices less downpayments and the costs of infrastructure loan. No cash is required for the City share of the financing though. It simply takes a note and a mortgage from the purchaser on the land sale and the AID HG financing covers all actual costs for upgrading infrastructure.

Discounted sales prices for the initial project in the Seoul program average about 40,000 won per pyong (\$2.35 per sq. ft.) with an average lot size of about 30 pyong (1,065 sq. ft.) or an average sale price of 1,200,000 won (\$2,500) per lot.

Land values in the secondary cities are lower than in Seoul. Values from one area to another vary, but using the average market prices of residential land in 1975 as determined by the Korea Appraisal Board the following indices of land values and projection of sales prices can be drawn:

Projected Sales Prices of Land

	<u>Indices of Comparative Residential Land Values</u>	<u>Estimated Average Discounted Value Of Land for Improvement Areas</u>	<u>Projected Average Sales Price Per Lot</u>
Seoul	100	40,000 won/pyong	1,200,000 won
Busan	85	34,000 won/pyong	1,000,000 won
Daegu	60	24,000 won/pyong	700,000 won
others	25	10,000 won/pyong	300,000 won

These estimates would produce a net annual return to the cities resulting from the cash flow difference between monthly payments to the City on land sales and payments by the City to KNHC on the AID HG disbursements for infrastructure costs. The projected return adjusted for inefficiencies due to delinquencies, higher costs, devaluations, etc. would be about 230 million won (\$480,000) per year to Busan and 65 million won (\$135,000) per year to Daegu. Other cities would just break even because of lower land values.

If the returns were reinvested by Busan and Daegu in similar Urban Improvement Projects at an average cost of 500,000 won per unit for home improvements and upgrading of infrastructure, then additional areas including 450 lots in Busan and 130 lots in Daegu could be improved the first year after completion of the initial phase and assuming the 5% per year inflation rate projected for the Fourth 5 Year Plan a total of about 4,600 additional could be self financed over a 10 year period.

These program estimates descriptions, and projections are preliminary, and include a number of significant variables such as the actual demand for home improvement and replacement loans. More accurate programming cannot be done until surveys of conditions and preliminary planning is complete, and even then the program will have to remain flexible for adjustment as experience is gained in implementation. The Office of Housing and KNHC will plan regular evaluations of the program in order to make these adjustments.

3. Technical Assistance in the Analysis of Housing Finance in Korea

The Korea Industrial Development Research Institute (KID) is completing a comprehensive analysis of housing finance in Korea for the Ministry of Construction. The AID Office of Housing will provide consultant assistance to the Ministry in the review of that analysis and in the development of policies and programs aimed at rationalization of inputs to the housing sector and internal generations of financing required for public and private sector housing.

The Office of Housing will use the same approach to this assistance that was instrumental in the development of the Korea National Housing Policy. The RHUDO Office in Seoul and a team of consultants to be selected will be sent to Seoul on a periodic basis to work with a multidisciplinary Korean task force.

At the first stage, the Ministry of Construction will be asked to establish a task force including many of the same people who worked on the Housing Policy task force. At the same time, a reference collection of recent studies and recommendations prepared by various institutions, such as the KID report, will be assembled and distributed to the task force.

The Office of Housing intends to sponsor a seminar in Korea, inviting the task force to intensive discussions of the various studies and the problems of housing finance in Korea. The AID Office of Housing will provide consultants to help direct discussions, suggest methodologies, identify issues, and provide outside expertise. Representatives of other external agencies involved with housing finance in Korea, in particular the World Bank will also be invited to participate. The purpose of the seminar will be to determine objectives and draw up a work program toward the development of a Housing Finance Policy.

The same consultants will then be brought back periodically to Korea by the Office of Housing to assist the MOC and the task force in the implementation of the work program. The consultants will also be asked to help RHUDO identify programs through which HG financing could be used by the Koreans to help introduce, demonstrate, and induce changes recommend by the task force.

III Project Analysis

A. Technical and Urban Planning Analysis

The KNHC has demonstrated on previous HG projects an exceptionally high degree of competency in both project design and implementation. They have earned a reputation locally for quality construction at reasonable prices while maintaining a remarkable rate of production. The proposed program is consistent with KNHC high standards. It is technically sound, reasonably priced, and designed to meet the objectives of the program.

1. Low Cost apartments:

Architectural planning begins with studies by the Research Institute of KNHC of comments on previous projects and preferences indicated by purchasers. Preliminary plans are reviewed by a group of consultants including architects and planners from universities in Seoul. Final selections are approved by the Directors of the KNHC. The result of this process has been apartments that are efficient, more adapted to the Korean ways of life than most apartments, and which have proven quite popular in Seoul.

The apartment buildings are designed with masonry bearing walls using a new pressure molded sand lime block developed by KNHC with a German firm that achieves significantly greater strength (tests at 250kg./cm²) than conventional clay brick at the same cost. The engineering department of the KNHC has continually developed other innovative techniques for introduction through the HG program. An automatic forced drafting system was developed to eliminate the carbon monoxide danger in ondol heating which can result from leaks in flues or from poor drafts when atmospheric conditions are bad.

Project planning is in close connection with local city governments. For its 1976 program, the KNHC asked 30 cities to submit applications, including site recommendations, based on their urban development plans and housing construction programs for low income groups. These are reviewed for feasibility by the KNHC and adjustments made with the Housing and Planning Bureaus of the Cities. Allocation of financing is based on the guidelines and Housing Policy of the Ministry of Construction. Final selection also depends on the City's cooperation in the planning of infrastructure and services for the project. Site plans of some projects have been criticized as monotonous. To an extent this is a by product of the large scale of the projects undertaken. It is through this scale that the KNHC achieves some of its economies. The KNHC is giving projects more variety by mixing the types of buildings within projects, the design of community facilities, and landscaping.

Prices as shown in the accompanying breakdown include estimated costs of land and development as well as KNHC overhead and other indirect costs. The price of the 13 pyong unit is about 16% higher than the price of the same unit in last year's program reflecting general inflation which, measured by the consumer price index of housing, increased 11% for all cities and 21% in Seoul from March 1975 to March 1976. KNHC's direct construction costs averaging 175,000 won per pyong (\$10.27/ sq. feet) gross area excluding land and land development, compare quite favorably with private sector builders. Total sales prices average 220,000 won per pyong (\$12.91 sq. ft.).

The KNHC has earned a reputation for quality construction. It has over 500 engineers and technicians including teams which supervise contracting and construction. Materials are purchased in quantities by the corporation. Work is carefully scheduled and programmed. The KNHC has demonstrated that projects started in June will be completed by December of the same year.

Because of the well-developed and proven capabilities of the KNHC, AID, will limit technical surveillance to: the review of preliminary project site plans, building designs, apartment plans, review and approval of sales prices and changes, and spot inspections of sample work in progress and completed projects.

Breakdown of Sales Prices

<u>Costs</u>	7.5 pyong central <u>heating</u>	10 pyong ondol <u>heating</u>	10 pyong central <u>heating</u>	13 pyong ondol <u>heating</u>
1. land	180,000	240,000	240,000	312,000
2. development	67,500	90,000	90,000	117,000
3. construction	1,526,250	1,720,000	1,953,000	2,225,600
4. contingencies	22,500	30,000	30,000	39,000
<u>Total Direct Costs</u>	<u>1,796,250</u>	<u>2,080,000</u>	<u>2,313,000</u>	<u>2,693,600</u>
a. administration fee (direct costs land x 2%)	32,330	36,800	42,460	47,630
b. interest during construction (direct costs x 9.5% ÷ 12 x 3 mo.)	42,660	49,400	56,100	63,970
c. commitment and legal fees (direct costs x 0.75%)	13,470	15,600	17,350	20,200
d. miscellaneous expenses (direct costs land x 1%)	16,160	18,400	20,730	23,820
<u>Total Costs</u>	<u>1,900,870</u>	<u>2,200,200</u>	<u>2,449,640</u>	<u>2,849,220</u>
<u>Estimated Sales Price</u>	<u>1,900,000</u>	<u>2,200,000</u>	<u>2,450,000</u>	<u>2,850,000</u>
	<u>(\$3,958)</u>	<u>(\$4,583)</u>	<u>(\$5,104)</u>	<u>(\$5,938)</u>
<u>Cost Per Pyong</u> (sq. ft.)	253,330 (\$14.86)	220,000 (\$12.91)	245,000 (\$14.37)	219,230 (\$12.86)

2. Squatter Improvement Program:

Applying KNHC's technical competency to the complexities of the upgrading projects will be one of the major accomplishments of the proposed program. The planning and engineering required is complicated by the objective of maintaining the existing stock. KNHC will work with the technical offices of the Cities for local expertise and use consulting firms where needed. The AID Office of Housing will provide assistance in the development of planning and design methodologies through the RHUDO Office in Seoul. In addition to engineering, an "area development plan" will serve to coordinate all of the infrastructure and community facility improvements and to relate the Improvement Area to the surrounding urban fabric.

3. Environmental Impact Analysis

The Environmental Impact Statement attached to the project paper for the 1975 Korea HG program applies to the proposed 1976 program.

The Environmental Impact of the low income apartment developments is considered in the review of each project. Projects include sewage treatment and elements such as parks and landscaping which contribute to the surrounding urban environment. The more significant environmental impact, however, is density which the apartment communities are able to achieve over low rise development, and the importance of this density in limiting urban sprawl, strain on land resources, and infrastructure requirements.

Urban agglomerations with populations like Seoul, over 7 million, and even the secondary cities such as Pusan, around 3 million, have maintained whatever degree of manageability they have, in part, by their concentrations. The surface areas of the built-up portions of the cities would be considerably greater were it not for the densities in squatter and low income neighborhoods. With rising incomes, the demand for more spacious residential developments has been increasing. If continued the appetite for more land will require a several fold expansion in the developed area of the city causing a tremendous strain on both the urban environment (infrastructural needs) and the peri urban environment (surrounding natural areas and farmlands).

Even with a minimal lot size, 30 pyong (100M²) for example, a low rise residential development or a site and service program could at a maximum only achieve a density 30 units per acre. The 13 and 15 pyong units achieve a density of almost 300 units per hectare (120 units per acre.) The project areas include community and marketing facilities, parking, play grounds, and open green areas. The 13 and 15 pyong apartments in Seoul in the 1975 program were built with a density of over 200 units per hectare (85 units per acre).

Concomitant environmentally to the importance of the density of the apartment developments is the improvement of squatter areas. A study of the Urban Environment of Seoul, made by the Smithsonian Institution for AID in 1974, identified squatter settlements as one of the major environmental problems. Lack of access, poor servicing, the need for sanitary systems and storm drainage all contribute to the poor living environment. At the same time, maintaining the housing stock and making the areas permanent and viable even with their density is critical to retaining the size of the city as discussed above.

The squatter area improvement programs are specifically designed to improve the urban environment and indirectly, through the maintenance of existing housing stock and limitation of the need for new housing, to maintain the environment surrounding the cities.

A second significant factor in the environmental impact of the new apartment construction, at least, is the nature of the "ondol" heating system which will be incorporated in the lowest cost units. The system is currently the lowest cost possible. The economic and environmental costs, however, of pollution from the anthracite coal and of collection and disposal of the ashes is becoming increasingly important. The Smithsonian study concluded that domestic heating is the overwhelming source of air pollution in all categories except hydrocarbons and that over 200 Kq per person or 60% of all solid waste in 1973 was incombustible anthracite briquette ash. Unfortunately, the alternatives are not significantly more satisfactory. The centrally heated apartments are hot water heated by steam produced at areal oil burning plants. The heat is more efficient but the fuel is, so far, an import. The KNHC is developing solar heating systems for use in Korea, but so far has been unable to get costs low enough for low income apartments. The ondol heated apartment buildings are built with chases to allow for hot water piping when conversion to alternative systems become viable.

