

CHILE

ISSUES AND OPPORTUNITIES IN THE SHELTER AND URBAN SECTOR

March 1991

FINAL REPORT

CHILE

ISSUES AND OPPORTUNITIES

IN THE SHELTER AND URBAN SECTOR

Prepared for

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GLOSSARY

ADC	Advanced Developing Country
AFP	Pension fund management company
BHIF	International Mortgage Finance Bank
BHP	Basic Housing Program
BIP	Project database
CAS	Survey of national socioeconomic poverty index
CASEN	National socioeconomic survey
CEPAL/ECLA	U.N. Economic Commission for Latin America
CIPMA	Center for Environmental Investigation and Planning
CNE	National Energy Commission
CODECO	Municipal development council
CODELCO	State copper company
CODERE	Regional development council
COLMA	Environmental Legislative Commission
CONAMA	National Environmental Commission
CORCHILE	An NGO umbrella organization composed of private regional development corporations
CORFO	Chilean Development Corporation
CORHABIT	A former agency of the Ministry of Housing
CORVI	A former agency of the Ministry of Housing
COVIP	An umbrella organization of Chilean cooperatives and nonprofit developers
DESOCO/DISOCO	Municipal social development department
EEC	European Economic Community
EMOS	Santiago Water and Sanitation Authority
ENR	Environmental and Natural Resources
EPM	Environmental Planning and Management Project
ESVAL	The water and sewerage authority for Valparaíso/Viña del Mar
FNDR	National Regional Development Fund
FOSIS	Social Investment Fund
GDP	Gross Domestic Product
GOC	Government of Chile
GTZ	German Agency of Technical Cooperation
HG	Housing Guaranty
IBRD	International Bank for Reconstruction and Development (World Bank)
ICOR	Incremental Capital Output Ratio
IDB	Inter-American Development Bank
ILPES	Institute for Economic and Social Planning
IULA	Inter-American Union for Local Administration
MACAM	Environmental monitoring system for Metropolitan Region
MIDEPLAN	Ministry of Planning
MINVU	Ministry of Housing and Urbanism

NGO	Non-Governmental Organization
ODEPLAN	National Planning Office (previous government)
PARTICIPA	A Chilean civic education group
PVO	Private Voluntary Organization
S&T/FENR	A.I.D.'s Science and Technology Office
SECPLAC	Municipal office of planning and coordination of MIDEPLAN
SEREMIs	Regional ministerial offices
SERNAM	National Women's Office
SERPLAC	Regional office of MIDEPLAN
SERVIUs	MINVU's regional executing offices
SSMA	Metropolitan Environmental Health Service
UF	Indexing unit for financial transactions
USAID	U.S. Agency for International Development
WRI	World Resources Institute

1 INTRODUCTION AND EXECUTIVE SUMMARY

1.1 Introduction

After seventeen years of military rule, Chile is now in the midst of a democratic transition. The newly elected government of Chile (GOC) that took office in March 1990 has just over three years remaining of a four-year transitional term in which to consolidate the democratic process. The GOC has maintained the previous government's basic development strategy of leaving production activity to the private sector and using government to provide a social safety net for the poor. Chile's two-fold challenge, therefore, is to show that democracy works and that the private sector can play a vital, socially responsible role in the new democracy.

Growing urban problems throughout Chile will test the mettle of the new democracy. Greater Santiago's five million inhabitants account for nearly 40 percent of the country's population. While Santiago continues to grow, albeit at a lower rate, secondary cities of between 100,000 and one million inhabitants grow even faster. Poverty continues to be an urban problem throughout the country. With it comes a host of new or exacerbated urban problems to solve: lack of housing and infrastructure, environmental degradation, inadequate employment and training opportunities, public health problems, youth unemployment, drug addiction. Whether the elected government can respond effectively to these urban problems will be a crucial test for the new democracy.

During the approximate year that the Aylwin government has been in office, it has launched a series of program and policy reviews to examine the obstacles and constraints facing the country. These reviews range across the shelter and urban spectrum—urban development, the environment, decentralization/municipal development, and housing finance. In many instances, government has coordinated, or has been assisted in coordinating, these sectoral policy reviews through the assistance of new or ongoing programmatic initiatives of USAID/Chile and the principal multilateral donors such as the World Bank and the IDB (See Chapter 5). A.I.D.'s Office of Housing and Urban Programs has commissioned this rapid assessment in order to obtain a greater understanding of the GOC's current thinking and policies on the shelter and urban sector, as well as to provide the substantive underpinning for future discussions with government on its policy agenda for the sector.

