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UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D. C. 20523

CHILE

PROJECT PAPER

PRIVATE SECTOR SHELTER AND
URBAN INITIATIVES PROGRAM

AID/LAC/P-670

PROJECT NUMBER: 513-HG-010

UNCLASSIFIED

2 COUNTRY/ENTITY: **Chile**
 3 PROJECT NUMBER: **513-HG-010**
 4 BUREAU/OFFICE: **LAC**
 5 PROJECT TITLE (maximum 40 characters): **Private Sector Shelter & Urban Initiatives**
 6 PROJECT ASSISTANCE COMPLETION DATE (PACD):
 MM DD YY: **03 31 95**
 7 ESTIMATED DATE OF HG Agreement (Under B' below enter 1, 2, 3, or 4):
 A Initial FY: **95** B Quarter: **4** C Final FY: _____

8 COSTS (\$000 OR EQUIVALENT \$1 =)

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L/C	D. TOTAL	E. FX	F. L/C	G. TOTAL
AID Appropriated Total (Grant)						
(Loan)						
Other U.S. 1 HG	40,000		40,000	40,000		40,000
2						
Host Country						
Other Donor(s)						
TOTALS	40,000		40,000	40,000		40,000

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH CODE		D. OBLIGATION TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1 Grant	2 Loan	1 Grant	2 Loan	1 Grant	2 Loan	1 Grant	2 Loan
(1)									
(2)									
(3)									
(4)									
TOTALS									

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each): _____
 11. SECONDARY PURPOSE CODE: _____
 12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each):
 A. Code: _____
 B. Amount: _____

13. PROJECT PURPOSE (maximum 480 characters):
 To increase the efficiency and output of Chile's low-income housing finance system by facilitating the re-entry of private sector financial institutions; to contribute to the improvement of urban land-use planning practices and enhance the role of local governments in carrying out this function; to encourage private co-financing of urban initiatives such as renovation, wastewater treatment, and neighborhood street paving; to contribute to the identification of smaller scale, environmentally sound urban projects such as water and wastewater treatment suitable for use in small cities.

14. SCHEDULED EVALUATIONS: Interim MM YY: **03 93** Final MM YY: **09 95**
 15. SOURCE ORIGIN OF GOODS AND SERVICES: 000 941 Local Other (specify): _____

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of _____ page PP Amendment.): _____

17. APPROVED BY: **cuting**
 Signature: **Bastian B. S. Lant**
 Title: **Assistant Administrator, LAC**
 Date Signed: **10/8/95**
 18. DATE DOCUMENT RECEIVED IN AID/W OR FOR AID/W DOCUMENTS: DATE OF DISTRIBUTION: MM DD YY: **07 10 95**

GUARANTY AUTHORIZATION
(Authorization No. 513-HG-010)

PROVIDED FROM: Housing Guaranty Authority

FOR: Chile - Private Sector Shelter and Urban
 Initiatives Sector Program (HG-010)

Pursuant to the Foreign Assistance Act of 1961, as amended (FAA), and Delegations of Authority issued thereunder, I hereby authorize the issuance to eligible U.S. investors (Investors) acceptable to A.I.D. of guaranties pursuant to Section 222 of the FAA of not to exceed Forty Million United States Dollars (U.S. \$40,000,000) in face amount. The guaranties shall assure against losses (of not to exceed One Hundred Percent (100%) of the investment and interest) with respect to loans, including any refinancings thereof, made to support the generation of domestic resources for shelter in Chile. These guaranteed loans shall be made to the Ministry of Housing and Urban Development, or such other financial institution as A.I.D. may otherwise agree (Borrower), to provide financing for the construction of housing, revitalization of urban areas and improvement of the urban environment.

These guaranties shall be subject to the following terms and conditions:

1. Term of Guaranty: The loans and any refinancing thereof shall extend for a period of up to thirty years (30) from the date of disbursement and may include a grace period of up to ten (10) years on repayment of principal and may include such terms and conditions as shall be acceptable to A.I.D. The guaranties of the loans shall extend for a period beginning with the first disbursement of the loans and shall continue until such time as the Investor has been paid in full pursuant to the terms of the loans.

2. Interest Rate: The rate or rates of interest payable to the Investor pursuant to the loans 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 made in the long-term U.S. capital markets.

3. Government of Chile Guaranty. The Government of Chile shall provide for a full faith and credit guaranty to indemnify A.I.D. against all losses arising by virtue of A.I.D.'s guaranties to the Investor or from non-payment of the fee to the guarantor.

4. Fee: The fee of the United States shall be payable in dollars and shall be one-half (1/2%) per annum of the outstanding guarantied amount of the loans plus a fixed amount equal to one percent (1%) of the amount of the loans authorized or any part thereof, to be paid as A.I.D. may determine upon disbursement of the loans.

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

6. Implementation. The Office of Housing and Urban Programs, in exercising its authorities to implement this program, may delegate its authority to sign implementation documents and otherwise take implementation action, to persons assigned or not assigned to such office at the discretion of the Director or Deputy Director of that office, or persons acting in that capacity.

Bastian B. Schoute

~~James H. Michel~~

(acting) Assistant Administrator
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the Caribbean

8/9/91

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2

CHILE

PROJECT PAPER

Private Sector Shelter and Urban
Initiatives Sector Program

Project Number: 513-HG-010

July 5, 1991

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Contents

<u>Chapter/Section</u>	<u>Page</u>
I. PROGRAM RATIONALE AND DESCRIPTION	
A. Introduction and Summary	1
B. Program Rationale	2
1. Problems the Program Will Address	2
2. Key Constraints	3
3. Policy Agenda	4
4. Program Goal, Purposes and Expected Outputs	5
C. Program Background	5
1. Housing Sector	5
2. Urban Development	9
3. Small-Scale Urban Environmental Initiatives	11
4. Relationship to AID Development Strategy	12
5. Other Donor Activity in the Shelter and Urban Sectors	12
D. Program Description	13
1. Private Shelter Finance Component	13
2. Urban Revitalization Component	18
3. Small-Scale Urban Environmental Initiatives	25
II. COST ESTIMATE AND FINANCIAL PLAN	28
A. HG Resources Contracting Plan	28
B. Resource Allocations Among Program Components	28
C. Technical Assistance Plan Summary	29

III.	IMPLEMENTATION PLAN	30
	A. Role of the Ministry of Housing and Urban Development	30
	B. Private Shelter Finance Component	30
	C. Urban Revitalization and Small-Scale Urban Environmental Initiatives Components	31
IV.	MONITORING PLAN	32
	A. Shelter Finance Component	32
	B. Inner City Revitalization Component	32
	B. Small-Scale Urban Environmental Initiatives Component	32
V.	SUMMARIES OF ANALYSES	33
	A. Technical Analysis	33
	B. Financial Analysis	35
	C. Economic Analysis	37
	D. Social Soundness Analysis	39
	E. Administrative Arrangements and Technical Assistance Plan	39
	F. Environmental Review	40
	G. Women in Development	41
VI.	CONDITIONS AND COVENANTS	42
	A. Condition to Investor Selection	42
	B. Conditions Prior to Contracting First US\$10 Million Tranche	42
	C. Conditions Prior to Second US\$10 Million Disbursement	42
	D. Condition Prior to Third US\$10 Million Disbursement	43

E.	Condition Prior to Fourth US\$10 Million Disbursement	43
F.	Covenants	43
VII.	EVALUATION ARRANGEMENTS	44
A.	Evaluation Plan	44
B.	Audits	44

Annexes

1.	PID Approval Message	
2.	Log Frame Matrix	
3.	Statutory Checklist	
4.	Borrower Government Request	
5.	FAA 611(a) Certifications	
6.	Project Analyses	
6A:	Technical Analysis	1
6B:	Financial Analysis	19
6C:	Economic Analysis	27
6D:	Social Soundness Analysis	43
6E:	Administrative Arrangements And Technical Assistance Plan	46
6F:	Environmental Review	51
6G:	Women in Development	54
7:	Estimated Payment Capacity of Target Beneficiaries	

I. PROGRAM RATIONALE AND DESCRIPTION

A. Introduction and Summary

The Chile Private Sector Shelter and Urban Initiatives Sector Program (513-HG-010) is intended to provide the Chilean Ministry of Housing and Urban Development (MINVU) with an AID Housing Guaranty loan of U.S.\$40 million that will support a policy agenda aimed fundamentally at fostering increased participation by local governmental and non-governmental organizations -- including municipalities, private NGOs and the private financial sector among others -- in the following broad areas of urban activity and concern:

- . the origination, servicing, and financing of home mortgages for low-income families, who are presently served, at less than optimal efficiency, only by the government directly (MINVU and the Ministry of the Interior, MINTER), or through the government-owned Banco del Estado;
- . the planning, organization, financing and implementation of urban revitalization projects aimed at improving the efficiency of urban investment and urban land use in Santiago and other major cities, reducing the negative environmental effects of low-density development on the urban periphery, and improving access to urban amenities and services for low-income families; and,
- . the identification, design, financing, implementation and operation of small-scale projects to ameliorate or protect local environmental conditions in large and small urban settings, using technologies and implementation mechanisms that are both environmentally and financially sustainable.

The HG-010 program has been developed under the special legislative provisions mandated by Congress in the FY1991 Foreign Assistance Budget appropriations. These special provisions included additional Housing Guaranty authority during FY1991 for up to \$50 million, earmarked specifically for programs to be developed in either Chile or Poland, or both. The \$25 million ceiling on individual Housing Guaranties that otherwise apply to the AID HG program was specifically lifted in this instance, as was the requirement that AID ensure targetting of HG resources to families at or below the national median income level. The program that is presented below takes advantage of this additional flexibility provided by Congress to maximize the probability of rapid program acceptance and success. It is also designed, however, to ensure that lower-income beneficiaries will benefit from the outset, and that the overall program will move towards full compliance with standard HG beneficiary income criteria over time.

Resources will be borrowed by the Ministry of Housing and Urban Development, but will be onlent in their entirety to private and/or municipal borrowers on the basis of open bidding procedures. In emphasizing local and private sector participation, decentralization and enhanced administrative efficiency, and increased environmental awareness in the public sector, HG-010 is fully consistent with major objectives of the Aylwin Administration and of the AID Country Program.

B. Program Rationale

1. Problems the Program Will Address

For reasons stemming from the failure of the savings and loan system during the 1970s, an episode of severe financial sector instability in the early 1980s, and some of the negative precedents set by the previous government's condoning the non-payment of home mortgage loans, the private sector currently has no participation in the origination of mortgage loans for low-income families in Chile. The government implements large-scale programs that have achieved impressive coverage levels in relation to other Latin American countries, and the private sector participates in these as developers and builders, but the system is almost entirely dependent on the ability of two government agencies and the government's bank to make and service the loans that enable low-income families to acquire housing.

While this governmental system has worked relatively well in terms of making loans in conjunction with Chile's housing subsidy programs, it has not performed as well in terms of loan recovery, it has not so far been able to operate on the scale needed to support the expanded housing development efforts that will be needed in the future to reduce a large accumulated housing deficit, nor is it sufficiently flexible and efficient to ensure low-income borrowers access to financing at the lowest possible cost.

Other aspects of public sector activity in the areas of urban development and urban management show similar deficiencies and limitations that are derived at least in part from an overly centralized governmental administrative structure and the lack of mechanisms for local input and local participation in the identification and resolution of urban problems. Two areas in which the effects of this lack of appropriate mechanisms for public administration at the local level are especially notable in Chile are in urban land use in major Chilean cities, and in the failure of government at any level to have adequately addressed environmental protection and public health threats from air and water pollution in cities of all sizes.

In all of Chile's major cities -- Santiago, Valparaiso, and Concepcion -- urban development policies formulated at the national level have resulted in spatial patterns of development characterized by the coexistence of substantial amounts of fully urbanized but underutilized land in central city areas, with rampant low-density and relatively poorly serviced development at the cities' peripheries. These patterns of development have been responsible for consuming substantial amounts of agricultural land, absorbing large quantities of public resources for investments in infrastructure, and contributing to the growth of car and bus traffic with its attendant costs in air pollution, fuel consumption and lost leisure time.

Inadequate attention to finding ways to reverse this trend has led to loss in population in certain central districts, and substantial deterioration in the structures located there. Low-income residents of sprawling and monotonous suburban developments, meanwhile, suffer from a serious lack of urban amenities and services -- including schools, health centers, shopping and recreational facilities. And, far from generating solutions, the agencies of central government, including the Ministry of Housing and Urban Development, have been major contributors to the growing inefficiency of urban land use through their inability to evaluate the impacts of their programs in an integrated fashion, and as a consequence of policies that have emphasized convenience of construction and economies-of-scale over broader urban development considerations.

Municipal governments in Chile, even more than in many other parts of Latin America that have a tradition of local elections¹, have little autonomous power and relatively limited capabilities. In the absence of effective local government, guarding the environment and the public health from the effects of air and water pollution has also fallen to the agencies of central government, which have not done a very good job of it to date. The contamination of water supplies used for both household and agricultural purposes has become particularly acute since the outbreak of cholera in South America. A whole range of gastroenteric diseases has been endemic in Chile for some time, but none with the severity of cholera, either as a direct threat to the health of Chilean citizens, or as a threat to important export industries based on fresh fruits and vegetables and marine products.

Nationwide, over 90 percent of sewage is discharged into rivers, lakes or the sea without any treatment whatsoever, and, unlike air pollution, the problem is as severe in small towns as in the major urban centers. A recent survey indicates, for example, that, of 177 localities identified in Chile that lack wastewater treatment facilities, 127 are in urban areas with less than 50,000 inhabitants. Seventeen are localities within the Santiago Metropolitan Area, and the remainder in cities ranging from 50 to 300 thousand in population. In large measure, the Chilean failure to have acted in a more timely fashion to prevent the deterioration of its water supplies can be laid to the absence of mechanisms providing for local level participation in the identification and resolution of problems that are only manifested, initially, at the local level. HG-010 will provide support for small-scale demonstration projects, and will encourage experimentation to develop mechanisms that can be effective in the future once the framework for greater decentralization of government has been erected.

2. Key Constraints

In the area of shelter finance, the key constraints to expanding private sector participation in providing mortgage loans to low-income families are the traditional perceptions of excessive credit risk and high fixed administrative costs, on the one hand, and concern over the potential political interference of the government in the workings of the low-income housing and housing finance markets, on the other.

These are each legitimate concerns, well-grounded in the experiences of the past, in Chile as well as elsewhere in the world. Removing these constraints so that a truly market-oriented low-income mortgage finance system can be established poses a genuine and complex challenge that will require the full, sustained commitment of the Chilean government, as well as the leadership of the most dynamic private sector groups.

As it has demonstrated in so many other ways, Chile is different. Many of the preconditions needed to make a private mortgage finance system work are already in place there, including a stable macroeconomic environment, disciplined and orderly financial markets that operate on the basis of positive real returns, adequate supplies of long-term savings, and the effective enforcement of contract law. The AID Representative in Chile and the RHUDO/SA are

¹ At present, all mayors in Chile are Presidential appointees, most of whom, in fact, are holdover appointees of former President Pinochet. The legal and administrative structure of municipal government is undergoing wholesale change at the moment, and municipal elections are scheduled for June 1992.

persuaded that the government's commitment to implementing the necessary reforms is genuine and strong, and that the constraints to effective private sector participation can be overcome.

In the areas of small-scale urban initiatives for the revitalization of inner city neighborhoods as well as for local environmental improvements, the principal constraints to be overcome are a lack of mechanisms for identifying and implementing projects at the local level, and the lack of knowledge and experience needed to make them work. AID assistance in these areas is designed to facilitate experimentation and development of new collaborative mechanisms that will allow for effective interaction between the various national level institutions that are presently charged with responsibilities in these areas, and the municipalities, municipal corporations, community groups, NGOs and private enterprises that need to become involved in generating solutions at the local level. What is learned and disseminated through these demonstration efforts is expected to encourage widespread replication and to ultimately generate a notable impact on urban land use, the efficiency of public sector investment and environmental quality in a number of Chilean cities, large and small.

3. Policy Agenda

In the shelter finance area, the HG-010 program directly addresses the perceived credit and political risks, and the high per-unit administrative costs, of making long-term mortgage loans to low-income families. In addition, steps will be taken to make possible the long-term refinancing of low-income mortgage loans through the domestic capital markets. Specific actions that will be undertaken by the Ministry of Housing and Urban Development include:

- . development of legislation to implement voluntary payroll deductions as a means of reducing delinquency rates and the administrative cost of mortgage loan collections;
- . facilitating the establishment of a functional and credible mortgage guaranty system to enhance the quality of low-income mortgages;
- . facilitating the organization of privately underwritten mortgage-payment insurance;
- . facilitating the development of a new market system to generate and place securitized low-income mortgages among Chilean institutional investors such as life insurance companies and pension funds.

To advance the objectives of the urban revitalization and small-scale urban environmental components of the HG-010 program, MINVU will:

- . create an environment to enable the participation of local organizations, non-profit, and for-profit private sector groups in the development and implementation of projects to renovate inner city areas or bring about improvements in local environmental conditions;
- . require explicit and complete cost accounting in local revitalization and environmental improvement projects funded through the HG-010 program, accompanied by mechanisms to ensure cost recovery from user fees, taxes or explicit transfers, as appropriate;

- . ensure maximum accesibility to MINVU subsidies for inner city revitalization projects providing low-income housing, including by faciilitating the application of housing subsidies for purchase and rehabilitation of existing properties, either for direct owner occupancy, or, potentially, for rental to low-income families;
- . establish links with private shelter financial institutions for the purpose of encouraging private sector investment in inner city revitalization and in small-scale urban environmental improvement projects;
- . adapt and incorporate broader economic, social and environmental criteria for the evaluation of its future housing and urban development projects, and take a leadership role in promoting the utilization of such analytical tools, including environmental impact analysis in particular, for the evaluation of public sector investment projects in general.

4. Program Goal, Purposes and Expected Outputs

The program's goal, purposes and expected outputs are summarized in the logical framework matrix presented as Appendix 2. To recapitulate, the program's goal is:

- . To expand the private sector's ability to provide mortgage credit for low-cost housing, improve urban land-use, and demonstrate the viability of smaller scale environmental improvement projects initiated at the local level.

At the conclusion of the four-year life of the program, its expected outputs will include:

- . At least three substantial private lenders established and operating in the low-income home mortgage market;
- . Mortgage-payment insurance underwritten by private insurance companies;
- . Appropriately packaged mortgage-backed securities, attractive to private institutional investors, being placed in the country's capital markets, thereby allowing for the refinancing of low-income mortgages;
- . Improved land-use planning mechanisms in place, environmental impact analysis methodologies in use, and an active program of inner city revitalization in Metropolitan Santiago and other urban areas underway;
- . Various demonstration projects underway throughout the country to promote initiative, private sector involvement and environmental action at the local level.

C. Program Background

1. Housing Sector

Chile has long been a leader among Latin American countries in pursuing innovative solutions in the field of low-income housing. For more than 80 years, the Chilean government has gained experience with almost every form of housing policy and program. Chile passed its

first housing law in 1906. It had self-help programs as early as 1953 and by 1961 the country's first comprehensive housing policy was in place. By 1965 Chile was experimenting with sites and services and surveyed lot programs. Chile also had a large savings and loan system in place until the mid-1970s, and instituted payroll taxes for housing and utilized the social security system as a source of finance for housing investment.

In order to increase sectoral productivity and extend the benefits of housing to the poorer segments of Chilean society, the government introduced a new housing policy in 1978 characterized by limited public intervention and the use of progressive and transparent housing subsidies. Although the new policy has required a significant level of public expenditures for the subsidy component, its results have been positive and have resulted in an expanded role for the private sector. Nevertheless, the efforts of the Pinochet government in the housing sector were not of sufficient scale to avoid the accumulation of a major housing deficit, which is estimated at 1.2 million units including approximately 420 thousand that need to be upgraded and almost 800 thousand new units needed to relieve severe overcrowding (more than 3 persons per room) or because they are shared out of necessity by more than one family.² This is a substantial backlog in a country of 13 million inhabitants, one which the present government, in the name of social justice, is committed to reducing as rapidly as possible.

It is estimated that nearly 90,000 new housing units per year will be required to prevent Chile's housing conditions from worsening during the 1990s. New household formation accounts for about 78 percent of this need; another 16 percent is required for replacement of houses that are demolished or converted to other uses, and 6 percent is needed to take care of annual net migration to urban areas. Production at these levels will need to be sustained and, if possible, expanded during the 1990s in order to provide for new household formation and gradually reduce the significant backlog referred to above.

Despite its commitment to provide a more participatory social structure, the new government has also been remarkably objective and pragmatic in evaluating the economic performance of the prior regime, and has clearly demonstrated that it appreciates and supports free markets and private initiative as fundamental principles of a successful economic policy. In the low-income housing area, which under Pinochet rule became almost totally dominated by government insofar as both production and financing are concerned, the Aylwin Administration is interested in redirecting the role of the State and strongly encouraging the increased participation of the private sector.

The Chilean Ministry of Housing and Urban Development (MINVU) presently implements its housing policies through several programs that share certain common principles. These principles include up-front direct capital subsidies provided through the government's budget: they

² The problem of involuntary double occupancy is referred to in Chile by the term "allegados", which has the connotation of "permanent houseguests". The phenomenon of involuntary double occupancy began to manifest itself during the 1970s and 1980s as a result a growing housing shortage and of strict control over spontaneous land invasions and informal housing development which left new families that lacked access to independent housing with no option other than that of seeking shelter in the homes of family members or friends. One consequence of the problem is that there is proportionately less scope for upgrading in Chile than in other countries, in relation to the size of the overall housing deficit, since allegados need to be accommodated in separate, new housing units in order to relieve double occupancy of existing units.

facilitate home-ownership; they rank potential beneficiaries through a transparent competition in which household savings effort is an important part; they make use of the private sector and the NGO community; and they do not distort the country's private housing finance system. In addition, the government's programs are progressive: programs that provide for the poorest segment of the population receive the most funds, and the units included in these programs receive the highest proportion of subsidy.

The Ministry of Housing and Urban Development (MINVU) and its regionally organized Housing and Urban Development Services (SERVIU) plan and execute, principally through contracts with private sector builders, large-scale housing projects which are then sold to qualifying low-income families. Housing costing as little as \$5,000 per unit is produced by these government programs, and families that have accumulated the required 12.5 percent down-payment and otherwise qualify according to a merit-based point system, are eligible for a direct subsidy from the government which is inversely related to the home's value. Under this system the lowest priced houses receive a subsidy as high as 75% of sales value, but this proportion rapidly diminishes, to about 13% for units that cost \$18,000, and decreasing rapidly to nothing for more expensive units.

Housing cooperatives, NGOs, and a few private builders are active in organizing groups of families who may qualify for government subsidies, and in developing projects for sale to these groups. No long-term mortgage finance is available from the private sector to fund low-income home sales, however.

The three principal direct housing subsidy programs presently operating in Chile are the following:

- The "marginal" subsidy program, designed to provide sites and services and basic core units to the poorest income strata, grants direct subsidies equal to 75 percent of unit sales prices.
- The "unified" subsidy program operates in three price and subsidy ranges: Category I provides a subsidy of UF140³ (U.S.\$2,842) on units ranging in price between UF250 and UF400 (roughly, \$5,000 to \$8,000, affordable to families in the first through the fourth income deciles); Category II provides a subsidy of about \$2,400 (lower than Category I) for units in the \$8,000 to \$18,000 range⁴; and, Category III, which provides a subsidy of about \$2,000 for housing that costs between \$18,000 and \$40,000.
- The "special" program is designed to encourage private sector institutions and NGOs to become involved in low-income housing construction for a company's

³ The "Unidad de Fomento", or UF, is a constant-value currency measure whose value increases (or decreases) daily in concert with the previous month's consumer price index for that day. At the end of May, 1991, one UF was worth 7,310 Chilean pesos, or approximately U.S.\$20.30.

⁴ The median income family is estimated to be able to afford a unit priced at UF600, or slightly more than U.S.\$12,000. See Annex 7 for detailed affordability estimates.

workers or other affiliated groups. The subsidy amount is about \$1,200 for units designed to sell for about \$5,300.

In conjunction with the subsidy program, mortgages to finance the sale of low-income housing are made available at up to 20 years term, and at a positive real rate of interest presently in the range of 8.0-9.0% per annum. Such mortgages are only available directly from the SERVIU, or from the government-owned Banco del Estado, however. Low-income mortgages made by any financial institution for housing covered by the "unified" subsidy program are guaranteed by the government, through MINVU, for up to 75% of any unrecoverable loss in the event of default and foreclosure.

The Chilean savings and loan system was dismantled in the late 1970s, following the failure of a large number of associations during a period of high inflation and increased competition for resources from newly created "universal"⁵ banks. Since that time, private sector financing of low-income mortgages has virtually disappeared, with banks and "mutuarias" (mortgage banks) concentrating almost entirely on upper-middle and higher income mortgage lending. Low-income shelter development has become the exclusive province of the Chilean government (primarily MINVU, and, to a more limited extent, the Ministry of the Interior, MINTER) and a relatively small number of private housing cooperatives, while low-income mortgage lending has devolved almost entirely to the Banco del Estado.

Present government plans call for about \$340 million in annual mortgage financing to be channeled through the Banco del Estado, plus \$220 million in direct subsidies to be provided by the government in order to support the production and sale of the approximately 100,000 units required yearly to satisfy new demand and gradually reduce an accumulated housing deficit estimated at up to about 1.2 million units nationwide. Funding for the subsidy program is currently provided from the national budget and from foreign borrowings, including a \$200 million loan from the World Bank, recently provided for a four-year project.

The Aylwin government has been very supportive of private sector efforts to become involved in the development and production of low-income housing, including those of a group of housing cooperatives and a building corporation affiliated with the Construction Chamber that have received AID support under prior HG loans. The government is also keenly interested in moving beyond the development and construction stage to encourage the reinvolvement of the private sector in low-income mortgage finance. Indeed, scarcely a month after taking office, the new Minister of Housing and Urban Development established a National Advisory Commission on Housing Finance, made up of both private and public sector representatives and which, after several months of analysis and deliberations, presented recommendations to the Minister that

⁵ Unlike U.S. commercial banks, which are restricted in their ability to operate in these areas by the provisions of the Glass-Steagall Act, universal banks in Chile and other countries that have followed the European model are freer to deal in the securities and real assets markets, both in behalf of clients and for their own account. Such flexibility often places these institutions in a superior competitive position in relation to other financial institutions with more limited asset powers.

include a variety of specific actions intended to encourage and facilitate the involvement of private financial institutions in middle and lower-middle income mortgage lending.⁶

AID (principally through RHUDO/SA) and AID-supported institutions participated extensively in the proceedings of this Commission, and this dialogue on housing finance issues has continued, in large measure through project preparation activities related to HG-010, until the present day. The Minister of Housing and his chief advisors have repeatedly expressed their commitment to broadening private sector involvement in housing finance, as well as their interest in receiving support from AID in this area through the proposed HG loan. Further still, it can truly be said that the proposed project design for HG-010, especially in its housing finance components, is the result of an intensive collaborative effort, conducted at the highest levels and over a period of several months between AID and the Ministry of Housing. Their commitment to onlending HG funds to private sector institutions, and to implementing a broad range of supportive policy reforms, is as genuine as it is strong.

Similarly, the issues and proposals revolving around improved urban land-use planning have been identified through the deliberations of a second National Advisory Commission, on Human Settlements, established by the Minister of Housing and Urban Development. The agenda of this Commission includes low-income housing development, infrastructure development and financing, regulatory and incentive structures to be implemented through more effective municipal government, enhanced environmental management, and the development of wastewater treatment systems and technologies for secondary cities. Its priorities are reflected in the proposed program design, and have been set through open and extended discussion with representatives of the Commission on Human Settlements as well as with those of the Ministry of Housing.

2. Urban Development

Santiago was founded in 1541 and still contains buildings dating back to the sixteenth century. Much of what is now known as the central city area was built between 1576 and 1900 in a dense grid pattern that reflects services and transportation of this epoch. The present-day municipality covers an area of 3,309 hectares or 7,942 acres (12.4 square miles). During the current century, much of the expanded development and population growth of Greater Santiago has taken place in immediately adjacent municipalities, which now completely surround the Municipality of Santiago. It is estimated that 1,500,000 individuals, who reside outside the Municipality but within the metropolitan area, use the city center daily for purposes of work, study, commercial activity, medical attention, shopping, cultural, or other purposes.

While the population of Greater Santiago has grown to exceed five million, most of this growth has taken place in the new municipalities and sprawling suburbs. In contrast, the population of the Municipality of Santiago has declined from 600,000 to 260,000 over the past forty years. The residential density is now only 24,000 persons per square mile (37.5 per acre), and could return to its earlier density of over 48,000 per square mile (or about 75 per acre) without resulting in overcrowding of buildings, facilities, or access. 218 acres contain abandoned properties or vacant land, with another 360 acres covered by buildings that are beyond rehabilitation.

⁶ Informe Final de la Comision de Financiamiento de la Vivienda, Ministerio de Vivienda y Urbanismo, Gabinete del Ministro, ca. August, 1990.

Meanwhile, on the periphery, it is estimated that Greater Santiago is using up an additional 2,500 acres (nearly four square miles) of land each year. The population is growing annually by about 100,000 persons, with 15,000 of these attributed to immigration from other parts of the country.

Throughout the years following World War Two, there has been an exodus from the deteriorating central city to the suburbs, where the new norm has become the single-family home. MINVU has contributed to this expansion by extending infrastructure and facilitating the development of large tracts of low-rise housing for families of low and moderate incomes. The resulting density is low in comparison with other urban areas worldwide.

There are various factors contributing to this urban sprawl. Chileans have lived with a large housing deficit and tremendous pent-up demand for housing for a number of years. Economic instability in the past meant an inadequate supply of credit for housing. This insufficient supply of credit was compounded by public sector policies under the recent Pinochet government which made informal sector solutions impractical. Specifically, Pinochet strictly enforced laws outlawing land invasions and directed the eradication of numerous extensive settlements that were largely self-built by their occupants. Many of these had been developed by recent urban immigrants for whom they were the only available option.

Another factor affecting the supply of housing was the March 1985 earthquake, which destroyed or seriously damaged 35% of all dwellings in West Santiago and large proportions in several nonmetropolitan communities such as San Antonio.

The resulting shortages led MINVU to seek to develop large numbers of units at a time, with the most efficient approach being that of extensive suburban residential tracts. MINVU itself has frequently purchased tracts in the furthest urbanized limits of Santiago for development of large numbers of subsidized housing units.

The government's urban development policy directs its attention to the provision of basic road, water, sanitation, and electrical service to housing that is developed within the current "urbanized zone". Increasing levels of costs must be borne by developers as they expand the urban boundaries, but there is no penalty for those who can tie into infrastructure networks on the urban periphery that are targeted for expansion.

A pattern of housing construction has developed which is efficient in terms of producing large numbers of units, and in relying on the private sector to undertake construction. Land is relatively inexpensive in the periphery of Santiago, and the lower standards of urbanization have permitted the extension of services while realizing economies of scale in construction.

Housing policies based on large-scale production of thousands of suburban units took their toll on the inner city. Two sets of effects are important to consider. First, no financing for the purchase or improvement of existing properties in either the public or private sector was provided, and this contributed to disinvestment. The units available to buy and the financing to buy them were available only in suburban or peripheral developments.

Second, as in urban areas in the United States, lack of demand contributed to the erosion of conditions in the market for existing buildings, with fewer potential buyers interested in

reversing the deterioration of available properties, or in living in neighborhoods with abandoned units and the risk of reduced personal security.

This neglect on the part of both the private and public sectors, which together could have reversed the cycle of decay and disinvestment, instead resulted in the unsustainable urban settlement and land use patterns noted above.

There is now beginning to exist a heightened level of consciousness as to the undesirable effects of previous housing policies. The relationship between urban sprawl and the degradation of the environment is being recognized, as are the costs of extending urban infrastructure instead of fully utilizing the existing supply of water, sewer, and electrical lines and road networks. Beyond these quantifiable financial costs which can be readily determined, there are additional costs which are also becoming apparent to the GOC and citizens alike. These include air pollution from poorly maintained diesel buses and dusty, unpaved roads, and the disposable income and leisure time lost to transportation due to the long commutes required of many suburban residents.

Other issues have begun to raise public concern. Many peripheral or suburban communities are homogeneous concentrations of low income families in Basic Housing. While essential services such as water and sewerage have been provided to all, community facilities that create opportunities for commerce, recreation, and social and community development are few and inadequate. There are no places for residents to gather, to establish shops or other small business, or to initiate other activities that could benefit their families and communities. Health clinics and schools are too few and too distant to adequately serve the residents of these new communities.

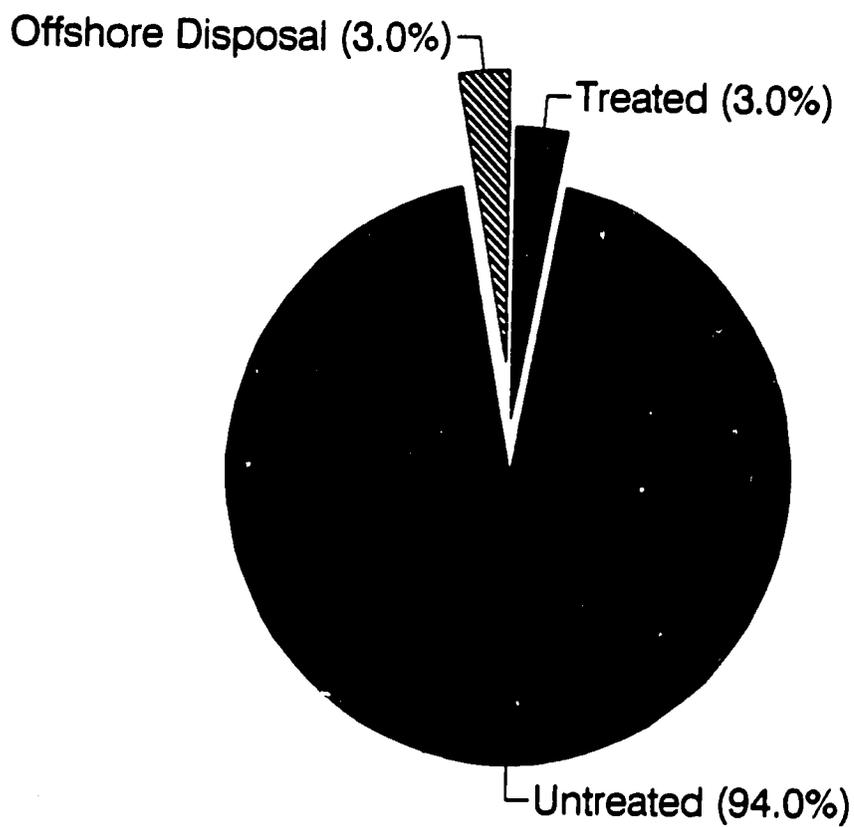
3. Small-Scale Urban Environmental Initiatives

There are a number of gaps in the provision of adequate water and wastewater systems in Chile, although the overall picture of their availability to large portions of the Chilean population is impressive. Most notable is the lack of wastewater treatment. While most households are served by wastewater disposal systems, most of the resulting waste is deposited untreated into water courses and, eventually, into the ocean. Another gap is in the provision of basic infrastructure to the informal sector households whose members await improvements through the sanitary core house and related progressive housing efforts, or who are on the SERVIU waiting lists for access to Basic Housing and other solutions. The ability of MINVU to respond to the large housing deficit, while also projected to expand as the result of the HG program, will nevertheless be inadequate to prevent the growth of informal settlements and their water and sewerage needs.