Another aspect of ondol heating, danger of carbon monoxide gas from the slow burning briquettes which has traditionally been a serious health problem, has been overcome by KNHC with the automatic forced drafting system which it developed for apartment construction. There have been no reported incidents of carbon monoxide leaks in the KNHC ondol heated apartments while their occurrence in other buildings without the system is a frequent tragedy.

B. Financial Analysis and Plan

Experience gained under the previous H.G. loans in Korea including the follow up study of purchasers of units constructed in 1975 indicates that there exists an unusually high saving capacity in the Korean society. While it is not entirely clear how and where these savings are accumulated and the relative saving capacity of various economic groups, its existence is amply demonstrated through the ability of home owners particularly in Seoul, to make downpayments equal to 50% of the cost of a home as was done in the 1975 H.G. project. The savings capacity of families in secondary cities may not be as high as Seoul families and the maximum required downpayment is, therefore, being set at 30%. Prospective purchasers may, however, elect to make a higher downpayment if they have the savings in order to reduce their monthly payments. A discussion of this phenomena and the Korean "key" money system is contained in the 1975 housing guaranty paper.

The financial plan for the apartment construction under the 1976 project is based upon the assumption of the full costs of the units by the purchasers. For the purpose of this paper, the interest rate from a U.S. lender is assumed to be 9%. AID's housing guaranty fee is .5% of the outstanding balance. Part of the homeowners monthly management and maintenance fee is for KNHC servicing of the mortgage which if added to the U.S. lenders interest rate and the AID fee result in an effective interest rate of over 10%.

The Borrower intends to negotiate up to a 30 year loan with a U.S. investor which will provide for a 10 year grace period (during which only interest will be paid), and a 15 year to 20 year repayment period of principle and interest. In the mortgage agreements with the homebuyers, this grace period will also apply (10 year grace -- 15 year principle repayment), thus reducing the monthly payments for the first ten years. As in previous H.G. programs, it is considered that homebuyers in the target income group are willing and able to pay at least 25% of their monthly income in mortgage payments. A review of this, with both EPB and KHC, indicated that this is reasonable assumption proven by past experience and that homebuyers in the target income groups are able to meet this cost from family income.

The financial plan for the squatter families assumes they will pay the full cost of home improvement and home replacement loans.

The final terms for land sales will be determined by land prices and squatter family incomes in the specific area. In Seoul City the terms are expected to be 9½% 20 years with a 5 year grace period.

Based upon the initial study of the pilot squatter area in Seoul (Oksoo #3) it is assumed that the larger part of the H.G. funds will be utilized for infrastructure improvement. The demand for home improvement and replacement loans will not be known until the project is operational. Terms for such loans will, however, reflect the cost of such financing to the Borrower.

Low Cost Apartments:

Sales Prices and Mortgage Terms: Estimated sales prices range from 1.9 million won (\$3,958) for the 7.5 pyong apartment to 2.2 million won (\$4,583) for 10 pyong and 2.85 million won (\$5,938) for 13 pyong. The additional cost for the 10 pyong apartments with central heating is estimated at 250,000 won (\$521).

Total carrying charges including management and maintenance costs initially range from an estimated 9,674 won (\$20.15) per month for the 7.5 pyong units to 9,858 won (\$20.53) for 10 pyong and 13,296 won (\$27.70) for 13 pyong with a 50% downpayment and 13,742 won (\$28.63) per month for the 10 pyong ondol unit and 17,809 won (\$37.10) for the 13 pyong unit with a 30% downpayment. Assuming that households can afford to allocate 25% of income to the monthly payments, the units will be affordable by Seoul households with incomes ranging from 39,000 won (\$81.25) to 53,000 won (\$110.42) per month with a 50% downpayment and 42,000 won (\$87.50) to 71,000 won (\$147.92) per month with a 30% downpayment outside of Seoul.

Closing costs amount to slightly over .5% of the salesprice and include a registration tax, a stamp tax, and an acquisition tax in Seoul and Pusan.

Management and maintenance charges by KNHC are estimated at 155 won per pyong per month for ondol heated units and 287 won per month per pyong for units with central heating. This works out to the equivalent of additional interest on the mortgage amount ranging from about 1.2 to 2.8%. Which covers the costs of project offices, mortgage servicing and collections, groundskeepers, garbage and ash collection, guardians, repairs, and maintenance.

SEOUL:Mortgage Terms, Monthly Payments, and Affordability (assuming 50% downpayment)

	<u>Estimated Sales Price</u>	<u>Downpayment</u>	<u>10 year Grace</u>	<u>15 year Grace</u>	<u>Management Maintenance Charges</u>	<u>Total Mo. Carrying Charges Initially</u>	<u>Mo. Income Needed if 25% Allocated to Housing</u>
<u>7.5 pyong</u>							
Central Heating	1.900 (\$3,958)	.950 (\$1,979)	7,521 (\$15.67)	9,920 (\$20.67)	2,153 (\$4.48)	9,674 (\$20.15)	39,000 (\$81.25)
<u>10 pyong</u>							
ondol heating	2.200 (\$4,583)	1.100 (\$2,292)	8,708 (\$18.14)	11,486 (\$23.93)	1,150 (\$2.30)	9,850 (\$20.53)	41,000 (\$85.42)
central heating	2.450 (\$5,104)	1.225 (\$2,552)	9,697 (\$20.20)	12,792 (\$26.65)	2,870 (\$5.98)	12,567 (\$26.18)	50,000 (\$104.17)
<u>13 pyong</u>							
ondol heating	2.850 (\$5,938)	1.425 (\$2,969)	11,281 (\$23.50)	14,880 (\$31.00)	2,015 (\$4.20)	13,296 (\$27.70)	53,000 (\$110.42)

SECONDARY CITIES:Mortgage Terms, Monthly Payments, and Affordability (assuming 30% downpayment)

	<u>Estimated Sales Price</u>	<u>Downpayment</u>	<u>10 year Grace</u>	<u>15 year Grace</u>	<u>Management Maintenance Charges</u>	<u>Total Mo. Carrying Charges Initially</u>	<u>Mo. Income Needed if 25% Allocated to Housing</u>
<u>10 pyong</u>							
ondol heating	2.200 (\$4,583)	.660 (\$1,375)	12,192 (\$25.40)	16,081 (\$33.50)	1,550 (\$3.23)	13,742 (\$28.63)	55,000 (\$114.58)
<u>13 pyong</u>							
ondol heating	2.850 (\$5,938)	.855 (\$1,781)	15,794 (\$32.90)	20,832 (\$43.40)	2,015 (\$4.20)	17,809 (\$37.10)	71,000 (\$147.92)

Secondary Cities Squatter Improvement:Financial Plan:

Agreements on disbursements between KNHC and the Cities will be keyed to the Implementation Agreement between AID and KNHC. Conditions precedent to any HG disbursements under this portion of the loan will include: AID review of the Agreements between KNHC and the Cities; site selection; and preliminary planning. Upon satisfaction of conditions precedent, initial HG disbursements under this portion of the loan will be allowed of amounts required for projected infrastructure costs and home improvement and replacement loans for a period of up to six months and reimbursement for socio-economic surveys. Subsequently, additional disbursements may be requested against actual and projected expenditures for upgrading of infrastructure and community facilities for an agreed upon period which can include an entire construction season. At such disbursements KNHC will be required to show the use of funds previously disbursed and evidence that land sales are proceeding satisfactorily in areas for which advance disbursements have been made. Additional disbursements may also be requested against home improvement or replacement loans actually issued.

Disbursements will not be made directly against loans for purchases of City owned lands. The Cities will, in effect, provide this financing though no cash funding will be necessary. The Cities will take a note and a mortgage or an installment contract from the purchaser. Proceeds from repayments will be used by the Cities to repay the loans from KNHC and in turn, the U.S. Lender.

The sales prices of such lands will be at appraised market value or discounted according to City procedures. The price will be set, however, to at least the cost of infrastructure improvements. Where the price exceeds the cost of infrastructure improvements the surplus to the City will be used to finance additional Urban Improvement Projects. Since HG disbursements will be received only against the costs of infrastructure improvements, net returns to the City on land sales will be realized only as repayments by purchasers are made.

To the extent that residents of an Improvement Area can afford the terms, Cities will be encouraged to set prices as close to appraised market values as possible and minimize discounts to avoid speculative forces and to generate a continuing source of financing for future Urban Improvement Programs.

Range of Loan Amounts and Terms:

The actual amounts of the various loans that will be made will vary, being tailored to the specific conditions of the houses, the income of the households, and the value of their lots. Ranges, and maximums, however, have been estimated for project planning purposes.

Loans for land purchase vary with the size of the lot and the value of the land per pyong (or per sq. ft.). The average size of lots in the secondary cities has not yet been determined. In the Seoul program, the average lot in the initial area is 30 pyong (1,065 sq. ft.) and has discounted sales price of 40,000 won per pyong (2.35 per sq. ft.). Adjusting this to lower land values in the secondary cities, the estimated average sales prices and monthly payments (with a 25 year, 9.5% loan and a 10 year grace period on repayment of principal) in the cities identified for the program would be:

Projected Average Sales Prices and Monthly Payments, Land

	<u>Projected Average Sales Price</u>	<u>Downpayment (10%)</u>	<u>MONTHLY PAYMENT</u>		<u>Mo. Income needed if 25% allocated to housing</u>
			<u>10 year grace</u>	<u>15 year Repay- ment</u>	
Busan	1,000,000 (\$2,083)	100,000 (\$208)	7,125 (\$14.84)	9,398 (\$19.58)	28,490 (\$59.36)
Daegu	700,000 (\$1,458)	70,000 (\$146)	4,988 (\$10.39)	6,579 (\$13.71)	19,950 (\$41.56)
Others	300,000 (\$625)	30,000 (\$63)	2,138 (\$4.45)	2,819 (\$5.87)	8,545 (\$17.80)

The average loan for general home improvements in the initial project of the Seoul program is estimated at 350,000 won (\$729) in 1975 prices. Projecting increases in costs, the average loan would be estimated at about 400,000 won (\$833) in 1976. At 1976 prices the monthly payment, assuming the equity in the existing house rather than a downpayment, would be 3,167 won (\$6.60) per month during the initial grace period on repayment of principal. Combined with payments on a land purchase loan the total monthly payment and the income required if 25% is allocated to housing would be:

Combined Projected Average Monthly Payments on Land and General Home

Improvement Loan

During Grace Period on Repayment of Principal

	<u>Land</u>	<u>Home Improvement</u>	<u>Total</u>	<u>Mo. Income Needed if 25% Allocated to Housing</u>
Busan	7,125 (\$14.84)	3,167 (\$6.60)	10,292 (\$21.44)	4.,000 (\$85.42)
Daegu	4,988 (\$10.39)	3,167 (\$ 6.60)	8,155 (\$16.99)	33,000 (\$68.75)
Others	2,138 (\$4.45)	3,167 (\$6.60)	5,305 (\$11.05)	21,000 (\$43.75)

The maximum home replacement loan that will be made is 1.0 million won (\$2.083) on which the monthly payment with no downpayment and, again assuming a grace period on repayment of principal and an interest rate of 9.5%, will initially be 7,920 won (\$16.49) per month. Added to the average land purchase loan, the combined monthly payments in Busan would be 15,000 won (\$31.34) initially requiring a total household income of 60,000 won (\$125.00) per month assuming 25% is allocated to housing. The maximum home replacement loan is also limited by the income of the household. The combined monthly payment for land purchase and home replacement cannot exceed 30% of the stated household income. Thus a household with an income of 40,000 won (\$83.33) per month would be limited to a total loan of about 1,500,000 won (\$3,125) on which the monthly payments would be 11,875 won (\$24.74) per month initially.