The remainder of this chapter contains the assessment's executive summary. Chapter 2 provides the physical, social, economic and institutional context for the formulation of the sector's program and policies. Chapter 3 identifies the principal issues and constraints facing Chile's shelter and urban sector. Chapter 4 describes and analyzes GOC's policy and programmatic response to these issues. Chapter 5 describes ongoing USAID and other bilateral/multilateral donor activities in Chile's shelter sector. Finally, Chapter 6 proposes a medium-term strategic approach and concomitant short-term opportunities to expand and deepen A.I.D.'s ongoing commitments and initiatives in Chile's shelter and urban sector.

The field work and report preparation for this assessment were carried out by a team consisting of Lee Baker, Team Leader and Urban Development/Environmental Specialist; Patricia Wilson, Municipal Development Specialist (Nathan Associates); Claude Bovet, USAID Resident Housing Finance Advisor; and Jeanine Kleimo, Housing Specialist. The team was based in Santiago for approximately three weeks during November 1990.

The team wishes to thank all the persons interviewed (see Appendix C) for their time and valuable information. Special thanks are due to Paul Fritz of USAID/Chile; Sonny Low of RHUDO/SA in Quito; and the staff of GOC's Ministry of Housing and Urbanism for its hospitality and for helping to clarify complex issues and arranging many worthwhile interviews.

1.2 Executive Summary

1.2.1 Context for Policy Articulation

The following sections briefing highlight the demographic, social, economic and physical context for the formulation of policies and program's for Chile's shelter and urban sector.

1.2.1.1 Demographic and Economic Trends

- Chile's population growth is expected to slow to 1.7 percent per annum during the 1990s; total population was estimated to have reached almost 13.2 million by the end of 1990.
- Growth in GDP varied from 2.4 to 7.4 percent during the period 1984 to 1988; allowing for population growth, GDP grew by 7.3 percent in 1989.
- The construction sector's contribution to GDP has increased gradually since 1982, reaching 11.0 percent in 1987 and 12.7 percent in 1989; construction's share of capital formation ranged between 55 and 72 percent over the period 1969-1982.
- Chile has maintained a favorable trade balance over the past decade, although the trade surplus has declined during the past two years; the surplus stood at US\$1.6 and US\$1.4 billion, respectively, in 1989 and 1990 (through August).
- Total external debt stood at US\$16.25 billion at the end of 1989; scheduled payments for medium and long term foreign debt are US\$370 million in 1990.
- By sector, mining represented 58.2 percent of exports in 1988 (US\$4.1 billion), followed by industrial exports with a 29.6 percent share (US\$2.1 billion), agriculture and fishing accounted for 12.2 percent (US\$861 million); while intermediate goods accounted for US\$2.68 billion of a total US\$4.73 billion in imports.
- Due in part to increased public participation in private pension funds, gross national saving as a share of GDP increased to 20 percent in 1989 after varying between 2 and 8 percent for the period 1981 to 1986.
- High interest rates have characterized the Chilean economy for some time; annual nominal rates rose from 27.9 percent in 1983 to 31.6 percent in 1985, then fell to a low of 27.5 percent in 1988; rates rose again in 1989 to an average of 27.5 per-

cent, but have declined somewhat during 1990; real rates averaged 5.1 percent in 1989 for short term deposits and 11.8 percent for short term credit.

1.2.1.2 Urbanization and Economic Development

- Eighty-four point six (84.6) percent of Chile's population resided in urban areas in 1989, with the urban share expected to reach 90 percent by the end of the 1990s. Sixty-three (63) percent of Chile's population is found in three regions: Region V (Valparaíso), Region VIII (Concepción), and the Santiago Metro region.
- It is estimated that population growth will be greatest in secondary cities during the decade of the 1990s, and in particular in those cities likely to experience the greatest gains in economic development (i.e., northern cities of Antofagasta and Iquique; Concepción in the south; and along the Santiago-Rancagua corridor).
- Santiago generates 43 percent of GDP and 59 percent of industrial employment.
- MIDEPLAN figures for August 1990 estimate that the minimum monthly subsistence-level income is US\$132; households with incomes below this level are termed "indigent". Thirteen point five (13.5) percent of all households were classified as indigent in 1987.
- MIDEPLAN also defined a "poverty" level income (minimum basket of goods and services) for August 1990 of US\$217 per month, or more than twice Chile's current minimum wage of US\$82. A 1987 CEPAL study estimated that 44 percent of Chilean households were below this poverty level.
- While CEPAL figures note that Santiago has the highest incidence of poverty in absolute terms (38.7 percent of urban population), the southern regions—Region VIII (Concepción), IX (Temuco), and X (Valdivia/Puerto Montt)—have higher rates of over 50 percent of the urban population classified as poor.
- Monthly median household income was estimated at US\$199 for 1989.
- The Ministry of Housing estimates that there were 329,300 applicants nationwide for its Basic Housing Program as of February 1990; almost 157,000 applicants (48 percent) lived in the Santiago Metro area.