As Figure 1. dramatically illustrates, 94 percent of sewerage collected through the nation's sewer systems is discharged untreated into the country's rivers, lakes and coastal waters.

A survey of sixteen communities and their development organizations undertaken by MINVU in partnership with the University of Chile found that coverage of basic infrastructure such as water and waste disposal was the number one priority, with related concerns of adequate housing, reduction of pollution, and the construction and maintenance of adequate access roads also receiving strong support but in a descending order of importance. Clearly, there is interest on the part of many communities to have access to such improvements. Their impact on the

Figure 1
Present Disposition of Sewage



quality of life at the household and at the broader environmental level merits priority policy attention and the development of new sources of financing for the necessary investments.

4. Relationship to AID Development Strategy

AID strategy in Chile is fundamentally aimed at supporting the country's transition and return to a working political democracy built on a dynamic and participatory market economy. As in the case of two prior interventions in the housing sector (HG-008 and HG-009) which were designed to foster the expansion of private sector involvement in low-income housing development and construction, the present HG loan proposal aims at restoring a place for the private sector in the financing of low-income mortgage credit. Aspects of the proposal will have a significant effect on capital markets development in Chile, which, through their impact on the efficiency of resource allocation and consequently on growth, should bring about meaningful benefits to all segments of the Chilean population, especially those on the margin of employment and a productive livelihood.

Support in the areas of inner city revitalization, municipal strategic planning and locally-initiated, small-scale environmental action is not only expected to achieve visible and relatively near-term results on problems that are of critical importance in Chile's major urban areas, but also to initiate processes that will be indirectly supportive of strengthened local government and the development of more active public/private sector partnerships as permanent vehicles for resource management and problem resolution in the urban context. Improved resource management and problem-solving capability at the local level will, of course, further contribute to economic efficiency and growth.

The ADC program in Chile is already supporting Chilean initiatives, through NGOs and the university community, to strengthen the country's democratic transition by grant financing of separate activities in civic education, legislative process, and the administration of justice. These activities have a total LOP AID funding of almost US\$9.0 million through fiscal year 1994. During fiscal year 1992, USAID/Chile plans to initiate a new activity that will strengthen selected municipal governments by building a collaborative process with local private sector forces, including local universities.

5. Other Donor Activity in the Shelter and Urban Sectors

Since the mid-1980s, the International Bank for Reconstruction and Development (IBRD) has participated in Chile's housing sector through two loans totalling US\$280 million. These loans have provided assistance for the basic housing and housing subsidy programs executed by MINVU and were primarily designed to increase and improve Chile's housing stock. The IBRD's first loan in 1984 has been used to construct approximately 80,000 units under the MINVU's Basic Housing Program. A second loan approved in 1989 in the amount of US\$200 million represented external financing for a housing program that will cost in excess of US\$1 billion over 4 years. These resources are expected to increase the housing stock by 165,000 units and, through the formalization of titles and rehabilitation and extension of existing houses, to improve an additional 38,000 units. A third loan, following upon the same lines, is currently in preparation.

The Inter-American Development Bank (IDB) has provided Chile with three loans to improve low-income urban areas and develop sites and services programs. The most recent loan was approved in 1989 in the amount of US\$70 million. The purpose of the Low-Income

Urban Area Improvement Program is to provide assistance to about 47,000 families living in marginal conditions with basic housing solutions. Complete residential water supply, sewerage, and electric power systems are being installed; streets and alleys are being paved; land is being subdivided and deeds of ownership provided to all beneficiaries; and sanitary units are being installed and progressive consolidation of permanent housing encouraged.

While the World Bank and IDB programs are aimed at improving the efficiency of central government programs, and are targeted primarily at large-scale interventions in the major urban areas which necessarily involve the central government, AID's efforts are intended to gradually reduce dependency on the central government for services that can equally well or better be provided at the local level or by the private sector, and to encompass small towns not covered by other programs and small-scale initiatives generated by community-based organizations.

Other bilateral donors, chiefly Western European, are providing grant funds to finance multi-year home improvement and serviced lot programs being implemented by MINVU for a total of over U.S.\$40 million.

D. Program Description

1. Private Shelter Finance Component

a. Opportunities and Constraints for Increasing Private Sector Participation in the Low-Income Home Mortgage Market

The Aylwin government has been very supportive of private sector efforts to become involved in the development and production of low-income housing, and is also keenly interested in moving beyond the development and construction stage to encourage the reinvolvement of the private sector in low-income mortgage finance.

Large pools of long-term private sector savings are available to be channeled towards investments in the low-income housing sector - a total of about U.S.\$8 billion held by 13 privately managed pension funds (Administradoras de Fondos de Pensiones, or AFPs) and some 25 life insurance companies. These funds, which are projected to grow at a rate of about \$120 million per month⁷ during the present decade, can flow into low-income housing if mortgages and/or mortgage-backed securities originated from the low-income sector can be raised to a sufficient quality to meet the necessarily high investment criteria of these closely-regulated organizations. AFPs, for example, may hold up to 80% of their assets in "letras hipotecarias", or mortgage bonds, 10% in the shares of real estate development companies, and 10% in closed-end real estate investment trusts (as upper limits). The securities in which they are allowed to invest must first be approved by the Superintendency of Securities and Insurance, however, in order to be publicly listed and offered for sale through an exchange, and subsequently approved with respect to their safety by the Risk Classification Commission of the Pension Fund Superintendency.

As of now, low-income mortgages generated from the sale of subsidized homes with prices below UF600 (US\$12,000), or securitized packages of such mortgages, are not considered

⁷ Growth in pension fund contributions of \$70-80 million per month, plus yield of the investment portfolio.

of sufficient quality to be included among pension fund or life insurance approved investment options. The high cost of origination and servicing for this class of mortgages -- which affect the profitability of mortgage lenders operating in this segment -- coupled with the perceived high risk of default by low-income borrowers, have so far prevented the participation of private lenders and investors in this important segment of the market.

The proposed HG-010 sector program will facilitate the introduction of private sector lenders into this segment of the housing market, and, through a highly-focused program of policy and regulatory reform addressing the risks and costs of lending in this segment, will gradually bring about the conditions under which private refinancing of low-income mortgage loans through Chile's growing capital markets can be achieved and sustained on a permanent basis. Such an achievement will support the development of a more stable low-income housing market, will broaden the investment options available to large institutional investors, and will make it possible for the Government of Chile to continue its efforts to reduce the volume and improve the targeting of subsidy resources provided for the shelter sector.

As agreed with the World Bank in the context of that institution's \$200 million loan to MINVU to help finance housing subsidies, the Government of Chile (GOC) has initiated a broad range of actions to improve the targeting-effectiveness of the subsidy program and to encourage low-income mortgage borrowers to significantly upgrade their loan-repayment performance.

Key actions that have recently been taken, or that are currently underway, include the following:

- . Reduction in the maximum subsidy amounts payable under the various categories of the unified subsidy program by UF10 (US\$200) per household;
- . Establishment of a ceiling of UF80 (US\$1,600) on payments made under the "implicit" subsidy program, and increasing the face rate paid by letras hipotecarias⁸ by 0.5%, to 6.0% per annum in real terms ;
- . Increase in the amount of savings required (from 10 to 12.5 percent of the sales price) for a family to qualify for a subsidy and mortgage loan;
- . Reduction in the maximum mortgage-payment to income ratio allowed for government supported loan programs;

⁸ Home mortgages are refinanced by the Banco del Estado through the sale of full-recourse mortgage bonds, or "letras de credito hipotecario", to institutional investors. When market interest rates are above the nominal face rate of the bonds, these must be discounted when sold. The "implicit" subsidy is a payment made by the government, through MINVU, to the Banco del Estado, to reimburse the latter for this discount, up to the UF80 cap cited above. At present, amounts paid out under this subsidy program are small because market interest rates have fallen to a level very close to the 6.0% paid by the letras. While the government recognizes the potential for distortion inherent in the implicit subsidy program, it is reluctant to eliminate it altogether, and views it as protection for low income borrowers against the volatility in the Chilean financial markets that as recently as mid-1990 produced real interest rates in the range of 14-15% p.a.

- . Special awards and incentives to borrowers who have remained current in their mortgage payments;
- . Analysis and interaction with private insurers intended to lead to the establishment of involuntary unemployment insurance to cover mortgage payments;⁹
- . Provision of information on delinquencies to commercial credit information agencies to put additional pressure on borrowers to remain current on their mortgages;
- . Strengthening collection procedures, including contracting out of collections to private companies and facilitating foreclosure procedures;
- . Design of a payroll deductions plan for the collection of mortgage loans, to reduce both delinquency rates and administrative costs.¹⁰

HG-010 will build on these critically important reforms, and will encourage the additional policy and regulatory reforms identified below as being necessary to secure the participation of the private financial sector in mortgage-lending for low-income families qualifying for subsidized housing valued at UF600 (approx. \$12,000) and below.

b. New Project-Supported Initiatives

Figure 2. illustrates the operation of the private shelter finance component of the proposed sector program loan. The lightly-shaded boxes of Figure 2. represent the new elements that will be introduced into the Chilean low-income housing finance system by HG-010. These will include, in approximate sequence:

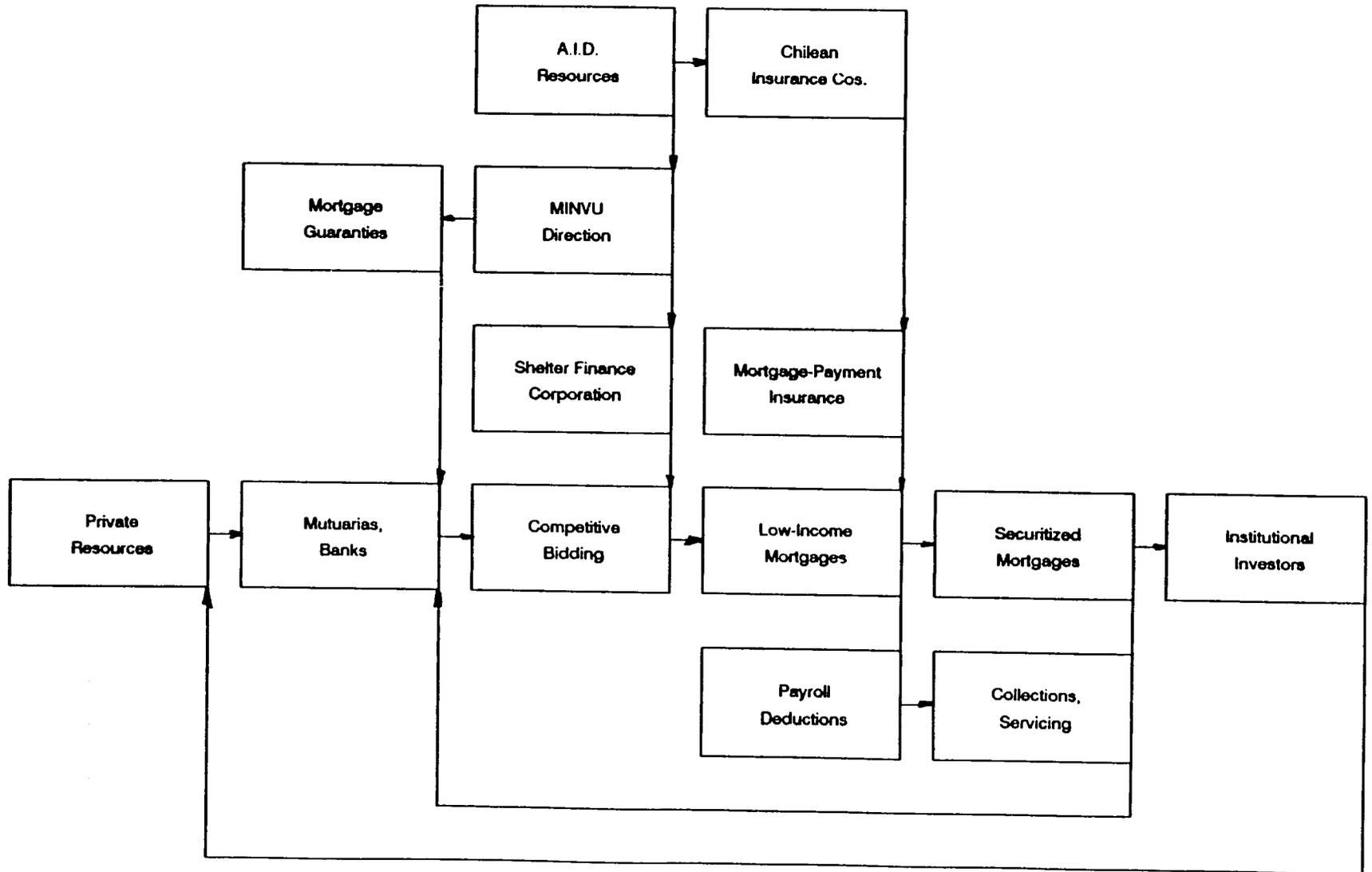
- . The provision of AID resources to help finance low-income mortgage loans and support the adaptation of the low-income housing finance system;
- . The organization of a private, non-profit Shelter Finance Corporation to manage, on behalf of the Ministry of Housing and Urban Development, the development, promotion and implementation of the program's private shelter finance component;
- . The modification and expansion of the existing low-income mortgage guaranty program managed by MINVU, to strengthen its legislative base, clarify its coverage of political and catastrophic risks, generate premium income, and explicitly extend coverage to all lenders providing home mortgages for units valued at UF600 and below;
- . The development, with AID initial support, of private mortgage-payment insurance to avoid cash-flow interruptions during the course of mortgage loan foreclosure

⁹ Supported by AID through its sponsorship of the activities of MINVU's National Advisory Commission on Housing Finance.

¹⁰ Idem

Figure 2

Chile HG-010: Operation of the Private Shelter Finance Component



151

and liquidation, thereby enhancing the acceptability of such mortgages for institutional investors;

- . The implementation of a payroll deduction system for the collection of mortgages issued to low-income families by private lenders, thereby lowering administrative costs and delinquency rates, and further facilitating the capital markets refinancing of such mortgages;
- . The development and placement of securitized mortgage-loan packages, to further reduce the risks to be borne by institutional investors, and develop and market a diverse range of mortgage-loan packages specifically tailored to the risk, maturity, yield and other requirements of specific institutional investors; and, finally
- . The generation of a significant volume of private sector resources to supplement and perhaps eventually replace government funds as the predominant source of financing for low-income mortgage loans.

The success of HG-010 in supporting the development of mortgage-backed instruments will contribute to the further development of Chile's capital markets, and pave the way for planned future AID efforts to develop capital market instruments for municipalities and local public service corporations.

Policy Agenda

The main policy agenda items that will be addressed by the private shelter finance component of HG-010 are those relating to:

- . legislating the implementation of payroll deductions for mortgage loan collections
- . facilitating the establishment of a functional and credible mortgage guaranty system to enhance the quality of low-income mortgages
- . facilitating the organization of mortgage-payment insurance
- . facilitating the development of a new market system to generate and place securitized low-income mortgages among Chilean institutional investors.

Implementation Arrangements

The U.S.\$20 million that MINVU will onlend for purposes related to the development of a private low-income housing finance system in Chile will be managed by a private, non-profit Shelter Finance "Corporation" that will be specially organized for this purpose, at the request of the Chilean Minister of Housing and Urban Development, Mr. Alberto Etchegaray.

The Corporation will be presided over by the Minister, and will include 4 other members, chosen from among the most distinguished and influential private sector leaders with housing sector experience.

The Corporation will assist MINVU with the administration of HG loan funds allocated to the private shelter finance activity by:

- . publicizing the program and encouraging private sector participation;
- . organizing and managing the competitive bidding process that will be used to award subloans from MINVU to qualified private sector mortgage lenders.

Implementation of the private shelter finance component on the advice of a private, non-profit corporation will help MINVU avoid the danger of institutionalizing a program which is intended by design to be phased out, once the private sector has reacquired familiarity with the low-income mortgage market and established its own new systems for funding this activity on a permanent basis. Operation of the program through such a mechanism will also help to avoid any risk of politicization of the program, under this or subsequent administrations.

The role of the Corporation will be positive in generating private sector interest and credibility, and will limit the risks of bureaucratization or politicization identified above. It should be made clear, however, that the Corporation will serve at the pleasure of the Minister of Housing and Urban Development, that the Ministry will be the sole borrower of the HG funds, and that the Ministry will retain ultimate authority and control over the use of HG resources. Normal financial reporting, auditing and bid procedures in use by the GOC will be adhered to in the operations of the Corporation, and AID will apply its independent monitoring and control procedures.

Subloans will be awarded to qualified private sector lenders on the basis of competitive bids intended to maximize the generation of matching funds from the private lenders' own resources for financing low-income mortgages. Subloans will be priced at market rates of interest, and are expected to be for renewable 5-year terms. Subloans are expected to range from a minimum of \$1 million to a maximum of \$5 million.

Participating private sector lenders are expected to include "mutuarias", or mortgage banks, that will originate and service loans financed in part with HG resources, and refinance these through their sale to insurance companies, several of which are the owners of mutuarias, as well as to other institutional investors. It is expected that the mutuarias will initially need to warehouse low-income mortgages for up to 18 months, so as to be able to offer loans with demonstrated repayment characteristics to institutional investors. The time required for "seasoning" low-income mortgages should fall over time, as the market gains familiarity with them. By refinancing mortgages in this manner, mutuarias should be able to leverage HG resources severalfold, and build a large servicing portfolio as their principal revenue base. Though relatively new actors in the Chilean mortgage market, mutuarias have already established themselves as the most efficient mortgage lenders, operating with spreads of less than 1.0 percent in some cases. Mutuarias are already providing loans as small as UF1,200 (US\$24,000). Gradually reducing minimum loan sizes to the range of UF400-600 (US\$8,000 to \$12,000) will add over US\$120 million annually to the size of their lending market. The low loan-to-value ratios that characterize this market segment, plus other enhancements that will be introduced with HG-010 support, will allow the mutuarias to operate profitably once experience has been gained.

The Corporation's Board will serve ad honorem, and it is intended that the organization be staffed by an Executive Director and 1 or 2 clerical support persons. An Advisor and administrative personnel for the Corporation will be supported by AID during the first 12 months, and its administrative costs will be funded by a 0.5% origination fee to be charged on HG

subloans, thereafter. Charging such a fee has been determined not to adversely impact the attractiveness of the HG funds, as discussed in Annex 6B.

c. Summary of Objectives and Expected Achievements

The primary objective of the private shelter finance component is to bring about the participation of private lenders in the subsidized, low-income, segment of the Chilean home mortgage market. The program will be successful even if all that is achieved is to have AID guaranty funds taken up at market terms, successfully placed in and recovered from this segment of the market. That degree of success will in and of itself undoubtedly bring forth additional long-term private sector activity in this market, as a consequence of the increased familiarity and knowledge that will be gained.

The long-term benefits of the private shelter finance program will far exceed the first-round effects described above. It is expected, in fact, that the program will be successful in developing, testing and firmly establishing a permanent system of private low-income shelter finance for Chile, that will grow to many times the size of the resource pool facilitated by AID, ultimately replacing a substantial portion of public sector resources that are currently channeled into the sector, while maintaining or improving the standards of service that have been established for low-income families. As the availability of funding from the private sector grows, MINVU will be able to continue reducing eligibility ceilings and the individual amount of subsidies, making it possible to significantly improve the targeting of scarce public resources.

2. Urban Revitalization Component

a. Constraints to the Reversal of Current Urban Trends

Current policies reinforce the cycle of low-density peripheral expansion and central city deterioration. As mentioned above, MINVU has concentrated its efforts on the production of large numbers of units on the fringes of urban areas in conformance with an urban development policy which provides for basic services and circulation, while neglecting the provision of ancillary services which may be considered important to an acceptable urban environment. MINVU, along with the Ministry of the Interior¹¹ (MINTER) and other central government agencies, have maintained a "laissez faire" approach to the inner city, choosing not to intervene in such areas through available programs.

There have until now been no programs targeting inner city areas for housing construction and redevelopment. This is the case despite the fact that MINVU's own statistics estimate that 13.6% of the country's housing stock, or 329,891 units, are habitable but in need of repair or modernization.¹² This stock is recognized as valuable and not in need of demolition and replacement.

The reversal of these trends of neglect of the inner city and excessive expansion of the urban periphery has been constrained by several factors. First, the dynamics of housing and infrastructure expansion have achieved a momentum of their own, and the construction of large

¹¹ Which, for historical reasons, also operates low-cost housing and infrastructure improvement programs, and has an important role in municipal and urban development, especially outside of Santiago.

¹² Statistics for 1988 (most current available) from Office of Planning, MINVU.

tracts of units to meet the equally great level of demand for housing has become the way of doing business for MINVU and its complementary alliance of private sector builders.¹³

Second, there have not been vehicles for either the administration or financing of alternatives such as inner city rehabilitation projects. While MINVU officials admit that there is no prohibition of the use of housing subsidy programs to renovate existing properties, neither has there been any encouragement to do so. An applicant for housing assistance who qualifies for a subsidy/finance package may buy and renovate or modernize an existing dwelling, but is constrained by the combination of time limits imposed by MINVU on the use of the subsidy, and the lack of experience and responsiveness to such concepts on the part of builders, who may not be so interested in providing bids for single-unit rehabilitation in a market dominated by large projects. Only the applicant who is knowledgeable and persistent, and who can identify a builder able to perform the required work within allowable costs, will be able to pursue this option. In fact, MINVU estimates that about 10% of its subsidies are issued for the acquisition of existing units.

The private financial markets invest the greatest share of their residential mortgage loans in the more desirable neighborhoods, whether for the purchase of existing houses or for the construction of new ones. While their patterns of investment in the decaying older city areas have not been systematically studied, MINVU and representatives of nonprofit organizations concerned with these areas argue that local banks are unlikely to invest in those sectors characterized by a mix of dilapidated and abandoned properties along with those which are structurally sound but in need of modernization and cosmetic repairs.

There have not been developers -- whether public sector or private -- interested in the inner city and capable of assembling properties for renovation and sale. No incentives in the form of public or private resources, financing, technical or other assistance have been provided to encourage such activities; nor have indirect incentives such as favorable tax treatment of inner city properties been applied to this problem.

Public powers based on "eminent domain" and adequate procedures for condemnation and clearing of uninhabitable buildings do not exist. Demolition is done voluntarily by property owners who have access to the financial resources for reconstruction on inner city sites, or who have offers from buyers with such resources.

Another significant constraint to the redevelopment of the inner city is the high price of land there relative to available peripheral sites. According to the Corporation for the Development of Santiago (CDS), vacant land in the city center currently sells for between \$80,000 and \$900,000 per acre, with choice sites priced even higher.¹⁴ Sites are available for residential development for prices between \$80,000 and \$290,000 per acre. Urbanized sites in peripheral

¹³ The residential construction industry not only responds to MINVU's requests for bids for the development of housing in large-scale developments, but has oriented itself to this approach by employing techniques which depend on the economies of scale involved in the construction of large numbers of units. Some builders even seek large tracts of land that are likely to meet MINVU requirements for development so that they can be ready with sites that are easier to develop when an allocation of units becomes available.

¹⁴Corporation for the Development of Santiago, interview with Luis Musalem, May 14, 1991.

communities -- where water, sewerage, and other essential services are adjacent to the property and available for on-site development -- are significantly less expensive, with typical prices in the range of \$11,000 to \$25,000 per acre¹⁵.

Land prices -- acting in combination with the limitations on the number of storeys which can be built without triggering higher seismic standards¹⁶ -- are a significant impediment to the development of residential communities in the center city. However, as is summarized in Section V.C., and presented in detail in Annex 6C, low and middle-income families can successfully be accommodated in affordable housing in the center city, if it is built at modest densities of 80 units per acre, on sites costing up to about \$200,000 per acre. As noted above, at present there is ample availability of sites in this price range.

The structure of government itself may also be considered a constraint to the redensification of urban areas. While municipalities exist as administrative units, they do not possess the authority to tax property or residents' income, or to retain the proceeds of taxation. Taxes are collected on behalf of the central government, which redistributes them in Chile's own form of revenue sharing on the basis of population and need. Municipalities cannot presently innovate in the area of taxation, such as by providing incentives or differential rates to encourage or discourage various uses and activities. Thus, it is not to the financial disadvantage of the Municipality of Santiago that the population and tax base of its jurisdiction have declined. Its revenues are almost totally independent of the size and characteristics of the municipal tax base.

Regional government, with its current system of appointed governors or "intendentes," is responsible to the total population of the region. While there is interest on the part of the intendentes to gather more of the power now held by the central government, the fact remains that most of the regional offices for housing, planning, and so on are actually branch offices of central government agencies, and these do not operate under the control of regional government. Their knowledge, programs, tools, and established methods of accomplishing their respective goals and objectives are closely linked with those of the national programs they represent. This limits innovation on the part of the "intendente" or others acting on behalf of the region, restricting their ability to reflect its unique characteristics and opportunities.

b. Chilean and Local Government Initiatives

Both national and local governments have recently shown a new openness to alternatives for housing production and to the reexamination of current policies affecting both housing and urban development. During the past year, for example, MINVU has sponsored the efforts of a National Commission on Human Settlements, whose several working groups have brought together leaders from private business and academia as well as government. Among the more salient recommendations issued in the final report of January 9, 1991, are those for policies that result in the better use of space, closer cooperation with the private sector, densification of urban

¹⁵ An earlier study noted that prices of available sites in West Santiago (including demolition costs) were eight to thirteen times those of sites in suburban and peripheral communities. Costo Nacional Diferencial de Localizar Viviendas Basicas, ODEPLAN and Instituto de Economia, Pontificia Universidad Catolica de Chile, 1985.

¹⁶ Structures more than four storeys tall must conform to stricter, and more expensive, construction standards than lower buildings.

centers and the more intensive and efficient use of existing infrastructure, facilities, and transportation resources, along with protection of the environment and program choices which minimize environmental impact.

MINVU has also embarked on a new program for progressive housing. The program focus initially is on providing opportunities for "allegado" families to acquire title to the land they occupy in those cases in which subdivision is possible. Services will be provided, followed by a two-stage construction loan to permit the development of a basic and, later, a more adequate and comfortable dwelling. While this effort does not typically involve inner city properties or any effective densification, its ability to better utilize the existing stock of land and infrastructure helps to create a more open attitude on the part of MINVU to explore opportunities for urban revitalization. This program is a cooperative effort between MINVU, MINTER (which has the sanitary core house program) and a nongovernmental organization called Taller Norte which has a history of assisting low income communities with self-help housing activities.

This new attitude contrasts with MINVU's earlier lack of interest in urban revitalization. Its master plan involved the design of expanding bands of growth outside the metropolis' effectively developed area, and the last generation of MINVU officials was opposed to the provision of attention and resources to those areas developed in the past.

In response to concern about revitalizing Santiago, a private nonprofit corporation -- the Corporation for the Development of Santiago, or CDS -- was formed under the auspices of the Municipality of Santiago. This corporation was established in 1985, and is governed by a board of directors who represent both the Municipality and the private sector. Its president is the Mayor of Santiago. The stated purposes of the CDS are to promote, plan, organize, coordinate, supervise, and carry out programs related to the economic and social development of the municipality.

In particular, the CDS is concerned with the reconstruction and revitalization of the municipal area. The Corporation argues that there is a resurgence of interest in central city locations for residential and commercial purposes, with the Municipality adding residents following the above-mentioned period of decline. There is demand for housing located near centers of employment and commerce, which arises from increased public awareness of and interest in the benefits of urban life, and from growing environmental concerns -- no doubt exacerbated by the practical frustrations of commuting from increasingly distant suburbs.

Efforts to achieve some common ground among the CDS, MINVU, and the private sector (represented by the Chilean Chamber of Construction) have already been initiated, with regular meetings among representatives of these groups. MINVU has expressed its commitment to find ways to support revitalization projects that can equitably utilize the available programs and tools, and even to sponsor legislative changes that may be necessary. All parties recognize the failure of traditional methods of project evaluation to account for the real costs of peripheral development and wish to devise a methodology that would reflect the economic, social, and environmental costs and benefits of practical alternatives.

The projected construction of a new segment of the Pan American Highway (Norte-Sur) through an older section of Santiago has called attention to attendant possibilities for redevelopment of the affected area. Similar opportunities will emerge as a consequence of the construction of the 5th line of the Metro subway system.

The CDS has initiated two projects in older sections of West Santiago which involve the use of the Special Workers' Housing Program offered by MINVU. In this program, an employer offers assistance in the form of land, design services, or other contributions which reduce project costs or the time involved in its development. In exchange, MINVU allocates funds on a priority basis to the project, with an attractive subsidy/financing package that offers a higher value unit to the participant than does the Basic Housing program, which otherwise would be the program option most affordable to this economic group. These two pilot projects involve donated or lower cost land for municipal employees, with the objective of demonstrating project success to the municipality as well as to MINVU. Other projects they seek to implement involve the reuse of alleyways to provide secure new neighborhoods of renovated homes and the rehabilitation of boarding houses for rent to single individuals, such as widows, who would benefit from the opportunity for self-reliant yet communal living.

In the estimation of the CDS, the Municipality of Santiago can triple its population before needing improvements to its existing infrastructure. They have studied demand, included the views and experience of the private sector, and analyzed the existing stock of land and buildings. They lack predevelopment financing to assemble properties for new construction or rehabilitation on a scale necessary to assure project profitability and the economies of scale required by private sector builders.

c. New HG-010 Supported Initiatives

Four areas of policy reform are proposed for MINVU action under the proposed program:

- . MINVU will create an environment in which a greater number of nonprofit and for-profit private sector actors are enabled to participate in the process of revitalization in the inner city. This will be done by inviting participation, through bids as appropriate, from a variety of developers for housing projects and ancillary commercial facilities to be undertaken on a for-profit basis. Information will be shared and, in the case of subsidized housing, funds loaned to facilitate construction of such developments.
- . MINVU subsidies will be made available for the acquisition and rehabilitation of existing properties. Within established program limits of maximum cost and one-time subsidies, eligible participants for the Unified Subsidy program who are not currently homeowners will be encouraged to consider the purchase of existing units in established neighborhoods such as West Santiago. Within the limits of financing and subsidies available, units acquired may also be rehabilitated using program funds prior to occupancy. MINVU will also explore the potential for using program funds for the renovation, modernization, and expansion of existing units to be made available for rent.

MINVU will also actively pursue other uses of its programs to assist with revitalization efforts, including the more extensive use of the Special Housing Program to provide housing for employees of established city center businesses and municipal governments. The more flexible use of all programs to address special needs among female headed households is to be included.

- . Links will be established by MINVU with private sector shelter finance institutions, directed at the expansion of opportunities for private sector investment in housing

and related commercial revitalization projects. In particular, plans will focus on the assembly of adequate parcels of land or existing structures for reconstruction and rehabilitation, so that the requisite economies of scale for the private sector may be realized. MINVU's capacity to form public/private partnerships will be developed. In particular, MINVU will facilitate such partnerships through the coordination of properties for revitalization projects and through the provision of subsidies for a share of the housing units. This will contribute to the expansion of housing for lower income families, and to the creation of heterogeneous neighborhoods.

- MINVU will take the lead in understanding and applying broader criteria for project evaluation which will include the analysis of economic, social, and environmental aspects of housing and urban development options. This will be of particular value in making future project choices in the Basic Housing and Unified Subsidy programs.

In terms of institutional development, changes and expanded capacity will be encouraged among three sets of participants:

- Within MINVU itself, technical assistance will be directed at the creation of increased capacity to assess the full range of project impacts and to explore options for revitalization within the Urban Development Division. MINVU staff will collaborate with private sector participants to learn from the demonstration projects what may best be institutionalized as new or more flexible programs for the future.
- Assistance will initially be focused on the CDS to develop its capabilities to initiate viable revitalization projects. Technical and financial assistance will contribute to its ability to assemble properties for reconstruction or rehabilitation and to maintain a listing of properties for individual action utilizing MINVU subsidies, including the purchase and rehabilitation of existing dwellings.

Efforts by the CDS will help to demonstrate the impact that a municipal corporation can have in addressing local development challenges. Appropriate local policies relating to property management, condemnation, and taxation may be identified in the course of project activities. Such information will be useful in identifying future municipal reforms and the potential for action by local government in the field of housing and community revitalization.

Other NGOs will also be encouraged to initiate projects for the revitalization of Santiago, as well as other urban centers, following the completion of initial demonstration projects with the CDS. MINVU and the Corporation, as the initial beneficiaries of program assistance, will be called on to share their increased knowledge of revitalization projects, their successes, and failures, along with new project selection criteria as devised, with housing cooperatives and others capable of initiating additional activities. This sharing and expansion of capacity may take the form of training sessions, publications, or direct assistance and collaboration on projects.

- Private sector builders and financial institutions will also benefit from MINVU and NGO experience in this area through the sharing of experience, and from the efforts of MINVU and the CDS to develop public/private partnerships and/or solely private partnerships to undertake revitalization projects. The efforts of MINVU and

the CDS to organize demand, assemble properties, and share information will likely result in an expanded interest among private sources of finance as well as builders to invest in projects in the inner city.