C. Social Analysis

Apartment living is a significant change from traditional living patterns in Korea. Although the changes in the social structure that this may cause are significant, they are due more to the forces of modern urban life and are probably inevitable. The apartments themselves have been designed to accommodate Korean life styles as much as possible. Floors are radiantly heated for sitting and sleeping. Areas are provided in each apartment for storage of Kimchi, a staple in the Korean diet. The more important aspect of the apartments is that they offer low income groups the opportunity for home ownership and through it a more equitable participation in the economy. Their alternatives are squatter housing, usually sharing dwellings sometimes even smaller than the apartments and generally in a much less satisfactory living environment.

The squatter improvement programs will offer residents the opportunity for a legal franchise. The potential for self help development and community involvement through the Korean Saeimaul movement (New Village movement) is great. Implementation of the program, however, involves many complex issues and delicate relationships with each community. Squatter suspicions of any Government program will have to be overcome. Careful planning will be needed to achieve real improvement with the least disruption. The KNHC appreciates these problems and as the first stage will undertake a series of intensive surveys to better understand the socioeconomic structure of each area. It will employ private consultants and students to get the best possible readings. The most important base, however, will be the experience gained as implementation of both the Seoul and the Secondary City squatter improvement programs progress.

Role of Women in Project

The KNHC which is responsible for the design and construction of the units to be financed under this loan is sensitive to the role and influence of women in the purchase of the apartments which it builds and in this regard employs both full time female architects and female consultants from 2 local universities to advise on the design of the apartments. In addition the KNHC undertakes periodic consumer surveys through its Research Institute to help identify the views of Korean women about housing and housing design.

There are no restrictions on the eligibility of women whether married, single, widowed or divorced to purchase KNHC housing whether such housing is supported by AID or not.

D. Economic Analysis^{1/}

1. ROKG Goals

The Fourth Five Year Economic Development Plan, for the period 1977-81, is presently being elaborated. The guidelines assume that world economic growth, and hence Korean exports, will grow more slowly than in the preceding decade. Whereas Korean economic growth in the last 15 years was propelled very largely by export growth, the 1977-81 plan guidelines provide not only for export growth at a more moderate rate than in the past but also increased development of import-saving industries, particularly machinery manufacturing. Social overhead and other services are projected to grow by 8% a year in real terms, the same as in the preceding decade. The adjustment to a slightly lower but still impressive overall economic growth rate, projected at 9% a year compared to an annual average compound rate of 10.4% achieved in the decade 1966-1975, reflects the growing maturity of the Korean economy. Per capita GNP passed the \$500 mark in 1975, and the range of Korean products and exports has become increasingly diversified, recently including large-scale chemical, iron and steel, and shipbuilding industries. Future growth will be from a much higher base than a decade ago.

Under the Fourth plan, population growth is tentatively projected at 1.58% annually, compared to an annual average compound annual growth of slightly less than 1.7% for the decade 1966-1975. The national savings ratio (as a percentage of GNP) is to be maintained, according to the plan, at between 23.4% and 27.4% of GNP, comparable with the 24.2% rate achieved in 1975. The real growth rate in commodity exports is projected at between 13% and 16% a year, compared to the 19% growth rate in 1975.

2. Current Trends

Propelled by an exceptional rebound in export demand, the Korean economy is strongly recovering from the combined effects of the oil crisis and subsequent international recession. After two years of extensive short-term borrowing, net long-term capital inflows are expected to cover a projected 1976 current account deficit of \$1.5 billion. Although paying price in terms of the deterioration of its balance of payments position and a high level of domestic inflation, the Korean economy averaged annual real growth of 8% over the past two years of international economic dislocation. The strength of the current export surge should permit substantial improvement in Korea's balance of payments and inflation performance in 1976 as well as generate further growth of more than 8%.

3. Balance of Payments and Debt Service Considerations

In 1975 the balance of payments deficit on current account as a whole was nearly as large as 1974's \$2 billion deficit. However the results for the second half of 1975 improved dramatically from

the difficult first half, when the deficit was an unprecedented \$1,550 million. For the second half the deficit dropped to about \$400 million. This great improvement stemmed largely from strong export recovery, combined with firm import restraint. In the first quarter of 1976 the favorable trade trends continued. The latest preliminary data for leading indicators of trade performance -- export letter of credit arrivals and import license opening -- indicate that further export growth and import restraint should continue through the first half of 1976 at least.

Restraint in import growth since mid-1975 has been in part the result of government policy, carried out by tighter import licensing. Other contributory factors, which may not recur in the remainder of 1976, were a bumper grain crop which reduced the need for food imports, low demand for capital goods for expansion of manufacturing facilities, and a drawdown of inventories of imported goods ordered before the devaluation at the end of 1974.

For 1976 the Korean target is a 31% growth in exports and a 12% increase in imports (FOB dollar basis), narrowing the trade deficit to less than a billion dollars, compared to the \$1.6 billion trade deficit in 1975, and \$1.9 billion in 1974. The 1976 export target of \$7.4 billion looks tight, considering the expansionary forces at work in the economy. On balance, Korea should be able to hold its 1976 trade deficit to about the targeted \$900 million and might achieve a lower figure if export growth is sustained at current rates.

Financing the balance of payments deficit, which was relatively costly during the first half of 1975, grew easier in the second half of 1975 and the first quarter of 1976. Net capital inflows for 1975, estimated at over \$2.5 billion, or 27% higher than in 1974, not only covered the deficit but permitted a 47% increase in foreign exchange reserves to over \$1.5 billion. As of the end of March this year, reserves had reached nearly \$1.7 billion. Of the net capital inflow in 1975, short-term borrowing accounted for roughly \$1 billion. Korea now has more than ample short-term lines of credit. While not anticipating any significant contraction in net short-term debt in 1976, ROK officials expect to roll this debt over on improved terms.

Korea's debt service ratio (payment of principal and interest on medium and long-term debt as a percentage of total foreign exchange earnings from goods and services) was 12.8% in 1975, up from 12.4% in 1974 but still well below the 21% rate reached in 1970. For 1976, the debt service ratio has been projected by Korean authorities at 13.8%, but the figure should turn out lower in view of the surge in export earnings.

The debt service ratio in the next five years should remain below 15%, assuming the continuation of substantial concessional financing from international financial institutions, notable the IMF, IBRD, and ADB, and achievement of the reasonable projections in the guidelines

for the Fourth Development Plan. Barring unforeseeable contingencies such as hostilities, prospects for repayment of Korea's external debt are excellent.

IV. Implementation Plan

A. Administrative Arrangements

Implementation of the 1976 H.G. program will include the participation of 6 separate government bodies in Korea. The KNHC will be the Borrower of the \$15 million loan for construction of new apartments. In this capacity the KNHC will execute a loan agreement (s) with a U.S. investor (s) and an implementation agreement with AID. KNHC will be responsible for the implementation of the project. The ROKG will guaranty repayment of the loan to AID in the event of a default in the repayment to the investor.

The KNHC will also be the borrower of the \$10 million loan for squatter improvement projects in Pusan and Taegu and other cities. The KNHC will enter into a loan agreement with the U.S. investor and an implementation agreement with AID. In addition, KNHC will enter into subloan agreements acceptable to AID with the cities. KNHC will be responsible for the study, analysis project design. The Cities will be responsible for Implementation of the projects with KNHC assistance where necessary. Overall responsibility for policy issues relating to the squatter program will be in the MOC Housing and Urban Development Bureau which will assist the KNHC in all areas relating to government and municipal policy and regulations required to implement the project.

The KNHC will establish within its organization a special unit responsible for all phases of socio/economic and financial studies and physical design. Cost to KNHC for this additional staff will be included in the project costs. The KNHC will however initially cover all these costs from its own budget until disbursement of the H.G. loan begins. Implementation and sale of Land to squatters will be the responsibility of the municipal governments which will hold the land mortgages, service the loans and make repayment to the KNHC. The KNHC in turn will be responsible for servicing the H.G. loan.

The Minimal Shelter Section of the KNHC will be organized under the Office of Planning & Program and report to the Director of New Project Development. The staff will include Urban Planners and Housing Economists as well as Design and Management Technicians. Other expertise will be used from other departments within the KNHC, external consultants, and contracts with local universities and urban development consultants to assist in the socio/economic studies and for the design, implementation and analysis of evaluation studies. The KNHC will prefinance its costs during the planning phase until disbursements for projects actually begin.

B. Implementation Plan

1. KNHC Apartment Projects

<u>DATE</u>	<u>ACTIVITY</u>	<u>RESPONSIBILITY</u>
June 1976	Authorize H.G. loan	AID/W
June 1976	Select H.G. Investor	KNHC
June-July 1976	Negotiate & execute loan agreement & implement agreement	SER/H-KNHC- U.S. Investor
June-July 1976	Prepare final design & site plans AID approval of final plans	KNHC SER/H
July 1976	Contract for project evaluation	KNHC
June-July 1976	First Drawdown of H.G. Loan & start of construction	KNHC
August 1976	Design evaluation study	KNHC/SER/H
Dec. 1976/ Jan. 1977	Completion of construction of 13 pyong units	KNHC
Dec. 1976/ Jan. 1977	Completion of construction of 7.5 and 10 pyong units	KNHC
Jan. 1977	Evaluation study	KNHC/AID
2. <u>Squatter Improvement Projects</u>		
June 1976	Authorize H.G. Loan	AID
July 1976 Aug.	Negotiate implementation agreement KNHC selects U.S. lender and negotiate loan agreement	KNHC/AID
July/August 1976	KNHC/MOC/Cities execute agreements for development of squatter projects	KNHC/MOC/Cites
July-August- September 1976	KNHC recruits additional staff for minimal shelter unit	KNHC
August 1976	Contract with local universities for socio/economic studies	KNHC
Sept./Oct. 1976	Socio/economic studies of initial squatter areas	KNHC/University

Oct. 1976	Analysis of socio/economic data	KNHC/AID
Oct./Dec 1976	Development of site plans, infrastructure plans, cost estimates and financial terms and conditions for sale of land	KNHC/MOC/Cities
Nov. 1976	Contract with local universities for evaluation studies	KNHC
Jan./Feb. 1976	Evaluation of Seoul City Squatter Improvement Project	Seoul City/AID/ MOC
Mar. 1977-	First disbursement & start of infrastructure improvements	KNHC
Mar. 1977	Start City sale of land	City
July 1977	Evaluation of land sales procedures and infrastructure improvement program	KNHC/MOC/AID/ Consultants
Sept. 1977	Cities make home improvement and home replacement loan	City
Dec. 1977	Evaluation of land sales and home improvement loan operations	MOC/KNHC/AID/ Consultants
Jun. 1978	Project completed	
June 1978.	Final evaluation	MOC/KNHC/AID/ Consultants

C. Evaluation Plan

The success of the 1976 Housing Program will be measured by the following indicators:

a) Market acceptance of 7.5 and 10 pyong units by geographic areas and heating systems as measured by sales rates and number of applicants for different housing options.

b) Income groups purchasing the different types of KNHC apartments, and downpayment capabilities of different income groups.

c) Existence of an operational unit and budget within KNHC for planning design and implementation of squatter improvement programs.

d) MOC and KNHC plans for expansion of the squatter upgrading program to additional areas and cities in their 1978 program.

e) Conversion of squatters to legal homeowners with a target of at least 90% of the original residents remaining in project area.

f) Minimal demolition (i.e. 15-25%) of existing housing in squatter areas.