1.2.1.3 Urban Housing and Infrastructure Characteristics

- By December 1987, almost 85 percent of Chile's households had access to piped potable water, an improvement from slightly over 80 percent in 1982. Ninety-seven (97) percent of Chile's urban population was connected to a piped system in 1987.
- In 1982, slightly more than 62 percent of all households had access to a formal waste disposal system (water-borne or septic tank); this figure increased to 72 percent by 1987.
- Eighty-six (86) percent of all urban households disposed of waste through a formal system versus only 12 percent in rural areas (1987).
- The rural poor, however, are considerably worse off than their urban counterpart; while almost 70 percent of the poorest urban quintile has access to a formal dis-

positional system, only slightly more than 5 percent of the corresponding rural population has a similar level of coverage.

- More than 90 percent of all households (1987) had an electrical connection, with the majority of unserved households to be found in rural areas (98 versus 62 percent for urban/rural split).
- According to CASEN figures for 1987, only 4.7 percent of all households live in overcrowded conditions, defined as more than four persons per dwelling unit living space. This figure has decreased from 11.2 percent in 1970; however, 11 and 13 percent respectively of urban and rural households in the poorest quintile live in overcrowded conditions.
- In 1987, 85 percent of all households lived in permanent dwelling units (defined as having an estimated life of at least 10 years).
- Most housing in Chile is single-family (77 percent) with a high percentage of home ownership of almost 62 percent, with the remaining 18 percent renting and 19 percent ceded to a third party.
- There are over 1.2 million households living in inadequate shelter conditions (existing deficit); 423,000 (35 percent) require a new dwelling, while the remainder lack some form of improvement to services or the dwelling itself.
- For 1989, it was estimated that 80,500 units were required to meet new housing needs due to household formation and phased obsolescence.
- Formal sector housing production, which dropped by over 50 percent due to the economic crisis of 1982 (from 54,000 to 27,200 units), has rebounded at an annual growth rate of almost 18 percent to 85,000 units in 1989.
- Public sector production, which accounted for much of the recovery since 1982, grew from 22,000 units in 1982 to about 77,000 units in 1989. Public sector production represented approximately 76 percent of total annual production between 1982 and 1989.

1.2.2 Key Issues and Constraints

The following points briefly summarize the principal obstacles and constraints encountered during the team's field work in the areas of urban development and the environment, decentralization/municipal development, and housing finance.

1.2.2.1 Urban Development and the Environment

Three key urban-related environmental issues are highlighted in this section: air pollution, the discharge of untreated sewerage into natural water courses, and the negative impact on the quality of life of poorly conceived urban growth and land management strategies.

1.2.2.1.1 Atmospheric Contamination

- Due to its geographic location and distinct climatic conditions, the Santiago Metropolitan region, as well as much of the Central Valley, suffers from often severe problems of air pollution.
- Santiago's air pollution is caused by a combination of vehicular exhausts, dust particles that rise from unpaved streets, and industrial point sources. During the past decade, these principal sources of air pollution have increased significantly.

1.2.2.1.2 Contamination of Water Courses

- Although 90 percent of the Santiago Metropolitan Region has access to water and sewerage connections, all wastewater is currently discharged untreated into the city's natural water courses.
- The use of untreated water for the irrigation of fruits and vegetables has caused a severe public health hazard with a high incidence of gastroenteric diseases such as typhoid fever, hepatitis, amoebic dysentery and others within Santiago's population.
- The situation in Valparaíso/Viña del Mar has also deteriorated due to the discharge of its own untreated sewerage, as well as to the river-borne industrial wastes and sewage from the cities of the Central Valley.

1.2.2.1.3 Poor Urban Growth and Land Management Strategies

- Several aspects of MINVU's approach to housing development have ramifications on the environment:
 - Urban expansion normally takes place on prime agricultural lands, leaving less productive land to feed an ever-increasing population;
 - Single family and progressive housing solutions have adopted lot sizes that are not sustainable and require the continuous expansion of infrastructure;
 - In many cases, the site designs, planning, and engineering of suburban housing schemes do not provide for the adequate absorption nor drainage of storm-water;
 - Shelter schemes are designed with adequate road networks for their immediate populations, but often not for the increased flows of traffic generated by succeeding schemes;
 - Many new developments, particularly on Santiago's urban fringe, have limited access to public and community facilities.
- Government is still heavily centralized, with a lack of coordination among institutions involved in planning for human settlements.
- Many smaller localities within the growing Santiago metropolis have little in common with the capital; serious problems of poorly managed urban growth and the needs of these outlying communities are not adequately addressed.