With respect to financing, an initial allocation of up to \$15 million of HG resources will be provided to MINVU's Urban Development Division for the funding of demonstration projects related to urban revitalization. It is expected that these funds will be used to complement existing MINVU and private sector financial resources by acquiring the properties necessary to achieve economies of scale in the use of public or private funds. Other predevelopment or feasibility activities may also be assisted if security is available for the extension of such credit. Policies for the operation of HG funds as a revolving loan fund for revitalization projects will be developed by MINVU subject to the approval of AID.

Where possible, funds will be allocated on a bid basis to applicants with matching funds to bring to the project proposed. For example, a private sector builder or investor may seek funds for the acquisition of land or buildings for the eventual provision of subsidized housing. The provision of plans for eligible housing plus matching funds to be applied to the purchase of commercial space may result in a competitive proposal. The availability of land or other real property may also be used as a match in the case of a nonprofit developer's proposal to use the Special Housing Program for the provision of housing for a designated group with demonstrated demand and eligibility.

d. Summary of Objectives and Expected Achievements

The provision of \$15 million of HG resources will permit MINVU to pursue several important urban development and revitalization objectives reflected in the recent report of the National Human Settlements Commission. The most notable objective of this initiative is the revitalization of Santiago and other urban centers and their restoration as viable and dynamic areas for residential and commercial activity.

The revitalization of inner city areas will be offered as a practical and environmentally sound alternative to urban sprawl and its resulting erosion of air and land resources.

MINVU will develop program criteria which better reflect the scarcity of natural and financial resources, and will apply these criteria in new settings to generate a basis for future project decisions that will result in improved land use in urban areas and more efficient expenditure of public investment resources. Demonstration effects of project viability will be shared with other municipalities in order to strengthen their capacity. Efforts to minimize the risk of private sector investment and to reduce certain project costs through the better utilization of existing infrastructure and community facilities will, it is expected, attract private resources following the successful completion of demonstration projects.

Significant institutional capacity will be developed by MINVU and the CDS initially, followed by expanded opportunities for participation and learning by other NGOs and the private sector.

3. Small-Scale Urban Environmental Initiatives

Like many other rapidly urbanizing developing countries of the world, Chile is beginning to experience a wide range of environmental problems, some of which are exceedingly severe. Air pollution in the Santiago Metropolitan Area is aggravated by adverse topographic and atmospheric conditions, for example, making Santiago one of the worst sites in the world. As has been mentioned previously, the contamination of Chilean water supplies with untreated sewage is becoming an acute problem threatening the public health as well as fruit and vegetable production, fisheries, tourism and other areas of economic activity. Uncontrolled disposal of industrial effluents, including toxic substances in some cases, is beginning to be recognized as a serious problem in some areas.

The central government is taking a greatly expanded interest in addressing these problems, and, with large-scale support from the multilateral lending agencies, is beginning to play a lead role in establishing the controls and developing the major facilities that will be required to reverse the most serious cases of air and water pollution in Chile's large urban centers, especially Santiago.

The urgency and visibility of environmental problems in large cities, and the highly centralized nature of public sector administration in Chile, are making it difficult for smaller-scale and more localized problems to be "noticed" by the agencies responsible for resource programming, and few, if any, alternatives to centralized responses to these problems currently exist. The Small-Scale Urban Environmental Initiatives component of the HG-010 program is intended to encourage local governments and community organizations to devise solutions that can be implemented at the local level, and to show, through support for a series of demonstration projects, that a wide range of viable mechanisms exist at the local level for identifying, planning, financing, executing and operating projects designed to contain the more serious environmental threats which are faced by small communities throughout Chile. The main areas that are considered likely to be addressed through such demonstration projects are water supply, wastewater treatment, and street paving in small communities, though other initiatives, involving waste disposal for example, may well be identified and proposed by local governments and community groups as the program evolves.

a. Environmental Quality Constraints in Small Communities

Potable water coverage in Chile is widespread, but serious bottlenecks remain in linking new housing developments to existing water mains and in maintaining, improving and replacing aging or inadequate mains. MINVU reports many occasions in which they have been impeded from building social housing simply because of the lack of water main extensions.

Wastewater treatment in Chile is inadequate overall, and in most regions nonexistent. A growing public and official awareness of the effects of untreated water on fishing, agriculture, public health, and the environment is increasing the priority for wastewater treatment. As an example of this growing awareness, the GOC has recently required the regional water companies to establish pre-treatment agreements with all new industrial users, in order to avoid untreated industrial effluents from entering the water system.

Social housing developments built by the government previously required only improved -- not paved -- neighborhood streets, the major paving deficit is among the neighborhoods of social housing. While MINVU may soon require basic paving for all social housing streets, there is a sizable existing deficit throughout the country. About 25 percent of the neighborhood streets in the Santiago metropolitan area lack paving, with many of the newer residential districts averaging paving deficits of over 40%. Among cities in the range of 50,000 to 250,000 inhabitants the deficit averages 40 percent.

b. Chilean Government Programs

The vast majority of the urban water supply is provided by government-owned regional water companies. The companies are structured to be self-financing from the revenues generated by the water projects. There are a few older private water concessions, primarily in high income municipalities in metropolitan Santiago. The GOC, however, is in the process of creating private concessions in some of the tourist areas of Chile, where water company studies have shown an attractive private rate of return.

MINVU and the regional water companies coordinate very closely to meet the potable water needs of new housing developments. Through its regional implementation agencies, the SERVIUs, MINVU contracts larger water projects with the regional water companies. The SERVIUs undertake small water projects -- i.e. those serving an immediate housing development -- with its own contractors. Whether large or small, the completed project is transferred to the regional water company for operations and maintenance.

Financing of potable water supply projects differs between MINVU and the regional water companies. The SERVIUs use about three percent of the revenue from housing sales to pay for site-specific water infrastructure and occasionally for off-site extensions and hookups. The water companies use cost recovery pricing of user fees to pay for the water supply infrastructure.

The regional water companies, who are responsible for urban wastewater treatment, currently do not use cost recovery pricing of user fees in order to pay for the treatment plants. Water company officials anticipate public resistance to efforts to extend the cost recovery principle from water provision to wastewater treatment. EMOS, the Santiago metropolitan water company, has postponed the introduction of cost recovery pricing to finance its new water treatment plant in Melipilla.

Neighborhood street paving for cities of greater than 20,000 inhabitants falls under MINVU's authority. These small projects usually cover two to three blocks each. The regional SERVIUs, which have their own asphalt plants, implement the street paving. A loan from the World Bank for \$150 million through 1994 covers street maintenance, improvements, and small paving projects. MINVU does not consider neighborhood paving projects in cities of less than 50,000 a priority for its program, however, because of the low traffic flows.

c. New HG-010 Supported Initiatives

Eight to twelve demonstration projects ranging in cost from U.S.\$400 to \$600 thousand are expected to be funded through a competitive bidding process to be managed, along with the inner city revitalization component, by MINVU's Urban Development Division. Illustrative

infrastructure categories include wastewater treatment, potable water delivery, and neighborhood street paving. Other types of small scale local infrastructure could also be considered.

The development of demonstration projects under the HG program affords the opportunity for local governments and community organizations to take initiative in identifying and carrying out projects that are important priorities for their residents -- demonstrating the potential gains in administrative efficiency from greater decentralization and community participation -- as well as to develop and implement new financing and financial management practices for use at these levels. The selection of demonstration projects will, of course, be based in part on the ability and willingness of potential beneficiaries to afford the costs of the projects. The value of such projects may be significant in terms of demonstrating local affordability, thus paving the way for additional community initiatives that better utilize private sector resources available for the development and operation of high priority small-scale municipal projects.

The water companies currently do not sell the treated water to agricultural users, as there are usually alternative sources available to them at no cost. However, the recent cholera outbreak has intensified public concern about the use of untreated water in canals and other readily accessible locations for use in agriculture. There may be possibilities to sell treated water to industrial users, as well. In addition, there may be a market for the nutrient-rich by-products of wastewater treatment, particularly if agricultural producers can be made aware of the hazards of using untreated water and can affordably adapt to higher water costs and to the purchase of new natural fertilizers. Part of the exploration of appropriate cost recovery mechanisms that will be supported through the proposed demonstration projects will entail the development of cost allocation and billing systems that will ensure that all beneficiaries of the projects -- such as farmers gaining access to safe irrigation water -- make an appropriate contribution to costs, thereby relieving low-income homeowners from having to bear the full costs of such facilities. Financial analyses reported on in Section V, however, indicate that small-scale wastewater treatment projects would be affordable to low-income households, even if no cost-sharing with farmers or other beneficiaries were possible.

d. Summary of Objectives and Expected Achievements

As stated earlier, the primary objective in supporting the development of small-scale environmental improvement projects in Chile is to support the efforts of local governments and community organizations to become more active in setting priorities and developing solutions to problems that can be addressed at the local level. An important avenue for solving such problems, which will also specifically be supported through this component of the program, is the development of sustainable and efficient means for involving the private sector in traditionally public or municipal areas of activity, so as to harness its substantial financial and managerial resources. Doing this successfully will, of course, require that practical cost recovery mechanisms be developed and implemented, which will not only benefit the projects, but may also have important spillover and demonstration effects for the administration of services that remain in the public sector.

Finally, it is expected that these small-scale projects will have a palpable impact on the quality of life for the residents of the participating communities, which will encourage other communities to follow in their footsteps.

II. COST ESTIMATE AND FINANCIAL PLAN

A. HG Resources Contracting Plan

AID will provide its Housing Guaranty coverage to the Chilean Ministry of Housing and Urban Development (MINVU) to facilitate its borrowing of US\$40 million for a term of at least 30 years from a qualified U.S. investor. It is planned that these resources will be contracted for in four (4) tranches, each in the amount of \$10 million, in accordance to MINVU's ability to satisfy conditions precedent itemized in Section VI. MINVU may be able to demonstrate the ability to meet these conditions more quickly than presently anticipated, and to onlend HG resources in larger volumes. If this is found to be the case, MINVU may apply for an acceleration of the resources contracting schedule, and/or for a reduction in the total number of tranches stipulated above, and the RHUDO/SA may approve such reprogramming, if justified.

B. Resource Allocations Among Program Components

As was indicated above, there are three main components to the HG-010 Program:

- . private sector shelter finance
- . inner city revitalization, and
- . small-scale urban environmental initiatives.

Each of these components is designed to elicit competitive proposals from private and public, non-profit and for-profit organizations that are not an agency of the central government, to encourage innovation and the commitment of complementary resources through the award of subloans funded by HG resources. As these will be competitive processes, it is difficult to predict the exact allocations that will ultimately result among the three program components. Part of the program design includes a degree of flexibility that will enable the program to be responsive to those components that prove to be most in demand and most energetically managed in practice.

That is, the RHUDO/SA explicitly wishes to retain a substantial degree of flexibility in the management of the HG-010 program, including the ability to reprogram resource allocations from one program component to another, in response to the performance of the various decentralized agents that will be encouraged to participate in HG-supported activities in the urban sector.

Notwithstanding, an initial allocation of resources has been developed by the Project Paper team, based on their and MINVU estimates of the relative absorptive capacities of agencies that will be involved in each of the program's components. That initial allocation is shown in Table 1., below.

Table 1. Allocation of HG Resources

	US\$ millions				
	<u>FY92</u>	<u>FY93</u>	<u>FY94</u>	<u>FY95</u>	<u>Total</u>
Private Shelter Finance	5.0	5.0	5.0	5.0	20.0
Inner City Revitalization	3.5	3.5	4.0	4.0	15.0
Environmental Initiatives	1.5	1.5	1.0	1.0	5.0
Total	10.0	10.0	10.0	10.0	40.0

C. Technical Assistance Plan Summary

A total of US\$552,650 in grant-funded technical assistance will be provided by AID/Chile in support of the various activities to be undertaken through the HG-010 program. The whole of this amount will be financed from AID/Chile Inter-country Technology Transfer (ITT) funds and PPC's ongoing cooperative technical assistance agreement with Israel, which will be used to provide assistance in the evaluation of small-scale wastewater treatment technologies (US\$22,500). The ongoing RHUDO/SA region-wide contract with the InterAmerican Management Consulting Corporation (IMCC), which, through a partial AID/Chile buy-in is already providing a Regional Housing Finance Advisor who resides in Chile, will be used provide ongoing monitoring and technical support to the HG-010 program over its four-year life (US\$112,500). Table 2 provides a yearly summary of TA resource allocations among the three program components and programmed evaluation/dissemination activities, while Table 3 provides a more detailed breakdown of TA resource allocations by end-use and funding source.

Table 2. Technical Assistance in Support of HG-010

	US\$ thousands				
	<u>FY92</u>	<u>FY93</u>	<u>FY94</u>	<u>FY95</u>	<u>Total</u>
Private Shelter Finance	152.7	60.0	15.0	30.0	257.7
Inner City Revitalization	30.0	0.0	0.0	0.0	30.0
Environmental Initiatives	85.0	60.0	0.0	0.0	145.0
Evaluation/Dissemination	0.0	75.0	0.0	45.0	120.0
Total	267.7	195.0	15.0	75.0	552.7

The high quality and depth of technical and professional capabilities available in the Ministry of Housing and Urban Development's Urban Development Division, and those located in the Minister's Advisory Committee, will make it possible to implement the HG-010 program with a minimum of expatriate technical assistance. A full description of the technical assistance plan is given in Annex 6E. "Administrative Arrangements and Technical Assistance Plan".

III. IMPLEMENTATION PLAN

A. Role of the Ministry of Housing and Urban Development

The Ministry of Housing and Urban Development (MINVU) will borrow the HG resources, which will be onlent, in their entirety, to the private sector and/or to local governments and local governmental organizations, through allocation mechanisms that are described below. MINVU will play a leadership role in developing the legislative, regulatory and other policy reforms that are required by the HG program, and will maintain full programmatic responsibility for activities funded with HG resources. In addition, MINVU will ensure that adequate technical assistance is received by groups participating in the HG program, complementing AID-financed technical assistance with locally-procured technical resources, as necessary. MINVU will collect such baseline data as will be required for program evaluation purposes, will collaborate fully with the AID mid-term and end-of-project evaluation teams, and will ensure that evaluation findings are broadly disseminated among actual and potential program participants.

An Implementation Agreement, to be signed by the Ministry of Housing and Urban Development, will be negotiated shortly after program authorization. The Agreement will outline the expected program outputs and implementation schedule. A Loan Agreement will follow and will be signed by MINVU and the U.S. investor and will set forth the terms of the Housing Guaranty loan. The Loan Agreement will be endorsed by AID/Washington, assuring payment to the U.S. investor against any loss, and a Guaranty Agreement will be signed by the Government of Chile guaranteeing repayment of the HG-010 loan to the Agency for International Development.

B. Private Shelter Finance Component

The Ministry of Housing and Urban Development will convert US\$20 million of the dollar proceeds of the HG-010 loan into Chilean Pesos for on-lending to qualified private sector mortgage lenders for the purpose of developing a sustainable private low-income housing finance system in Chile. Those funds allocated to the shelter finance component will be managed by a private, non-profit Shelter Finance Corporation to be created specially for this purpose to add credibility to the program and avoid its permanent institutionalization within the public sector. The corporation will assist MINVU with the administration of HG loan funds by publicizing the program and encouraging private sector participation, and by organizing and managing a competitive bidding process that will be used to award sub-loans from MINVU to qualified private sector mortgage lenders. The bidding process will be designed to maximize the generation of matching funds from the private lenders' own resources for financing low-income mortgages.

The Corporation's Board of Directors will serve at the pleasure of the Minister of Housing and Urban Development, who will also preside over the Board, and MINVU will be the sole borrower of Housing Guaranty funds. Furthermore, MINVU will retain ultimate authority and control over the use of these resources.

The administration of the finance component of the HG-010 program through a private, non-profit corporation is intended to accomplish two purposes: first, MINVU's participation in the program is to be phased out once the private financial sector reenters the low-income mortgage market, and the Corporation makes it possible to keep the shelter finance component from becoming institutionalized within MINVU; secondly, the use of a private non-profit corporation as

Table 3.

Technical Assistance Plan for the
Chile Private Shelter and Urban Initiatives Sector Program

Activity	Housing Finance Advisor	Expatriate Consultants	Local Hires	Funding Source	Total Person Months	Existing Funding	Expanded Funding	Total Cost
I. Private Shelter Finance Component								
Regulatory Aspects	2.0	1.0	0.0	ITT/IMCC	3.0	\$30,000	\$15,000	\$45,000
Mortgage Payment Insurance	1.0	2.0	0.0	ITT/IMCC	3.0	\$15,000	\$30,000	\$45,000
Corporation Advisor	4.0	0.0	12.0	ITT/IMCC	16.0	\$60,000	\$77,650	\$137,650
Local Support for Corporation	0.0	3.0	12.0	ITT/IMCC	12.0	\$7,500	\$22,500	\$30,000
Subtotal	7.0	3.0	24.0		34.0	\$112,500 a)	\$145,150 b)	\$257,650
II. Inner City Revitalization								
Workshop to Develop Approaches	0.0	2.0	0.0	ITT/WRI	2.0		\$30,000	\$30,000
Subtotal	0.0	2.0	0.0		2.0		\$30,000 c)	\$30,000
III. Small Scale Urban Environmental Initiatives								
Strategic Planning	0.0	2.5	5.0	ITT/IULA	7.5		\$62,500 e)	\$62,500
Wastewater Technology	0.0	1.5	0.0	PPC/Israel	1.5	\$22,500		\$22,500
Environmental Impact Methodology and Training	0.0	4.0	0.0	ITT/WRI	4.0		\$60,000 f)	\$60,000
Subtotal	0.0	8.0	5.0		13.0	\$22,500 d)	\$122,500	\$145,000
IV. Program Evaluation								
Mid-Term Evaluation	0.0	3.0	0.0	ITT/IMCC	3.0		\$45,000	\$45,000
Dissemination of Mid-Term Results	0.0	0.0	0.0	ITT/MCC	0.0		\$30,000	\$30,000
End-of-Project Evaluation	0.0	3.0	0.0	ITT/IMCC	3.0		\$45,000	\$45,000
Subtotal	0.0	6.0	0.0		6.0		\$120,000 g)	\$120,000
Total Program	7.0	19.0	29.0		55.0	\$135,000	\$417,650	\$552,650

- a) Existing level of effort under RHUDO/SA's Regional Housing Finance Technical Assistance and Project Support contract (IMCC).
b) Expanded level of effort for HG-010 to be implemented through IQCs or buy-ins.
c) Expanded level of effort for HG-010 to be implemented through USAID/Chile's ongoing environmental support program administered by World Resources Institute (WRI) under its centrally-funded Environmental Planning and Management cooperative agreement.
d) Existing level of effort under PPC-funded cooperative technical assistance program with Israel.
e) Expanded level of effort for HG-010 to be implemented through a planned buy-in to RHUDO/SA's cooperative agreement with the International Union of Local Organizations (IULA).
f) Expanded level of effort for HG-010 to be implemented through USAID/Chile's ongoing environmental support program administered by World Resources Institute (WRI) under its centrally-funded Environmental Planning and Management cooperative agreement.
g) Expanded level of effort for HG-010 to be implemented through IQCs or buy-ins.

a conduit of funds to the housing finance system will help to avoid the politization of the program during its life under the Aylwin or subsequent administrations.

C. Urban Revitalization and Small-Scale Environmental Components

Up to US\$15 million in equivalent Chilean Pesos will be allocated by MINVU to its Urban Development Division for the funding of demonstration projects to revitalize the inner city of Santiago and other urban centers. The primary objective of these projects is to demonstrate the viability of restoring inner cities' residential and commercial use. In addition, the revitalization of inner city areas will serve as a practical and environmentally sound alternative to urban sprawl and its accompanying degradation of air, land and water resources.

HG resources will be awarded on a bid basis to complement existing MINVU, municipal and private sources of funds for the acquisition of inner city land or buildings. AID approval will be sought to develop a revolving loan fund for revitalization projects once policies for the operation of such a fund are developed by MINVU. Funds will also be allocated on the basis of a competitive bidding process to award sub-loans from MINVU to qualified private sector developers for the acquisition of real property for the provision of housing qualifying for MINVU's subsidized programs for lower income families or groups.

Five million United States dollars in Chilean Peso equivalency, through competitive bidding, will be allocated by MINVU to various legally constituted development organizations such as municipalities, private development corporations or neighborhood improvement associations for small-scale urban environmental demonstration projects. MINVU will administer this component of the HG-010 program through its Urban Development Division, which will select among a variety of potential projects requiring funding on the basis of a predetermined set of criteria. These criteria would include, *inter alia*, the following: demonstration of municipal initiative; the ability to leverage HG funds, especially with private sector resources; the incorporation of cost recovery mechanisms; alleviation of unfavorable environmental conditions in the locality, and expectations of a strong demonstrational effect on other communities.

Feasibility studies will be presented for the projects that are to be financed under this program component. Besides technical, environmental and financial feasibility, projects must meet the test of eligibility for end users, i.e., projects will be assessed on the basis of their socio-economic eligibility. MINVU will certify that the neighborhood selected for demonstration project is primarily comprised of lower income families who are eligible for assistance under the program. MINVU will present to USAID/Chile and RHUDO/SA a copy of this certification.

IV. MONITORING PLAN

A. Shelter Finance Component

MINVU, through the Shelter Finance Corporation, will submit semi-annual reports to USAID/Chile and RHUDO/SA which will include the following: 1) the number and value of home mortgages financed by participating financial institutions during the reporting period; 2) the value and volume of mortgage-backed securities placed in the capital markets for refinancing; 3) a financial statement detailing the Corporation's disbursements and repayments; 4) the rates of arrears and default for each participating mortgage credit institution and for the housing finance system as a whole; and a brief statement of what the Corporation expects to accomplish during the next period.

The Regional Housing Finance Advisor will monitor the component's progress in expanding outreach to below median income families and in the development of low-cost shelter financing arrangements.

B. Inner City Revitalization Component

MINVU will submit to USAID/Chile and RHUDO/SA semi-annual reports which will include: 1) the number of funding proposals received and the number of proposals approved for financing by profit and nonprofit organizations; 2) the value and terms of the financing approved; 3) the end use of the financing, e.g., land purchase, infrastructure development, housing construction and related commercial development; 4) amount of matching funds, if any; 5) size of the site(s) developed and whether individual sites were developed simultaneously by the same developer or group of developers; and 6) arrearage rates in loan repayment.

C. Small-Scale Urban Environmental Initiatives Component

MINVU will submit to USAID/Chile and RHUDO/SA semi-annual reports which will include: 1) the number of funding proposals received and the number of proposals approved for financing by public and private development organizations; 2) the value and terms of the financing approved; 3) the end use of the financing, e.g., potable water projects, wastewater treatment projects, neighborhood paving or other local environmental protection activities; 4) amount of matching funds, if any; 5) capacity of the project funded; and 6) arrearage rates in loan repayment.

In addition, MINVU will monitor the performance of the revitalization and environmental components in generating increased private sector participation and in expanding outreach to below median income families, and will report its findings to USAID/Chile and RHUDO/SA at the end of the scheduled reporting periods.

Recognizing the demonstration nature of the latter two components, MINVU is further requested to make periodic site visits to the projects which will receive HG resources. In order to foster the exchange of information and maximize the educational value of these demonstration projects for both public and private sector participants, informal semi-annual seminars are encouraged to be convened to share experiences, successes and problems with the objective of creating flexible policies and to lead to greater institutionalization of these program components.

V. SUMMARIES OF ANALYSES

A. Technical Analysis

1. Private Shelter Finance

The main issues addressed in the technical analysis of the Private Shelter Finance component of HG-010 are:

- . the demand for low-income housing and low-income housing finance;
- . the feasibility of implementing the policy reforms necessary to enable the private financial sector to participate effectively in the provision of low-income housing finance; and
- . evidence of interest and capability among the major types of private sector financial institution whose participation in low-income housing finance is being sought, namely mortgage lenders, credit insurers, and institutional investors.

As might be imagined, the demand for low-cost housing is large -- due mainly to the buildup of a large deficit during the last two decades when informal housing was severely restricted by the government. The effective demand for low-cost housing and for long-term mortgage finance is supported by large-scale government programs that provide a one-time direct subsidy to families that have accumulated a required minimum level of savings and that wish to purchase a low-cost home. Within the range of housing affordable to families at or below the median income level, these subsidies typically range from 22 percent up to 75 percent of the value of the home. About 90,000 units supported by the government's subsidy programs are scheduled to be produced in 1991.

With respect to the necessary policy reforms, which were cited in Section I, above, it was the conclusion of the Project Paper team that there is a high probability of successful implementation. The general thrust of the reform agenda agreed on with the Ministry of Housing and Urban Development -- which seeks to foster the development of market-based approaches for solving social problems -- is in close harmony with the overall priorities and approaches established by the Aylwin administration since its very first days in office. More specifically, several of the reforms that will be undertaken with HG-010 support, build or follow on initiatives that have been under review and development within MINVU for some time.

The need to develop legislation to strengthen MINVU's mortgage guaranty program, for example, was identified independently by the Minister's Advisory Commission on Housing Finance, which served for a period of several months following the recent change in government. The Commission, which operated with partial AID support during its tenure, also identified the need to broaden access to voluntary payroll deduction systems as a means of facilitating the collection of mortgage payments at lower cost. This, too, is one of the reforms that will be moved forward with HG-010 support.

MINVU, representing the Chilean government in these matters, has unequivocally "bought into" the policy reform agenda that has been established for the HG-010 program. Their commitment to its implementation, and its consistency with the broader objectives of the Aylwin

administration, make possible a high degree of confidence that the agenda will be successfully implemented.

Private financial institutions are seriously interested in the potential offered by the middle and lower-middle housing finance markets in Chile, though they remain wary of the perceived high risks and proportionately high costs of doing business in them. The logic and value of the legal and regulatory reforms proposed to be undertaken through HG-010 are clear to them, and many have expressed an interest in becoming involved in these markets if the reforms are successfully carried out.

The institution of payroll deductions to reduce the cost of mortgage collections, should, in and of itself, be sufficient to induce established mortgage lenders ("mutuarias") to bid for HG-010 funds and originate mortgages for the middle-income market under the coverage of MINVU's existing mortgage guaranty program. Strengthening that coverage, and complementing it with mortgage payment insurance to protect investors against cash-flow interruptions, should make it possible for "mutuarias" to refinance middle and lower-middle income mortgages by selling them to the life insurance companies they presently work with. "Securitizing" middle and lower-middle income home mortgages, and amending the relevant legislation, will make it possible for pension funds also to participate in the purchase of mortgage packages, adding depth to the institutional market available for mortgage refinancing.

2. Inner City Revitalization

The main issue for inner city revitalization is developing the requisite ways and means for assembling land parcels in sufficient number (and at low enough cost) to permit economies of scale to be achieved in their redevelopment. Part of what is required in developing those ways and means is to generate adequate sources of financing, while another part is creating effective institutional mechanisms for assembling land and managing the redevelopment process. More than anything, what is required is experience, and the means of assimilating the lessons of that experience.

What is clear from the outset is that the successful revitalization of inner city areas of Chile's major cities will require the development of new forms of public/private sector collaboration. Private sector financial resources, development and marketing skills are undoubtedly key to achieving success, yet these cannot operate successfully in the absence of public sector coordination to facilitate the acquisition of land, and to provide support in reducing costs by expediting the development process to the maximum possible extent. The government, and MINVU in particular, can also greatly influence the viability of inner city revitalization projects by ensuring that its subsidy resources are made available to support demand for qualifying shelter developed as part of them, and by encouraging the application of governmental and non-governmental systems for organizing groups of potential home buyers prior to construction, thereby reducing market risk for private developers.

The regional operating arms of MINVU, the SERVIU, which include a separate unit for the Santiago Metropolitan Area, are uniquely empowered under Chilean law to enter into formal partnership with non-profit or for-profit private entities for the purpose of implementing projects. These mixed enterprises are free to borrow money, purchase and sell land, implement construction projects, and otherwise to act as would a wholly private company. The existence of this authority for the SERVIU may be extremely valuable during the early stages of the inner

city revitalization program, which is being launched at a time that municipal powers continue to be rather limited. Successful demonstration projects can be launched through the association of a SERVIU with one or more private groups, and the models developed through this experience transferred back to municipalities and municipal development corporations once their powers are expanded, as is expected following municipal elections scheduled to be held in mid-1992.

3. Small-Scale Urban Environmental Initiatives

A key concern addressed through the technical analysis of this program component is, again, the verification of demand for the services and outputs that will be generated. Indeed, improvements such as water and wastewater treatment, and the paving of neighborhood streets, among others, are high priorities for the residents of lower-income communities, who are disproportionately underserved in these respects.

As important, perhaps, is the definition of objectives for this component of the program. In addition to contributing to the improvement of environmental conditions in specific low-income localities, the major benefits expected from this activity will be from its demonstration impacts on local initiative and the capacity of local organizations, including municipalities, to initiate, finance and implement projects at the local level. The demonstration projects will help to create a more entrepreneurial spirit among municipalities and other local organizations, and, by promoting more businesslike approaches to cost accounting and cost recovery, will also pave the way for private sector participation in financing and implementing locally initiated municipal projects.

B. Financial Analysis

1. Private Shelter Finance

Key issues reviewed in this analysis are HG borrowing and onlending costs; low-income mortgage origination costs; mortgage payment insurance costs; and, securities market transaction costs as they could relate to the issuance and trading in mortgage-backed securities.

Conclusions reached begin with a positive evaluation of the competitiveness of HG loan terms (maturity as well as cost) with other sources of finance available to the Chilean government from abroad and in the domestic financial markets. Assuming that the exchange rate is maintained constant in real terms, dollar resources borrowed with the Housing Guaranty will have a slight cost advantage over the cost of domestic resources, and, at a term of 30 years, will be highly attractive compared with most other sources available.

HG resources will be onlent to the private sector at a market-determined rate, and for renewable five-year periods. The rate applied will be based on the yields of long-term mortgage bonds sold by the Banco del Estado to private institutional investors, at present about 6.5 percent in real terms. This cost-of-funds will allow private mortgage lenders to be competitive with the Banco del Estado in extending mortgage loans to low income families, and will at the same time allow them a sufficient spread to encourage their participation in this segment of the market.

Inquiries into mortgage origination costs for the low-income market produced an estimate on the order of 2 percent of the loan amount. This is not an insignificant fixed cost, but one that can be handled by private mortgage lenders through charging points at the time of closing, much as is done in the U.S. If needed, points can be financed through the mortgage loan agreement.

While it is not possible to develop a very precise estimate of the cost of mortgage-payment insurance prior to the development of the legislative environment that will give it substance, the Project Paper team was able to estimate some upper bounds on that cost on the basis of the premium that will be charged for unemployment insurance coverage for mortgage payments, a product that is about to be launched by at least two separate casualty insurers in Chile. As indicated in the Financial Analysis, the cost of mortgage-payment insurance is not likely to exceed one percent per annum of the loan amount. What is more to the point, this cost is likely to be at least partly made up by a reduction in the yields demanded by institutional investors in insured mortgages, because of the greater safety afforded by the insurance coverage, indicating that the interest costs of final borrowers may not be affected very much, if at all.

There are no minimums on brokerage commissions for transactions in fixed-income securities on Chilean exchanges, and typical fees vary from .05 of one percent to 1.0 percent, plus value-added tax (VAT), with the lower fees being negotiable for large transactions. Mortgage-backed securities, once developed, will generally be traded in large blocks, and transactions costs are not expected to impede the development of this market.

2. Inner City Revitalization

The main financial issue for this program component is the cost of acquiring inner city land for redevelopment, and its impact on the cost and affordability of new or rehabilitated housing for middle and lower-income families.

While land prices in inner city districts are indeed high, a broad range of prices was found, and adequate availability of lower-priced lands to permit the participation of lower-income families was confirmed. Design options to reduce unit sizes and increase the density of development provide additional latitude to ensure the desired participation of lower-income families, which not only is of social benefit, but will make possible the leveraging of subsidy resources and of group marketing systems to reduce the risks to private sector redevelopers.

The large public sector investment savings from improving the utilization of existing infrastructure in inner city locations rather than having to provide new infrastructure to service new developments on the urban periphery, would undoubtedly justify increasing direct subsidies to low-income families, if these were necessary to offset high land prices. Avoiding negative environmental externalities from urban sprawl would add to the justification of such subsidies, if they were necessary. It is not presently considered that such additional subsidies will be required to make inner city revitalization projects available to a wide spectrum of home buyers, but this option should be studied further and held in reserve to be reconsidered in the light of experience gained during implementation.

3. Small-Scale Urban Environmental Initiatives

Sample water and wastewater treatment projects for which preliminary cost estimates are available, and data gathered for three prototype street paving projects, have been analyzed to reconfirm the affordability of such projects on the basis of full cost recovery through charging user fees. The calculations performed indicate that the costs of such projects could reasonably be expected to be recovered from user fees charged to low-income families, without excessively taxing their ability to generate additional savings for this purpose.

This is not necessarily to advocate user fees as the exclusive method of cost recovery in every case, however. While it is considered appropriate that beneficiaries pay at least a portion of service costs through direct user fees, it may also in certain circumstances, be appropriate to apply tax revenues or transfers from other public revenue sources as complements to user fees. The main point that will be critical to the future replicability of the demonstration projects financed under this component is that full cost accounting, and some form of cost recovery, be strictly adhered to in all cases.

C. Economic Analysis

1. Private Shelter Finance

The economic analysis begins with an exposition of the limitations of the existing private mortgage finance system in Chile, which is based on banks' issuance of mortgage bonds or "letras de credito hipotecario", and which operates primarily for upper-middle and upper income home buyers. The "letra" is a general obligation of the issuing bank which is issued on the basis of, but not specifically collateralized by mortgage loans of matching maturities. As a general obligation, loans funded with "letras" take up the issuing bank's leverage, and, at the margin, must be equity-financed up to the minimum capital-to-assets ratio required of banks.

For this reason, and because of their long-term nature, high administrative costs and low complementarity with main line commercial lending activity, banks tend not to be very interested in mortgage loans. Competition for this business is not intense, and spreads tend to be high.

From an economic perspective, the introduction of new mechanisms to fund home mortgages through their outright sale in the domestic capital markets will increase competition in this segment of the country's credit markets, reducing costs for borrowers and increasing the quality and efficiency of services provided. The creation of instruments that are safe and attractive to long-term savers such as pension funds and life insurance companies should encourage savings at the margin -- counteracting pressures for permitting such institutions to invest overseas, for example -- and thereby also increase the depth and liquidity of the domestic capital markets and increase the supply of resources for domestic investment.