Measurement of the above indicators will be undertaken jointly by AID, KNHC, and MOC. The KNHC will contract with one of the local universities to design the evaluation system and undertake the evaluation. AID consultants will be available from SER/H to assist in the evaluation design and analysis. Cost of university contract(s) will be included as part of the project costs financed by the H.G. loan. Cost of SER/H consultants will be paid from H.G. income. Since the squatter improvement program will be implemented over a two year period, evaluation of the initial program will be designed to permit its use in the latter projects. Early feed back will also be available at the results of evaluation of the initial Seoul City project expected to begin in August 1976. The success of the introduction of smaller standard units may not be measurable until the late Spring or Summer of 1977 because of the late start of construction of this year's program and the tendency of Korean families to undertake family moves in the fall and spring months.

ANNEX IHousing Policy

AID Shelter Policy, PD-55 identifies the formulation of national housing policy as one of the basic institutional developments which AID should encourage through its housing sector programs. Discussion of housing policy with the ROKG began in the spring of 1974 after AID and the KNHC had completed the initial H.G. project. ROKG agreement to develop a national housing policy was a condition of the 1974 H.G. loan.

The process of study and review which lead to the Korea Housing Policy adopted in May 1975 is discussed in the 1975 Korea Housing Guaranty Paper. This section reports briefly on the development of the Korean Housing Policy since May 1975, plans for further development and analysis of housing policy and the impact of the 1975 policy.

Housing Policy Development 1975-76

The Housing Policy adopted in May 1975 established as the major housing sector goals, the increased supply of adequate housing and the reduction of the current national shortage from 22.2% to 11.6% by 1981 and improved housing standards. The need for new housing is estimated in the National Housing Policy to be 2,918,000 units and the effective demand for urban housing is estimated to be 2,087,000. The investment required to meet this demand is estimated by the ROKG in 1974 prices to amount to 4,081 billion (\$8.48 billion). The public sector is identified as the principal supplier of housing for low and lower middle income families and the private sector for middle and upper income.

To achieve the Housing Policy goals, the ROKG policy proposes the following as the principal vehicles for expanding the supply of housing:

1. Expansion of funds for housing investment;
2. Assistance to the private housing industry;
3. Increasing the supply of housing sites; and
4. Rationalizing administrative functions.

The CY 1976 Housing Construction Program is the first to be designed since the Housing Policy was developed although the AID assisted programs in 1975 were in fact designed to tie into the policy since its basic parameters were known in the spring of 1975.

The Seoul City Squatter Improvement Project is directly related to the goal of increasing the supply of housing through maintenance of existing housing stock.

Pursuant to the 1975 policy the ROKG over the past 12 months has focused its attention on integrating the national housing policy into its economic development planning and on the collection of statistical information required to further refine its policy. Specific steps undertaken by the MOC have included the initiation of studies of squatter families in Seoul to develop better information on the socio/economic status and motivation of squatter families. The MOC also initiated a comprehensive study of the operation of the existing housing finance system in Korea. The study is being done by the Korean Industrial Development Research Institute (KID). AID provided a consultant to the MOC to assist in preparing the scope of work for the study which is scheduled to be completed in June 1976. Further housing finance consultants will be made available to the MOC by SER/H to assist in the review of the KID study and development of the second stage detailed studies. MOC has also amended the 1972 Housing Construction Promotion Law and the related Enforcement Decree to simplify the administrative procedures required to approve new housing projects by both the public and private sector and to facilitate KNHC acquisition of land through eminent domain authority. A significant change from the point of implementation of housing policy is the revision in the ROKG annual housing programming and budgeting procedure. Under the previous procedures, MOC allocated housing funds to various public housing institutions and local governments but did not approve the specific use of these funds and in fact did not know what housing construction was undertaken until the following year when reports from the various institutions were submitted. Pursuant to the new procedures specified in the 1975 amendment to the Housing Construction Promotion Law, all housing programs of public institutions and local governments must be approved by April 30 of this year in which funds are allocated. The effect of this change will be reflected in the preparation and approval of the 1977 ROKG housing program.

Housing Policy 1976 and Beyond

The MOC has tentatively established a schedule of activity for its housing policy development which will include continued study of the housing finance system in Korea and analysis of alternative housing finance mechanisms; study of the role of the private sector in housing construction and means of increasing the level of private sector construction; analysis of household preferences and needs for housing by income levels and existing housing conditions and characteristics. MOC has also requested EPB to budget funds for 1977 to undertake a study of household savings and income distribution. Additional areas have been

proposed by SER/H consultants and are under consideration by MOC and the National Housing Policy Committee. While Korea has taken the initial step of adopting a national housing policy its effective implementation is hampered by the lack of more detailed data on family incomes and savings and housing preferences which the MOC is proposing to study in 1976 & 1977. There is also a need to integrate housing finance and interest rate policy into the national housing plan and objectives.

ANNEX IIHousing Finance in Korea

AID's housing program in Korea has proceeded on a step by step approach with the ROKG, with each successful project lending support to the succeeding objectives. In this process AID focused first on the introduction by the KNHC of higher density condominium apartments in Seoul. Subsequently AID and the KNHC expanded the apartment concept to regional cities and reduced unit size and costs in both the 1974 and 1975 programs. The 1974 program included the formulation of Korea's National Housing Policy. The 1975 program introduced the squatter upgrading concept in Seoul which is being expanded in the 1976 program to regional cities.

AID did not identify housing finance as a target of its initial programs, because the KNHC offered the best approach to establishing the creditability of AID's program and concepts. The ROKG is itself now looking for solutions to its admittedly inadequate housing finance system. This effort by the ROKG is felt by SER/H and many Koreans to be directly related to the analysis which was undertaken during the formulation of Korea's national housing policy and the continuing dialogue between AID, its consultants and the ROKG housing and economic agencies.

At the present time Korea's housing finance system is limited to the operation of the Korea Housing Bank (KHB) which is the only long term mortgage lending institution in Korea. The KHB offers loans for both public and private housing construction at interest rates varying from 4 to 15% based upon the source of funds loaned i.e. whether they were obtained as borrowing from the central government, housing bonds, housing lotteries or the contract saving system and other deposit systems used by the Housing Bank. Costs of funds to the KHB range from no cost on central government capital subscriptions and housing lottery proceeds to 1.8 to 15% on time and demand deposits, and 17.9 to 19.7% on KHB debentures. Downpayment requirements vary from 35 to 53% of the value of the unit exclusive of land and the maximum loan available from KHB (excluding land) is 2.2M. The maximum unit size which can be financed is 25 pyong.

There is no long term private mortgage system servicing the middle and upper income families. The only financing available from the commercial banks is for 1 to 3 years at 15.5% interest. As a result, purchase of housing by such families is on a cash basis, sometimes partly in advance of construction since builders are able to obtain only limited construction financing from the banking sector.

The central government has recently introduced major increases in deposit interest rates to be financed through personal income tax credits as part of a nationwide effort to increase domestic savings in support of its overall economic stabilization and development plans. The government has not yet established guidelines for the use of savings generated under this saving program and the effect of this savings promotion program on the KHB is uncertain at the present time. It is clear, however, that competition for savings will increase and disintermediation will occur unless the KHB is permitted to use proceeds of the program.

The result of the above is a situation in which the funds available for construction financing and long term mortgage lending are grossly inadequate to the demand for such financing at all income levels. A basic deterrent to increased savings as the vehicle for generation of increased housing mortgage financing has been the high inflation rate in Korea. As a result, consideration is being given by the government to the idea of indexing savings and mortgages to avoid decapitalization of both savings and long term mortgage loans. AID's past efforts with the KNHC to reduce the size and cost of housing construction will be a significant factor in the capacity of families to afford housing under any system which results in higher mortgage interest rates.

The development of an improved housing finance system is essential if Korea is to successfully remedy its housing shortage. In this context AID has discussed with ROKG officials the possibility of a H.G. loan in FY 1977 which would be directed specifically at the issue of housing finance and development of the greater flow of funds into this sector. In this regard SEP/H will provide consultant's to the ROKG to review the KID report and assist the ROKG evaluate alternatives to the present housing finance system.

Relationship of H.G. Interest Rate to Market Rate

Korea is a capital short country and interest rates have been and are controlled by the Government and used as incentives for development of economic activity determined by the government to be consistent with its economic development plans. Thus commercial loans for development of export industries and support of key industries range from 8 to 12%. Loans from international lending agencies to government development banks are reloaned at rates comparable to or significantly below those proposed for the H.G. funds i.e. 5.75 to 10% vis a vis 9.5% for the H.G. loan. Commercial loans for other than priority sectors are made at 15.5% regardless of maturity.

Mortgage financing for the H.G. target group and unit sizes (7.5-13 pyongs) proposed in the FY 76 H.G. project is available although in very limited amounts at terms ranging from 4 to 8% and 20 years. Financing for units up to 25 pyong is also available on 8% and 15 to 20 year terms. The H.G. rate is therefore already significantly higher than the prevailing rate for mortgage loans to similar target groups and unit sizes and in fact is higher than the rates available on units as large as 25 pyong.

EVALUATION OF 1975 HG ProgramA. KNHC Urban Construction

The objectives of the two HG loans authorized in May 1975 were to assist the ROKG meet the increasing demand for low and low middle income housing in the urban areas and to demonstrate the feasibility of improving squatter communities as a means of improving the living conditions of squatter residents and implementing the national housing policy objective of increasing the housing stock through maximum conservation of existing housing. More specifically the objectives of the \$25 million HG loan to the KNHC were:

1. To increase housing stock for home ownership in major urban areas which can be financed and owned by families below the fiftieth percentile of the urban income groups.
2. To encourage lower income groups to buy apartments and adjust to apartment living in order to increase the density in urban areas.
3. To encourage KNHC to continually analyze land, design, construction and urbanization costs and produce lower cost housing for lower income groups.

The loan agreement was negotiated by the KNHC with the Federal Home Loan Banks of New York and Boston and signed in June 1975.

Under the HG loan 9,200 units were constructed in 7 cities by the KNHC between July and December 1975. As of May 20, 1976, 7,116 units (77%) had been sold and the balance are expected to be sold by September 1976. Sales prices of the 15 pyong units constructed in 1975 were between ₩3,016,800 (\$6,285) and ₩2,671,200 (\$5,565) and for the 13 pyong units between ₩2,567,040 (\$5,348) and ₩2,274,240 (\$4,738). The original plan contemplated construction of only 6,565 units with the HG loan and 30% down payment by purchasers. In an effort to increase the supply of new housing and draw funds out of the curb market, the number of units to be built was increased to 9,200 through an increase in the downpayment requirement to 50%. The specific target groups for the 1975 program

were: a) 15 pyong apartments: families earning between 60,160 won and 72,000 won per month, and b) 13 pyong apartments: families earning between 52,320 won and 72,000 won per month. Evaluation of the 1975 program was undertaken by the KNHC on the basis of a sample survey of 856 apartment owners or 13% of the total units sold as of February 1976. The survey revealed that 96.5% of the families purchasing 15 pyong apartments had incomes below 72,000 won per month (the median urban family income computed at the time the loan was authorized) and 77% had monthly income below the lower limit of the target group (i.e. 60,000 won). For the 13 pyong apartments, 99% of families reported incomes below 60,000 won per month, 90.5% had monthly income of less than 50,000 won (the lower limit of this target group was 52,000 won), and 17% of the families had monthly income below 40,000 won or about the 20th percentile. Results of the survey indicate the 1975 program was successful not only in reaching below the median income level (98% of total sales) but in fact reached further down the income scale than originally anticipated, i.e. about the 20th percentile for sales of 13 pyong units.

While it is not possible to determine, on the basis of available information the correlation between various income levels and the downpayments families can afford, the survey identified key money as the single most important savings mechanism which purchasers of KNHC apartments use for downpayments. About 79% (675) of the survey sample had previously been paying key money for the homes. Of these families, approximately 30% had been paying between 300 and 500 thousand won (\$625-\$1,040).

In terms of increasing the supply of improved shelter for the urban poor, 8.4% of the homeowners in the 1975 program rented a room to another family and another 29%

of the units provided shelter not only for the purchaser's immediate family but also parents, brothers, sisters and other relatives. A total of 37.4% of the units surveyed or 320 units provided shelter for more than the immediate family of the purchaser. The most frequent occurrence of cohabitation was in the 15 pyong units, where 38% were occupied by extended families. While 48% of the extended family were employed, their incomes were all below 40,000 won per month, and 61% were earning less than 20,000 won per month.

One hundred and sixty-five families or 20% of the new occupants reported they had previously been residents in squatter areas.

The 1975 project, therefore, succeeded in not only meeting the project objective of providing shelter for the urban poor, but also exceeded the target income group identified and in the process provided improved shelter for not only the purchaser but also a significant secondary market of lower income renters and extended family members.

A major element of the 1975 program was the construction of the satellite town of Chamsil located on the south side of the Han River within a thirty minute bus ride of the City center. Development of the city within a city began in 1974 on land acquired from Seoul city through reclamation of the Han River flood plain and a land readjustment program undertaken by the City. Actual construction started in July 1975, and by December 1976 eleven thousand units, varying in size from 13 pyong to 17 pyong (the latter financed by the KHB) had been constructed, sold and occupied. Over 60,000 people were living in the project within 7 months of the start of construction. AID financing for this project covered the construction of 3,100 units of 13 pyong size; and 3,000 units of 15 pyong size. An additional 130 units of 15 pyong were built from proceeds of cash sales of 15 pyong units built under the 1974 HG program. Land for the project was acquired from the city at a cost of approximately 20,000 per pyong. The project was developed on a non-subsidized basis and the cost of all facilities except schools and police facilities were included in the project costs.

The Chamsil complex includes parks, primary, middle and secondary schools, police facilities, shopping centers, bath houses and playgrounds. Plans are being developed by the KNHC to construct senior citizen social centers to service the large number of elderly persons living with married sons and daughters in the project. At the peak of construction, the project provided jobs for over 20,000 workers.

Homeowner Selection Criteria:

In an effort to assure project beneficiaries were the intended lower income families, the 1975 program established for the first time income limitation on eligible occupants. Prior experience on AID/KNHC projects indicated as many as 10 applicants could be anticipated for each apartment unit constructed in Seoul and 2 to 3 for each unit in secondary cities. The total number of applicants for the 9,200 units in the 1975 program was expected to range from 66,000 to 70,000 with as many as 60,000 applying for the 6,000 units in Seoul alone.^{1/} There is no organized system of credit review in Korea and the KNHC does not have the staff to undertake credit reviews of such large number of applicants. In view of the KNHC agreement to establishing income limitations, a system of checking information submitted by applicants was determined to be essential. Under the 1975 program applications were checked by the Dong Office of the local municipality where the most reliable check on family incomes could be made. Verified applications were then forwarded to the KNHC where the final selection was made through a lottery procedure. In cities where sales have been slow, the KNHC is accepting applications directly and checking the application information with the Dong Office but there is no need for the lottery procedure.

B. Seoul City Squatter Improvement

The second component of the 1975 program is the Seoul City Squatter Improvement Project. The objective of this project is to demonstrate the feasibility of improving existing squatter communities as a means

1/ Ratio of actual number of applicants in Seoul:

15 pyong apartments....12 to 1.

13 pyong apartments.... 9 to 1.

of maintaining existing housing stock and improving the living standards of squatter families. Specifically the objectives of this program are:

1. Select two initial areas of contrasting characteristics;
2. Encourage individual and group self-help, provide small loans for home improvements, and provide employment in the areas to do infrastructure improvements;
3. Legalize squatter occupancy by selling public land to the present squatter/occupants wherever possible on a long term repayment basis;
4. Plan the redevelopment of selected areas in such a way as to maintain and improve the existing housing stock and minimize the displacement of residents;
5. Improve access, water supply, sewage disposal, electricity supply and community facilities to raise the community health and public safety standards to an acceptable level;
6. Develop the institutional capability of the Seoul City government to plan and carry out this program and to continue this approach in improving other areas.

This loan was also authorized in May 1975 and efforts over the past year have been directed at developing the details of the project and procedure for its implementation. This process has included the selection of an initial squatter area, development of project planning criteria jointly with the City of Seoul, study of the socio-economic characteristics of the community and its residents, site planning and lot adjustment, preliminary infrastructure improvement design and cost estimates. The project design has progressed to the point at which the City is meeting with the community to discuss its plans and obtain their agreement. Approval also required from the MOC, has been requested. The City is currently negotiating with potential U.S. lenders and finalization of the Implementation and Loan Agreements should be completed in June and July.

The site selected for the initial project is located along the north bank of the Han River and contains 540 squatter homes with a population of 6,500 people. City plans for demolition of existing housing in the pilot area have been reduced from 125 or 23% as originally proposed by the City to approximately 20 units (3.7%). The City has also agreed that demolition will only occur when necessary to permit construction of infrastructure improvement. Selection of additional areas is in process and it is estimated that a total of 10 to 15 thousand families will benefit from the project.

The development of the Seoul City project has been slower than anticipated for several reasons, all of which had been expected if perhaps underestimated. Since the project represents a dramatic departure from the way the City and the ROKG have previously dealt with squatter communities, design of the project has required extensive discussion at all levels of the City government and significant changes in the city procedures, regulations and policies related to rehabilitation projects. In this regard, Seoul City is now in the process of drafting an amendment to Law which will permit the City to sell national land over 25 years. Present legislation limits land sales to cash or 5 years at 20% interest. The existing law which limited legal housing to those built on lot sizes no smaller than 27 pyong has already been revised as the result of AID's negotiations with Seoul City and the MOC. For the purpose of the squatter improvement type project being undertaken with Seoul City there is now no minimum lot size and all residents will be eligible to improve their homes. The project is also unique in that it is dealing with an existing community and families with clearly defined if illegal equity interests. As a result it has been essential to design the project with the objective of providing all residents the opportunity to purchase their land and to minimize the dislocation and financial hardship of existing residents at the same time avoiding actions which could increase the flow of new families to squatter areas.

OTHER DONOR ASSISTANCE FOR HOUSING IN KOREA

The World Bank has an ongoing sites and services project in 3 cities in the Gwangju Region (southwest area) of Korea as part of a larger \$25 million secondary city regional development project. The agreements for this project were negotiated in 1974 and bids have been requested and are now being evaluated for site preparation of sites and services projects in Gwangju, Mogpo and Yeosu. No construction has yet been started.

In November 1975 and February 1976 the World Bank sent missions to Korea to discuss with the ROKG possible areas for additional World Bank assistance in the shelter sector. The Bank has held discussions with Seoul City as well as other government agencies regarding possible squatter improvement projects with Seoul City and with the KNHC for low cost core row houses and sites and services as part of a larger integrated housing and industrial development project.

The only other international agencies involved in the shelter sector in Korea is the UNDP which financed a study in 1975 of the development plans for the Gwangju Region which includes a section on the housing demand in that region.

June 2, 1976

Income Distribution in Urban Areas of Korea

Income distribution statistics are drawn from two sources: the Economic Planning Board, Bureau of Statistics (EPB/BOS) survey of wage and salary workers in all cities in early 1975 and the World Bank published income distribution statistics for 1971.

The income distribution weights from these two sources have been updated in the following tables by using the average monthly income of wage and salary workers for the last quarter of 1975 from published statistics of the EPB/BOS which was 80,090 won. The distributions were further updated by projecting a 15% increase in cash income to an average of 92,104 won by the end of 1976. This projection is conservative in view of the 31% increase in average income in 1975 and the official estimates of a 20% increase in 1976.

As can be seen in the following graphs of income distribution for the below median income range, the World Bank and EPB/BOS statistics are very similar. In spite of the difficulty of precise calculation of income levels and distribution, it is felt that the true income distribution for urban areas in Korea is between the upper and lower limits defined by the statistics from these two sources. The median household income defined by these two sources is approximately 75,500 won per month (77,492 from EPB/BOS and 73,680 from the World Bank).

Economic Planning Board Income Distribution Statistics for Wage and
Salary Workers in all cities in 1975

Percent of Population		Early 1975	Last Quarter 1975	Projection to End 1976
		(000's Won) 65,540 Actual	(000's Won) 80,090 Actual	(000's Won) 92,104 Projected
Cumulative	%			
3.8	3.8	0 - 20	0 - 24.440	0 - 28.1
10.8	7.0	20 - 30	24.5 - 36.6	28.2 - 42.1
25.7	14.9	30 - 40	36.7 - 49.8	42.2 - 56.2
42.5	16.8	40 - 50	48.9 - 61.1	56.3 - 70.2
57.1	14.6	50 - 60	61.2 - 63.3	70.3 - 84.3
68.4	11.3	60 - 70	73.4 - 85.5	84.4 - 98.3
76.0	7.6	70 - 80	85.6 - 97.7	98.4 - 112.4
82.0	6.0	80 - 90	97.8 - 109.9	112.5 - 126.4
85.9	3.9	90 - 100	110.0 - 122.2	126.5 - 140.5
89.0	3.1	100 - 110	122.3 - 134.4	140.6 - 154.5
100.0	11.0	110 and over	134.5 and over	154.6 and over
Median Income		55	67	77,492

Estimated Urban Family Incomes for the end of 1976 based upon the
World Bank Income Distribution Weights for Urban Areas of Korea in 1971

<u>Decile</u>	<u>% of Income</u>	<u>Average Income per Decile*</u>
D - 1	3.4	31,315
D - 2	4.7	43,289
D - 3	5.7	52,499
D - 4	6.6	60,789
D - 5	7.4	68,157
Median		73,683
D - 6	8.6	79,209
D - 7	9.8	90,262
D - 8	11.6	106,841
D - 9	14.5	133,551
D - 10	27.7	255,128