The creation of mortgage-backed securities that can be sold without recourse into the capital markets also has the effect of separating the risk-taking function from the mortgage origination and servicing function. This will allow more, and more specialized, firms to enter the mortgage origination and servicing business, reducing their costs and increasing their efficiency, to the ultimate benefit of the Chilean consumer.

Mortgage insurance products -- public and private -- that will be developed and introduced as a result of the policy reforms of the HG-010 program will facilitate further specialization and greater efficiency in the management of risk, ultimately increasing the available supply of investable resources and reducing borrowing costs for low-income home buyers.

Finally, in Chile as elsewhere, the opportunity for low-income families to purchase a home will act as an important stimulus to increased financial discipline and savings, and will reinforce behavioral norms that are beneficial to the stability and growth of the economy as a whole.

2. Inner City Revitalization

The economic analysis conducted for this component clearly documents the magnitude and importance of economic savings that the Chilean society can achieve by redirecting urban development away from the extensive margin on the peripheries of the country's main cities, and back towards the rehabilitation of deteriorating inner city areas that are being grossly underutilized in relation to the capacities of existing infrastructure. For example, the population of the Municipality of Santiago has declined from 600,000 to 260,000 over the last 40 years, and adequate roads, water mains, sewers, storm drains, and electricity distribution lines exist to support well over double the current population without requiring additional investments.

On a per unit basis, the provision of basic infrastructure costs anywhere from US\$1,500 to US\$2,700 in a peripheral location, as compared to US\$400-500 in an established central city district, resulting in a differential in favor of the inner city locations of anywhere from US\$1,000 to \$2,300. In some cases, the differential in infrastructure development costs alone would compensate, in economic terms, for land costs which are about \$1,500 higher per unit in the inner city. If the additional cost of providing services such as health centers, schools, police protection, and minimal sports and recreation facilities in new developments on the outskirts of town is added to the cost of infrastructure on a per unit basis, the cost differential per unit in favor of a redeveloped inner city location rises to over US\$7,000. This clearly more than compensates for the differential in land costs per unit between the outskirts and inner city locations.

The economic benefits of improved utilization of existing infrastructure are great, and justify intensive public and private sector efforts to promote inner city revitalization. One is encouraged to think, by the analysis presented in Annex 6C, that in a significant number of cases there exists an opportunity to design projects in the inner city that will make it possible for these economic benefits to be reflected in relative financial costs and prices, making explicit subsidies unnecessary. Were they necessary, however, the magnitude of economic cost savings to be achieved would justify explicit governmental action, either to transfer the costs of infrastructure development on the periphery to prospective home buyers, or to compensate for the effect of land costs on home prices in more central locations.

3. Small Scale Urban Environmental Initiatives

The economic analysis performed for this component confirms the existence of a large unmet demand for small scale infrastructure investments that can improve environmental quality at the local level -- such as water and wastewater treatment, and neighborhood street paving -- and identifies the important health and quality-of-life benefits that will be derived from their implementation.

The financial analysis of sample projects of this type confirm the ability of low-income households to pay for the investment and operating costs of such environmental improvements, while a number of household surveys indicate that such households place a high priority on them, especially as regards water and wastewater treatment, suggesting a willingness to pay.

One of the main objectives of this element of the HG-010 program is to encourage private sector approaches to financing and cost recovery for projects initiated at the local level, and it is felt that successful demonstration of such approaches will have important long-term effects on resource mobilization by the private sector and on the efficiency of resource utilization by the

public sector. The existence of successful demonstration projects to point to will be especially opportune during the next few years, a period in which the role and functioning of local government in Chile will be going through a process of comprehensive redefinition.

D. Social Soundness Analysis

The social soundness analysis documents the existence of substantial deficiencies in the availability of adequate housing among low-income families, as well as the concentration of deficient access to safe water supplies, sewerage treatment, and amenities such as paved streets among the lowest income urban families. The analysis confirms, thereby, that small scale projects designed to alleviate these deficiencies, will in most cases, be of benefit primarily to low-income families.

Survey information reported in the analysis indicates that the kinds of sites and development approaches that will be used in the program's revitalization and environmental improvement projects, seem to be consistent with the perceived needs and aspirations of the intended beneficiary population. These surveys document the importance attached by the beneficiary population to improving the quality of services available to them in the areas of water supply, wastewater treatment and improved housing conditions.

E. Administrative Arrangements and Technical Assistance Plan

The Chilean Ministry of Housing and Urban Development (MINVU) will borrow the HG funds, and will administer the HG-010 sector program in all of its components. Most importantly, MINVU will provide the leadership required to secure the implementation of the policy reforms that have been agreed on with AID.

The Private Shelter Finance component of the program will be administered through an independent, non-profit Shelter Finance Corporation to be set up by MINVU with the support and participation of leading private sector advocates of the program. The Board of the Corporation will be presided by the Minister of Housing, and its other members will serve at his pleasure. MINVU will maintain full oversight and responsibility for the implementation of the HG-010 program commitments. The use of the Corporation for implementation will avoid the possible bureaucratization or politization of the program, and will facilitate its assimilation by the private sector, which may determine to continue the operations of the Corporation without the further support of MINVU once the program has been completed.

Subloans awarded to private mortgage lenders under this program component will be allocated on the basis of competitive bids that will reward those lenders pledging the highest proportion of their own resources to fund low-income home mortgages.

The Inner City Revitalization and Urban Environmental Initiatives components of the program will be administered by MINVU's Urban Development Division, with the support of one or more SERVIUs and the Minister's Advisory Council, as needed. SERVIUs are able to form formal partnerships with local government organizations and/or private sector groups for project implementation purposes, and this may in some instances make it possible for such groups to prepare and present proposals that would involve borrowing of complementary resources from the private financial market. As in the case of subloans awarded to fund low-income mortgages,

funds advanced under the Inner City Revitalization and Urban Environmental components will be assigned on the basis of competitive bids received from decentralized private and public sector organizations.

Technical assistance will be provided through ongoing or planned projects and funding that is or will be available to the AID Representative to Chile. Technical assistance will be provided for the following purposes:

- . Supplying startup advisory services to the Shelter Finance Corporation;
- . Developing a viable mortgage payment insurance product;
- . Developing securitized mortgage loans as a new capital markets instrument, and introducing it to the marketplace;
- . Training MINVU personnel in environmental impact assessment methodologies;
- . Designing, organizing and implementing inner city revitalization demonstration projects;
- . Strategic investment planning, including diagnostic studies for selected municipalities participating in small scale environmental activities;
- . Evaluating wastewater treatment technologies;
- . Conducting mid-term and end-of-project program evaluations;
- . Disseminating program lessons and experiences.

F. Environmental Review

The environmental review presented as Annex 6F was prepared in Santiago by the Regional Environmental Advisor for South America, Dr. Howard L. Clark. Its findings include the following:

- . The shelter finance and insurance components of the program qualify for Categorical Exclusion;
- . The technical assistance to be provided will either have no detrimental environmental impacts, or, as in the case of training in environmental impact assessment methodologies, can be expected to have a positive impact;
- . Because of their potential positive or detrimental impacts on the environment, water and wastewater treatment subprojects to be implemented with HG resources will require environmental review by the REA/SA or LAC/DR/E, on a case by case basis.

G. Women in Development

The most important finding of the WID review conducted for HG-010 was that MINVU low-cost housing programs have not actively discriminated against women in the past, and recent actions, such as those amending the point system used in the award of housing subsidies, have in fact made special provisions to facilitate qualification for such subsidies by woman-headed households. Woman-headed households are represented among the recipients of subsidized housing in approximately equal proportion to their numbers in the population of low-income beneficiaries of these programs.

The HG-010 program will support the continued development of solutions that are appropriate and accessible to women, especially in its inner city revitalization component, which will make special provisions for women living alone, the elderly, other single individuals, and the handicapped to benefit from the opportunities to build units sharing common special purpose facilities -- such as kitchens or nursing centers -- that are possible in a higher-density urban setting.

VI. CONDITIONS AND COVENANTS

A. Condition to Investor Selection

As a condition precedent to the selection of a U.S. investor, AID/Washington shall determine, upon the recommendation of RHUDO/SA, that adequate provision has been made to protect the repayment of the Housing Guaranty loan from the effect of any debt rescheduling by the Government of Chile.

B. Conditions Prior to Contracting First US\$10 million Tranche

1. An Implementation Agreement for the HG-010 Program will have been signed by MINVU and AID/Washington, including the establishment of the line of credit for the program, a technical assistance plan and a program regulation indicating the manner in which the HG resources will be made available.
2. MINVU will have established a steering committee to monitor and periodically document the progress of the program's three components.
3. MINVU will have facilitated the formation of a "Shelter Finance Corporation" and will have reached agreement with USAID/Chile and RHUDO/SA regarding the terms of a contract with the Corporation, for the implementation of the shelter finance component of the HG-010 program, including its policies and procedures with respect to on-lending of HG resources to private mortgage finance institutions.
4. MINVU will have designated a unit or units within the Ministry to have responsibility for the implementation of the Inner City Revitalization and Small-Scale Urban Environmental Initiatives components of the HG-010 program and will have established selection criteria and on-lending procedures for eligible projects to be undertaken through these components.
5. MINVU will have prepared and submitted to the Chilean government draft legislation mandating employers operating establishments of more than ten employees to offer automatic payroll deduction of mortgage payments to their employees.
6. MINVU will have gathered and presented evidence of demand for HG-010 resources equivalent to at least 40 percent of the first tranche, from prospective mortgage lenders and/or the organizers of inner city renovation or small-scale urban environmental projects.

C. Conditions Prior to Second US\$10 Million Disbursement

1. As a condition precedent to the second disbursement, MINVU will have prepared and submitted to the Chilean government draft legislation for the enactment of a new law strengthening MINVU's mortgage guaranty program, currently Supreme Decree No.44.
2. MINVU will have organized a conference/workshop to review and analyze alternative approaches to promoting inner city revitalization, including a review of legal and regulatory aspects, and financial structures designed to encourage private sector participation.

D. Condition Prior to Third US\$10 Million Disbursement

1. MINVU will have developed a program to carry out the securitization and rating of mortgages thereby enabling the country's pension fund management companies (AFPs) and other institutional investors to make direct investments in mortgage-backed securities in order to mobilize capital for the refinancing of lower income mortgages.

E. Condition Prior to Fourth US\$10 Million Disbursement

1. MINVU will have organized a conference/workshop to review and disseminate the experiences gained through the program in each of its components. Drawing on the results of the mid-term evaluation, the conference will report on progress towards achieving shelter finance goals, and will present lessons learned from its efforts to promote participatory approaches to inner city revitalization and environmental protection at the local level. Opportunities for replicating the successes obtained through demonstration projects will be highlighted through this event.

F. Covenants

MINVU, through the Shelter Finance Corporation, will exert its best efforts, subject only to a marked change in the conditions affecting effective demand or to other factors beyond its control, to ensure compliance on the part of sub-borrowers with the unit cost distribution targets summarized in Annex 6A, Section A, of this Project Paper. Such compliance is expected to be evident no later than the end of the second year of project activity, when the mid-term evaluation is scheduled. Following this, MINVU, through the Shelter Finance Corporation, will ensure that on-lending to sub-borrowers is for loans that are not more than 15 percent above targeted mortgage loan size at all times, and that by the program's completion date in 1995, cumulative mortgage loans will have been within 5 percent of that maximum loan size.

MINVU will commit all the institutional resources needed to ensure that legislative initiatives undertaken through HG-010 are enacted by the Chilean Congress in a timely manner, or that equivalent alternative actions are taken by the Chilean Government to provide the conditions needed for the full achievement of the program's objectives.

VII. EVALUATION ARRANGEMENTS

A. Evaluation Plan

During the four-year life of this program, there will be two evaluations, one during the quarter immediately following two full years of operation, and the final evaluation at the end of the fourth year of operation. During the first year of the program, MINVU will develop detailed evaluation criteria, and collect and process baseline data that will enable progress towards objectives to be objectively measured. Some of these data will be collected on a regular basis, and are itemized in the monitoring plan presented above.

The first evaluation will concentrate on assessing the Shelter Finance Corporation's (and by extension, MINVU's) success in implementing operational changes in the country's legal and regulatory environment which would permit the formal private housing finance system to reacquire familiarity with the low-income mortgage market and operate effectively. In addition, the mid-term evaluation will assess the progress to date in operating demonstration projects for inner city revitalization and small-scale urban environmental improvements, and in incorporating private sector participation to degree planned.

The objectives of the HG-010 program's final evaluation will be two-fold. The first objective will be to determine the success of the program in terms of its stated purpose, that is, its success in increasing the efficiency and output of Chile's low-income housing finance system by facilitating the re-entry of private sector financial institutions. The evaluation will also assess the impact of revitalization demonstration projects in improving urban land-use planning practices and enhancing the role of local governments in carrying out this function. Finally, the evaluation will assess the suitability and replicability of small-scale environmental projects nationwide.

An estimated six person-months of technical assistance is planned for the conduct of evaluations. The program evaluations will produce findings and recommendations documenting the experiences of the aforementioned activities, which should be shared with the broader private sector community in Chile. Also, the evaluations will produce findings and recommendations requiring the program participants to make adjustments to the program design or the implementation of the program. Technical assistance resources will be provided to finance seminars/workshops, training and participant travel to assist in the dissemination and assimilation of evaluation results.

B. Audits

The Implementation Agreement for HG-010 will require that the Ministry of Housing and Urban Development maintain, in accordance with generally accepted accounting principles, books and records relating to the program and the loan. The Agreement will further require that the privately chartered, non-profit Shelter Finance Corporation shall, during the life of the program, arrange to have such books and records audited annually by independent auditors in accordance with generally accepted auditing standards. Such audit shall provide segregated accounting and comments regarding the loan and shall be submitted to USAID/Chile and RHUDO/SA annually. USAID/Chile and RHUDO/SA will review annual audits to ensure their compliance with the Implementation Agreement.

ANNEXES

45

ACTION: AID-2 INFO: AMB DCM ECON USIS AGR COML/B

VZCZCSG0827

RR RUEHSG

DE RUEHC #6619/01 1410936

ZNR UUUUU ZZH

R 210934Z MAY 91

FM SECSTATE WASHDC

TO RUEHSG/AMEMBASSY SANTIAGO 2141

INFO RUEHQT/AMEMBASSY QUITO 6262

BT

UNCLAS SECTION 01 OF 02 STATE 166619

LOC: 200

529

21 MAY 91

0936

CN: 23401

CHRG: AID

DIST: AID

AIDAC AID REPRESENTATIVE

E.O. 12356: N/A

TAGS:

SUBJECT: REVIEW OF CHILE PRIVATE SHELTER AND URBAN INITIATIVES SECTOR PROGRAM (513-HG-010)

1. A DAEC REVIEW OF THE SUBJECT PROJECT WAS HELD ON APRIL 11, 1991. LAC/DR ACTING DIRECTOR, JEFFREY EVANS, CHAIRED THE MEETING AND SONNY LOW FROM RHUDO/SA INTRODUCED THE PROJECT. HOUSING ADVISOR OF A.I.D. REP.'S OFFICE/CHILE AND REPRESENTATIVES FROM APRE/H, LAC/DPP, GC/LAC AND PPC/PDPR WERE ALSO PRESENT. THE PID WAS APPROVED AND THE DESIGN TEAM WAS COMMENDED FOR A WELL-CONCEIVED AND ARTICULATED PID. THE PARAGRAPHS BELOW PRESENT ISSUES DISCUSSED AND PROVIDE LAC GUIDANCE FOR DEVELOPMENT OF THE PROJECT PAPER.

2. ISSUE: SHOULD THE STRATEGY FOR URBAN DEVELOPMENT BE MORE CLEARLY PRESENTED IN THE PP?

DISCUSSION: RAPID EXPANSION OF OUTLYING AREAS AND DECAY OF CENTRAL CITY DISTRICTS IS A SERIOUS PROBLEM IN CHILE THAT HAS EXTREMELY ADVERSE EFFECTS ON AIR QUALITY, URBAN TRANSPORTATION, PRESERVATION OF PRODUCTIVE AGRICULTURAL LANDS AND QUALITY OF LIFE. UNDER THE PROGRAM, DOLS. 5.0

MILLION WILL FUND STUDIES AND TA IN A NUMBER OF AREAS INCLUDING TAX INCENTIVES, AND SMALL SCALE WATER AND TREATMENT FACILITIES. THERE IS A PROPOSED POLICY AGENDA FOR THE URBAN DEVELOPMENT TRANCHE ON PAGE 15 OF THE PID. HOWEVER, THE PID DOES NOT SPECIFICALLY DESCRIBE A STRATEGY FOR URBAN DEVELOPMENT. WHAT IS THE GOC'S URBAN DEVELOPMENT STRATEGY? IN THE PP DEVELOPMENT, SHOULD RHUDO/SA AND THE AID REPRESENTATIVE DESCRIBE THE URBAN DEVELOPMENT ACTIVITIES AND POLICY AGENDA WITHIN THE CONTEXT OF AN OVERALL STRATEGY?

DECISION: THE PP SHOULD INCLUDE A DISCUSSION OF HOW THE URBAN DEVELOPMENT TRANCHE FITS INTO A GOC URBAN DEVELOPMENT STRATEGY. PROGRAM OBJECTIVES SHOULD STAY WITHIN THE MINISTRY OF HOUSING JURISDICTION.

3. ISSUE: IS THE FUNDING FOR TECHNICAL ASSISTANCE, WHICH IS INDISPENSABLE FOR IMPLEMENTING THIS PROGRAM,

46

ASSURED SO THAT PROGRAM OBJECTIVES WILL BE REACHED?

DISCUSSION: THE PROGRAM RELIES HEAVILY ON TECHNICAL ASSISTANCE. YET, THE HOUSING GUARANTY LOAN DOES NOT HAVE A COMPANION PROJECT WHICH PROVIDES GRANT FUNDS TO ACQUIRE TECHNICAL ASSISTANCE. UNDER THE PROGRAM, NEEDED T.A. WILL BE ACQUIRED WITH FUNDS PROVIDED THROUGH THE ITT PROJECT (ADC PROGRAM). THE UNCERTAINTY OF THE AVAILABILITY OF RESOURCES FROM ITT HAS BECOME MORE ACUTE OVER THE LAST FEW YEARS AND THERE IS LIMITED FUNDING IN CERTAIN ACCOUNTS (E.G. PSEE AND EHR). IN THIS PROGRAM, TA IS ESPECIALLY IMPORTANT FOR ACHIEVING THE POLICY CHANGES RELATED TO URBAN DEVELOPMENT. SHOULD HG GRANT FUNDING BE SPECIFICALLY AUTHORIZED TOGETHER WITH THE HG PROGRAM LOAN, IN LIEU OF RELYING ON FUTURE, PERHAPS UNCERTAIN ITT FUNDING?.

DECISION: HG GRANT FUNDING IS NOT AVAILABLE FOR FINANCING TA. THEREFORE, FUNDING FROM ITT FOR THIS HOUSING PROJECT SHOULD BE OF HIGHEST PRIORITY. THE PP SHOULD SPECIFICALLY IDENTIFY TA REQUIREMENTS AND SOURCES FOR FUNDING.

4. ISSUE: CAN THE PROGRAM LOAN BE BETTER TARGETTED, IN TERMS OF LOCATION AND BENEFICIARY GROUP?

DISCUSSION: ONE OF THE MAJOR PROBLEMS IS URBAN SPRAWL OR THE DEVELOPMENT OF HOUSING ON THE FRINGES OF MAJOR CHILEAN CITIES. THE PROGRAM INCLUDES AN URBAN DEVELOPMENT COMPONENT INITIALLY ESTIMATED AT DOLS. 5

MILLION LOAN AND RELATED, SIGNIFICANT POLICY CHANGES (P. 15). YET, NONE OF THE ESTIMATED DOLS. 35 MILLION FOR MORTGAGE LENDING IS SPECIFICALLY TARGETTED FOR HOUSING IN URBAN AREAS. SIMILARLY, WHILE LOANS WILL BE FOR BORROWERS BELOW MEDIAN INCOME, SPECIFIC TARGETTING OF DECILE GROUPS IS NOT MENTIONED. SHOULD THE PP TARGET CERTAIN INCOME GROUPS (AS HG-009 TARGETTED THE 3RD DECILE AND BELOW) AND SHOULD A PORTION OF THE MORTGAGE LOANS BE SET ASIDE FOR HOUSING IN CENTRAL CITY DISTRICTS?

DECISION: WHILE SPECIFIC TARGETTING OF THE LOWEST DECILE INCOME GROUPS MAY NOT BE POSSIBLE, THE PP MUST CONTAIN A STRATEGY FOR REACHING LOWER INCOME GROUPS.

5. ISSUE: WILL BANKS OR "MUTUARIAS" BE WILLING TO LEND TO LOW-INCOME BORROWERS AND WILL INSTITUTIONAL INVESTORS BE WILLING TO INVEST IN LOW INCOME MORTGAGE SECURITIES?

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DISCUSSION: THE PID INDICATES THAT SOME CONSTRAINTS TO PRIVATE SECTOR LENDING WILL BE ADDRESSED UNDER THE PROGRAM: A PAYROLL DEDUCTION SYSTEM WILL ENSURE PROMPT PAYMENT; AND AN INSURANCE SCHEME WILL REMOVE RISK. HOWEVER, IT IS NOT CLEAR THAT PRIVATE SECTOR FINANCIAL INSTITUTIONS WILL READILY MOVE INTO LENDING TO INCOME GROUPS, AND PUT UP MATCHING FUNDS. HOW WILL THE USUAL CONSTRAINTS TO LENDING TO SMALL BORROWERS BE OVERCOME—E.G. BANKS' RELUCTANCE TO HANDLING LARGE NUMBERS OF SMALL LOANS, ETC. ALSO, THE PID STATES THAT INSTITUTIONAL INVESTORS ARE QUOTE STRICTLY REGULATED BY THE CHILEAN GOVERNMENT AND ARE PROSCRIBED FROM INVESTING IN ANY BUT REGISTERED, INVESTMENT-GRADE SECURITIES. UNQUOTE WHAT IS THE BASIS FOR ASSUMING THAT INSTITUTIONAL INVESTORS WILL CHOOSE LOW INCOME MORTGAGE SECURITIES OVER OTHER, PERHAPS MORE ATTRACTIVE, ALTERNATIVES? WILL THE FINANCIAL INSTITUTIONS AND INSTITUTIONAL INVESTORS BE POLLED DURING PROGRAM DEVELOPMENT?

THE RHUDO REPRESENTATIVE AND CHILE HOUSING ADVISOR EXPLAINED THAT REACTION BY INSURANCE COMPANIES AND BANKS TO THE PROJECT PROPOSAL HAD BEEN GOOD AND SOME OF THE SUGGESTED REFORMS HAD BEEN RAISED BY THE PRIVATE SECTOR.

DECISION: THE PP SHOULD INCLUDE AN ANALYSIS OF THE PROBABILITY OF SUCCESS OF THE PROGRAM AND OF FACTORS FOR ASSUMING ACTIVE PARTICIPATION BY PRIVATE FINANCIAL INSTITUTIONS.

6. CLARIFICATIONS

A. THE RHUDO REP. EXPLAINED THAT THE ROLE OF NGOS UNDER THE PROGRAM, TO BE FURTHER DESCRIBED IN THE PP, WILL BE TO ORGANIZE BENEFICIARY GROUPS AND HELP THEM IN DEALING WITH LENDERS.

B. ALTHOUGH THERE WAS NO DISCUSSION OF STANDARDS, THE PID PROPOSED POLICY CONDITIONALITY ON MODIFYING ELIGIBILITY STANDARDS TO ENABLE LOW-INCOME FAMILIES TO BUY DWELLINGS IN CENTRAL CITY LOCATIONS. CURRENT AND PROPOSED STANDARDS WILL BE DESCRIBED IN THE PP.

C. THE PID STATES THAT MORTGAGE LENDERS WHO OFFER THE HIGHEST PERCENTAGE OF MATCHING FUNDS WILL BE PROVIDED HG FINANCING. THE HOUSING ADVISOR EXPLAINED THAT MORTGAGE LENDERS WOULD BID FOR HG FINANCING BY OFFERING THEIR MATCHING FUNDS (PROBABLY EXCEEDING A SET MINIMUM AMOUNT).

D. THE IEE FINDS THAT THE HG LOAN PORTION FOR MORTGAGE FINANCING AND INSURANCE FUNDS AND ANY RELATED GRANT FUNDED TA QUALIFIES FOR CATEGORICAL EXCLUSION, BUT THAT AN ENVIRONMENTAL REVIEW BY REA/SA OR LAC/DR/E WILL BE REQUIRED WHENEVER HG LOAN ASSISTANCE AND ACCOMPANYING GRANT-FUNDED TA ARE USED FOR DESIGN, OPERATION OR CONSTRUCTION OF WASTEWATER TREATMENT, SEWAGE DISPOSAL, OTHER INFRASTRUCTURE, OR PLANNED LAND-USE, REA/SA WILL

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STATE 166619/02

PERIODICALLY MONITOR PROGRAM ACTIVITIES.

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**PROGRAM DESIGN SUMMARY
LOGICAL FRAMEWORK**

Program Title & Number: Chile Private Shelter and Urban Initiatives Sector Program, 513-HG-010

Life of Program
From: FY 1992 To: FY 1995
Total U.S. Funding: \$40.42 million
Date Prepared: July 19, 1991

<u>NARRATIVE SUMMARY</u>	<u>OBJECTIVELY VERIFIABLE INDICATORS</u>	<u>MEANS OF VERIFICATION</u>	<u>IMPORTANT ASSUMPTIONS</u>
<p>Program Goal: To expand the availability and improve the quality of low-cost housing.</p>	<p>At least 2% fewer low-income urban families will suffer from involuntary doubling-up, through access to independent housing meeting minimum size and sanitary standards.</p>	<p>Comparison in the final program evaluation of program data compiled by Ministry of Housing with base year data contained in published surveys.</p>	<p>Government of Chile will continue to operate a system of direct subsidies targeted at lower income families, and will maintain the current government guaranty coverage against unrecoverable losses following default and foreclosure, for up to 75% of such losses as a floor.</p>
<p>Program Purposes:</p>	<p>At least three private lenders established and operating in the low-income home mortgage market by the end of FY 1995.</p>	<p>Analyses of internal financial data provided by participating private mortgage credit institutions through the Private Shelter Finance Corporation and the Ministry of Housing.</p>	<p>USAID/Chile and the Government of Chile will reach mutual agreements on policy action plan.</p>
<p>To increase the efficiency and output of Chile's low-income housing finance system by facilitating the re-entry of private sector financial institutions.</p>	<p>At least 2,750 home-mortgage loans financed by private lenders participating in HG-010 program.</p>	<p align="center">- - -</p>	<p>Government of Chile will implement policy reforms required by HG-010 program, will maintain present support for private sector involvement in housing finance, and encourage public/private partnerships in the provision of housing and urban services.</p>
<p>To contribute to the improvement of urban land-use planning practices and enhance the role of local governments in carrying out this function.</p>	<p>Mortgage-payment insurance being underwritten by at least two private insurance companies.</p>	<p align="center">- - -</p>	<p>General economic conditions will remain favorable, and legislative actions required to reduce the costliness and risks of low-income mortgage lending will have been taken.</p>
<p>To encourage private co-financing of urban initiatives such as renovation, wastewater treatment, and neighborhood street paving.</p>	<p>At least \$10 million in appropriately packaged mortgage-backed securities, attractive to private institutional investors, placed in the country's capital markets thereby allowing for the refinancing of low-income mortgages.</p>	<p align="center">- - -</p>	<p>Local and municipal governments will be enabled to effectively control land use in large urban areas. In addition, resources will be available to these governmental entities and to legally constituted public and private development organizations through a competitive bidding process to finance inner city revitalization.</p>
<p>To encourage private co-financing of urban initiatives such as renovation, wastewater treatment, and neighborhood street paving.</p>	<p>Improved land-use planning mechanisms in place, which include the use of environmental impact analysis and the evaluation of inner city revitalization potential, in Metropolitan Santiago and all other urban areas with more than 500,000 population.</p>	<p>Synthesis of Ministry of Housing and Urban Development semi-annual reports in the mid-term and final evaluations.</p>	<p>Resources will be available to legally constituted public and private development organizations and to local and municipal governments on a competitive basis to finance small-scale, environmentally sound urban services demonstration projects.</p>
<p>To encourage private co-financing of urban initiatives such as renovation, wastewater treatment, and neighborhood street paving.</p>	<p>Improved utilization of urban lands will be evidenced by increased densities, a reduction in areas requiring renovation, improved efficiency in infrastructure investment. At least 5 significant revitalization demonstration projects will have been initiated.</p>	<p align="center">- - -</p>	<p>Timely execution of all agreements and the fulfillment of conditions precedent.</p>
<p>To encourage private co-financing of urban initiatives such as renovation, wastewater treatment, and neighborhood street paving.</p>	<p>Replication of successful public-private sector partnerships and locally initiated actions to resolve urban and environmental problems at the local level. Private sector co-financing of such projects will be evident for some cases.</p>	<p align="center">- - -</p>	

NARRATIVE SUMMARY

To contribute to the identification of smaller scale, environmentally sound urban projects such as water and wastewater treatment suitable for use in small cities.

Outputs:

Legislation to make voluntary payroll deductions available to low-income borrowers as a means of reducing mortgage lending rates.

An effective low-income mortgage guaranty system.

Private mortgage-payment insurance.

Securities market enhancement to allow for the generation and placement of mortgage-backed securities among Chilean institutional investors.

Demonstration projects organized throughout Chile to promote initiative, private sector involvement and environmental action at the local level.

Inputs:

\$40.0 million Housing Guaranty resources.

\$0.42 million technical assistance grants.

OBJECTIVELY VERIFIABLE INDICATORS

Technically effective and affordable means will have been identified and tested to permit smaller cities and towns to protect the quality of their drinking water, and avoid the contamination of water used for irrigation, fisheries and/or recreation. At least 5 significant demonstration projects will have been initiated.

Published law.

Published law strengthening existing system.

Mortgage-payment policies written.

Regulations published allowing for issuance and trading of mortgage-backed securities.

At least 10 urban revitalization and/or local environmental improvement projects successfully funded and implemented.

MEANS OF VERIFICATION

• • •

Policy monitoring through the Private Shelter Finance Corporation and mid-term evaluation.

• • •

• • •

Policy monitoring through the Private Shelter Finance Corporation and final evaluation.

Policy monitoring through the Ministry of Housing's Urban Development Division and final evaluation.

AID records, evaluations.

TA contracts.

IMPORTANT ASSUMPTIONS

THE HOUSING GUARANTY PROGRAM

STATUTORY CHECKLIST

NAME OF COUNTRY

PROJECT NO. 513 -HG- 010

ANSWER YES/NO PUT PP PAGE
REFERENCES AND/OR EXPLANATIONS
WHERE APPROPRIATE

A. General Criteria Under HG Statutory Authority.

Section 221(a)

Will the proposed project meet the following criteria.

(1) is intended to increase the availability of domestic financing by demonstrating to local entrepreneurs and institutions that providing low-cost housing is financially viable;

YES

(2) is intended to assist in marshalling resources for low-cost housing;

YES

(3) supports a pilot project for low-cost shelter, or is intended to have a maximum demonstration impact on local institutions and national policy; and,

YES

(4) is intended to have a long run goal to develop domestic construction capabilities and stimulate local credit institutions to make available domestic capital and other management and technological resources required for effective low cost shelter programs and policies.

YES

Section 222(a)

Will the issuance of this guaranty cause the total face amount of guaranties issued and outstanding at this time to be in excess of 2,558,000,000?

NO

Will the guaranty be issued prior to September 30, 1991?

YES

52

Section 222(b)

Will the proposed guaranty result in activities which emphasize:

(1) projects providing improved home sites to poor families on which to build shelter and related services; or

YES

(2) projects comprised of expandable core shelter units on serviced sites; or

YES

(3) slum upgrading projects designed to conserve and improve existing shelter; or

YES

(4) shelter projects for low-income people designed for demonstration or institution building; or

YES

(5) community facilities and services in support of projects authorized under this section to improve the shelter occupied by the poor?

YES

Section 222(c)

If the project requires the use or conservation of energy, was consideration given to the use of solar energy technologies, where economically or technically feasible?

N/A

Section 223(a)

Will the A.I.D. guaranty fee be in an amount authorized by A.I.D. in accordance with its delegated powers?

YES

Section 223(f)

Is the maximum rate of interest allowable to the eligible U.S. Investor, as prescribed by the Administrator, not more than one percent (1%) above the current rate of interest applicable to housing mortgages insured by the Department of Housing and Urban Development?

YES

Section 223(j)

(1) Will the proposed Housing Guaranty be coordinated with and complementary to other development assistance in the host country?

YES

(2) Will the proposed Housing Guaranty demonstrate the feasibility of particular kinds of housing and other institutional arrangements?

YES

(3) Is the project designed and planned by A.I.D. so that at least ninety percent (90%) of the face value of the proposed guaranty will be for housing suitable for families below the median urban income for housing in urban areas, in the host country?

YES

(4) Will the issuance of this guaranty cause the face value of guaranties issued with respect to the host country to exceed \$25 million in any fiscal year?

N/A (Congressional exemption)

(5) Will the issuance of this guaranty cause the average face value of all housing guaranties issued in this fiscal year to exceed \$15 million?

N/A (Congressional exemption)

Section 238(c)

Will the guaranty agreement provide that will cover only lenders who are "eligible investors" within the meaning of this section of the statute at the time the guaranty is issued?

YES

B. Criteria Under General Foreign Assistance Act Authority.

Section 620/G20A

(a) Does the host country meet the general criteria for country eligibility under the Foreign Assistance Act as set forth in the country eligibility checklist prepared at the beginning of each year?

YES

(2) Is there any reason to believe that circumstances have changed in the host country so that it would now be ineligible under the country statutory checklist?

NO

56

REPUBLICA DE CHILE
MINISTERIO DE VIVIENDA Y URBANISMO
GABINETE DEL MINISTRO

Santiago, 10 SEP 1990

Señor
Paul Fritz
A.I.D.
Embajada de los
Estados Unidos de Norteamérica
Presente

SEP 10 REC'D

De mi consideración:

Me es grato expresar a usted el gran interés del Gobierno de Chile en llevar adelante el programa de garantía para el sector vivienda (HG-10) hasta por un monto de US\$ 40 millones, en conformidad con los términos que hemos estado conversando con AID Chile y RHUDO/SA.