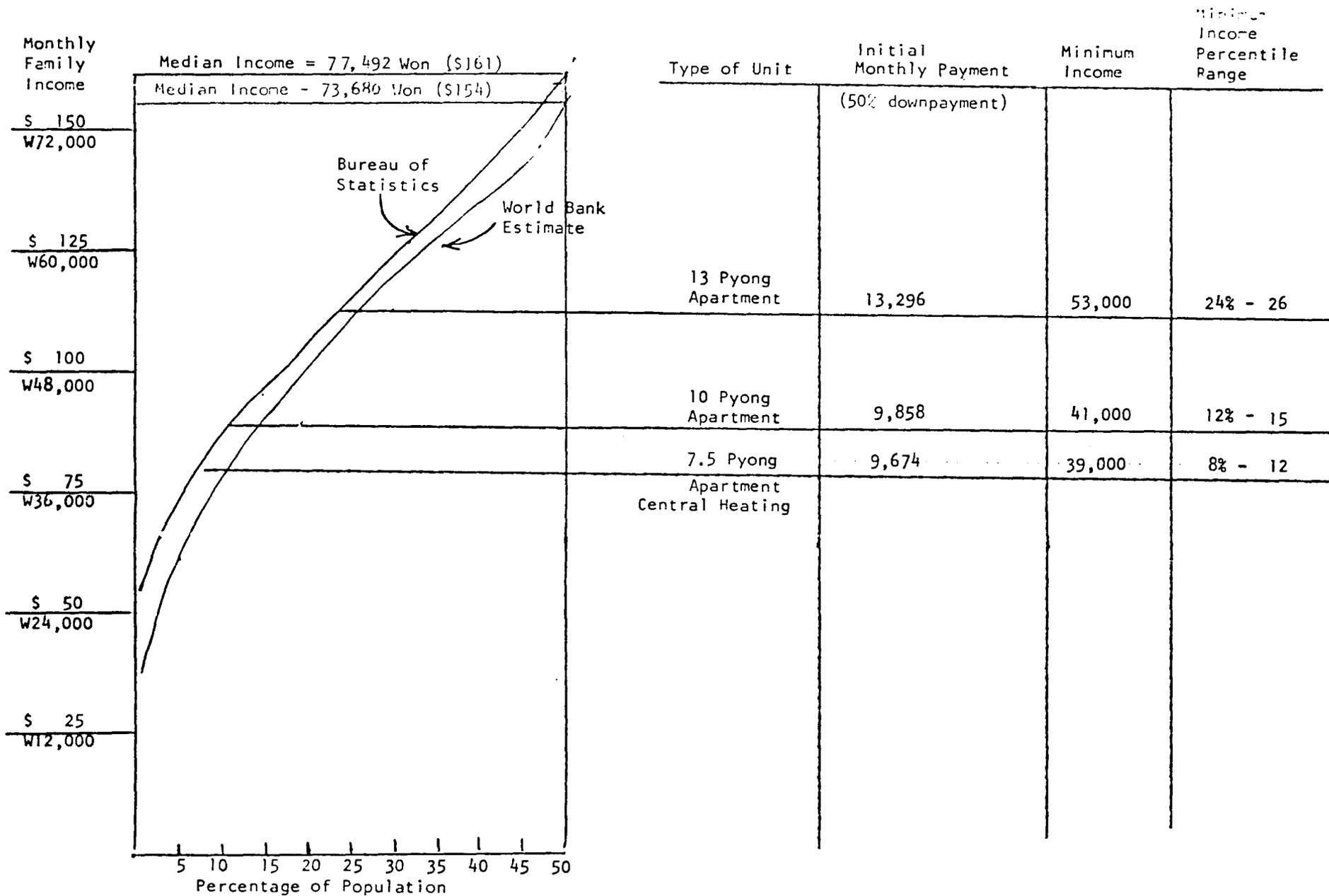
The income distribution for Seoul is assumed to be similar to that for all urban areas. In the absence of statistical evidence to support any significant variation in the weights of the distribution, the same set of weights have been adjusted to reflect the higher average income for wage and salary workers in Seoul. In the third quarter of 1975 (the last available statistics) the average monthly household income in Seoul was 78,090 won as compared to 75,140 won in all cities combined. Assuming that this same differential is maintained through the period since then, the average income in Seoul at the end of 1976 would be about 95,000 won. This figure is based on the same projections described above.

* Based on a projected average monthly household of 92,104 won for the Urban Population of Korea.

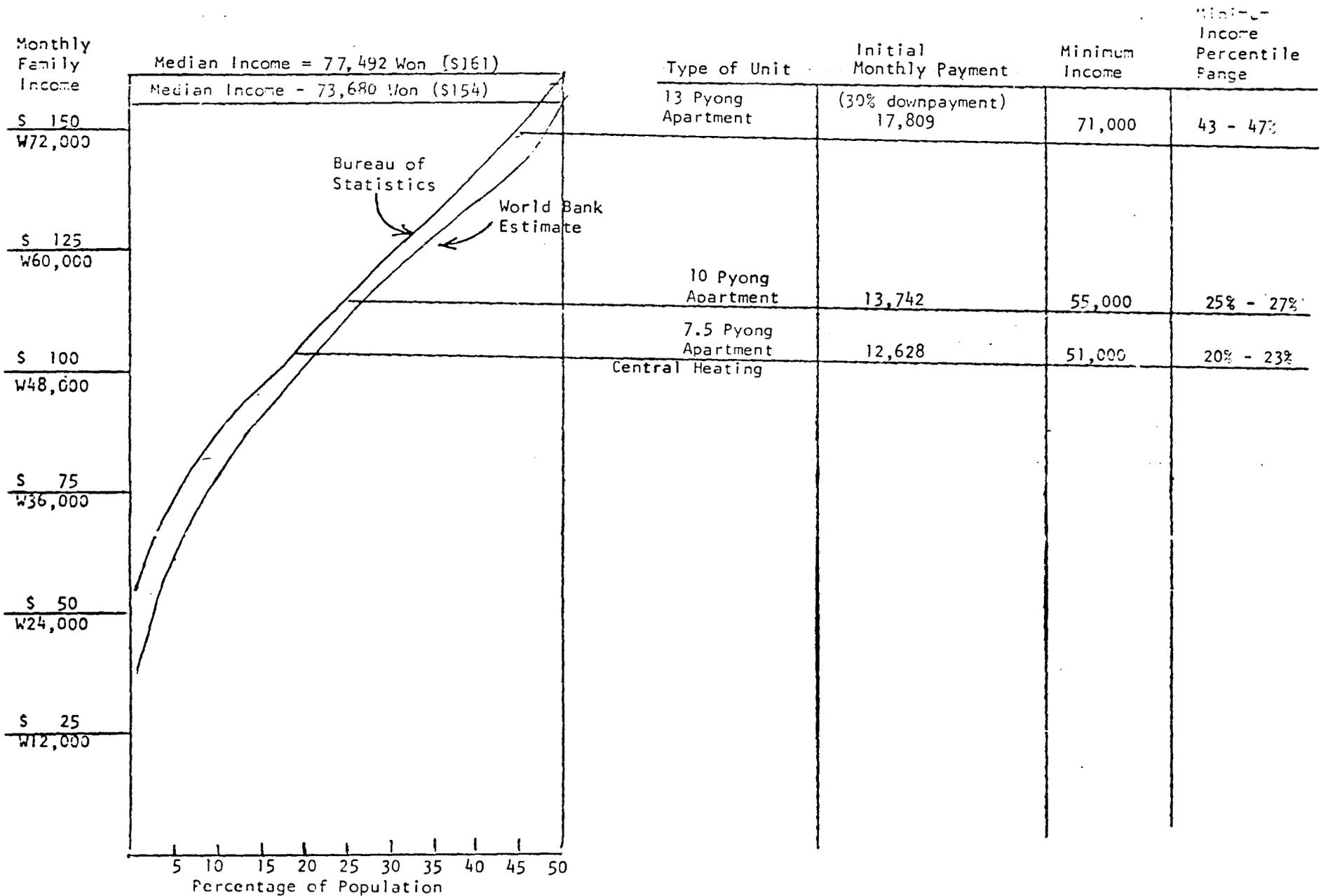
Estimated Monthly Household Income Distribution in Seoul for the End of 1976

	<u>World Bank Weights</u>	<u>EPB/BOS Distribution</u> (000's won)	
D - 1	32,300	0 - 29.0	3.8%
D - 2	44,650	29.0 - 43.5	7.0%
D - 3	54,150	43.5 - 58.0	14.9%
D - 4	62,700	58.0 - 72.5	16.8%
D - 5	70,300	72.5 - 87.0	14.6%
Median	76,000	87.0 - 101.5	11.3%
D - 6	81,700	101.5 - 116.0	7.6%
D - 7	93,100	116.0 - 130.5	6.0%
D - 8	110,200	130.5 - 144.9	3.9%
D - 9	137,750	144.9 - 159.4	3.1%
D - 10	263,150	159.4 and over	11.0%

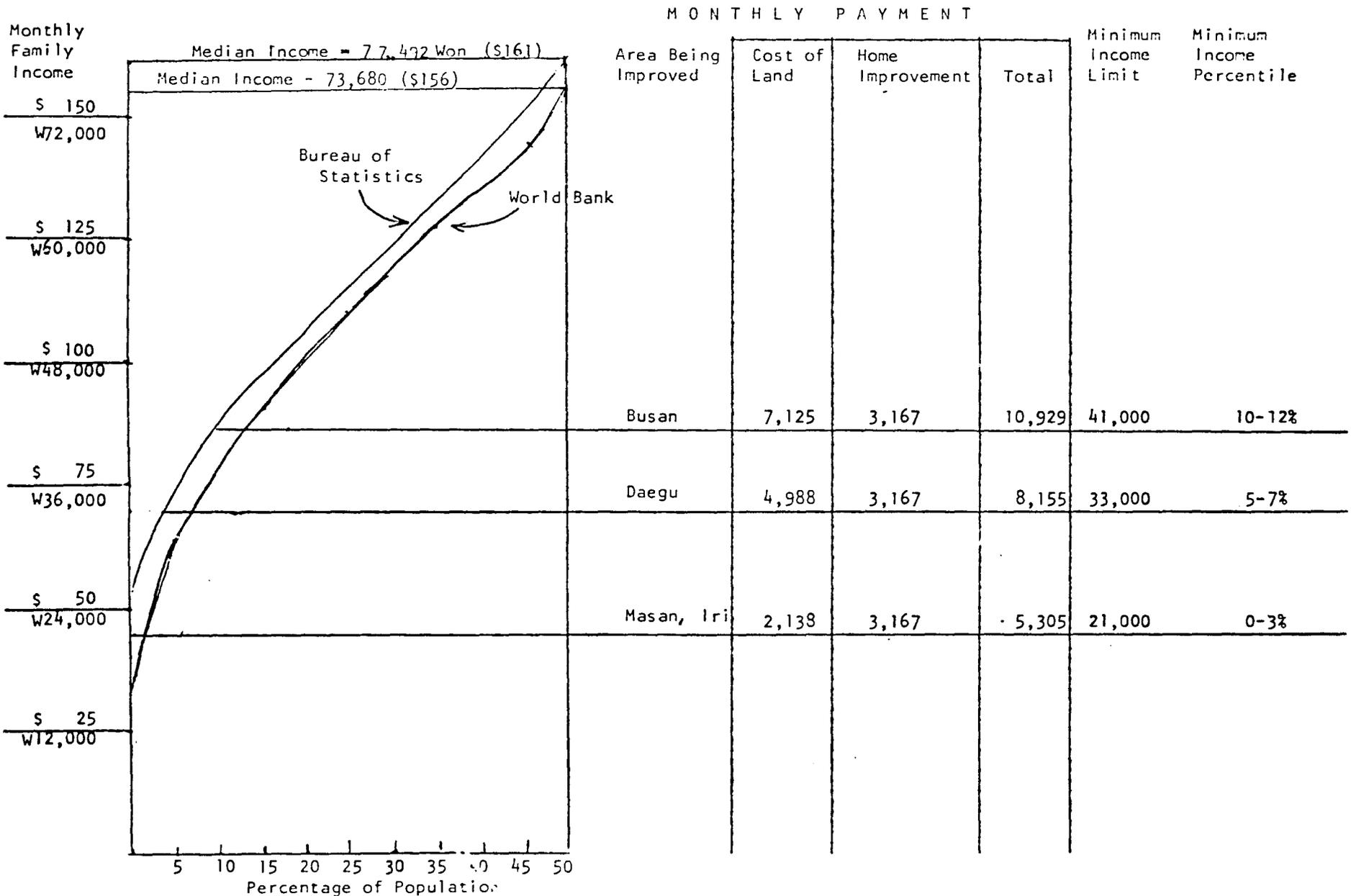
The cost of loans for different types of apartments, land purchase and home improvement have been related to income levels by assuming that a maximum of 25% of income will be used for loan repayments. Costs have been calculated based on expected 1976 price levels. Monthly payments have been calculated on the basis of a 50% downpayment and a second chart shows monthly payments based on 30% downpayments.



Relationship of Income Distribution to Cost of Apartment Units Produced by KHC Under AID Guaranteed Loans.
 (The income distribution shown above is for all cities and projected to the end of 1976.)



Relationship of Income Distribution to Cost of Apartment Units Produced by KHC Under AID Guaranteed Loans.
 (The income distribution shown above is for all cities and projected to the end of 1976.)



Relationship of Income Distribution to Cost of Land Purchase and Home Improvement Loans in Slum Areas in Seoul.
 (The income distribution shown above is for all cities and projected to the end of 1976.)

LOGICAL FRAMEWORK MATRIX

<u>SECTOR GOAL</u>	<u>MEASURES OF GOAL ACHIEVEMENT</u>	<u>MEANS OF VERIFICATION</u>	<u>IMPORTANT ASSUMPTIONS</u>
<p>Improve the standard of living of the urban poor in Korea through improved shelter for low income families in Seoul and selected provincial cities.</p>	<ol style="list-style-type: none"> Ongoing ROKG shelter programs directed towards lower income families. Increased ROKG concern for low income housing. 	<ol style="list-style-type: none"> Number of new housing units developed each year for families below the median income level. Number of squatter upgrading programs implemented by ROKG each year. 	<ol style="list-style-type: none"> Continued ROKG commitment to improve squatter areas and build small apartment units, and acceptability by the residents of the programs. ROKG will have the capital to implement its shelter program for families below the median level.

<u>PURPOSE</u>	<u>END OF PROJECT STATUS</u>		
<ol style="list-style-type: none"> Assist the Government of Korea implement its national housing policy through the introduction of new basic apartment units and increased production of low cost housing by the Korea National Housing Corporation (KNHC). Expand area of KNHC activity to include squatter improvement programs. Assist ROKG study existing housing finance system in Korea and consider alternative approaches to mobilization of long term housing investment. 	<ol style="list-style-type: none"> 1,955 smaller apartment units (7.5 and 10 pyong) completed and occupied by homebuyers Completion of infrastructure improvements, legalization of land tenure, and completion of home improvements in demonstration squatter improvement areas. Existence of a squatter improvement division within the Korean National Housing Corporation (KNHC). Completed or ongoing intensive review of ROKG Housing Finance System. 	<ol style="list-style-type: none"> Joint ROKG/USAID evaluation of completed projects with particular attention on the income of home buyers. On site inspection of squatter sites improved in program. Review of social/economic studies which will be made of each squatter site. Review of squatter improvement division's operation within KNHC. Review of interim or final report of ROKG housing finance study. 	<ol style="list-style-type: none"> People will be willing to accept small apartments. KNHC will establish a squatter improvement division within its organization. KNHC squatter improvement division and city governments will be able to work together. ROKG is prepared to undertake an indepth study of its housing finance system.

LOGICAL FRAMEWORK MATRIX

<u>OUTPUTS</u>	<u>MAGNITUDE OF OUTPUTS</u>	<u>MEANS OF VERIFICATION</u>	<u>IMPORTANT ASSUMPTIONS</u>
1. Low cost apartment projects demonstrating production of minimal size units.	1. Approximately 4,685 low cost apartment units.		
2. Improvement through KNHC of squatter areas in selected secondary cities.	2. Squatter area improvements affecting an estimated 10,000 units or approximately 20,000 families.	1. Monthly reports of KNHC during construction and semi-annual reports thereafter.	1. KNHC has the capacity to build the apartment units.
3. Analysis and recommendations on the housing finance system in Korea.	3. Report on ROKG Housing Finance System.	2. On site inspections. 3. Project monitoring by RHUDO/Seoul. 4. ROKG Housing Finance Report.	2. The new KNHC squatter improvement division will have the capacity to implement squatter improvement program. 3. The ROKG will complete its evaluation of the housing finance system within FY'77 or have an interim report completed
<hr/>			
<u>INPUTS</u>	<u>MAGNITUDE OF INPUTS</u>		
1. HG financing of low cost apartments and squatter area improvements.	1. \$25 million HG financing.	1. SER/H Records.	1. U.S. Investor available.
2. ROKG financing of land in squatter improvement areas.	2. Value of land financed by ROKG (\$14-18 million)	2. RHUDO Records.	2. People have sufficient funds to make down payment.
3. Beneficiaries down payments.	3. \$12 million down payments.	3. KNHC Records.	3. Cities outside of Seoul are prepared to finance land loans to squatters.
4. Technical Assistance.			

Mr. Sean P. Walsh
Chief
Regional Housing and
Urban Development Office

April 29, 1976

Dear Mr. Walsh:

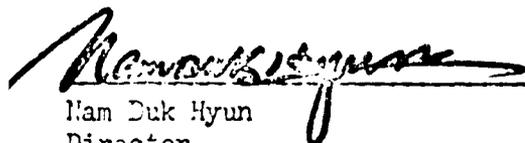
This is my pleasure to inform you that local cities such as Busan, Daegu, Masan and Iri have officially expressed their interests in introducing AID Housing Guaranty Loans in order to upgrade existing squatter areas in accordance with new Housing Policy under which minimization of the unnecessary demolition of housing units is to be pursued.

My understanding is that the 4th AID Housing Guaranty Loan for Korea have been tentatively approved up to \$25 Million of which \$15 Million is to be used for new construction of apartments for low income families in urban areas, and \$10 Million for upgrading and improvement of squatter communities. The Korea National Housing Corporation will be the project administrator for both the construction loan and the squatter improvement loan. The KNSC will make subloans to local cities for the improvement projects and provide technical assistance to the cities in design and planning of the program and some guidance or supervise during implementation, if requested by each city.

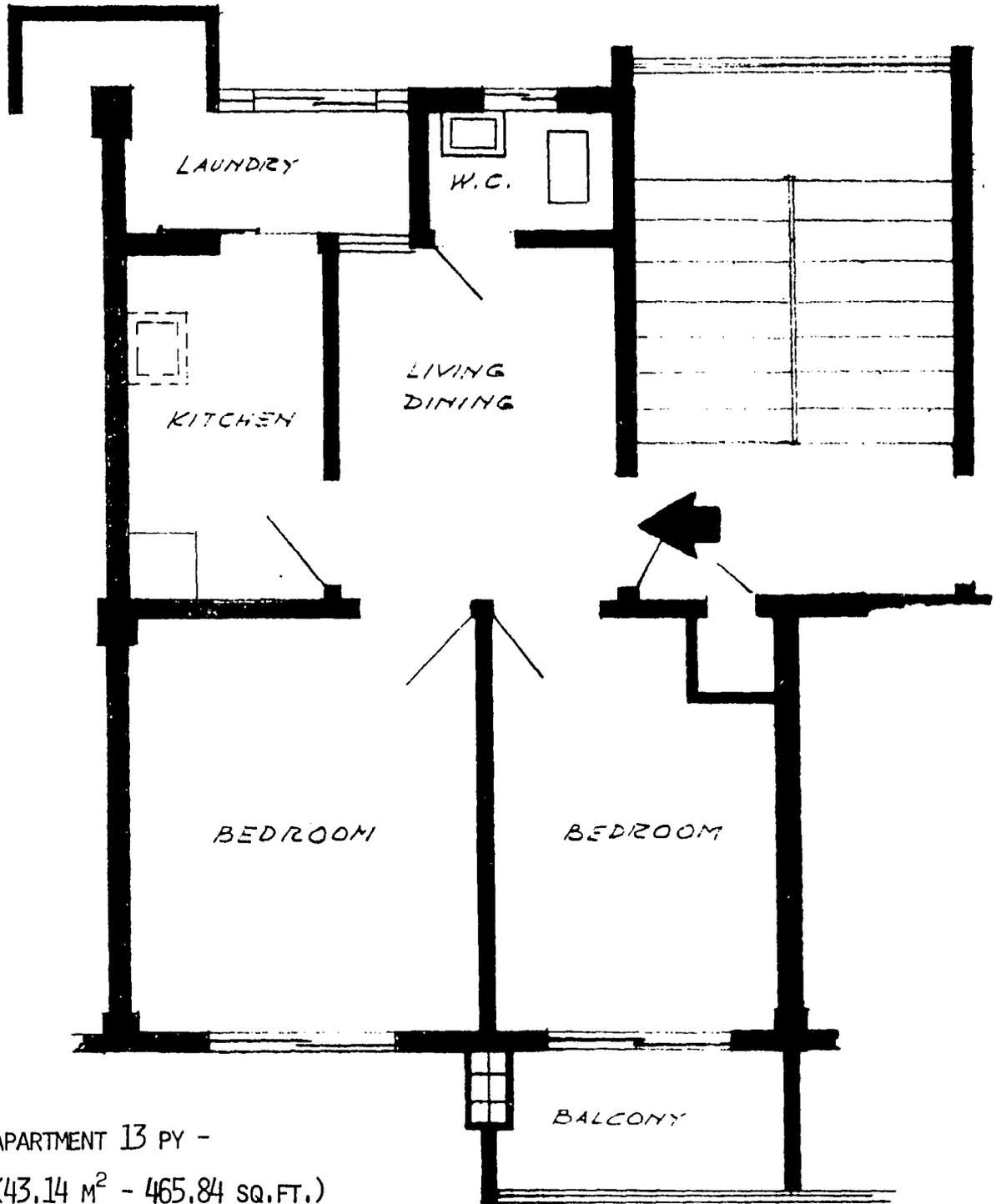
Hoping that the 4th housing programs under the AID Housing Guaranty Loan will be successful and contribute to solving housing problems in Korea, I do expect your kind cooperation and continuous and greater AID housing activity in Korea.