Como es de su conocimiento, la situación del sector financiero y productor de soluciones habitacionales en Chile ha hecho grandes progresos, incluyendo las innovativas soluciones logradas con el apoyo de AID en sus dos últimos HG para el sistema cooperativo.

No obstante, siempre subsisten áreas que requieren ser mejoradas, algunas de las cuales fueron analizadas en un estudio financiado por AID y en el que se identifican proposiciones y soluciones a los problemas existentes.

En particular se destaca el caso del crédito hipotecario a largo plazo para la adquisición de viviendas sociales, que en la actualidad se concentra casi exclusivamente en el Banco del Estado. Consideramos esta situación como imperfecta en cuanto no logra movilizar los recursos de la plaza financiera nacional al sector de vivienda social.

Como usted sabe, es prioridad del Gobierno impulsar las medidas de política sectorial, incluyendo las modificaciones legales que resulten necesarias, tendientes a incentivar la diversificación y expansión de la oferta de servicios financieros privados para los estratos de menores recursos. Esperamos contar con la colaboración de AID en esta tarea, a través del HG-10.

En este sentido, entendemos que la colaboración será otorgada mediante un programa de apoyo sectorial, para el logro de los siguientes objetivos complementarios:

- Fortalecimiento y securitización de los instrumentos de crédito hipotecario de pequeño monto.
- Desarrollo del mercado secundario para esos instrumentos.
- Desarrollo de seguros de crédito para acreedores y deudores.
- Impulso a la actividad de organización de demanda, a través del apoyo técnico de los actuales actores en este campo y el incentivo a que nuevos agentes desempeñen este rol.
- Perfeccionamiento de los sistemas de otorgamiento, administración y cobranza de créditos de pequeño monto, incluyendo la racionalización en los procedimientos legales y administrativos.
- Explorar el desarrollo de ideas innovadoras en el sector de la vivienda social, entre las cuales podemos señalar como ejemplo el proyecto de arriendo con promesa de compraventa y subsidio estatal diferido.
- Promover un desarrollo urbano racional en los barrios que habitan los sectores pobres.

Nuestra intención es utilizar los recursos que se aporten por esta vía del siguiente modo:

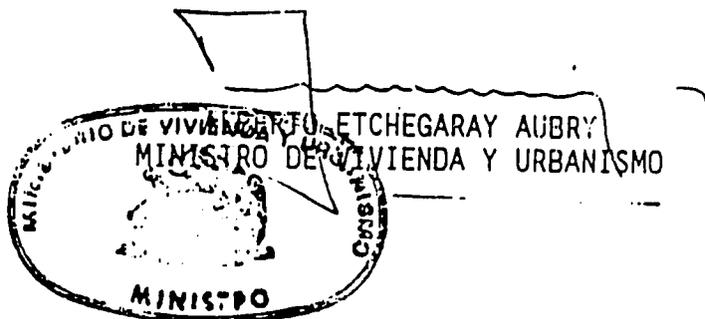
- 1º El Estado de Chile contrataría un crédito privado en la plaza bancaria de Estados Unidos de Norteamérica, por un plazo de entre 20 y 40 años. AID concurriría a otorgar su garantía a dicha captación de fondos.
- 2º La administración se efectuaría a través de una Corporación de derecho privado sin fines de lucro, conforme lo convenido con AID, integrada por personalidades de alto nivel con una destacada trayectoria y liderazgo dentro del sector privado. Esta Corporación actuaría como fideicomisario de la operación.

61

Tarea esencial de la Corporación será promover la participación dinámica de las instituciones del sector privado en la consecución de los objetivos del programa de apoyo sectorial. El Gobierno está abierto a procurar la implementación de las medidas legislativas o que competan directamente a su ámbito, para este mismo fin.

- 3º También, según lo acordado con AID, se establecerá una cuenta PLICA en una institución financiera de la plaza, para el control de los desembolsos correspondientes y su recuperación.

Saluda atentamente a usted,



DISTRIBUCION:

- Destinatario
- Sr. Director RHUDO/SA
- Gabinete Sr. Ministro de Vivienda y Urbanismo
- Comité Asesor

Annex 6A: TECHNICAL ANALYSIS

A. Private Shelter Finance Component

1. Demand for Low-Income Shelter Finance

As was indicated in Section II. above, the production of low-income housing in Chile is organized almost entirely by the Ministry of Housing and Urban Development, with the participation of private contractors, housing cooperatives, and the "Corporación Habitacional" of the Chilean Construction Chamber. The main programs operated by MINVU, along with estimated production levels for 1991, are as follows:

<u>Low-Income Housing Program</u>	<u>Est. 1991 Production</u>
Serviced lots	15,000
Progressive housing units	10,000
Rural subsidy program	5,000
"Basic" subsidy program	20,000
"Special" subsidy program	15,000
"Unified" subsidy program	28,000
Total	<u>93,000 units</u>

Among these, the Unified Subsidy Program provides housing in the range of UF 300 to UF 2,000 (US\$7,100 to US\$41,000). Over 90 percent of its resources are concentrated in the UF 300 to UF 900 range, however, affordable under current conditions to families in the second to the eighth deciles of the income distribution¹. Indeed, more than 70 percent of public sector subsidy resources channeled through the Unified Program are directed at housing valued at UF 400 and below, affordable by families in the second and third income deciles.

HG-010 is designed to facilitate the participation of private mortgage lenders in financing housing included in the second tier of the Unified Subsidy Program, valued between UF 400 and UF 900. The program will establish mechanisms to ensure that housing financed with HG resources does not exceed an average home value of UF 600 from the outset of the program.

At present, the only mortgage financing that is available for housing in the UF 300 to UF 900 price range is that provided by the government-owned Banco del Estado. Private commercial and mortgage banks have limited themselves to loans of UF 1,000 and above, justifiably citing the proportionately higher fixed administrative costs and higher repayment risks that have historically characterized the middle and lower income markets. The policy reforms and credit enhancements that will be implemented through the HG-010 program will mitigate these costs and risks, and will make it possible for the private sector to undertake a major expansion into these segments of the market.

¹ See Appendix 7. for income distribution and housing affordability estimates. As indicated there, the median income household is estimated to earn about UF 11 (US\$225) per month, and can afford a unit valued at UF 600, assuming a UF 130 subsidy, a 20 percent down-payment, a 20-year mortgage at 8.5 percent real interest, and monthly payments equal to 28 percent of monthly income.

The flexibility provided by the U.S. Congress specifically for this proposed housing guaranty program in Chile with regard to lifting the restriction on lending to families with above-median incomes, will facilitate the entry of the private sector into the middle- and lower-income home mortgage markets by permitting a gradual transition, and some diversification initially among both middle and lower income borrowers. As the HG-010 program progresses and private income lenders gain familiarity with these new market segments, portfolio distribution rules will ensure that there is a gradual movement into the below-median segment of the market and it is anticipated that by year four all HG resources will be being channeled to the below-median market.

Table A-1 below, provides information on the production and financing of housing through tiers 1 and 2 of the Unified Subsidy Program during recent years. As noted there, a total of 22,296 such units were produced in 1990, and this number is forecast to increase to somewhat more than 25,000 units in 1991. Over 70 percent of the units scheduled for production in 1991 will be valued at UF 400 and below, for an average projected unit value of UF 365. Similarly, as in 1990, it is expected that the average value of units priced in the UF 400 to UF 900 range will be UF 625, a level that is almost precisely at the median-income affordability level.

Subsidies are expected, on average, to cover about 32 percent of the sales values of these units. After accounting for owner-financed down payments of 10 to 20 percent (expected to average 12.5 percent), this leads to a projected demand for mortgage financing in these market segments during 1991 of UF 5,966,000, or approximately US\$120 million. The average mortgage would be for about US\$5,000, with an average loan-to-value ratio of 55 percent. For the lowest priced units, the estimated average loan-to-value ratio drops to 50 percent, reflecting the proportionately higher subsidies that are granted in this segment.

Thus, the mortgage market that has been identified for the HG-010 program can be characterized as one that is amply collateralized, and large enough -- both in terms of overall size and average loan amounts -- to merit the serious interest and market development efforts of the Chilean private sector.

2. Feasibility of Implementing Required Policy Reforms

The main policy reforms that will be required to achieve the objectives of the HG-010 program include:

- . strengthening MINVU's existing low-income mortgage guaranty system;
- . legislating the implementation of automatic payroll deductions for mortgage loan collections;
- . facilitating the organization of private mortgage credit insurance; and
- . facilitating the securitization of low-income mortgage loans to augment their appeal to institutional investors.

The best means of assessing the feasibility of achieving these reforms is to evaluate the current status of each, and to weigh the extent of MINVU's commitment to carrying forward with

**Table A-1: Production and Financing of Housing
Through the Chilean Unified Housing Subsidy Program
1989 to 1991**

<u>Item/Year</u>	<u>1989</u>	<u>1990</u>	<u>est. 1991</u>
no. units < UF 400	8,242	17,445	20,000
no. units < UF 900	1,978	4,851	5,400
subtotal	10,220	22,296	25,400
val. units < UF 400 a/	2,812	6,366	7,300
val. units < UF 900	1,225	3,027	3,375
subtotal	4,037	9,393	10,675
avg. val. units < UF 400 b/	341	365	365
avg. val. units < UF 900	619	624	625
subtotal	395	421	420
subsidies < UF 400 a/	1,159	2,535	2,700
subsidies < UF 900	251	609	675
subtotal	1,410	3,144	3,375
avg. subs. < UF 400 b/	141	145	135
avg. subs. < UF 900	127	126	125
subtotal	138	141	133
est. mortgages < UF 400 a/c/	1,302	3,035	3,688
est. mortgages < UF 900	821	2,040	2,278
subtotal	2,122	5,075	5,966
avg. mortgage < UF 400 b/	158	174	184
avg. mortgage < UF 900	415	420	422
subtotal	208	228	235

Note: a/ in thousands of UF
 b/ in UF
 c/ reflecting 12.5% down-payments financed from savings

Source: MINVU, Informativo Estadístico No. 162, December 1990.
 Table 20: Sistema de Subsidio General Unificado

the policy reform process. In what follows, we report pertinent indicators of current status and MINVU commitment.

Low-Income Mortgage Guaranty System

Article 28 of Supreme Decree No. 44, dated March 14, 1988, states that any mortgage lender participating in the financing of the GOC's Unified housing subsidy program with mortgage loans of up to UF 670, and suffers a loss following the legal foreclosure and sale of a house, including up to UF 200 in lost interest, legal expenses and fees, shall be compensated by the government, through MINVU, for up to 75 percent of his loss.²

Considering that loan-to-value ratios for mortgages extended under the Unified Subsidy Program typically do not exceed 55 percent to begin with, the risk of losses to lenders operating in this segment are effectively already very small. It might, therefore, be considered that the guaranty coverage sought for private sector lenders through HG-010 is already in place.

In some ways, it is. However, for a variety of reasons, it is considered necessary to significantly strengthen the existing mortgage guaranty coverage, including the conversion of its legal basis from that of a Supreme Decree to that of a Law.

One of the main reasons is credibility with the private sector. Up to now, there has been almost no participation of private institutions in low-income mortgage lending, and very little foreclosure experience with the existing government-originated mortgage loan portfolio. There is no track record the government can point to, other than a negative history of successive restructuring of its own portfolio, that extends well back even into the Pinochet regime. Thus, despite many tough and effective measures that have been taken by the Aylwin Administration to improve the repayment performance of low-income mortgage borrowers, private lenders do not yet feel comfortable leaving the application of mortgage guaranties entirely up to administrative decision.

Another reason why it is important to legislate the mortgage guaranty program is that it otherwise will remain unfunded. Although, as stated above, actual payments from the program are expected to remain low even under the worst of circumstances because of the high collateralization of low-income mortgage loans, the appropriation of modest funds to back the guaranty program will add to its credibility, and any such appropriation requires legislative approval.

Finally, it will be important to make very explicit the coverage of political risk through the GOC mortgage guaranty program. The predominant fear of private mortgage lenders consulted regarding their interest in the low-income segment of the market is that the government will at some point interfere in the collections process in response to political pressures. Many consider that the credit risks can be managed, but, as indicated, there is ample precedent to justify private concern over politically motivated actions that would interfere with loan recovery. If any such actions that could result in losses to private lenders were to be explicitly covered by Law, there is good reason to believe that a major obstacle to private sector participation in this market would be overcome.

² Parallel coverage for the "Special" subsidy program insures lenders against up to 90% of their losses. See D.S. No. 235, 1985.

These issues have been amply discussed with the Minister's top advisors, and they have conveyed the Minister's commitment to prepare legislation strengthening MINVU's mortgage guaranty program along the lines required by the HG-010 program.

Automatic Payroll Deductions

Automatic payroll deductions are already used on a significant scale in Chile, for the collection of pension fund contributions for example, as well as for the collection of home mortgage loan payments for certain programs administered by MINVU and the Banco del Estado. Executives of the Banco del Estado report excellent results from the practice, both in terms of reduced loan administration costs and reduced delinquency rates.

Existing legislation poses no obstacle to expanding the practice of mortgage loan collections through voluntary payroll deductions. Indeed, legislative language specifically authorizes payroll deductions for the collection of home mortgage payments, and, in addition, establishes an upper limit of 15 percent of workers' salaries that can be automatically deducted for the collection of other obligations, such as pension fund and health insurance contributions.

However, present law does not oblige employers to offer this service to their employees. As a consequence, the practice has not extended beyond some of the very largest employers in Chile at this time, and the unwillingness of more employers to offer this service would restrict the ability of private low-income mortgage lenders to require that their borrowers participate in an automatic payroll deduction plan.

The effectiveness of automatic payroll deductions in reducing costs and delinquency rates is so great, and achieving such reductions is so important to permitting private lenders to operate successfully in the low income housing market, that MINVU has determined to seek legislation that would require employers of more than a certain small number of people as yet to be determined - perhaps 10 or 15 workers - to offer automatic payroll deductions to their employees on a voluntary basis. This would make it possible for such workers seeking access to private mortgage loans to obtain them without arbitrary restriction and at modest administrative cost to their employers.

Mortgage-Payment Insurance

There are no specific legal or regulatory constraints to the development of private mortgage payment insurance at this time. In fact, several private casualty insurers are working on the development of closely related coverage - involuntary unemployment insurance to cover mortgage payments - and report that reinsurance arrangements are close to being concluded, and that the product will be offered on the market in Chile within the next several months.

The financial feasibility of the type of mortgage payment insurance proposed for the HG-010 program -- intended to assure uninterrupted debt service on delinquent loans during the loan collection and recovery period -- will depend crucially, however, on the specific changes that are enacted into Law for the government's existing mortgage guaranty coverage.

Mortgage payment insurance, as conceived for the HG-010 program, can be viewed as interim financing of a portion of the losses that will ultimately be recovered through the loan collection process and/or the government's mortgage guaranty program, designed strictly to

eliminate the risk of cash-flow interruptions for institutional investors who need to be able to project cash receipts with a high degree of certainty. Since, as conceived, payments advanced by the mortgage payment insurer will be recovered by the insurer from the combined proceeds of the sale of foreclosed assets and collections from the government's mortgage guaranty program, if any, this type of coverage should be low in cost. Its viability will depend in large degree, however, on the credibility of the final mortgage guaranty coverage offered by the government, and it is therefore this legislation, already discussed above, which is considered to be the key policy constraint to the development of private mortgage payment insurance.

Securitization of Low-Income Mortgage Loans

While the securitization and sale of financial assets is not yet a common practice in Chile, there are no specific legal or regulatory impediments to its development.

Like any other security offered for sale to the public, securitized mortgage loans would need to be registered as securities with the Superintendencia de Valores y Seguros, and would need to be rated by at least two independent rating agencies. None of this presents any particular difficulty.

An important institutional market for securitized low-income mortgage loans can be developed on the basis of the potential investment demand of life insurance companies – who have a special need for long term, fixed income assets – as well as of investment companies and funds that have been recently approved to serve as vehicles for the placement of pension fund resources.

In the long run, however, it would be advantageous for the pension funds to be able to invest in mortgage-backed securities (MBS) directly, without the intermediation of investment companies. Presently, pension funds are specifically prohibited from making direct investments in mortgages or MBS, due to a lingering fear that pension fund subscribers could organize to exert pressure on the pension fund managers to offer low-interest mortgage loans funded with "their" savings. This was a common practice of the previous governmental social security system, one which contributed in large measure to its failure.

Despite the validity of pension fund regulators' concerns over this issue, it is considered that, over time, it may be possible to amend pension fund legislation to permit them to invest directly in appropriately diversified packages of mortgages. While it will probably never be advisable to permit pension funds to issue or directly refinance individual mortgages, the diversification that can be achieved through securitization should be adequate to protect pension funds from the possibility of political pressure exerted by any particular group of mortgage borrowers or pension fund subscribers.

Assuming that the quality of the underlying mortgages can be established and protected, MBS would be ideal investments to be included in pension fund portfolios. Though not critical to the success of HG-010, given the existence of other institutional investors and of other indirect channels to pension fund resources, it is considered likely that the pressures generated by the need to develop more and more diverse securities for the pension funds, coupled with the large demand for financing of low-income mortgage loans, will ultimately lead to the legislative changes we anticipate. MINVU and the HG-010 program will support such change as the conditions needed to make it viable gradually evolve.

3. Interest and Capability of Private Sector Institutions

For purposes of evaluating the interest and capability of the private financial sector to participate in low and middle-income home mortgage lending, it is necessary to disaggregate the private financial sector into three distinct subgroups:

- Mortgage Lenders - consisting primarily of commercial banks and mortgage banks, or "mutuarias",
- Credit Insurers, and
- Institutional Investors, consisting primarily of pension fund management companies and life insurance companies.

Each sub-sector is discussed briefly below.

Mortgage Lenders

Until recently, the only private sector source of home mortgage financing in Chile has been commercial banks. At the end of 1990, there were 13 private and one government-owned commercial bank in Chile, with outstanding domestic currency loans equivalent to UF 432 million. The stock of mortgage loans outstanding³ at this date was approximately UF 88 million (of which UF 69 million in home mortgages), and new home-mortgage loans for UF 11 million⁴ were originated during the year. About UF 22 million, or 25 percent of the total mortgage loans outstanding, belong to the government-owned Banco del Estado.

Commercial banks in Chile finance long-term mortgage loans through the issuance of "letras de crédito hipotecario" ("letras"), which are liabilities of the issuing bank backed by existing mortgages held by them with matching maturities.

The main investors in "letras" are the pension funds and life insurance companies.

Traditionally, commercial banks are short-term lenders and borrowers and are more comfortable with business than household clients. Residential mortgage lending does not complement their other banking activities well, and is generally not a high priority activity even if profitable. There is certainly very little incentive for commercial banks to enter the low-income home mortgage market, despite its potential size. As a result, very few private commercial banks in Chile are engaged in residential mortgage lending, and none at all in the low-income segment of the market. Low levels of competition for mortgage origination and servicing among banks have led to the persistence of spreads on the order of 3 to 4 percent, as compared to a range of from about 0.75 to 1.20 percent in the U.S.

³ Including industrial and commercial. The source for these data is the Central Bank of Chile's Boletín Mensual, March 1991.

⁴ About U.S.\$ 226 million. Source: Cámara Chilena de la Construcción, Boletín Estadístico, March 1991.

Institutional investors find it difficult to analyze the credit quality of a "letra", because the mortgages backing the "letra" can change over time. Investors therefore tend to price "letras" on the credit strength of the issuing bank, which results in many cases in a cost to the issuing bank that does not reflect the quality of its mortgages. Many institutional investors would prefer an instrument that is collateralized by a pool of specific mortgage loans that can be examined for characteristics such as credit quality and probable timing of prepayments. At the same time, banks generally prefer to invest resources that commit their capital in shorter-term and more secure commercial loans.

As a partial response to the deficiencies in the private home mortgage lending system in Chile, the government has within the last two years authorized the organization of Administradores de Mutuos Hipotecarios Endosables, or "Mutuarias", which, like U.S. mortgage banks, specialize in the business of originating home mortgages for resale to institutional and other investors, while retaining the mortgage servicing function and corresponding fee income.

At this time the primary market for the "mutuarias" is made up of life insurance companies. Indeed, two of the six "mutuarias" presently in operation are owned by life insurance companies⁵, who see them as a way of generating mortgages for their own investment portfolio. Two banks and the Chilean Chamber of Construction, which is affiliated with the second largest pension fund management company in Chile, have also recently organized "mutuarias", while other groups - ranging from insurance companies to the association of housing cooperatives, COVIP - are also actively preparing to open competing organizations.

The advantages of the "mutuaria" for originating and servicing home mortgage loans are specialization, lower administrative overheads, and - because they bear no credit risk and do not take deposits from the public - lower capital requirements. Since November 1988 to date, the "mutuarias" have issued about UF 2.7 million (US\$ 55 million) in home mortgage loans in Chile. Despite their limited operating experience, it is to be expected that their greater specialization and efficiency, as well as their close connections to important institutional investor groups, will allow the "mutuarias" to rapidly develop the private home mortgage market in Chile while operating at significantly lower cost and margins than those private commercial banks who remain unspecialized.

Private "mutuarias" in Chile are already beginning to operate in segments of the home mortgage market that extend to home values as low as UF 1,300-1,400. The policy reforms and credit enhancements that will be facilitated through the HG-010 program, along with the local currency resources that will be advanced to interested "mutuarias", are expected to be effective in accelerating the development of a stable middle and lower-income home mortgage market by the "mutuarias" - facilitating their transition from UF 1,000 to the UF 600-900 range, initially, and to financing the sale of homes priced as low as UF 400 after a period of familiarization and adaptation.

Extensive interviews with the top management of several of the "mutuarias" already operating in Chile have confirmed their interest in participating in these lower-income market segments, under the conditions of reduced risks and costs that the HG-010 program is intended

⁵ The six existing "mutuarias" are Aetna, Mutuoban (owned by AIG), Andueza Sedwick, Hipotecaria La Construcción, Banco BICE, and Banco Santander (owned by the same holding company as Seguros Santander).

to bring about. Their extensive institutional resources and the successes they have achieved to date attest to their capability to develop the lower-income segment of the home mortgage market in Chile, assuming that an appropriate market environment can be developed and maintained.

Credit Insurers

An important design element for the private shelter finance component of the HG-010 program is the organization of private mortgage payment insurance.

As was pointed out in the discussion of the policy reform program, above, the exact nature and ultimate viability of private mortgage payment insurance depends crucially on the implementation of reforms to the existing governmental mortgage guaranty program that have been agreed to with MINVU.

The interest and capability of the private Chilean insurance sector, as determined through direct discussions held by the Project Paper team, has at least three key aspects. One is the similarity of proposed mortgage payment insurance coverage to other products already available or under development by the private sector. Second is the strength and credibility of the private Chilean insurers who have demonstrated interest, and third is the existence of adequate reinsurance mechanisms.

On the first point, there are at least two private casualty insurance companies in Chile that are close to offering an involuntary unemployment policy to cover mortgage payments. This product is very closely related to the mortgage payment insurance proposal that has been developed for HG-010, that in some ways goes considerably beyond what would be needed for HG-010. Main features of the draft unemployment insurance policy that has been reviewed are:

- . Coverage of up to 12 monthly payments at each incidence of involuntary unemployment, and of up to a total of 36 payments over the life of a 20-year mortgage;
- . Payments made on behalf of the insured constitute a direct casualty risk that is not reimbursed to the insurance company;
- . Premium of about 1.3 percent annually of the initial loan amount.

The cost of mortgage payment insurance should be less than the cost of unemployment coverage, on two counts, and may or may not be increased on a third.

First, it is likely that any foreclosure and recovery process triggering the mortgage payment insurance would take much less than the 36 months covered by the unemployment policy, therefore reducing the insurer's exposure relative to the unemployment insurance product. Second, at least under one variant being discussed, payments made under the mortgage payment coverage would be recovered by the insurer out of the funds generated through foreclosure and sale. Except in those cases where the government's mortgage guaranty were triggered, the insurer would suffer no casualty loss at all, and such losses would be small even under the extreme case. The costs to be recovered by the mortgage payment insurer would therefore consist of a cost for maintaining what essentially consists of a standby credit facility, the financial cost of the funds made available to cover mortgage payments during recovery, and some

very small casualty losses not recoverable either through sale of assets or the government's mortgage guaranty program.

Both of the foregoing considerations would argue that mortgage payment insurance should be considerably cheaper than the unemployment insurance product that is being prepared for market in Chile at the moment.

With respect to the actuarial evaluation of the risks being covered by the two policies, it would at first glance appear that the mortgage payment coverage, being unconditional with regard to the causes of delinquency, covers a greater risk than the other policy which is strictly limited to covering non-payment due to unemployment. In theory, this is true. However, in discussions with the actuaries who calculated the bases for the premium that is being considered for the unemployment coverage, it was learned that data was utilized which reflected historical delinquency rates from all causes, not merely those caused by the borrower's loss of employment. Even so, they conceded, calculations had been made very conservatively, and it is probable that it will be possible to reduce premiums considerably from their initial 1.3 percent proposal, if significant price resistance is encountered in marketing and/or as experience is gained with actual claims under the unemployment policy.

This being so, it would appear that the premium costs that have been calculated for unemployment insurance constitute an upper bound on the actually-based costs of offering mortgage-payment insurance. At one plus percent per annum, the present cost estimate for such coverage is high, but not necessarily so high as to render the concept of mortgage payment insurance infeasible. In fact, it is likely that mortgage payment insurance would result in a reduction of refinancing costs because of the increased security it provides for institutional investors. From the point of view of the final mortgage borrower, therefore, mortgage payment insurance may in fact not produce any effective increase in final borrowing costs.

The two casualty insurance companies interviewed regarding their work on unemployment insurance and their potential interest in the mortgage payment insurance product, ISE and Seguros Continental, rank seventh and eighth, respectively, among 19 casualty insurance companies in Chile in terms of 1990 premium income, and are, coincidentally, both affiliated with major French insurance companies, Mutuelles de Mans and Union d'Assurances de Paris (UAP). ISE and Seguros Continental are in final stages of negotiating reinsurance for their unemployment insurance product with their parents and other European insurers, and are confident that at least the portion of mortgage payment risk associated with involuntary unemployment could be similarly reinsured.

We are confident, therefore, that viable mortgage payment insurance product can be structured in a manner that will generate value-added for investors and little if any additional cost for low-income mortgage borrowers. How exactly, we can't say, as this will depend in large measure on the features that are legislated into the reformulated government mortgage guaranty program that will first have to be enacted.

Institutional Investors

There is little question of the financial capability of Chilean institutional investors to make a major contribution to the further development of the country's shelter finance system. Indeed, life insurance companies and pension funds are already the largest source of funding for the

housing sector in Chile. Through their investments in "letras hipotecarias", the pension funds have already placed more than US\$ one billion into the Chilean mortgage market⁶. Life insurance companies are estimated to have investments of approximately another US\$600 million in "letras", based on their total investments and portfolio distribution regulations in force as of end 1990.⁷

Will institutional investors buy low-income housing mortgages or low-income MBS? We believe the answer is "Yes", after a while, and if the Chilean government holds to the commitments it has set for itself in the housing sector. If the GOC holds to these commitments, low-income housing mortgages will become secure long-term investments, fully-indexed to inflation, and with a predictable real cash flow. These are exactly the characteristics needed by Chile's institutional investors, whose investable reserves are expected to almost triple in dollar terms during the present decade, growing to a level of about US\$25 billion, or 38 percent of projected GDP, by the year 2000.

The Project Paper team met with industry association executives and the top financial executives of almost a dozen life insurance and pension fund management companies to discuss the goals and policy program of HG-010. While none could offer ironclad assurances of their participation in the low-income home mortgage market prior to the implementation of the program, all supported the approach that is being taken, all expressed serious interest in the investment possibilities that could unfold for them, and none could deny the strength of the forces being generated by the relentless expansion of the resources under their control. The pressing need for a large volume of safe, long-term investments, on the one hand, and the continued existence of a large demand for long-term mortgage financing, on the other, will, in our view, almost inevitably lead to actions to resolve these pressures over the long run. HG-010 will substantially accelerate this process, but will succeed, in our view, basically because it is itself a manifestation of pressures and changes that are already underway and that have already gathered backing and momentum.

B. Public/Private Collaboration in Urban Revitalization

There have been two typical institutional approaches to the development of housing and urban services to date. The private sector, of course, is readily able to respond to demand for the construction of houses and other facilities for which private financing or other resources are available. As discussed elsewhere in this Project Paper, purely private sector resources for the development of housing for below-median income families have been scarce or nonexistent, and private developers have been active in initiating only those projects with clear prospects for profitability. The other approach involves the active participation of MINVU through its SERVIUs, who identify projects for development, secure land, make subsidies available to participants, and arrange for the provision of construction financing. These steps minimize the risk involved for the private sector, who simply submit bids and enter into agreements for the development of housing and ancillary facilities whose purchase -- and thus, profit margin -- have been secured by public sector action.

⁶ Central Bank of Chile, Boletín Mensual, March 1991.

⁷ Data gathered by the Project Paper team from the Chilean Association of Insurance Companies.

In light of this existing framework for intervention in the urban sector, it is appropriate to identify the potential actors able to undertake urban revitalization projects and interested in doing so. First, the private sector is beginning to demonstrate interest in the market for new and rehabilitated housing in older urban neighborhoods. Private homeowners have, in several instances, financed their own improvements such as interior modernization, structural repairs related to recovery from the 1985 earthquake, and cosmetic renovation such as exterior painting and the installation of new roofs, patios, rain gutters, and so on.

Private developers, in a few cases, have initiated the construction of small infill construction projects, some of which use MINVU financing and subsidy programs. Those which have been built recently or which are under construction -- typically on sites whose earlier structures were destroyed by the earthquake -- are dense developments of four storey apartments eligible for sale through MINVU's Unified Subsidy Program's first rung.

SERVIUs are also capable of initiating revitalization activities in the inner city which involve the construction of new units on vacated sites or on those targeted for demolition. However, the pressure they face to produce large numbers of units to meet the demand reflected by large numbers of families on their waiting lists effectively prevents their relatively labor-intensive initiation of other solutions such as smaller inner city projects.

However, their sister planning agencies -- the SEREMIs -- may induce some redevelopment activities in the housing field as a result of some of their long term initiatives. These include the improvement of road networks and traffic flows around Santiago, and the relocation of urban markets for agricultural produce from an older section of North Central Santiago to a site at which there is convergence of railway lines and highways in the South Central district. This effort is likely to have two sets of impacts on the availability of land for residential development. First, the vacated area of the North Central district would come into the residential land market, and would be appropriate in terms of location and infrastructure for the development of housing. Second, the area around the redeveloped transportation center/agricultural market could also be available for housing, particularly for the workers required to make the new commercial activity functional.

While, in the long term, these related projects may result in the availability of large tracts of land for the development of housing proximate to the city center, they do not result in changes in the near term or in the older established neighborhoods which are not likely to experience large scale demolition.

MINVU and the Municipality of Santiago have recognized this dilemma and have made two new approaches possible. MINVU has determined that the SERVIUs are legally eligible to enter into public/private partnerships ("sociedades mixtas") with non-profit and for-profit private sector entities. These entities are eligible to utilize the full range of established subsidy and finance programs. For example, a regional SERVIU may create a partnership with a community organization to borrow funds and to acquire land necessary for the development of housing that SERVIU is otherwise able to assist.

One of the initial examples of such a partnership is that created by the Santiago Metropolitan Region's SERVIU and Taller Norte with the objective of developing houses for "allegado" families who currently reside in properties of sufficient size to permit their subdivision into two lots. Taller Norte, an established NGO with experience in self-help housing among the

poorest of the area's residents, is charged with identifying eligible sites and families in targeted neighborhoods. Their ability to bring groups of applicants to the SERVIU for processing in their progressive housing program clearly makes this venture more efficient from the public sector's standpoint. SERVIU then works with a number of lots to subdivide them, secure their title, and initiate the process of providing infrastructure hook ups, a sanitary core house, and a two phase loan for construction of an adequate dwelling.

While this first partnership was designed to implement a program in its experimental phase, certainly others could be designed to utilize more established approaches and programs for housing development.

Private non-profit organizations have a well established history of participation in the housing field, including the notable achievements of housing cooperatives. Now, there is ample opportunity for these to join with public partners in a development process which will also require the involvement of the for-profit construction industry. Non-profit and community organizations, including cooperatives, church-sponsored corporations, and recognized neighborhood groups ("juntas de vecinos") all are eligible to borrow funds under current Chilean law and may, therefore, enter into partnerships. Their role in "organizing demand" -- that is, in identifying those who desire housing improvements and who are eligible for SERVIU assistance (or for private sector financing) -- is likely to be essential to the process of assembling borrowers and sites in sufficient numbers and sizes to attract public or private financial resources and permit construction on an economic scale. Their identification of suitable locations and properties for development in the inner city in combination with the identification of pools of eligible applicants would reduce two significant areas of risk which effectively operate as obstacles to expanded private sector initiative in revitalizing urban communities.

What is currently lacking is a pool of funds for the purchase of sites and properties suitable for revitalization projects.

At the forefront of revitalization efforts are those sponsored by the Municipality of Santiago. In 1985, it established the Corporation for the Development of Santiago (CDS) to examine ways in which the trend towards decay and disinvestment in the inner city might be reversed. This Corporation is governed by a board of directors of seven members, three elected by member businesses, two elected individuals, with the Mayor of Santiago as President and the Secretary of Planning as Vice President. The CDS has a full-time professional staff whose grasp of the municipality's situation, obstacles, and opportunities is impressive. Included are an architect and engineer as well as an executive director and administrative personnel. Access to the municipality's attorney insures legal assistance with land titling and other legal matters as well as coordination with municipal staff.

The CDS estimates that approximately 234 acres of land are vacant in the targeted district of Santiago Centro Poniente, or West Central Santiago. In addition, nearly 400 acres of buildings of various types may be considered beyond repair and potential available for demolition and reconstruction. Many of these represent the 35 percent of buildings seriously damaged or destroyed in this district from the March 1985 earthquake.

These figures may be compared with the 1,060 acres or approximately 1.5 square miles included in the entire West Central district. Therefore, a large portion of the district -- 22 percent

of the total land area - is available for construction, with nearly another 38 percent requiring demolition and rebuilding activity.

The average price of available land is US\$166,680 per acre, with a considerable supply of sites available to the Corporation for the Development of Santiago or other interested developers. Most of the available vacant properties are of a rather small size and are scattered throughout the district. Site sizes range from those resulting from the razing of a single building, with about 1000 square feet, to numerous sites of one-quarter to one-half acre.

Current standards in combination with small typical unit sizes of only 400 to 600 square feet in the MINVU subsidized housing programs permit construction at a density of up to 115 units per acre in the form of three and four storey units. The ability to develop several small sites with 20 to 50 units each makes it feasible for builders to realize economies of scale in construction in older established neighborhoods such as West Central Santiago.

The Corporation for the Development of Santiago has identified 141 parcels available for sale that are suitable for construction of residential and ancillary commercial facilities, along with 51 land owner who face pending demolition decrees. Among these properties, several have been identified as affordable and otherwise desirable for residential construction. The following projects offer examples of situations in which housing for those of low to moderate income, eligible for participation in the first rung of the Unified Subsidy Program, may result in reused inner city sites:

Calle Esperanza includes two types of projects planned by the Corporation for the Development of Santiago. First, two "Cités"¹ are targeted for rehabilitation. Each consists of approximately a dozen old houses -- some divided into apartments -- which are in need of new roofs, sewer hookups, bathroom upgrading, and some work such as caulking and repair of stucco facades. It is estimated that about US\$1,200 per unit will be sufficient for significant improvement of these dwellings, all of which are occupied by families and individuals below the poverty level.

On the same street, a 0.7 acre site is available for the construction of walk-up apartments developed under the Unified Subsidy Program. Other nearby sites showed how this program had already been used, with the construction of simple, but reasonably attractive brick units, that blended in with their surroundings. This new site would provide sufficient land for the development of an additional 80 units at a unit land price of US\$1,160. Construction and on-site service costs totalling US\$6,700 for a unit of 525 square feet would result in a total house cost of US\$7,860, placing it within the bottom rung of the Unified Subsidy Program. The subsidy of US\$2,600 and savings of US\$980 will require monthly payments of approximately US\$37 per month, making such a unit affordable to families with monthly incomes of US\$148, which would place them between the third and fourth deciles of the urban income distribution.

¹ "Cité" is a term for alley-housing, which is prevalent in many parts of the old central district of Santiago. Generally, housing on these alleys or cul-de-sacs in two storeys tall, and mixed in with small shops and businesses.

- Proyecto Liceo Juan Antonio Ríos Mapocho/Lourdes will involve the construction of an estimated 83 units on a 0.84 acre site with a per unit land cost of US\$1,446. It is possible for units to be developed just within the approximately US\$8,000 limit for the Unified Subsidy Program's first rung, serving similar incomes to the above project.
- Proyecto Mapocho/Manuel Rodríguez will be developed on a small site of just 0.24 acres with estimated land costs per unit of US\$1600. This will require the choice between developing slightly smaller units in order to fit within the US\$8,000 ceiling on the Unified Subsidy's first rung, or developing higher-priced and fewer units which would be eligible for a smaller subsidy of US\$2,200. Assuming this latter case, a higher quality 600-square foot unit may be built for US\$15,500, with just 16 units on the site. Financing of US\$11,360 (after down payment and subsidy) would permit a family with monthly income of US\$400 to live there. Such would occupy the eighth decile of the urban income distribution.
- A lower-priced site is available for the Proyecto Herrera/Errazuriz, where land costs would average just US\$720 per unit if the maximum of 75 units can be built on the 0.65 acre site. At US\$7,000 each, modest units could be developed for those with monthly incomes of US\$123, i.e. for those in the third income decile.
- Only slightly higher costs are involved in the Polígono de Tiro project, where nearly one acre of land is available for a price of US\$88,400.

Total costs of the aforementioned projects would be an estimated US\$2,723,800, with long term financing requirements of approximately US\$1,563,500.

To date, no additional organizations are yet active in urban revitalization projects; however, in Valparaíso, which is also noted for its historic and crowded housing stock, a team of architects and others concerned with this issue have begun to explore approaches to improving that city's conditions without expansion onto the surrounding hillsides.

Policy Reform

In the view of the Corporation for the Development of Santiago, no specific policy reforms are needed for the successful development of affordable housing projects in the inner city. Instead, they seek MINVU's openness to financing such initiatives based on the Corporation's submission of eligible, feasible plans. This requires only a change in the direction of the initiative: that is, MINVU must become more willing to respond to the proposals of local government and the private sector instead of unilaterally determining what it will build.

In broader terms, current constraints to municipal activities limit the scope of initiatives -- such as municipal creation of partnerships -- which might provide additional solutions to urban problems. New municipal corporations such as the CDS cannot legally be created at the present time, further impairing any process of decentralization of the government. However, changes in the municipal law have widespread support among the populace and its elected representatives, and are likely to come about in the near future. It is significant, however, that urban revitalization

efforts can move ahead with the sponsorship of public/private partnerships and other private sector vehicles.

Reforms which fall within the purview of MINVU are possible and practical with limited interventions outlined in the technical assistance plan. These include the establishment of administrative mechanisms whereby individual homeowners can access subsidy and credit resources for the rehabilitation of their units. In addition, MINVU itself must assimilate alternative approaches to the expansive traditional pattern of urban development, and devise ways to make project choices which consider a more complete picture of urban development costs. The inclusion of the actual costs of providing land, infrastructure, and essential services will result in the eventual elimination of implicit subsidies in the public housing market and related distortions in land markets.

There are additional areas in which reforms are not essential to the process of urban revitalization but, where changes could have a positive impact on the level of access among those in need of housing. Advocates for women and for aging and physically handicapped individuals within MINVU, argue that inner city housing innovations offer the greatest potential to delivering improvements to those for whom traditional "family" housing is less suitable. For example, adults who live alone may benefit from residence in the secure environment of an inner city "Cité" where individual units can be available for rent by floor. Owners of larger homes could convert them into double units, with ground floor apartments for older or handicapped persons and family quarters for the owner above.

While receptive to such concepts, MINVU lacks flexibility in the use of current programs to permit such uses. HG-010 funds could be available to match typical MINVU family subsidy/financing resources to permit such creative solutions to local demands.

Infrastructure: Condition and Availability

The condition of existing infrastructure in the Metropolitan area of Santiago is regarded as sound and capable of accommodating three times the level of demand placed on current systems. This is the view shared by both the CDS and the SEREMI for this region. Studies done by the Catholic University over the past several years also attest to the good condition of current water, sewerage, road, and electrical networks. Inner city neighborhoods such as West Central Santiago, are likely to have better water pressure and fewer sewer line problems, according to these studies, than are those located in peripheral communities. In addition, only inner city districts are equipped with storm water drainage systems and with gas pipelines. While Santiago does not often experience major rainfalls, the combination of runoff and the accumulated flows from neighboring mountains does result in the full use of existing drainage channels. During normal rainfalls, many roads outside the central city storm drainage network are flooded and even impassable, with unpaved peripheral streets turned into muddy tracks. Some have begun to express concern about related soil erosion. Therefore, it appears that the improved utilization of existing networks of infrastructure in the inner city may be undertaken without additional cost and even with a reduced environmental impact with relation to peripheral development.

The road network is clearly superior in the inner city relative to that of outlying communities. Within the municipality of Santiago, for example, 96.8 percent of all roads are paved, compared with 49 percent to 74 percent of roads in other metropolitan area municipalities.

Design Options

Within each area that may benefit from revitalization, there are likely to be opportunities both for new construction and for rehabilitation of existing units. It is clear that economies of scale must be considered if costs are to be affordable in revitalization projects, as may be accomplished through aggregating sites in one neighborhood for new construction. Other choices are likely to be less apparent, except upon close examination of the unique features of each project.

Some general comments may nevertheless be warranted, although these concepts are understood by such actors as the CDS and some of the non-profit organizations with experiences of collaboration with the Chilean Chamber of Construction. Among these considerations are the rehabilitation of buildings only when it is cost effective to do so. Over time, more expertise in the assessment of existing structures will be developed. Generally, rehabilitation must be supported in those places where economic efficiency and market impact are both positive -- that is, where the appearance of the rehabilitation can be seen and can have an impact on attracting additional demand and investment. Project selection will not, therefore, be based solely on the desire for preservation.

Demand for Revitalization

A study of demand and opportunities for revitalization in the central city was undertaken jointly by the Pontificia Universidad Católica and the Municipality of Santiago's Planning Department in 1988.⁹ This study focused on the area's current residents, the vast majority of whom preferred to stay in their current residences due to the benefits of proximity to employment, commercial, and cultural opportunities. Most area residents are adults, with 55 percent between 20 and 60 years of age. The preference among current residents was for major and timely rehabilitation of their current dwellings, with some desiring to share housing or to gain access to a house rented by floors.

C. Small Scale Urban Environmental Initiatives

The major benefit of this component is the demonstration impact it would have on municipal development capacity. Even though HG-010 would be administered by a central sectoral ministry, successful demonstration projects in this component would help to change attitudes about local capacity to initiate and implement development projects and generate resources. The project would help to create a more entrepreneurial spirit at the municipal level, instead of reinforcing the dependence on central government grants. Successful replication of demonstration projects in the long run could help change the private financial sector's attitude towards the financial worthiness of local small scale development projects, possibly paving the way for capital lending being made available to municipalities as the law changes to enable them to borrow.

The wastewater treatment projects would address a major shortcoming in Chile's infrastructure. The vast majority of wastewater goes untreated into the ground, rivers, and ocean. These projects would help expand public awareness that clean water is not a free public good,

⁹ Estudios Para el Plan de Desarrollo Urbano y Económico de la Comuna de Santiago, Faculty of Architecture and Fine Arts, Catholic University of Chile, 1988.

but, instead, is a scarce and expensive product that must be recycled. Moreover, in some agricultural areas of Chile, untreated wastewater is being used to irrigate crops, thus creating a public health hazard that is particularly acute because of the threat of cholera. These small scale wastewater treatment projects would have the added benefit of showing municipalities that it is possible to economically treat wastewater and that appropriate technologies exist to do so.

The potable water projects identified as priority at the regional and municipal levels deal primarily with linkages of new housing developments, especially social housing, to existing water systems, rather than the development of new water sources or the treatment of drinking water. The lack of funding for these water projects has posed a major bottleneck for some of MINVU's housing projects.

Neighborhood street paving, while seen by most municipalities as a lower priority than water projects, affords a suitable opportunity for demonstrating creative small scale financing mechanisms that mobilize local community resources and can possibly leverage private financing. Although these projects would be limited to very low traffic neighborhood streets and would not involve storm drains, the avoidance of dust and the water savings in not having to water down unpaved streets would create a positive environmental impact.

The provision of drinking water and wastewater disposal for new residential communities also falls within the responsibility of the sponsoring SERVIU. The emphasis on extending services to the new homes to which other MINVU resources are applied results in a related lack of emphasis on the extension of these services to households not benefiting from housing programs. MINTER efforts to provide basic infrastructure to urban centers and small towns are, of course, limited by the level of public resources assigned to this task -- resources which include significant investments by the Interamerican Development Bank.

Beyond these, the limited funds channeled through the FNDR (Regional Development Fund) are insufficient to provide for the volume of water and wastewater needs of all communities.

SENDOS such as EMOS in Santiago operate under spending limits imposed by the Ministry of Finance, enforcing the centralized approach taken by the government to service provisions and, possibly, limiting their ability to initiate development of facilities and services which could be financed in the private sector.

There have been few avenues for private sector intervention in the provision of water and wastewater services despite the conversion of the former public service authorities into "corporations", such as EMOS in Santiago. Municipalities themselves are not permitted to borrow funds to provide improvements needed by their residents; neither are the residents themselves in a position to borrow from established sources of finance to address these needs. The "privatization" of the water and sanitation services still has not resulted in their access to private financial markets, although concepts of cost recovery and careful capital budgeting have clearly come to be incorporated into their planning processes. The typical approach to the provision of these services at the local level is the channeling of public funds -- through MINTER and FNDR -- to the SENDOS.

True private intervention to ensure the availability of services to unassisted communities or for the expansion of business opportunities has been rare, and the resources to foster such innovations even scarcer. However, the initiation of demonstration activities in this sector will be

planned to attract private investment and operation of such projects in the future. As with the housing and revitalization components of HG-010, it is expected that support to the public sector will enable MINVU and its SERVIUS to initiate new ventures which will be undertaken as partnerships with private sector firms. Their involvement will be secured as it becomes clear that such activities are affordable to their beneficiaries and that the risks of initiating additional projects are reduced relative to current perceptions.

Public awareness of the importance of wastewater treatment is growing rapidly; however, the acceptance of cost recovery as an essential element of such improvements is not keeping pace with the demand for services. The lack of real municipal control over its tax base, resources, and so on undoubtedly exacerbates the attitude that basic infrastructure is a "right" which should be provided by the central government, rather than a "good" which should be purchased and sold on a market basis. Efforts to push local providers of services to operate under principles of cost recovery, while denying municipalities whose existence is so closely tied to the availability of such services the ability to initiate and control local services, reveal an inconsistency in the operation of local government that will become apparent through the implementation of demonstration projects under HG-010, laying the groundwork for the development of more effective approaches.

Annex 6B: FINANCIAL ANALYSIS

A. Private Shelter Finance

1. HG Borrowing and On-lending Costs

Based on recent yields on 30-year U.S. Treasury Bonds of about 8.0 percent, 0.5 percent added by the U.S. investor, and AID's annual housing guaranty fee of 0.5 percent, one could estimate an annual borrowing cost of about 9.0 percent to the Chilean government, if the funds were to be contracted for today. In fact, the cost is likely to be slightly lower, given the continuation of a trend towards lower interest rates in the U.S. over the next year.

Domestic borrowing costs of the Chilean government, estimated on the basis of the yield on 10-year Treasury notes (PRT), is currently about 6.5 percent, fully indexed for domestic inflation¹⁰. Since the peso is devalued in nominal terms by the difference between domestic and international (largely, U.S.) inflation rates, this rate would be equivalent to a U.S. dollar rate of 6.5 percent plus U.S. inflation, or about 11.5 percent at the present time.

In light of these comparisons and of the fact that 30-year money is in relatively shorter supply even for a highly rated borrower such as the Republic of Chile, it would appear that HG borrowing costs will be competitive or favorable to the Republic during the foreseeable future.

On-lending of HG funds to finance local currency expenditures will be conducted at a domestic market rate that, correctly, bears no direct relation to borrowing costs in U.S. dollars. It will be established solely in relation to rates in the domestic financial market, and will vary with such domestic rates over time. An index that is being considered for this purpose is the market yield on 15-plus year "letras de crédito" issued by the governmental Banco del Estado to refinance its home mortgage portfolio. At end May 1991, this rate was quoted at 6.4 percent for borrowings in UF (i.e., fully indexed for inflation).

Adding 0.5 percent to cover the operating costs of the Shelter Finance Corporation would, were it presently in existence, make it possible for that entity to offer HG funds at a little below 7.0 percent per annum, in real terms, a rate that can be compared to current refinancing costs for "letras de crédito" issued by private banks that are in the range of 7.5-8.0 percent, and to effective yields on individual mortgages sold by "mutuarias" to life insurance companies during the month of April, 1991, of 7.7 percent¹¹. At such a rate, HG funds would offer a slight cost advantage in relation to other sources of financing, which will help to induce private sector lenders into this untried segment of the home mortgage market.

The Banco del Estado currently offers low-income home mortgage loans at a rate to the borrower of 8.8 percent, on average, with a spread over their cost of funds of 2.9 percent.¹²

¹⁰ PRT = Pagaré Reajutable del Tesoro. Bolsa de Comercio, as reported in the financial pages of *Estrategia*, May 29, 1991.

¹¹ Source: Hipotecaria LA CONSTRUCCION, proprietary database.

¹² Superintendencia de Bancos e Instituciones Financieras, *Información Financiera*, February 1991.

Having access to HG funds at 6.9 percent would allow private "mutuarias" to meet the Banco del Estado lending rate, competing on the basis of service and agility primarily, and earn a spread of 1.9 percent on the HG funds they place. As some "mutuarias" are currently operating with a spread as low as 0.9 percent over their funding costs, the opportunity to operate in the low income market on AID funds would allow them to essentially double their spreads at the beginning, compensating partly for taking on additional risk and for having to reduce average loan size from its current level of about UF 1200 to UF 400 and below.

2. Mortgage Origination Costs

The perceived high costs of credit analysis and other loan origination costs, relative to loan size, were pointed out by some prospective private sector lenders consulted by the Project Paper team as potentially serious impediments to their entry into the low-income segment of the market.

No definitive cost accounting analyses were uncovered to put this question finally to rest, but detailed discussions with Banco del Estado's Mortgage Credit Department staff, generated boundary estimates of origination costs that allow us to conclude that these costs are not so high as to pose an insuperable obstacle.

Based primarily on very generous estimates of staff time required to analyze and process mortgage loan applications received from low-income borrowers, the team, in concurrence with Banco del Estado staff, estimates that average loan origination costs do not exceed UF 7, or 2 percent of a UF 350 mortgage loan.¹³ This is clearly a significant cost in relation to the size of the loan, but one that could be recovered through points charged to the borrower at closing (and possibly financed), a practice which is not yet extensively used in Chile.

3. Mortgage Credit Enhancement Costs

Low income mortgage credit enhancement costs will ultimately depend on how successful the government is in dramatically reducing delinquency rates from historical levels, and thereby directly improving the riskiness and value of the credits being supported.

In the past, delinquency among low and middle income mortgage borrowers has been extremely high, and there will be no chance of re-establishing a private shelter finance system for low income borrowers unless these are quickly and permanently reduced. As indicated in Section II., the government has already taken strong measures in this regard, and it is formally committed internally with the World Bank and with AID, to maintaining policies and to acting in a way that will openly punish abuses and discourage irresponsible attitudes regarding payment of mortgage debt.

Besides regulatory actions to facilitate collections procedures, part of what the GOC is doing to address the problem of delinquency is precisely to augment the role of the private sector in the lending and collections process. MINVU is contracting out collections of all of its direct mortgage loans to private companies and is making delinquency information on its portfolio available to private credit information agencies who provide references for consumer loans of

¹³ The estimate is based on an upper limit of two person-days staff time in loan analysis and processing, an average salary of 200,000 pesos (UF 29) per month, and estimated overhead costs equal to 150% of salaries.

various types. Chilean private contract law is strictly enforced by the courts, so that reducing the political and paternalistic elements that have traditionally plagued a government-dominated housing finance system may indeed accomplish rapid and far-reaching results. Involving the private sector directly in the mortgage loan origination and servicing process, as envisaged under HG-010, will further reinforce the already established trend towards putting the low income housing finance system back onto a commercial basis, while preserving the combination of direct subsidies and financial transparency that has enabled Chile to address the physical and social dimensions its low income housing needs so successfully, in relation to the experiences of other developing countries in Latin America.

With a reduction in delinquency resulting from opportunistic and irresponsible payment habits spawned by a paternalistic lender/borrower relationship, and with the maintenance of relative economic stability such as will permit unemployment to stay low, and real wages to continue to increase moderately, mortgage delinquency and default rates should fall to very low levels in Chile. This being the case, the risks and costs associated with providing mortgage guaranty and mortgage payment insurance coverage to enhance the attractiveness of low income mortgages for institutional investors should in fact be quite modest.

As was already noted, loan to value ratios for low income mortgages in Chile are very low, ranging from a maximum of about 55 percent to as low as 12.5 percent in some cases, due to the effect of the size of the direct subsidies and obligatory down payments in relation to home values. Thus, if overall default rates are kept low -- so that existing relief programs can be brought to bear in a timely manner for cases of hardship, normal foreclosure procedures can function in other cases, and the housing market can stay relatively buoyant -- there is very little likelihood of losses to private lenders that take expeditious action for loan recovery. Under these circumstances, mortgage guaranty claims against MINVU will be infrequent and low.

Similarly, we have noted that the private insurance sector in Chile is already developing -- partly as a result of the activities of the Ministry of Housing's Shelter Finance Commission -- unemployment insurance to cover mortgage payments. Private disability insurance to cover these obligations is also beginning to be considered, to complement disability coverage already available through the privately managed but obligatory retirement and health maintenance programs that exist in Chile. Mortgage payment insurance is a natural extension of these concepts, and may either be issued in conjunction with or in lieu of these coverages.

If conceived as a complement to unemployment coverages that is merely designed to insure timely transfer of payments to institutional investors on occasions not covered by the unemployment insurance and requiring foreclosure, payments advanced by the mortgage payment insurer would be relatively quickly recovered through the sale of assets or application of the MINVU mortgage guaranty. The costs of such coverage would therefore be low, based essentially on the financial costs of advancing funds during the period of loan recovery -- say about 12 months on average -- weighed by the expected probability of occurrence and distributed over the number of insured mortgages expected to be written.

If, on the other hand, mortgage payment insurance were to be conceived and implemented as casualty coverage substituting for and going slightly beyond the coverage offered by an unemployment policy, it is likely, as was discussed in Section III., that the costs of the coverage would be in the range of one percent of the loan amount per annum. While this is a relatively high cost, it should be pointed out that such coverage would have the effect of guaranteeing

lenders no lost interest during the loan recovery period, and of increasing the effective amount recovered through asset sales. Mortgage payment insurance would have a similar effect as lowering loan-to-value ratios further still, thereby reducing credit risk further as well. This could be expected to be reflected in a lower risk premium demanded by institutional investors purchasing insured mortgages, reducing cost-of-funds for low income mortgage lenders in such a way that interest costs for borrowers would be affected very little, if at all, by the cost of the mortgage payment insurance.

The effect of mortgage payment insurance is simply that of transferring an element of credit risk away from final investors, thereby reducing their credit analysis costs as well as the risks for which they must be compensated. This should reduce their yield requirements commensurately.

HG-010 will support a broad range of actions that will reduce and redistribute the risks of lending to low income home buyers in such a way that institutional investors presented with securitized low income housing mortgages need only be concerned with maturities, financial market trends and prepayment risk in their analysis. If this can be achieved, a large and liquid market in mortgage backed securities will rapidly develop.

4. Secondary Market Transaction Costs

As noted above, guaranty and mortgagepayment insurance coverages are expected to make low income MBS, when developed and issued, relatively liquid in the secondary market. This will of course add to their attractiveness for certain classes of investors, and add depth to the market that can be expected to develop in them. At such time, secondary market transaction costs would become a relevant concern.

Brokerage commissions for trading in fixed income securities in Chile are fully negotiable, with no maximum or minimum prescribed. Typical fees vary from .05 of 1.00 percent to 1.0 percent plus value-added tax, or VAT, which is currently 18 percent. For bonds traded on the Santiago Exchange (Bolsa de Comercio) a stock exchange commission of .015 of 1.00 percent plus VAT is charged. In the case of the Electronic Exchange, no stock exchange commissions are charged for bond trading. In addition, a major proportion of bond trading takes place over-the-counter, both directly and through brokers.

Mortgage backed securities will typically be issued in relatively large denominations and will typically be traded in large blocks. Negotiated commissions, when such are paid, will therefore be low, and secondary market transaction costs are not considered likely to be an impediment to the development of a market in low income MBS.

B. Urban Revitalization

1. Land Acquisition

The Corporation for the Development of Santiago notes that over thirty acres of land is immediately available to be purchased for revitalization projects in the inner city of Santiago. The amounts of land available in various price categories is noted on the following table:

<u>Price Range Per Acre</u>	<u>Area for Sale</u>	<u>percent of Total Offered</u>
< US\$83,340	1.30 acres	4.28%
US\$83,340-165,846	10.14 acres	33.39%
US\$165,847-249,186	10.83 acres	35.68%
US\$249,187-332,526	2.23 acres	7.33%
US\$332,527-415,866	3.50 acres	11.58%
> US\$415,866	2.35 acres	7.74%

They estimate that the first two categories of land values (up to US\$165,846 per acre) make the development of low income housing (up to US\$8,000 per unit) feasible, with the construction of up to 115 units per acre in three and four storey complexes of condominium apartments.

In addition to these sites which have already been put on the market, there is an estimated 275 acres of land available for demolition and reconstruction as a result of the 1985 earthquake.

Construction costs for typical units in the three rungs of the Unified Subsidy program are as follows:

<u>Rung/Price Limit</u>	<u>Cost per sq.ft.</u>	<u>Size</u>	<u>Unit Const.Cost</u>
I / US\$ 8,000	US\$12.70	580 sq.ft.	US\$ 7,366
II / US\$18,000	US\$21.80	700 sq.ft.	US\$15,260
III/ US\$40,000	US\$37.90	800 sq.ft.	US\$30,320

Participants eligible under the first rung of the Unified Subsidy program, eligible to purchase houses not exceeding a price of US\$8,000, will find it difficult to acquire housing in light of high land costs, unless they sacrifice interior space for location. While the Corporation for the Development of Santiago argues that this is possible, it may be noted that unit sizes are typically already small. If 115 units can be fit onto a one acre site, with land costs per unit of US\$1,450 (in conformance with the upper limit of the second category above), then unit size must decline to 516 square feet.

An estimated 56 percent of current residents of West Central Santiago have incomes below the national median. Fifty-two percent of residents earn between US\$76 and US\$303 per month, with 27 percent earning more than US\$153 but less than US\$303. Earnings of approximately US\$400 per month are required to purchase the typical "second rung" Unified Subsidy unit on the above chart, with a price of US\$15,260. Monthly income of US\$300 provides

92'

the ability to participate in the second rung of the Unified Subsidy to acquire a unit valued at US\$12,000, thus permitting those at the median income to afford these units.

The Mayor of Santiago has recently announced a plan¹⁴ to facilitate developers' acquisition of sites at prices that will also benefit their owners. Just over eight acres of land in West Central Santiago are proposed to be put out on bids to buyers able to develop it for residential purposes. MINVU is prepared to provide an additional US\$400 subsidy to those purchasing housing in this targeted district -- an amount which, the mayor argues, should be five or six times as much, in light of the huge infrastructure development cost savings implicit in urban redevelopment as opposed to peripheral expansion. These eight acres are sufficient for the construction of up to 800 units.

While current programs are unlikely to provide sufficient subsidies to enable many below median income families to reside in the inner city, certain changes could make this possible. One possible change would be to make the first rung of the Unified Subsidy available to single, widowed, or handicapped individuals for the purchase of small units, which might offer some shared facilities. For example, efficiency apartments might be built around common spaces for recreation. Larger subsidies -- either to the individual or to the developer -- which would effectively reduce the cost of land might also be considered. The availability of larger subsidies may well be justified in terms of other savings to MINVU, a topic discussed in the economic analysis section of this Project Paper.

Of concern to the private sector is the ability to develop inner city projects of adequate size to ensure economies of scale. The CDS, in noting this concern, has brought to light an earlier MINVU analysis which determined that 50 Basic Housing units, or approximately 21,000 square feet, are required to provide economies of scale in construction. Assuming that modest units of 500 square feet would be built in a first-rung Unified Subsidy program effort, then 42 units would need to be developed to realize the same economies of scale. The land requirement for this size project is an estimated 0.4 acres.

2. Redevelopment Costs

To date, no exhaustive analysis has been done of the costs of rehabilitating large portions of the existing housing stock, either in targeted districts such as West Central Santiago or as a whole. However, the CDS has begun to assess the feasibility of a few small rehabilitation projects such as those involving most of the units in a single "Cité". For modernization, sanitation, and cosmetic improvements required to make older homes more comfortable and healthful, a cost per unit of US\$2,500 has been estimated. Many individual buildings throughout the district, however, would require costly rehabilitation whose benefits cannot compare with demolition and reconstruction. While an inventory of units for which rehabilitation is cost effective has not been done, it is expected that costs in the range of US\$2,000 to US\$4,000 per unit could effectively result in significant rehabilitation of many units, including the subdivision of some to permit the rental of floors or small apartments within a larger original dwelling. Demolition costs for buildings no longer habitable are on the order of US\$5,000 per acre.

¹⁴ "Plan Completo para Repoblar Barrios Antiguos de Santiago," EL Mercurio, May 27, 1991.

3. Affordability and Effective Demand

It appears feasible to develop units in the targeted US\$12,000 price range in inner city districts such as West Central Santiago that would be affordable to households at or below the median income level. Some units at a lower price range -- reaching down to the upper limit of US\$8,000 in the first rung of the Unified Subsidy -- are also feasible. These, combined with some units at higher prices for those more highly paid professionals working in the center city, will help to preserve the traditional heterogeneity of the district.

While no relevant studies of demand have been made beyond surveys of current residents of West Central Santiago, it may be noted that choices of location have often been limited to home buyers in the various subsidy programs, and, therefore, no information is available on where people prefer to live. Few choices in the inner city have even been available to subsidized buyers.

In general terms, the large housing deficit is one strong indicator of the demand for housing. Another indicator of demand is the number of savings accounts that have been established by families seeking the requisite down payment for homes in all categories. As of June 1990, the number of savings accounts opened for housing purposes was 499,243 in all of Chile, with 264,780 or 53 percent of these in the Santiago Metropolitan Region¹⁵. Of these Santiago area accounts, 51,563 have been in existence longer than the 18 months required for most MINVU programs.

4. Required Financing Terms

If limited to the lowest rung of the Unified Subsidy program, it may be difficult for developers to provide desirable units at a limit of US\$8,000 while paying interest on funds obtained for redevelopment costs such as acquiring and holding land. At least, the share of available sites at a cost affordable to lower income ranges is limited. However, the targeted market of houses priced at US\$12,000 and below is expected to be able to bear finance charges at one to two percent above the HG rate. If the developer must hold land for two years before it is sold under a MINVU program, this would add up to US\$500 or four percent to the cost of the unit.

The CDS believes that it is workable for them to borrow at commercial rates for the assembly of land for the moderate income housing market. Some costs may be offset by their sale of small cleared properties for commercial concerns. Beyond this, the access to funds to acquire properties available for development will permit the CDS -- and others who enter into revitalization activities -- to collaborate with developers to achieve related economies of scale by putting together several sites for the development of mixed income and mixed purpose projects.

The placement of these funds in a revolving loan fund within MINVU, will provide access to all in the private sector with practical ideas for revitalization projects, without their incurring additional costs from interest charges until such funds can be applied to projects. This, combined with the opportunity to purchase land and buildings for later construction and rehabilitation, is

¹⁵ "Número y Monto de Cuentas de Ahorro para la Vivienda," Boletín Estadístico, Cámara Chilena de la Construcción, December 1990.

likely to reduce the risks of undertaking inner city projects and to assure an adequate financial return, and, it is hoped, will be sufficient to attract larger scale private sector participation in the revitalization of established urban districts.

C. Small Scale Urban Environmental Initiatives

Three sample projects for which cost estimates are available are analyzed for their impact on household budgets as follows:

1. Improvement and Expansion of Potable Water to Low Income Households in Penco and Lirquen, Region VIII

Six-thousand two hundred and thirty-one households -- with a total population of 31,388 -- are expected to benefit from a project proposed to improve water quality and to extend water lines to low income households in two neighboring communities. The provision of water service would permit other activities to take place, most notably, the construction of sanitary core houses followed by progressive housing opportunities to residents of local "campamentos" or slums. The aforementioned service would cost a total of US\$283,427 in initial investment, plus operating and maintenance costs of US\$6,500 per year. Amortization of a loan at 8.5 percent for five years, along with shared costs of operations and maintenance, would result in charges per household of about US\$1 per month. This is approximately 1.5 percent of household income for those in the lowest income decile and is just one percent of the minimum wage (per worker); therefore, it is expected that such a solution would be affordable to the intended beneficiaries.

2. Wastewater Treatment in Santiago Poniente (West Santiago)

The wastewater generated by the 95,000 residents of the area under consideration currently is emptied, untreated, into the Mapocho River. A lagoon system is proposed for development, with total development costs projected at US\$10.2 million. Operating and maintenance expenses are estimated to be US\$142,000 per year. On the basis of these costs and a loan at 8.5 percent for ten years, charges for the estimated 20,000 households would be approximately US\$7.00 per month. This amounts to about seven percent of the minimum wage, or six to ten percent of income for households in the lowest two deciles.

HG funds used in such a costly project would function as a "match" for other resources, whether public or private.

3. Neighborhood Street Paving in Conchali

To cover 41,866 square feet of residential streets with two inches of asphalt US\$75,385 is required. A total of 1,430 households would benefit from the project, which is expected to last ten years without additional investment. The cost per household is US\$53.00. A loan available at 8.5 percent for two years would require payments of US\$2.40 per month; while monthly charges can be brought down to a less significant US\$1.00 if amortized for five years.

The above costs may be considered in light of the results of an informal survey of low income households in communities under study for such improvements, which argues that the typical household is likely to be able to expend between US\$7.00 and US\$9.00 per month for additional services and facilities.

Annex 6C: ECONOMIC ANALYSIS

A. Economic Evaluation of Benefits and Costs of Private Shelter Finance

1. Deficiencies of the Current System

As discussed in Section I.B., the primary objective of the private shelter finance component of the HG-010 program is to support efforts to improve the efficiency and mobilization of private housing finance resources and, by extension, improve cost recovery through increased mortgage collections. The finance component addresses some of the major difficulties that exist in the present private mortgage financing mechanism in Chile. A principal problem that this component intends to alleviate is the exclusive dependence on public sector channels for the financing of low income mortgages. This extreme dependence is undesirable for a multitude of reasons, including the limited availability and multiplicity of demands for public sector resources, both human and financial, and, most importantly, the generally superior adaptability, efficiency, and innovation of private financial systems.

The existing private mortgage system, i.e., that outside MINVU mortgage credits, is funded primarily through the issue of "letras de crédito hipotecario" ("letras"). "Letras" are issued to finance commercial bank mortgage holdings and have cash-flow characteristics similar to those of the banks' mortgage loans. Financial institutions may only issue "letras" backed by existing mortgages held by them and with matching maturities. However, "letras" issued by commercial banks are not matched with particular mortgages for payments in case of bank insolvency and liquidation. Thus, one can consider "letras" to be equivalent to a debenture of the issuing bank.

This system -- with the "letra" at its heart -- has given rise to a number of problems that have restricted the growth and depth of the market.

As is the case in most countries of the world, Chile's commercial banks are essentially short term borrowers and lenders which cater primarily to the short-term credit needs of the business community. The provision of long term mortgage credit for residential purposes does not complement their primary banking activities and, as a result, is not a high priority activity regardless of the inherent profitability. As a result, mortgages are a small proportion of total bank assets (with the exception of the Banco del Estado). At the end of December 1990 total housing loans denominated in "letras" totaled 513.2 billion Chilean Pesos (US\$1.46 billion), equivalent to less than 15 percent of total assets of the banking system.