With my best regards,

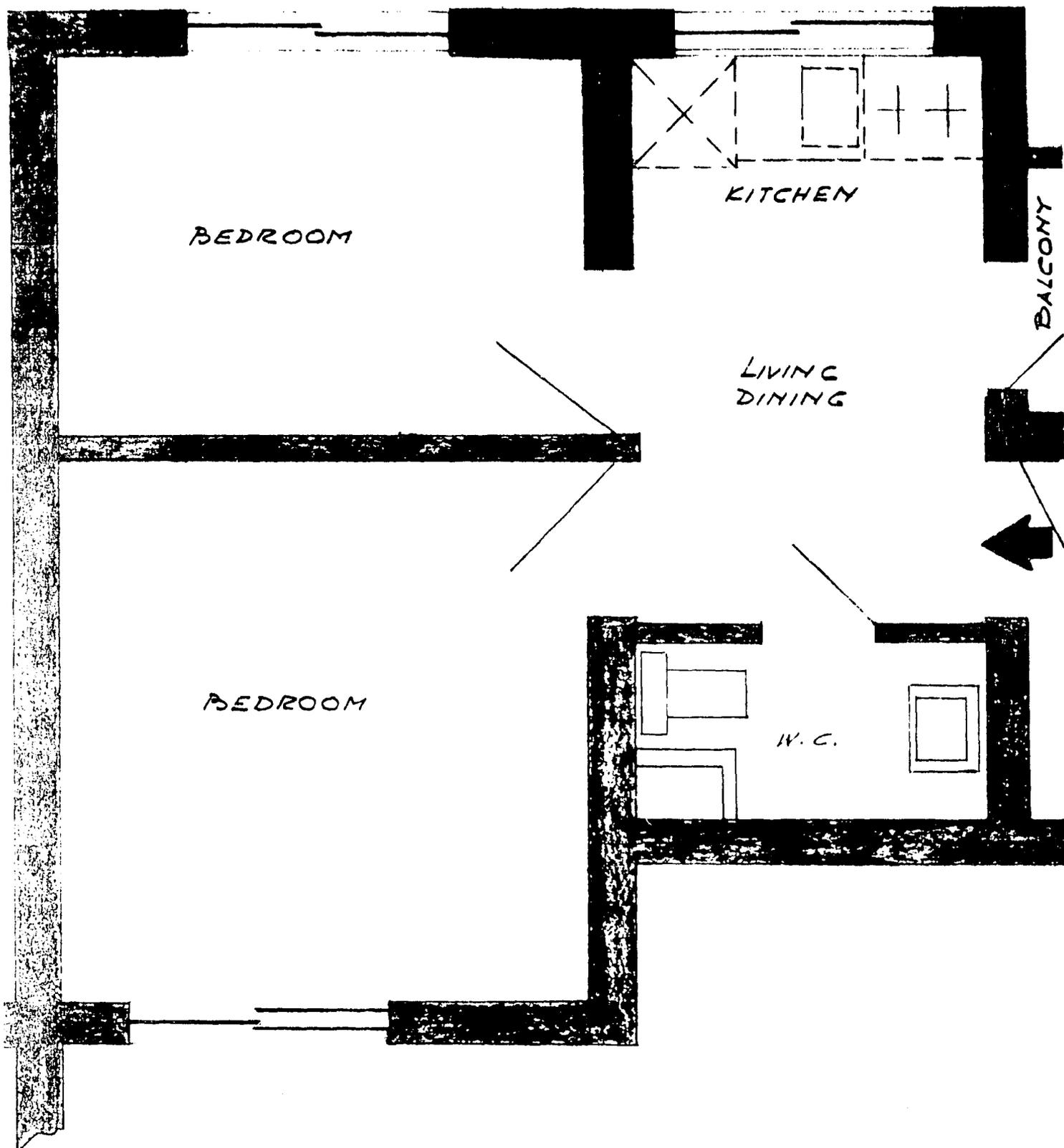
Sincerely yours



Nam Duk Hyun
Director
Housing and Urban Development Bureau
MOC

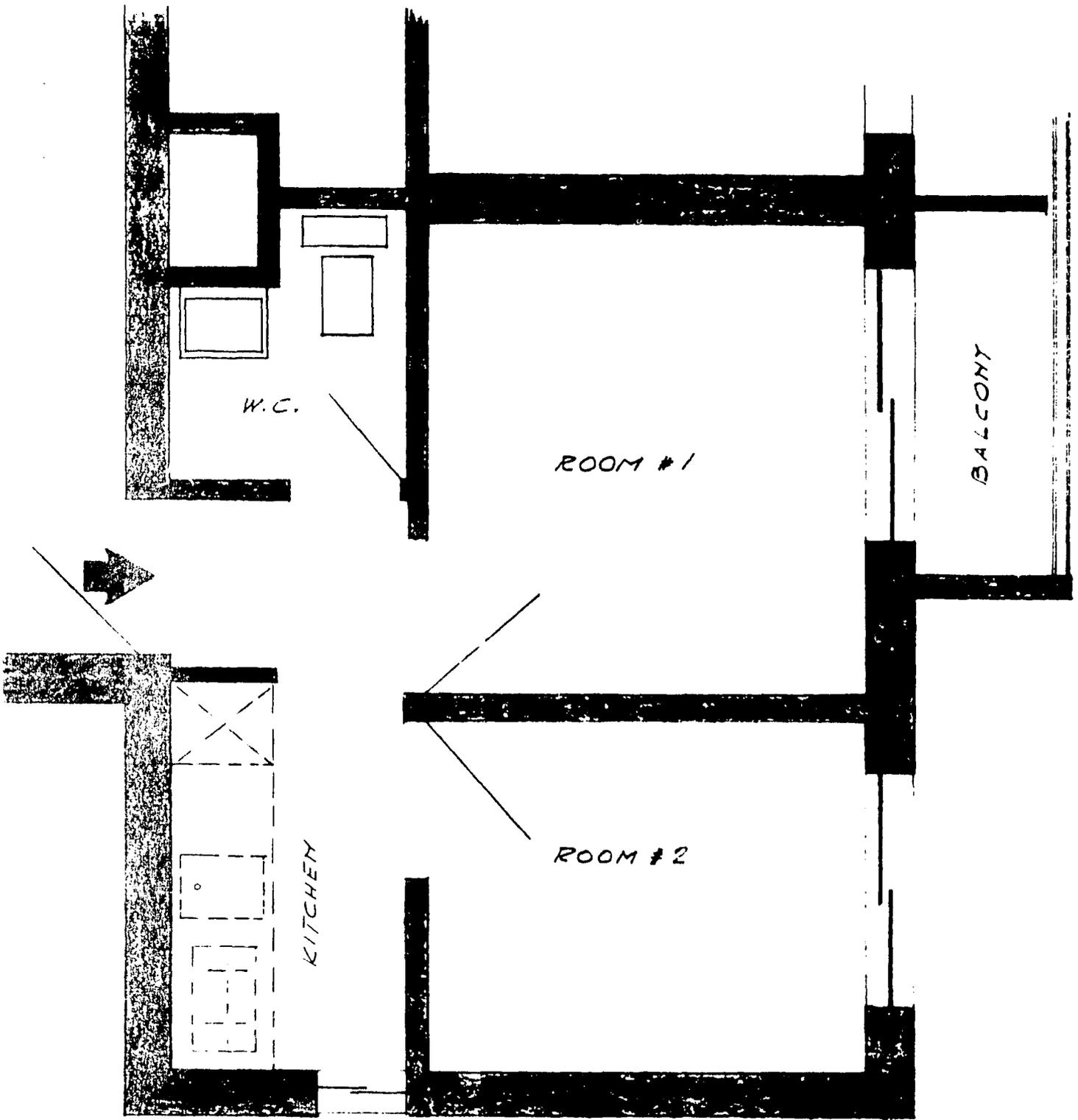


TYPICAL APARTMENT 13 PY -
(43.14 m² - 465.84 SQ.FT.)



TYPICAL APARTMENT 10 PY - (33.99 M² - 367.02 SQ. FT.)

KOREA NATIONAL HOUSING CORPORATION



TYPICAL APARTMENT 7.5 PY - (25.94 M² - 28.08 SQ. FT.)

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

DRAFT GUARANTY AUTHORIZATION

Provided From: Housing Investment Guaranty
Authority

THE REPUBLIC OF KOREA, Korea National Housing
Corporation (KNHC)

Pursuant to the authority vested in the Assistant Administrator, Bureau for East Asia, by the Foreign Assistance Act of 1961, as amended (FAA), and the delegations of authority issued thereunder, I hereby authorize the issuance of guaranties pursuant to Section 221 of the FAA of not to exceed twenty-five million dollars (\$25,000,000) in face amount, assuring against losses (of not to exceed one hundred per centum (100%) of loan investment and interest) with respect to loans by eligible U.S. investors (Investor) acceptable to A.I.D. made to finance housing in Korea. This guaranty shall be subject to the following terms and conditions:

1. Term of Guaranty: The loan shall extend for a period of up to thirty years (30) from the date of disbursement of the first installment of the loan including a grace period on the repayment of principal not to exceed ten (10) years. The guaranty of the loan shall extend for a period beginning with the first disbursement of the loan and shall continue until such time as the Investor has been paid in full pursuant to the terms of the loan.

2. Interest Rate: The rate of interest payable to the Investor pursuant to the loan shall not exceed the allowable rate of interest prescribed pursuant to Section 223(f) of the FAA and shall be consistent with rates of interest generally available for similar types of loans.

3. Republic of Korea Guaranty: The Republic of Korea shall provide a full faith and credit guaranty to A.I.D. in United States dollars assuring against any and all losses to A.I.D. by virtue of A.I.D.'s guaranty to the Investor or from non-payment of the guaranty fee.

4. Fee: The fee of the United States shall be payable in dollars and shall be on-half of one per centum (1/2%) per annum of the outstanding guarantied amount of the loan plus the fixed amount of \$100,000 to be paid as A.I.D. may determine upon disbursement of the loan.

5. Other Terms and Conditions: The guaranty shall be subject to such other terms and conditions as A.I.D. may deem necessary.

Assistant Administrator
Bureau for East Asia

Date

STATUTORY CHECKLIST

The Republic of Korea

Korea National Housing Corporation (KNHC)

Section 221:

The total face amount of guaranties issued, outstanding at any one time, shall not exceed \$430,000,000.

Sections 221 and 222(b):

The proposed Guaranty will finance self-liquidating housing projects under one or more of the following criteria:

- (a) Private housing projects of types similar to those insured by HUD and suitable for conditions in Korea.
- (b) Low-income housing projects.
- (c) Housing projects with 25% of the aggregate mortgage financing for local sources.

Section 223(a):

The A.I.D. guaranty fee has been determined by A.I.D. in accordance with the authority delegated by the President.

Section 223(f):

The maximum rate of interest allowable to the eligible U.S. investor to be prescribed by the Administrator will not be more than one percent above the current rate of interest applicable to housing mortgages insured by the Department of Housing and Urban Development.

Section 223(h):

No payment may be made under any guaranty issued for any loss arising out of fraud or misrepresentation for which the party seeking payment is responsible.

Section 223(j):

(1) Korea is a country that is presently receiving or has received during the past two fiscal years development assistance under Chapter 1 Part I of the Act.

(2) The proposed Housing Guaranty will be coordinated with and complementary to other development assistance to Korea.

(3) The proposed Housing Guaranty will demonstrate the feasibility and suitability of particular kinds of housing and financial institutional arrangements.

The face value of guaranties issued with respect to Korea in this fiscal year will not exceed \$25 million. It is planned that the average face value of all housing guaranties issued in any fiscal year shall not exceed \$15 million.

Section 238(c):

The guaranty agreement will cover only lenders who are "eligible investors" within the meaning of this section of the statute at the time the guaranty is issued.