A 1989 law provided for the creation of the local equivalent of the U.S.-style mortgage bank, referred to as "mutuarias", specifically organized to originate home mortgages for their own portfolios or for sale to willing investors. As in the case of the commercial banks, the "mutuarias" concentrate almost entirely on middle and upper/middle income mortgage lending.

Although the "letras" are negotiable and marketable, institutional investors find it difficult to analyze the credit quality of a "letra". An issuing bank's mortgage portfolio might appear to be of high quality today, but might not be tomorrow as the bank expands its mortgage portfolio through the extension of new credits. Also, the quality of a particular bank's mortgage portfolio may not be representative of the quality of the bank's other assets, which is the more relevant concern since the "letra" is a general obligation of the issuing bank. What is missing from the

system is a mortgage instrument which can be secured, rated and collateralized by a pool of specific mortgage loans having different quality and term characteristics.

Existing regulations currently prohibit private pension fund management companies (AFPs) from investing in mortgages directly and are restricted to investments in "letras". Although the AFPs are permitted to purchase the shares of real estate investment trusts and real estate development companies, investment in these shares is taxable. However, AFPs are exempt from taxes and there is no mechanism for the exemption or rebating of taxes attributable to indirect AFP investment in mortgages.

Since the AFPs cannot originate or service mortgages, this has effectively limited mortgage origination and servicing to the banks and the newly formed "mutuarias". Because the amount of commercial bank residential mortgage activity is relatively small, competition for mortgage origination and servicing has not, until the recent entry into the market by the "mutuarias", been overly intense. As a result, spreads between the interest rate charged to mortgagors and the interest rate paid on the corresponding "letras" has been quite wide, reflecting the lack of competition. The spread at the end of December 1990 averaged 2.88 percent and covers costs of loan origination and service and of bearing the risk of default as well as a competitive profit. The spread does not include interest rate risk, which is passed through to the "letra" holder.

At end 1990, the Banco del Estado's (BDE) share of the total of outstanding "letras" in the capital market¹⁶ amounted to over 60 percent, although in value terms their participation represented only 28 percent of total outstanding "letra" value.

Despite the fact that low income mortgage lending has devolved almost entirely to the BDE, its "letras" have, in the past, caused a drain on the Treasury. During the early part of 1990 when the yield required to be able to place "letras" rose to 9.5 percent, BDE was forced to discount its "letras" by about 22 percent to compensate for their nominal yield of 5.5 percent. The resultant refinancing short/all had to be made-up by MINVU under its "implicit" subsidy program, at a cost to the Treasury (i.e., the Chilean public) of approximately 7 billion Chilean Pesos (US\$23.6 million). Such costs, could be repeated at any time if rising interest rates force yields of "letras" offered in the capital market to rise concomitantly -- so long as the nominal rate on "letras" remains fixed and the implicit subsidy is kept in place.

The private pension fund management companies and the life insurance companies are two of the major institutional investor groups capable of becoming substantial and viable players in the secondary mortgage market. Both are rapidly growing groups whose liabilities are primarily long term in nature and who are in search of properly packaged long term investments. The AFPs in particular are evolving into significant intermediaries of longer term funds. The assets of the AFPs, valued at 13.4 percent of GDP at end 1986, rose in value to 25.4 percent of GDP by the end of 1990. By the end of the decade these assets are likely to amount to nearly 40 percent of GDP. The AFPs' investment needs are for longer maturity instruments, so the development of attractive mortgage instruments with varying terms would offer the AFPs a wider

¹⁶ A secondary market for mortgage instruments exists to the extent that the private pension fund management companies and the insurance companies purchase for their own portfolios the securities created by other primary financial institutions. However, this secondary market is not a true one in the sense that these securities are not actively traded.

range of real estate investments. Although the conservative posture of the life insurance companies may limit their involvement in the secondary mortgage market, there is ample scope for insurance company activity in the origination of mortgages through their recently created "mutuaria" operations.

2. New Initiatives in the Private Mortgage Market and Their Expected Economic Impact

A significant opportunity exists to effect a major shift in the origination of mortgages for low income housing from the government-owned Banco del Estado to privately-owned banks and "mutuarias". Such a shift is important in and of itself, in terms of its political and social implications, and in terms of the scope for additional future growth and innovation which can spring from the active involvement of the private sector.

Several initiatives will have to be undertaken simultaneously to enhance the financial appeal and requisite marketability of low income mortgages in the Chilean capital market. Key among these initiatives will be to increase competition in the private housing finance system. This will generate spinoff effects relating to: (i) a reduction in administrative cost to loan value; (ii) the securitization and rating of mortgage backed securities; and (iii) tax reform permitting pension funds to invest directly in mortgage-backed securities.

a. Impact of Increasing Competition in the Private Housing Finance System

The AFPs and the "mutuarias" have expressed concern over the high per unit cost of low income mortgage administration. It seems probable that the economies of scale necessary to reap significant savings in the mortgage origination and servicing processes are only reached at comparatively high volumes of business. On the other hand, it seems equally probable that costs associated with mortgage origination and servicing could be reduced considerably if competition were increased.

The issue of competition has considerable ramifications for the Chilean housing finance system. The thrust of the shelter finance component is towards a more efficient system, one which can evolve with the Chilean economy and which has incentives to offer better services over a wider range of activities. Increasing the level of competition among housing finance institutions is one important spur towards improving services; another aspect is the rationalization of the institutions and programs of housing finance. One widespread benefit of the reforms proposed by the HG-010 program would be higher returns on financial assets and the promotion of a wider range of such assets, including various types of housing-related securities. In the short-run, individuals should not expect lower cost mortgage credit; they would, however, benefit from the increased access to housing finance promoted by competition.

The immediate goal of this initiative is for mortgages to be originated by one entity and then passed on to an investor in the secondary mortgage market. The ensuing credit risk would be carried by the final investor. This would broaden the base of mortgage originators, because institutions that are more risk averse, less highly capitalized (e.g. the "mutuarias") or indebted, would not have to carry the asset (the mortgage loan) or the corresponding liability (the "letra") on its books. This, in turn, would lead to greater competition that could reduce the intermediaries'

spread and meet the needs and preferences of institutional investors interested in increasing their participation in the mortgage market without investing in additional commercial bank liabilities.

The formalization of the government's capital recovery guaranty of 75 percent of the unrecoverable loss in the event of default, the creation of private mortgage payment insurance to guaranty cash-flow in the event of default and the introduction of a mortgage payment payroll deduction scheme to enhance cost recovery, all sub-components of the HG-010 program, will provide the necessary impetus among Chile's financial institutions to compete for the large volume of lower income individuals and families demanding mortgage credit.

b. Benefits of Credit Risk Being Carried by Final Investor

By enabling a mortgage loan originator to pass the mortgage immediately to the secondary market, the credit risk is carried by the final investor. This, in turn, can enlarge the base of mortgage originators because there will be an effective separation of the origination and risk carrying functions. More financial institutions may be attracted to origination functions if they have the option to pass on the credit risk.

c. Benefits Accruing from the Securitization and Rating of Real Estate-Based Assets

By expanding the range of eligible investing options in the real estate sphere, the authorities regulating the AFPs would provide the beneficial inducement of permitting the AFPs to increase their investments in mortgage instruments. However, drawing from the lessons learned prior to the pension reforms, where some savers preferred to effectively withdraw their compulsory contributions by incurring mortgage loans which they did not repay, securitization of individual mortgage loans would allow the AFPs to diversify their holdings and limit their direct exposure to final borrowers who may also be pension fund contributors.

In addition to securing mortgages, a basis must be found for rating mortgage instruments such as mortgage backed securities in order for trading to take place in the secondary market. The envisaged rating system would attempt to determine the relative credit quality of privately issued mortgage backed securities (as well as those originated by the BDE) and to identify possible risks or weaknesses that could increase the likelihood of default or delinquency. The rating system would not rate the issuer of the securities, only the securities themselves. The chief benefit derived from the existence of such a rating system, would be to assist institutional and other investors to differentiate between alternative housing related investments.

d. Benefits of Tax-Free Investments in Real Estate-Based Mutual Funds and Investment Trusts

Tax regulations need to be reviewed with a view to removing the current constraints to AFP investment in real estate-based mutual funds (Fondos de Inversión Inmobiliaria) and closed-end real estate investment trusts (Sociedades de Inversión Inmobiliaria). Tax reform in this area would remove a disincentive for AFP investment in these funds and the shares of these companies thereby broadening the AFPs' options for mortgage investment, while at the same time enabling the AFPs to remain at arms-length from the ultimate mortgage borrower.

e. Benefits from the Development of the Chilean Secondary Mortgage Market

In Chile, trading in mortgage backed securities is virtually non-existent, and commercial bank debentures are the dominant form of long-term housing finance. The development of such a market in MBS entails the evolution of a mechanism for bringing them to the public and providing for them to be traded in a manner which permits the establishment of fair and orderly prices. In the present environment, investors are naturally reluctant to buy real estate related securities on a large scale due to the lack of a secondary market where these securities may subsequently be resold.

Aside from the general benefits of improving the efficiency of capital allocation through a competitive pricing mechanism which can contribute to increase the rate of growth of the economy in the long run, the development of the country's secondary mortgage market has several particular benefits for Chile. First, it would promote the broadening of the sources of private financing for housing in general and for lower income housing in particular, and would encourage broader ownership of real estate assets. Second, the securitization of all or part of mortgage borrowing could provide an important outlet for long term funds of private institutions, particularly the pension and insurance funds, which have grown significantly over the past several years.

f. Efficiency Gains in the Use of an Alternative Mortgage Instrument

As a potential solution to the dilemma facing housing finance institutions in an inflationary environment -- sustaining the flow of funds versus maintaining the affordability of housing -- creating a new indexed mortgage contract seems promising¹⁷. For lenders, it may be a way to preserve the real value of the repayment stream over the maturity of the loan. For borrowers, if indexation reduces the large burden in the early years of repayment, it may help prevent them from being locked out of the housing market.

The eventual introduction of a dual-index mortgage instrument into the Chilean housing finance system would offer the flexibility to smooth out possible disparities between the rate of change in borrower's income levels, and their loan repayment obligations expressed in inflation adjusted development units or UFs.

B. Urban Revitalization

For some time, awareness and concern over the costs borne by MINVU in the development of peripheral settlements and requisite infrastructure have been growing. There is also growing suspicion that land in the center city -- despite its relatively high market value -- may actually permit the provision of less expensive housing when the total picture of costs is taken into account. Recently, local analysts have studied the comprehensive picture of housing

¹⁷ For a comprehensive review of contemporary mortgage instruments applied to an inflationary environment and analysis of a dual indexed lending instrument applied to the Ecuadorian housing finance system, see Rourk and Lintz, Análisis de Nuevos Instrumentos Financieros para el Sistema Financiero Habitacional del Ecuador. Quito, Ecuador: Report Prepared for the Banco Ecuatoriano de la Vivienda and the Junta Nacional de la Vivienda, February 1991.

development costs and benefits with the objective of determining future directions for the physical growth of Santiago and other urban centers.

The least expensive sites available for purchase and development of housing in the Santiago Metropolitan area are those located contiguous to the existing outer boundaries of urbanization, making it necessary to extend essential public services such as water, waste disposal, electricity and lighting, and roads to these areas in order for them to be habitable.

As early as the late 1970's, ODEPLAN, in its development plan for 1979-1984, noted the necessity of an urban development policy oriented towards reinvestment in the city. A 1985 study¹⁸ initiated an analysis of comparable sites in Santiago, Renca, and La Pintana municipalities began to identify the extensive infrastructure and related investments required to establish peripheral housing communities. The Corporation for the Development of Santiago pursued this notion, acquiring information from a number of sources who had studied elements of the problem, and publishing a solid analytical report of its findings.¹⁹

The CSD estimates that 60,000 new residents could be accommodated in the West Central Santiago district without expansion or structural alteration of the existing infrastructure. This would result in the doubling of its current population to a level considered more optimal in terms of population, density and maximization of infrastructure and land resources. For example, the district offers 1.5 acres of commercial structures per 1000 residents, compared with 0.15 acres per 1,000 -- one tenth this amount -- in the peripheral community of Maipú.

EMOS, the Metropolitan water and sewer company, asserts that it is capable of providing a high water flow (500 liters per capita per day) within Santiago's municipality, compared with low flows available in the expanding municipalities of Pudahuel, La Cisterna, and La Florida. CHILECTRA METROPOLITANA, the electric power distribution company, also notes that no new investment would be required to provide service to the first 212,000 persons living within the municipality of Santiago. This is sufficient to provide a population density of 61 persons per acre.

EMOS further estimates that the provision of the same level of water service currently available in Santiago to 1,150,000 residents of peripheral municipalities would cost US\$3 billion, or approximately US\$700 per family. The present peripheral population is reported to be 2,804,806.

The total costs of providing basic services at a level required by current urban development policy have been determined by the Corporation through its assembly of available information. Its research followed the 1985 study referenced above, and focused on the same three municipalities. Long term operation of infrastructure and provision of services was also taken into account in this updated analysis as follows: (figures are U.S. dollars per household)

¹⁸ Costo Nacional Diferencial de Localizar Viviendas Básicas, Programa de Adiestramiento en Preparación y Evaluación de Proyectos. Instituto de Economía, Pontificia Universidad de Chile y ODEPLAN, Santiago, 1985.

¹⁹ Imperativo de la Recuperación Urbana: Algunos Costos de la Expansión. Corporation for the Development of Santiago, December 1987.

<u>SERVICE</u>	<u>SANTIAGO</u>	<u>BENCA</u>	<u>LA PINTANA</u>
Water	132.40	1,126.80	267.40
Sewerage	35.40	297.20	274.20
Storm drainage	0.00	45.40	25.60
Electricity	328.40	486.20	456.40
Roads/access	25.60	774.80	595.40
TOTAL	\$521.80	\$2,730.40	\$1,619.00

Based on the cost of providing infrastructure, a marginal unit of housing costs the least in Santiago.

However, the Corporation's analysis was based on broader information, recognizing that the provision of other services by the public sector also involves costs which are not fully reflected in land values in a land market considered imperfect by local analysts. Santiago's well used hospitals provide for one bed per 175 persons, compared with a Metropolitan average of one bed per 376 area residents. If hospital services were managed only for residents of the municipality of Santiago, the population could increase by 392,621 without expanding investment in health infrastructure. Peripheral communities would have to build nearly 5 million square feet of hospital and clinic space to meet the Santiago standard, at an estimated cost of US\$200 million.

In order to maintain constant health care services to a growing population, about 5,900 square feet of health infrastructure is needed for each additional 35,000 people.

Basic elementary education requires total resources of US\$58 million to meet the deficit in the periphery, plus US\$85 each for each new student to be educated adequately without placing additional stress on facilities. An additional US\$ one million is needed to provide pre-basic education to preschool children living in extreme poverty in the communities surrounding the municipality of Santiago.

Without consideration for the current deficit of infrastructure and facilities, it is estimated that the provision of water, wastewater and stormwater drainage, electricity, roads, health, education, police protection, and minimal sports and recreation facilities would cost US\$426 for a new resident of Santiago in contrast with US\$7,612 in peripheral developments.

If land and total infrastructure and service provision costs, as above, are assumed to reflect costs per household, their cost may be analyzed as follows to reflect real total costs per household of developing land in the periphery versus its reuse in the inner city:

92

	<u>SANTIAGO</u>	<u>PERIPHERY</u>
Land cost/ acre	\$180,000	\$20,000
No. of houses/ acre	80	20
Land cost/ unit	2,250	1,000
Infrastructure & services/ unit	426	7,612
Total cost/ unit	\$2,676	\$8,612

In addition to the US\$5,936 difference in these two costs, there are other quantifiable benefits which would result from the reutilization of existing urban land and related services. It is estimated that prices of goods in city shopping areas average 30 percent less than those of comparable goods in peripheral stores. This would result in a savings of US\$3.27 million per year on the part of households relocated to available inner city properties. An increase in demand on the order of US\$10.9 million annually on the part of 12,500 additional families would foster other economic activities and investment in the district.

It is also projected that 2,600 acres of farmland would be preserved per year for agricultural production by a shift in policies in favor of urban revitalization. The annual production value of this land is estimated at US\$6,944,600.

Thirty percent of housing units built are expected to include small businesses, with an increase in employment nearly equal to that of the increased population.

Assuming that 12,000 additional families are accommodated in West Central Santiago over the life of this project, projections may be made as to the value of benefits generated:

92

	<u>Per Household</u>	<u>Total</u>
Infrastructure and Services Savings	US\$5,936	US\$71,232,000
Travel Cost Savings ²⁰	4,919	59,030,400
Household Savings ²¹	2,479	26,696,832
Agricultural Production Saved ²²	1,263	15,160,255
Total Benefits	US\$14,597	US\$172,119,487

Over the first four years of the project, more modest results, of course, may be projected. Assuming that funds need to be borrowed for an average of two years, with 75 percent of US\$5 million used in Santiago alone being applied to the purchase of vacant properties and the construction of new units. In other words, US\$3,750,000 of HG funds would be used for the assembly of parcels of land suitable for redevelopment for housing activities. If land, including costs for its demolition and preparation prior to construction, costs an average US\$200,000 per acre, with a modest density of 80 units built per acre, then this sum will be sufficient to generate 1,500 units of housing. Using the above projections of benefits per household for inner city development, the total value of net benefits (exclusive of the enjoyment of housing which would, presumably, occur in either setting) may be valued at US\$21,895,500 over the twenty-year period for which they are financed. Benefits during the first four years alone would be US\$11,443,500.

Beyond these immediately measurable factors, others more related to the quality of life are expected to result from comprehensive revitalization. School attendance, for example, is markedly higher in cases where schools are readily accessible to their students, in comparison with cases of long travel times and use of public transportation. Residents of West Central Santiago will save time in commuting to places of employment, and will have access to cultural and recreational facilities which far surpass those of surrounding metropolitan communities.

The value of these benefits must be assessed carefully by MINVU for inclusion in its future housing development policies. If savings per household in the provision of infrastructure and public services may be valued at US\$5,936 for each unit constructed in the inner city compared

²⁰ Assuming that each household will save four hours per weekday in travel time valued at the minimum wage, typical household savings will be US\$2.00 per day. Total computation is based on the present value of these savings for twenty years.

²¹ Based on the above figure in which it is estimated that prices of goods average 30 percent less in the inner city for a total of US\$3.27 million in savings for 12,500 households annually. Total figures represent the present value of savings over twenty years.

²² This represents the present value of agricultural production not foregone over a twenty-year period by locating households in the inner city instead of in productive neighboring valleys which are centers of fruit and vegetable production.

aut

with the periphery, one method for reflecting this value would be to provide a differential subsidy to entice residents to make the choice to reside in a neighborhood like West Central Santiago. An additional subsidy of UF 100 or US US\$2000 is likely to be a significant incentive, yet one which is more than offset by the costs foregone in the alternative case of urban sprawl.

C. Economic Evaluation of Benefits and Costs of Small Scale Urban Environmental Initiatives

Although the specific number or type of demonstration projects to be undertaken by this component of the HG-010 program at this time is not clear, it will be assumed in this analysis that at least three types of projects will be undertaken for demonstration purposes: in-house water connections; wastewater treatment; and paving of residential streets and alleys. Given the fact that MINVU will ultimately make the decision as to the type and scale of projects to be undertaken on the basis of input from local governments, this analysis, by necessity, relies on the identification of potential qualitative benefits accruing from implementation of three basic types of demonstration projects. Actual quantitative benefits and costs of individual projects can, if necessary, be estimated once specific projects have been identified through the use of various techniques, some of which are briefly discussed below.

Unmet demand on a national and regional level for wastewater treatment is clearly shown in Tables C-1 and C-2. Potable water is supplied to 97 to 100 percent of the population in virtually all regions of the country, and sewer systems reach an average of 70 percent of the population outside of metropolitan Santiago and 91 percent within the metropolitan area. However, only six percent of the nation's population is served with wastewater treatment, with only two percent served in metropolitan Santiago. Putting the overwhelming lack of wastewater treatment in other terms, 98 percent of the wastewater entering rivers is untreated, and 81 percent of discharge to the coast is untreated (plus an additional 16 percent that is also untreated but which reaches the sea through underwater pipes).

The unmet demand for neighborhood street paving is illustrated with the data from La Florida and Conchali above (MINVU could not readily provide nationwide demand figures, but officials asserted that there is widespread unmet demand for neighborhood street paving).

Many of the unfunded projects have already been screened by MIDEPLAN to establish their social and economic internal rates of return. Water and wastewater projects need to establish an economic rate of return of 10 percent and a social rate of return of 12 percent. Sometimes wastewater treatment projects have a difficult time passing this screening, because it is hard to quantify the benefits (especially environmental and public health), and identify the beneficiary population (sometimes only the immediate residents of the community being served by the treatment plant are counted as beneficiaries in MIDEPLAN's methodology). For neighborhood street paving projects, MIDEPLAN is not required to establish a social rate of return.

MIDEPLAN does a good job of establishing the socio-economic characteristics of the beneficiary population, since a national data base stratifying municipal population into 15 categories (called CAS) is well maintained. The CAS data is available in MINVU for determining the socio-economic characteristics of the beneficiary population. This data can be used in prioritizing projects for this component.

TABLE C-1

REQUIREMENTS FOR WASTEWATER TREATMENT
 Distribution by Localities According to Population Ranks

Population Ranks	Total Number of Localities Without Treatment
Population < 5,000 inhab.	47
5,001 - 20,000 inhab.	59
20,001 - 50,000 inhab.	21
50,001 - 100,000 inhab.	8
100,001 - 200,000 inhab.	9
200,001 - 300,000 inhab.	4
Metropolitan Area	17
Others	12
TOTAL	117

96

TABLE C - 2

CONDITIONS OF URBAN POPULATION FOR YEAR 1988

Region	Total Population	Population w/sewers	Percentage	Population w/sewers & Treatment	Percentage
I	317,811	281,395	88.54	154,900	48.74
II	346,363	251,287	72.55	23,065	10.12
III	159,926	130,375	81.52	86,270	53.94
IV	319,097	266,485	83.51	120,594	37.79
V	1,160,059	925,419	79.77	14,381	1.24
VI	375,225	264,308	70.44	23,671	6.31
VII	430,300	360,631	83.81	29,247	6.80
VIII	1,193,740	758,141	63.51	48,573	4.07
IX	416,917	293,925	70.50	0	0
X	507,379	284,510	56.07	10,526	2.07
XI	51,628	25,276	48.96	0	0
XII	136,814	117,888	86.17	0	0
XIII	4,890,840	4,530,229	92.63	75,608	1.55

A range of technology alternatives, covering a broad range of costs, are readily available in Chile for water and wastewater projects. The only technology that might require some technical assistance is the land intensive approach using deep sedimentation ponds developed by the Israelis. Engineering studies are currently under way for the implementation of this technology at the Santiago Poniente wastewater treatment site.

Neighborhood paving technologies are standard and well known in Chile. The low cost paving (3 cm.) requires strict engineering studies for the grading, but SERVIU has shown itself quite capable in that area.

1. In-House Water Connections

As discussed in Section II.B.3., the potable water projects identified for priority funding at the regional and municipal levels deal primarily with linkages of new housing developments, and particularly social housing developments, to existing water systems rather than the development of new water sources or the treatment of drinking water.

The provision of in-house water connections to potential beneficiaries of the HG-010 program, which do not presently have such a service will result in resource savings to the economy as the beneficiaries switch from transporting water from public taps to obtaining water from in-house connections. These resource savings will include the marginal production costs of the water presently consumed and the opportunity cost of time incurred in its transportation. In-house water connections will also result in an improvement in the quality of life of the beneficiaries. These connections will also generate positive health externalities by improving the general health of the community, and generated reductions in medical costs and increases in productivity.

However, it can be reasonably assumed that the consumption of water will increase dramatically due to the significant reduction in its unit cost, and this, in turn, could produce a negative externality in terms of increases in the marginal cost of wastewater treatment required (if such an urban service exists) as a result of provision of in-house water connections.

Some of these benefits, such as the opportunity cost of time and effort to transport water, the increase in water consumption, and the improvements in the family's quality of life, could be measured for each potential demonstration project by the consumer's willingness to pay for water. Essentially, this willingness to pay can be derived from the difference between the areas under two demand curves: one for water without an in-house connection, and the other for water with an in-house connection. Other benefits such as improvements in health, not directly attributable to improved water supply, would not usually be reflected in the consumer's willingness to pay.

2. Wastewater Treatment

The contamination of water courses in metropolitan Santiago and other larger urban areas is a critical environmental issue. Although water and sewerage connections service an estimated 90 percent of metropolitan Santiago, nearly all wastewater is currently discharged untreated in to the waterways flowing through the city. The untreated water from these water courses is used to irrigate agricultural produce raised at the city's periphery, thereby placing the health of the capital's population at risk. Health statistics for Santiago demonstrate a high incidence of gastroenteric diseases which are higher than for other cities of the same size and with similar

coverage of water and sanitation facilities. A similar situation exists in the coastal metropolis of Valparaíso/Viña del Mar, where untreated sewerage is being discharged into the sea. The situation in this area of the country is exacerbated by river-borne industrial wastes and sewage from the cities of the Central Valley, including Santiago.

Apart from the negative health externalities affecting these cities' residents, the use of contaminated water, whether for irrigation purposes or as a fisheries habitat, threatens the country's vital export sector. The export value of fish, and fruits and vegetables during 1989 totalled US\$209 million, and US\$426 million, respectively.

The envisaged wastewater treatment demonstration projects would go a long way in expanding public awareness of the fact that clean water is a relatively scarce resource which requires recycling. There are two clearly identifiable benefits accruing to potential beneficiaries of treated wastewater: reduction in the incidence of diseases resulting from contaminated water; and the savings from foregone foreign exchange, associated with the actual removal of contaminated produce for the export market and/or from a potential perception overseas that Chilean agricultural exports have been contaminated and are unsafe. The envisaged small-scale wastewater projects would have the added benefit of actually demonstrating to municipalities that appropriate technologies currently exist to economically treat wastewater.

Due to the difficulties involved in the quantification of positive health externalities and of the magnitude of actual savings in export earnings, the benefits of each individual wastewater treatment demonstration project will have to be measured by estimating resource savings and direct beneficiaries' willingness to pay for clean water.

3. Streets and Alleys Paving

The small-scale urban environmental initiatives component of the HIG-010 program has as an option the provision of pavement for those localities whose streets and alleys are presently unpaved. Although this type of demonstration project is seen by some municipalities as having a lower priority than the potential projects described above, paving affords a suitable opportunity for demonstrating creative small-scale co-financing mechanisms that mobilize local community resources and could possibly leverage other private financing.

Due to the fact that the majority of the streets and alleys of lower income communities are located in marginal urban areas where the volume of traffic is low, it is not possible to estimate benefits through a quantification of cost savings in time, operation and maintenance of vehicles. The benefits of paving residential streets and alleys include: increases in land values; improvement in the community's health due to reduction of puddles and dust particles²³; and increases in the accessibility and comfort to work places and public services in the rainy season.

²³ For an analysis of the contribution of suspended dust particles' contribution to metropolitan Santiago's atmospheric contamination, see Chile: Issues and Opportunities in the Shelter and Urban Sector, Washington, D.C.: Report prepared for USAID/Chile and RHUDO/SA by Planning and Development Collaborative International, Inc., March 1991, pages 72-73.

4. Encouraging Private Sector Approaches

The small-scale urban environmental initiatives component of the HG-010 program is not intended as a source of credit for infrastructure projects. Rather, it is designed to encourage private sector approaches to financing, and the introduction of efficient cost recovery mechanisms. The collection of installment payments from beneficiaries by local governments or concessionaires is viewed as a device to institutionalize the obligation of the beneficiaries to pay for urban services. This approach is intended to instill a sense of social discipline and to encourage adoption of the market-oriented policy of not providing something of value without a reciprocating effort being made by recipients.

However, the foregoing does not imply that all costs must be recovered solely from user fees. Tax receipts of the local municipality and/or transfers received may also be applied to the recovery of these costs. What is important is full cost accounting and unambiguous cost recovery from explicit sources.

In some instances, there may also be opportunities to involve private sector investors and concessionaires to build and operate water and/or wastewater facilities. This can only occur, however, in an environment of explicit cost accounting and recovery.

In addition to recovering capital costs, the demonstration projects will be designed to be self-financing in terms of operation and maintenance. In this regard, beneficiaries will be liable for payment of fair rates for water and wastewater treatment which will be computed on the basis of marginal cost.

D. Relevant Aspects of Recent Chilean Economic Performance and Prospects

1. Recent Economic Performance

Following the severe 1982-83 recession, the Chilean economy experienced a strong recovery with annual growth of real gross domestic product (GDP) accelerating from 2.5 percent in 1985 to 10 percent in 1989, and averaging over six percent for the same five year period. Positive expectations, and the continuation of healthy terms of trade, contributed to an annual rate of growth in real investment of nearly 17 percent over the 1985-89 period. With the growth of the economy, employment grew rapidly, and despite increased labor force participation rates and the phasing out of government emergency employment programs, unemployment fell from 12 percent at end 1985 to 5.3 percent at end 1989 according to official estimates.

Over the same five year period the rate of price increases averaged 20 percent per annum. Although during the 12 month period ending in September 1988 the annual rate of inflation declined to a low of 12 percent, prices began to accelerate in the last quarter of 1988 and throughout 1989 boosted by a strong upsurge in aggregate demand. For the year as a whole, inflation rose to 21.4 percent during 1989. By the latter part of 1989, inflation was running at an annual rate of more than 30 percent despite a gradual tightening of credit conditions since late 1988 and a continuation of conservative government spending policies.

The 1989 overheating of the economy came at a cost. Import growth, driven partially by the growth of investment and to a certain extent by anticipatory purchases based on speculation

over future policy changes, rapidly reached a nominal annual rate of 34 percent. The increase in imports resulted in a 28 percent decline in the trade surplus, despite the continuous growth of exports. Furthermore, the acceleration in inflation eroded any gains in real wages, which had experienced no real increases since 1985, and had begun to show signs of growth during 1988.

Realizing the risks of unsustainable economic expansion, the government implemented a policy of gradual monetary tightening during 1989 which resulted in increases in real interest rates of the Central Bank's indexed open market instruments. The real interest rate of the Central Bank's 90-day promissory note rose by 2.0 percent, while market interest rates went even higher. Financial policies were further tightened at the beginning of 1990, resulting in a slowdown of economic activity, an improvement in the external accounts, and an easing of inflationary pressures. The Central Bank again raised real interest rates on promissory notes of all maturities, with the rate on its 90-day promissory note increasing by an additional 1.9 percent. In addition, the Central Bank suspended interest payments on commercial bank reserve requirements, which increased spreads in commercial bank operations. As a result, deposit and lending rates in the banking system rose to a peak of 13.3 and 16.5 percent in real terms, respectively, in March 1990. These high interest rates in turn provided a strong incentive for capital inflows from abroad; short-term inflows reached US\$600 million in early 1990, leading the Central Bank to take steps to reduce the interest incentive for such inflows by increasing the commission on forward currency swap operations. This was followed in May by the establishment of a one year minimum for swap operations and the suspension of sales of its 10 year promissory notes.

With the slowdown in economic activity and the gradual easing of inflation, the Central Bank on four occasions lowered interest rates on its 90-day promissory notes by a total of 2.7 percent between August 1990 and February 1991. The Central Bank also reintroduced the payment of partial remuneration on the reserves of financial institutions during 1990 by the amount of monthly inflation in excess of 1.5 percent.

2. Developments in the Financial Sector

Of particular importance to the private housing finance system is the steady recovery of the financial sector as a whole from the effects of the banking crisis of 1982-83 when a significant proportion of financial assets became non-performing. A sharp increase in defaults would have led to bank losses and possible insolvency. Rather than permit this to happen, the Central Bank provided emergency loans directly to the banks and lent funds to mortgagors to permit them to pay part of their monthly payments²⁴. These rescue operations have resulted in large Central

²⁴ Since 1983 there have been four reprogrammings of bank mortgage loans with Central Bank assistance and one program of direct grants through the Ministry of Finance. All reprogrammings have been directed toward mortgage holders whose debt was contracted before the sharp economic contraction. The reprogrammings in 1983 and 1984 essentially capitalized part of the loan payments and extended their maturities. The 1985 program extended direct payments to mortgage borrowers through the fiscal system. In 1986, when interest rates declined sharply, the Central Bank assisted the banks to refinance their mortgages at lower interest rates. The 1988 reprogramming used a novel approach in which the Central Bank made residential mortgages eligible for participation in swaps to retire external debt as part of the government's overall external debt conversion program. The maximum mortgage amount eligible for the program is US\$6,000 per mortgage borrower; thus the program provides proportionately greater benefits to small mortgage, low-income borrowers.

Bank losses. The banking system's obligations to the Central Bank remain enormous with eleven Chilean banks owing approximately US\$3.6 billion. The long-term viability of the financial sector and the solvency of the Central Bank depends to a large extent on the ability of the banks to buy back these loans, which, in turn, is dependent on the banks' profit performance. A repayment system was established by the Central Bank in 1989 requiring debtor banks to buy back a proportion of their substandard loans with funds from their operating surpluses. Partially as a result of record high lending rates and the resultant decline in loan activity during 1990²⁵, the banks' progress in reducing their debt to the Central Bank was limited; payments totalling US\$240 million reduced the bank's real subordinated debt by less than two percent.

Although the limitations imposed on debt swap operations by the Central Bank in 1990 largely reduced the profits of the banks serving as intermediaries in such operations, the diminution of this profit center does not appear to have affected the financial sector as a whole. Despite the adverse circumstances of 1990, the banking system's net profits were relatively stable and net operational income actually rose by more than 13 percent relative to 1989. If the economy recovers as strongly as expected in the coming months, the financial sector's performance should be quite impressive. The increasing financial disintermediation manifested by the entrance of the pension funds and the insurance companies into areas previously dominated by the banks, will add much to the efficiency of the financial sector and increase private savings.

3. Real Growth Prospects

The conclusions arrived at as a result of a series of econometric simulations of the Chilean economy undertaken by the World Bank during 1990²⁶, indicate that the growth momentum built up in Chile during the 1984-89 period, can lead to a sustainable growth of the Chilean economy at rates surpassing those attained in the last 20, and possibly 30 years. However, it is important to recognize three factors: a) that the special circumstances which led to the high real growth rates during 1988 and 1989 of 7.4 percent and 10.0 percent, respectively, are unsustainable; b) that attempts to duplicate that performance would be counterproductive; and c) that the adjustment measures undertaken by the Chilean authorities during 1990 were necessary to dampen excess demand pressures.

Under conservative assumptions for the international price of copper and prudent monetary and fiscal policies, the Chilean economy has the potential to grow in a sustained manner at rates averaging more than 4.5 percent in real terms during the next six years. A balanced, consolidated public sector budget would permit the economy to grow within its internal and external financing constraints, and allow for a steady rise in real wages, while keeping inflation at approximately 20 percent per annum over the projection period.

²⁵ Despite the adverse lending environment during 1990 -- loans from the financial sector declined by 7 percent in real terms -- Chilean financial institutions maintained an acceptable level of profits. This was primarily the result of three factors: the banks increased the proportion of investments in their asset base at the expense of lending activity; a reduction in liabilities; and restraint in drawing down on reserves. The result of this strategy was an increase in real financial investments by nearly 9 percent and a reduction of total real liabilities by over 2 percent.

²⁶ See Chile: Consolidating Economic Growth, International Bank for Reconstruction and Development, Washington, D.C., August, 1990, pages 15-41 and 116-127.

Under pessimistic copper price simulations (a further 15 percent decline from the most likely simulation which incorporates a sizeable decline in the price of copper during the 1990-92 period), the economy can adjust without major disruptions if, and as long as, the public sector is willing to adjust its expenditures to avoid the creation of significant budgetary deficits. Under this scenario, medium-term economic growth could be lower as a result of a reduction in copper prices, but average growth could still surpass the average growth rate of the previous 20 years. A higher copper price would, of course, facilitate higher levels of growth in the medium-term.

The World Bank simulations indicate that if growth of the public debt is maintained at rates equivalent to the real rate of growth of economic expansion, debt service could be held at manageable levels which would not precipitate a reduction in the share of GDP spent on other public services. Although stable, such a scenario would come at the cost of lower investment and economic growth.

Attempts to exceed prudent limits of internal and external borrowing (as well as the creation of money), could easily disrupt a delicate economic equilibrium. A scenario violating both internal and external financing constraints in which copper prices decline and government expenditures rise by 4.5 percent of GDP, only partially offset by an increase in taxes equivalent to two percent of GDP, could produce a rapid acceleration in inflation and a slowdown in economic growth. However, the impact of increased public expenditures could be moderated considerably if they are matched by efficient sources of revenue.

The World Bank's findings demonstrate that fiscal expenditures are much more important to the stability of the Chilean economy than possible gyrations in the international price of copper. Furthermore, the report suggests that since economic instability has been a major determinant of the levels of investment attained in the economy, attempts to stimulate the economy beyond its internal and external financing constraints will not only fail to produce positive results, but would negatively affect investment patterns and future economic growth. In addition, efforts to counteract the impact of stimulative policies through a currency devaluation will only lead to higher inflation.

Annex 6D: SOCIAL SOUNDNESS ANALYSIS

A. Background and Need

MINVU estimates that there is need for 1,137,289 new or rehabilitated housing units throughout the country. The actual housing shortage, according to MINVU's 1988 statistics, is 807,398 units, while 329,891 existing houses are in need of upgrading and extensive repair. The total deficit represents the difference between the total number of families and the total number of housing units available, including the 13.6 percent which are inadequate. In the Santiago Metropolitan Region, 26 percent of housing need is for the improvement of existing dwellings.

As of 1985, the following needs were determined by quintile for the country as a whole.²⁷

Quintile	Sanitation	Rehab	Expansions	New Units	Total
1	112,438	36,472	57,249	163,712	369,871
2	115,368	26,889	75,061	108,453	325,771
3	93,343	21,102	61,665	85,512	261,622
4	70,517	11,117	55,483	47,486	184,603
5	35,097	8,574	28,079	18,153	89,903
Total	426,763	104,154	277,537	423,316	1,231,770

It is interesting to note that the greatest need for new and rehabilitated units is among those in the lowest quintile, while those in the second lowest require sanitation improvements and housing expansion.

One factor which has constrained the development of housing in recent years, was the Pinochet government's active enforcement of laws prohibiting land invasions and informal settlements. When the formal sector could not keep pace with the demand for housing, and in cases in which formal sector mechanisms were not available or affordable, new households were compelled to move in with others already established. This phenomenon of the doubling up of households has produced a new term to refer to those who have moved in -- the "allegados". The fact that over 800,000 households in 1988 were reported to be without housing of their own is an indication of both unmet demand and of the failure of the system to provide for those of low income in sufficient numbers.

Eighty-five percent of all Chileans have access to potable water, with this percentage rising to 97 percent in urban areas. 72 percent of all households are connected to waste disposal systems; however, the proportion of households in the lowest income quintile with access to sanitation is only 52.8 percent.²⁸ As shown on the chart above, significant numbers of units in

²⁷ MINVU, Office of Planning and Statistics, 1985.

²⁸ Pontificia Universidad Católica de Chile and ODEPLAN, CASEN II survey, 1987.

all four of the lowest income categories require improved access to sanitation systems, with 227,806 households in need among the lowest two income quintiles.

The need for paved streets is acute in the Santiago Metropolitan area, with 40 percent of streets not paved. The dust contributed by heavy traffic flows is a serious concern, as unpaved streets often become relative thoroughfares when housing developments expand further into the periphery of the city. Particulates which can be breathed are an important component of Santiago's high levels of air pollution. Increasing incidence of respiratory and pulmonary diseases are becoming evident in health services. This, combined with the visual impact of a city shrouded in smog, has alerted the public to the need for measures which reduce or, at least, minimize air pollution. Recent cases of cholera, a high incidence of typhoid, hepatitis, and gastrointestinal ailments for a country of this income level, and numbers of dead fish and polluted beaches have also raised popular concern for sewage treatment and access to safe drinking water. Even at some level of private cost, it is likely that there will be public support for projects which can deal successfully with these issues.

B. Acceptability of Program Initiatives

Despite significant levels of effort to address the pent-up demand for housing, with MINVU production expanding to 85,000 units in 1991, families of moderate means have not had access to local financial markets to secure credit for housing acquisition and improvement. Even at relatively high income levels, many young families must live as "allegados" with their parents or other relatives, as financial institutions have not responded to their demand for housing.

The level of savings, most notably within pension funds, is growing without the existence of an adequate number of corresponding long-term investments within the country. The conversion of these resources into mortgage finance for households of modest to middle income ranges will have a two-fold impact on the country's working people. First, it will provide secure, long term investments for pension funds and insurance companies which are managed by the private sector and which represent a significant share of the savings and financial security of working households. Such action will aid these funds to assure the long term needs of pensioners and insurance beneficiaries. Second, mortgage credit will be extended to the same classes of savers whose demand, and whose savings, have outpaced the provision of housing finance.

The demand for affordable housing and increasing problems of time and pollution related to most public transportation have helped to focus attention on the reuse of the older housing stock of urban centers such as Santiago. A survey of current residents of West Central Santiago showed that fewer than 10 percent wished to reside elsewhere. Their comments about the convenience of city life appear to be understood by increasing numbers of others who seek residence in established centers but whose efforts have been frustrated by the lack of opportunities. Some SERVIU applicants now even reject opportunities proffered to them to live in some peripheral communities due to their lack of facilities, remoteness from centers of employment and economic opportunity, and related problems of juvenile delinquency.

In Valparaíso, Concepción, and other centers, Santiago's problem of depopulated and deteriorated inner city districts is repeated on a smaller scale. The unique architectural characteristics of some of Valparaíso's older residential neighborhoods have come to be widely appreciated as part of the nation's heritage, adding momentum to local initiatives to preserve

them. This public recognition of the value of older districts and their potential for revitalization is a powerful force along with the scarcity of serviced peripheral land in this city's case. New laws permitting sale of buildings by floor, in combination with a revolving fund for revitalization projects, are expected to provide sufficient incentive for the proliferation of vehicles to undertake such initiatives.

A Catholic University/MINVU study of sixteen secondary and small cities, indicates that access to potable water and sanitation for all residents ranks high on their lists of priorities for community development, with all placing these in their top five concerns along with housing. Communities in the Santiago Metropolitan area also included street paving among their priorities. The communities participating in the survey may provide opportunities for initial use of special environmental project funds, as there is already a level of consciousness about such issues in these localities. A further advantage is Catholic University's plans to continue to assist these communities to develop the organizations capable of addressing local problems. The opportunity for such an alliance could help to assure the success of local demonstration projects.

Concerns have been raised about the suitability of housing families in the inner city if, indeed, this area is seriously affected by air pollution, which might detract from the quality of life. However, before reaching any such conclusion, it is worth examining the actual patterns of air pollution in the Santiago area. Obviously, the worst concentrations of carbon monoxide are in the central business district. Because of the direction of prevailing winds, other areas with disproportionately poor air quality are a number of rather prosperous localities to the east of the Santiago municipality, notably Providencia and Las Condes. On the other hand, some deteriorated neighborhoods such as West Central Santiago, to the west of the business district, have air quality comparable to that of most of the suburban communities, including such expansive conglomerations of recent housing activity as La Florida, Maipú, and San Bernardo. Therefore, air quality should not be a major factor in deciding whether districts such as West Central Santiago should be sites for revitalization efforts.

In general terms, the entire HG program as a whole, is designed as a package of initiatives unified by their ability to contribute to market-oriented development under a democratic government. The Aylwin administration seeks to maximize private sector participation in all areas and claims that government should respond, rather than initiate and direct economic activities. Private sector financial resources in the hands of consumers will assist them to have a wider range of participation as well as choices in the market. Revitalization and environmentally-oriented project funds will be accessible to private sector developers and to a wide range of non-profit actors, from the well established COVIP cooperative network and the CDS, to "juntas de vecinos" and other small community-based groups now empowered to borrow the funds to be put at their disposal. In years past, numerous talented individuals and creative local institutions have endeavored to take on the limited roles permitted them by a restrictive and cautious government. Now, a new way of doing business and the financial opportunities that will be established by this program will, undoubtedly, be matched by the energy and innovation held in abeyance and seeking means for practical application by such groups.

Annex 6E: ADMINISTRATIVE ARRANGEMENTS AND TECHNICAL ASSISTANCE PLAN

MINVU has three important areas of capability which are relevant to the administration of this program. First, it has a staff of competent professionals with experience in government and the private sector, and with academic preparation in a variety of disciplines. The "Comité Asesor", in particular, comprises of individuals with broad experience and international study who have impressive knowledge of Chile's regions, and their wide variety of local issues, and who work in an atmosphere which demands that they forge alliances with the private sector and the academic community to maximize the scope of the Ministry's perspective on housing finance and development, urban development, the environment, and other matters that may pertain to their work.

These staff members and others at MINVU are accustomed to collaborating with others inside and outside government to provide training to the private sector and others concerned with the utilization of programs and assistance that MINVU provides. They are comfortable with an environment in which no one category of government, private sector, NGO, or academic capability and experience is regarded as superior to the other. Instead, they are accustomed to bringing members of these diverse groups together to share and to improve common knowledge. This was demonstrated most clearly during the first year of the Aylwin administration, during which several national commissions -- including those on Housing Finance, Human Settlements, and on the Environment -- exhaustively studied their respective fields and prepared recommendations for MINVU and other governmental action on which there is widespread consensus, and a resulting sense of shared program "ownership."

Second, MINVU has recognized partly as the result of the work of the National Commission on Human Settlements, that its urban development work has been neglected in recent years. It has charged its new Urban Development Division Director with changing this; and has begun to focus on revising its earlier approaches. The availability of funds for inner city revitalization and for urban environmental initiatives are seen within MINVU as important resources to facilitate a shift in their own emphasis, and one which will permit the implementation of initiatives whose importance was emphasized by this Human Settlements Commission. Efforts of certain key offices within MINVU to coalesce with academic and other individuals to identify and to be prepared to respond to communities with significant urban development needs have already begun in earnest and will be important in contributing to the flow of resources to those best able to demonstrate project effectiveness.

Third, while the fact remains that the Chilean government is quite centralized, MINVU itself has decentralized operations through its regional service units, the SERVIUs. These are able to maintain a level of information and contact with people at the regional and provincial level that is impressive, and they are thereby able to recognize solutions most suitable to local needs. Further, the SERVIUs have recently been enabled to form partnerships with private sector entities to initiate activities, such as central city rehabilitation projects, that were not possible before. Thus, local people and their organizations have access to assistance at the regional level to permit the development of a wider range of options to meet demands for housing and urban services.

Among the alliances and new organizational forms encouraged by MINVU and the new government as a whole, is the new Shelter Finance Corporation proposed to direct the allocation

of HG-010 housing finance resources. Those who have already agreed to participate on the board of directors include the Minister of Housing and Urban Development and several leaders from government and the private sector. These individuals are committed to sharing their impressive practical experience in the housing field to ensure the success of this program. This unique assembly of talent and expertise will do much to address the policy, financial, security, interest rate, and delivery issues basic to institutionalizing such an innovation and to making its use widely understood and accepted.

The technical assistance plan proposed below is designed to substantively support a broad based policy agenda and institutional development objectives of the HG-010 program. The technical assistance plan will help to put in motion a process through which new and innovative mechanisms and activities developed as part of the HG-010 program can continue beyond its completion date.

A. Technical Assistance Plan in Support of the Private Shelter Finance Component

USAID/Chile proposes to continue the advances in dialogue achieved over the past several months with the Ministry of Housing and Urban Development (MINVU) and the private sector to incorporate private financial institutions into the financing of mortgage credit delivered in conjunction with MINVU's subsidy program, and to develop new systems for the refinancing of these mortgages through the private institutional investment market. The major thrust of the program's technical assistance will support the shelter finance component through efforts to advance the policy agenda and eliminate the constraints to private sector financing of low income housing in Chile. Planned technical assistance encompasses the following:

1. Development of a Viable Mortgage-Payment Insurance Product

A viable payment insurance scheme which amplifies the existing mortgage insurance coverage provided by the Ministry of Housing and Urban Development (MINVU) is necessary to guarantee the timely and uninterrupted payment of principal and interest of mortgages written for lower income families by private financial institutions. A guaranteed cash-flow over the life of the loan will serve as an attractive enticement for pension funds and other investors to invest in packages of these insured instruments. Approximately three person-months of technical assistance will be provided to support the development of this innovative mechanism, drawing on both USAID/Chile's resident Housing Finance Advisor and the expertise of an expatriate mortgage insurance specialist. The major areas of assistance will include the following:

- a. Development of a mortgage payment insurance model which can serve as a departure point for discussions with Chilean casualty insurers regarding development of a viable product.
- b. Evaluation of the merits of mortgage "warehousing" whereby the issuers of housing credits hold these mortgages for a period of, say, 18 months prior to offering packages of these mortgages to the secondary market. This would serve two purposes: provide for a statistically significant time horizon for the collection of actuarial data in order to price the premiums of mortgage payment insurance; and enable originators to offer only seasoned loans to potential investors.

- c. Determination of the advisability of applying mortgage payment insurance to the existing SERVIU portfolio, to new loans issued by both the Banco del Estado and the private sector, or only to new mortgages issued by the private sector.
- d. Assessment of the need for private offshore reinsurance to offset part of the non-payment risk attributable to unemployment or disability to complement the privately issued mortgage payment insurance product, private life and casualty insurance, and public underwriting of economic/political risk. Alternatively, the technical assistance team will determine the feasibility of capitalizing a partial reinsurance fund in Chile which, for a limited period during the development and introductory stages of the mortgage payment product, will assume a minority portion of the risk underwritten by participating private insurance companies.

2. Legal and Regulatory Aspects of Mortgage-Backed Securities

At the present time, the major potential sources of liquidity for an expanded private housing finance system are Chilean pension funds and insurance companies. However, pension fund administrators cannot invest directly in mortgages and, presumably by extension (since no precedents exist), mortgage backed securities. Approximately three person-months of short-term technical assistance relating to legal and regulatory issues would be provided in the following areas:

- a. Working with MINVU and the "Superintendencia de Valores y Seguros", the technical assistance team will develop the requisite legislation which will lead to a new regulatory environment which encourages and facilitates direct and indirect investment in mortgages and mortgage backed securities.
- b. The technical assistance team will suggest revisions to the tax code which would remove existing fiscal constraints to investment in mortgage backed securities by pension funds.
- c. Chile's institutional investors are currently proscribed from investing in any but registered investment-grade securities. Neither low income home mortgages nor derivative instruments such as securities backed by these mortgages are sanctioned investments. Technical assistance will be provided to develop the regulatory framework to secure and rate home mortgages, thereby enabling these instruments to be listed and traded in the country's capital market.

3. Institutionalization of the Private Shelter Finance Corporation

Although MINVU will be the official borrower of Housing Guaranty resources, a private corporation will be established to act as trustee for these resources. By streamlining the administrative process for private sector access to these funds, it is believed that private financial institutions may be more active participants in the financing of mortgage credit for lower income families. Approximately 12 person-months of technical assistance to the corporation is planned to facilitate the chartering of the corporation and the definition of its operational parameters, including development of the bidding procedures envisaged by the program. In addition, USAID/Chile's resident Housing Finance Advisor will provide the corporation with approximately

four person-months of short-term technical assistance on an as-needed basis during the four year life of the program.

B. Technical Assistance Plan for the Development and Implementation of an Environmental Impact Assessment Methodology for the Urban Sector

USAID/Chile has provided support to MINVU's National Commission on Human Settlements to prioritize a number of environmental issues and concerns. An action plan to address these prioritized environmental and natural resource problems on a regional basis and the preparation of a new legal framework that will guide the sectoral ministries in environmental issues are scheduled to receive additional support from USAID/Chile.

However, it is clear that the evolution of a legal and institutional framework for environmental action in the urban sector alone, cannot resolve specific environmental problems without the analytical tools to analyze environmental costs and benefits in the context of urban development.

USAID/Chile has an ongoing technical assistance program in environmental and natural resources management implemented through the World Resources Institute (WRI), which to date has carried out several important activities. Utilizing this existing relationship with WRI, approximately four months of short-term technical assistance will be directed at the development of an environmental impact assessment methodology for the urban sector with follow-up training provided to MINVU personnel at the national, regional and municipal level, aimed at incorporating environmental analyses into the Ministry's future development of housing and urban programs.

C. Technical Assistance Plan for Other Program Components: Outreach and Integration With Country Strategy

Two of the HG-010 program's principal components are of an essentially experimental nature, intended to provide groups that have not until now had adequate opportunities to identify and implement local solutions to local problems. As has been amply discussed above, these components focus on inner city revitalization and on small-scale urban environmental initiatives.

Modest amounts of short-term technical assistance will be provided to groups at the local level that demonstrate their ability to generate viable proposals in these areas, as is briefly explained below. In addition, AID will work with MINVU to identify opportunities to bring together program participants -- actual and potential -- to review program experience and seek to draw lessons which may be of broad relevance for the replication of program activities. In doing so, AID will also seek opportunities to integrate the HG-010 program with activities being undertaken through other elements of the AID country development strategy and program. For example, AID/Chile's FY1992 Local Government Strengthening program can be tapped to provide some technical assistance in strategic investment planning to municipalities participating in the HG-010 urban environmental components. Similarly, efforts will be made to ensure that lessons learned through HG-010 are transferred and disseminated as broadly as possible through the Local Government Strengthening project and the Environmental Resources Management activities mentioned above.

In general, the HG-010 program will support government efforts to initiate processes that will strengthen local governments and develop more active public/private partnerships as vehicles for resource management. Specific short-term technical assistance of approximately six person-months will be targeted at the following complementary activities:

1. Technical Assistance for Inner City Revitalization

The gradual decay and abandonment of increasingly large centrally located areas of many of Chile's cities, already served by major infrastructure systems, suggests the viability of inner city revitalization efforts. However, preliminary cost estimates suggest that revitalization must be a public and private undertaking which maximizes the comparative advantage of each with regard to experience in urban development. The potential exists for private sector participation in inner city revitalization efforts in all of Chile's larger cities including Santiago, Concepción, and Valparaíso.

Chile's private developers have demonstrated interest in producing lower cost housing if economies of scale can be employed. However, the private sector's participation in lower income housing has been largely limited to low density suburban development in the urban perimeter. Inner city revitalization, on the other hand, entails small pockets of high density development. One possible inducement for these private developers to participate in the revitalization of the inner city, may be for MINVU to identify a number of relatively homogeneous pockets which could be developed simultaneously, thereby minimizing the cost of producing housing in the revitalization areas targeted at lower income populations.

An estimated two person-months of short-term technical assistance is planned for a workshop to bring together municipal level technicians and private developers to focus on optimizing alternative approaches to inner city revitalization. The proposed technical assistance will also place considerable emphasis on the dissemination of the workshop's findings and conclusions to key public and private sector groups through the country.

2. Strategic Investment Planning Including Diagnostic Studies

Although some municipalities have the capability to conduct diagnostic studies and develop strategic investment plans, their level of sophistication and capability vary widely, some municipalities having no expertise in this area whatsoever. Investment plans are a prerequisite for funding consideration by Chile's regional infrastructure agencies. Technical assistance provided at the municipal level aimed at developing expertise in municipal planning techniques, is viewed as a necessary step toward municipal development and self-reliance. Approximately 2.5 person-months of assistance are envisaged in this area.

3. Design Aspects of Wastewater Technology

The program anticipates funding of ten demonstration projects throughout the country. Some of the newer technologies available for consideration, such as that in place in West Santiago, need to be evaluated with regard to cost effectiveness and other criteria, prior to replication. About 1.5 person-months of TA will be provided for this purpose.

Table 3 in the main body of this Project Paper presents a detailed summary of the proposed HG-010 technical assistance plan.

Annex 6F: ENVIRONMENTAL REVIEW

A. Mortgage Financing and Insurance Funds

The components of this HG program aimed at mortgage financing and insurance qualify for Categorical Exclusion from further environmental examination, in accordance with Sec. 216.2(c) of the Foreign Assistance Act, as A.I.D. "does not have knowledge of or control over, and the objectives of A.I.D. in furnishing assistance does not require... knowledge of or control over, the details of the specific activities that have and effect on the physical and natural environment for which financing is provided by A.I.D."

B. Grant Assistance Component

The grant assistance component activities involve only seminars, studies, and technical assistance (TA) which will not have direct environmental impacts and, thus, can be excluded from further environmental consideration. Nevertheless, as these activities will influence sub-projects (urban, municipal and environmental initiatives) discussed in the following paragraph, they will have a positive environmental impact if the TA and training include consideration of the environmental impacts of urban and municipal development.

C. Urban and Small Scale Environmental Initiatives

1. Water Systems

The activities in this Program component involve improvements or reconstruction of existing systems for wastewater treatment, and possibly for potable water. Specific sub-projects are not yet chosen, but the GOC and MINVU are presently preparing plans for sanitation and decontamination improvements in the Santiago metropolitan area and in other municipalities, with prioritization of critical sub-projects. Until specific activities are designed, environmental review can only be approximate, based on the general plans for these improvements (as outlined, for example in: Comisión Especial de Descontaminación de la Región Metropolitana, 1991, Programa de Descontaminación Ambiental del Area Metropolitana de Santiago; and in: Comité Interministerial de Infraestructura, marzo 1991, Análisis Programa de Saneamiento de Aguas Servidas de Santiago). As water sub-projects are selected and designed, environmental review, and the possible need for Environmental Assessments, must be determined by the Regional Environmental Advisor (REA/SA) or other specialists approved by LAC/DR/E. The following discussion outlines some of the reasons such review is needed.

No new water systems are planned. The net environmental impacts of water system changes likely will be positive, as untreated urban and municipal wastes are presently discharged directly into rivers, coastal estuaries and the ocean, or used for crop irrigation, with detrimental effects on human health, aquatic ecosystems and coastal fisheries resources. The wastewater systems to be funded under this component will principally involve improvement or reconstruction of drainage canals and the construction of low to medium technology treatment plants. The treatment plants primarily consist of sedimentation and stabilization ponds, with aeration and pumping of effluents, for removal of solids and for primarily biological breakdown of pathogenic organisms. The treated waters will then be used for crop irrigation or discharged directly into rivers or the ocean.

Water treatment, in the removal of solids and some nutrients, will have positive environmental impacts in reducing sedimentation and eutrophication in bodies of water receiving treated discharges, if these receptors previously received untreated wastewaters. Improvement of existing potable water systems should not have significant impacts, particularly if wastewater systems are also being improved.

Negative environmental impacts will be possible from the periodic disposal of accumulated sediments and sludge, treated or untreated, from these systems, depending on the nature and treatment of the disposal areas. Chemical treatment of final discharge waters to kill residual pathogens may also have negative impacts. Chlorination, for example, may require aerated holding ponds, or other methods (depending on water temperature, flow rates, etc.), to reduce the concentration of the sterilizing chemicals to levels which will not destroy aquatic biota in downstream bodies of water. Chlorinated drinking water which passes through any water treatment system which includes aeration should not have significant residues in the discharge.

In Chile, there apparently is no intentional separation of industrial wastes from other classes of waste waters. Mining of metals is a primary industry in Chile. Heavy metals may be a primary contaminant of some wastewater systems, with consequent negative downstream impacts on human health (potable or irrigation waters) and on aquatic ecosystems. Some reduction of heavy metal content of wastewaters can be expected by the removal of solids, but relative concentrations of metals in solution may be increased through evaporation of waters during treatment, particularly with aeration and high turnover with pumping or mixing. Aquatic systems not previously receiving wastewater should not be used as new receptors for discharge water with high dissolved metals content, because of the probable negative impacts of heavy metals on aquatic biota, particularly through bioaccumulation in food chains. Similar considerations apply to disposal of sediments and sludge from treatment systems.

2. Street Paving

One of the program initiatives is assistance for paving of neighborhood streets. This involves only the paving (usually with asphalt) of existing dirt or gravel streets which have minimal traffic. The environmental impacts of this activity will be positive, in the reduction of airborne dust, a major contributor (combined with combustion exhaust and other organic particulates) to the extreme smog of Santiago, and to heavy dust accumulation in new housing areas. No further environmental review is required for this program component.

D. Environmental Assessment Training

Personnel of MINVU, and possibly other GOC agencies, will receive short-term training in environmental impact assessment, with funds from other AID/Chile programs. These will be done in association with design and implementation of the urban and municipal environmental initiatives of the HG-10 program activities. MINVU will be encouraged to develop in-house capabilities for environmental review of all future projects. Strong interest in this has been expressed in MINVU.

E. Statutory Guidance

According to Sec.216.3(a)(7) of the Foreign Assistance Act, "(i) Environmental Review may be performed after authorization of a project, program or activity that are unidentified at the time

of authorization. Environmental review shall be completed prior to authorization for all sub-projects and aspects of a project, program or activity that are identified. (ii) Environmental review should occur at the earliest time in design or implementation at which a meaningful review can be undertaken, but in no event later than when previously unidentified sub-projects or aspects of projects, programs or activities are identified and planned. To the extent possible, adequate information to undertake deferred environmental review should be obtained before funds are obligated for unidentified sub-projects or aspects of projects, programs or other activities. (Funds may be obligated for the other aspects for which environmental review has been completed.) To avoid an irreversible commitment of resources prior to the conclusion of environmental review, the obligation of funds can be made incrementally as sub-projects or aspects of projects, programs or activities are identified; or if necessary while planning continues, including environmental review, the agreement of other document obligating funds may contain appropriate covenants or conditions precedent to disbursement for unidentified sub-projects or aspects of projects, programs or activities.

F. Initial Environmental Determination

As stated in the DAEC review cable (STATE 166619, May 1991) for this project, "The IEE finds that the HG loan portion for mortgage financing and insurance funds and any related grant-funded TA qualifies for Categorical Exclusion, but that an Environmental Review by REA/SA or LAC/DR/E will be required whenever HG loan assistance and accompanying grant-funded TA are used for design, operation or construction of wastewater treatment, sewage disposal, other infrastructure, or planned land-use. REA/SA will periodically monitor program activities."

Howard L. Clark, Ph.D. (Ecology)
A.I.D. Regional Environmental Advisor (REA/SA)
30 May 1991

Annex 6G: Women in Development

MINVU housing programs, in the past, have not actively discriminated against women, with single or widowed women and female heads of household permitted access to the full range of housing services. Women have been co-owners of housing with men, with women's signatures typically required to ensure that the beneficiary household was truly the family that the local SERVIU intended to assist.

However, this does not mean that the special needs of certain categories of women have been addressed adequately. Female headed households in Chile, as elsewhere in the world, tend to have lower incomes and, consequently, reduced capacities to save relative to those with both parents present. They are also less likely to be able to utilize the benefits available from either unfinished housing units, or from alternatives such as progressive housing, and generally have to opt instead for housing choices which are more costly.

MINVU recently took a significant step in addressing perhaps the most significant way in which its programs restricted access to female-headed households. Formerly, the "point" system for subsidy programs assigned points for the amount of savings accumulated, length of time spent on the waiting list, and for the number of household. Now, the head of household -- as represented by one or two people -- is rated by a separate set of points, with female headed households receiving ten extra points to boost their position in the ranking system out of recognition of their level of need.

This achievement was realized with the help of pressure and information from the National Women's Service (SERNAM), which has been institutionalized with public funds to advocate for women's issues. SERNAM, women's advocates within MINVU, and others in the housing development community recognize that additional measures are needed to improve the housing conditions of women. Among others, the CDS has come to understand the circumstances faced by numerous women in Santiago's older neighborhoods. Women on their own, whether widowed, divorced, or single, have little access to family-oriented public housing programs, yet are likely not to have sufficient income to provide for their own adequate housing in the private market. Many such individuals are tenants in apartments in Cités and other deteriorating buildings whose owners may not have access to credit or assistance for improvements.

It should be noted that 21 percent of all Chilean homes have female heads. Their distribution is spread throughout the country, but is highest in the Metropolitan region (22.6 percent), Region IV (24.8 percent) and Region IX (22.2 percent). The female population of Chile is overwhelmingly urban, with 85.9 percent of all women residing in cities compared with 82.4 percent of men. Female labor force participation nearly doubled between 1972 and 1988, and continues to expand at an annual rate of 2.7 percent. An astonishing 93.1 percent of urban women are employed outside the home -- 81 percent of them in the service sector.²⁹

Women and other single individuals, including the handicapped, may benefit significantly from the expanded availability of credit for housing rehabilitation, and from enhanced access by the CDS and other developers to short-term credit to finance building acquisitions and improvements. Discussions have begun among a group of government agencies, including

²⁹ "La Situación de la Mujer en Cifras", Servicio Nacional de la Mujer (SERNAM). Unpublished document provided to MINVU, 1991.

MINVU and MIDEPLAN, on solutions for the housing needs of handicapped persons. It is likely that special subsidies will be made available to them to rent rooms or apartments or even to buy housing in small cooperative groups if complementary financing is available to front the acquisition of properties for development or modification to serve their special requirements.

Annex 7
 Estimated Payment Capacity of Target Beneficiaries
 Unit Sales Prices - UF400 to UF600 and UF625 to UF900
 Category II, Unified Subsidy Program
 (Values in Unidades de Fomento 1/)

Unit Sales Price *****	Mortgage Amount S=UF130 *****		Monthly Payment i=8.5% 15 Years *****		Monthly Payment i=8.5% 20 Years *****	
	15% Down	20% Down	15% Down	20% Down	15% Down	20% Down
600	380.00	350.00	3.74	3.45	3.30	3.04
590	371.50	342.00	3.66	3.37	3.22	2.97
580	363.00	334.00	3.57	3.29	3.15	2.90
570	354.50	326.00	3.49	3.21	3.08	2.83
560	346.00	318.00	3.41	3.13	3.00	2.76
550	337.50	310.00	3.32	3.05	2.93	2.69
540	329.00	302.00	3.24	2.97	2.86	2.62
530	320.50	294.00	3.16	2.90	2.78	2.55
520	312.00	286.00	3.07	2.82	2.71	2.48
510	303.50	278.00	2.99	2.74	2.63	2.41
500	295.00	270.00	2.90	2.66	2.56	2.34
490	286.50	262.00	2.82	2.58	2.49	2.27
480	278.00	254.00	2.74	2.50	2.41	2.20
470	269.50	246.00	2.65	2.42	2.34	2.13
460	261.00	238.00	2.57	2.34	2.27	2.07
450	252.50	230.00	2.49	2.26	2.19	2.00
440	244.00	222.00	2.40	2.19	2.12	1.93
430	235.50	214.00	2.32	2.11	2.04	1.86
420	227.00	206.00	2.24	2.03	1.97	1.79
410	218.50	198.00	2.15	1.95	1.90	1.72
400	210.00	190.00	2.07	1.87	1.82	1.65

Unit Sales Price *****	Mortgage Amount S=UF110 *****		Monthly Payment i=8.5% 15 Years *****		Monthly Payment i=8.5% 20 Years *****	
	15% Down	20% Down	15% Down	20% Down	15% Down	20% Down
900	655.00	610.00	6.45	6.01	5.68	5.29
875	633.75	590.00	6.24	5.81	5.50	5.12
850	612.50	570.00	6.03	5.61	5.32	4.95
800	570.00	530.00	5.61	5.22	4.95	4.60
775	548.75	510.00	5.40	5.02	4.76	4.43
750	527.50	490.00	5.19	4.83	4.58	4.25
725	506.25	470.00	4.99	4.63	4.39	4.08
700	485.00	450.00	4.78	4.43	4.21	3.91
675	463.75	430.00	4.57	4.23	4.02	3.73
650	442.50	410.00	4.36	4.04	3.84	3.56
625	421.25	390.00	4.15	3.84	3.66	3.38

Average Household Income by Quintiles
 September-November 1990 and Projections to End-1991
 (Values in Unidades de Fomento 1/)

Income Quintile *****	September - November 1990			Projection for End-1991 2/		
	Monthly Household Income *****	25% Household Income *****	28% Household Income *****	Monthly Household Income *****	25% Household Income *****	28% Household Income *****
1	4.86	1.22	1.36	5.07	1.27	1.42
2	8.22	2.06	2.30	8.57	2.14	2.40
3	11.34	2.84	3.18	11.83	2.96	3.31
4	16.85	4.21	4.72	17.58	4.39	4.92
5	57.18	14.29	16.00	59.63	14.91	16.70

1/ The adjustable development unit (UF) is a constant currency measure whose value varies daily in concert with the CPI

2/ Estimated by increasing average income for the period by the difference between the government's projected real GDP growth for 1991 and projected population growth rate for the same period.

Source: Data from the National Statistics Institute survey of average household income for the period September-November 1990

- 117 -