- Outdated general construction and urbanization ordinances exist that encourage peripheral growth and that lack incentives for the densification of existing urban areas.

1.2.2.2 Decentralization and Municipal Development

- Central government still retains highly centralized control of local government resources; government has tried to democratize local government without losing central control.
- There is a lack of strategic investment planning at the regional and local levels; inability of regional and municipal government to coordinate sectoral investment of the central ministries in their territory.
- There exists a lack of cooperation and communication between the private and public sectors at the local and regional levels.

1.2.2.3 Housing Finance Sector

- There exists a lack of interest/confidence of Chile's private financial institutions to extend mortgage credits to lower income households—poor creditworthiness of the debtor, high administrative costs to loan amount, and perceived unreliability and higher expenses related to cost recovery.
- Significant potential demand goes unmet among Chile's urban poor due to the limited supply of financing available from private financial institutions and to finite government subsidies.
- A large percentage of lower income households is unable to qualify for either a direct or indirect MINVU subsidy through the SERVIUs or commercial banking system.
- Rigidities in MINVU's housing program merit examination if its delivery system is to be more comprehensive and market oriented—current Banco del Estado financing and MINVU subsidies are not available for house repair, renovation, nor expansion.
- There exists a relatively high rate of arrearage and defaults in MINVU's direct and indirect mortgage portfolio.
- Two other imbalances emerge as critical to the equilibrium of supply and demand for financial resources, in addition to the previously-mentioned imbalance between the excess liquidity of the country's principal institutional investors and the lack of secure and profitable mortgage instruments for long term investment:
 - Inadequate public funds for expenditures required to meet domestic policy objectives in the social sector, including the demand for housing, education, health and basic infrastructure;
 - Reliance on government to provide direct subsidies to meet the public demand for housing and other improvements in the standard of living.

1.2.3 Proposed Strategies and Opportunities to Address Priority Issues and Constraints

The preceding sections of this introduction and executive summary have dealt with the physical, social and economic context for policy and program formulation and the principal obstacles and constraints facing Chile's shelter and urban sectors. The present section proposes a medium-term strategic approach and concomitant short-term opportunities to expand and deepen A.I.D.'s ongoing commitments and initiatives in Chile's shelter and urban sector.

It is worth mentioning at this juncture that the present section does not attempt to address all issues and constraints facing Chile's shelter and urban sector. Rather, it has narrowed and focused the options and choices for a strategic approach and short-term opportunities on the basis of four criteria:

1. Conformity with USAID/Chile Country Strategy and ADC status;
2. Conformity with available A.I.D. technical assistance and capital resources;
3. Conformity with nascent policy and program initiatives of new Aylwin government;
4. Conformity with lending and TA programs of other bilateral and multilateral donors (i.e., to avoid duplication of proposed activities and interventions).

Based on the above rationale, this section proposes a parallel, two-track strategic approach for A.I.D. to pursue with respect to Chile's shelter and urban sector. The recommended two-track approach consolidates potential initiatives in the sub-areas investigated to date under two broad headings: (1) housing finance; and, (2) municipal development (that includes the topics of decentralization, urban development and the environment). While there is certainly scope for interaction and cross-fertilization between the two tracks of this approach, to a great extent, they can be developed independently since they address different sets of sectoral issues and constraints and involve different institutional arrangements for their implementation.

Of the two, housing finance will be treated first in this section since government's own ideas and policy framework are more advanced in this area, as well as the fact that significant work and discussions on program formulation have already taken place between A.I.D. and government's representative, the Ministry of Housing.

1.2.3.1 Strategic Approach and Opportunities in Housing Finance

A recent policy document issued by MINVU describes its housing policy relative to the low income population as one in which the government should primarily play the role of intermediary between those who demand and those who produce (supply) housing. In this regard, GOC actions conform with A.I.D. and RHUDO policy that governments should act as "facilitators" rather than "implementors". MINVU has also clearly expressed its concern

with the present situation, where the government (through Banco del Estado) is the only active source of mortgage financing for lower income families, and its commitment to securing long-term private sector participation in the financing of home mortgages. To this end, MINVU is ready to explore options such as public/private sector partnerships in which government subsidies, regulatory and administrative assistance, and tax or other market-oriented incentives could generate housing efficiently with private sector financing.

The advanced development of the Chilean financial markets, coupled with a pension system, generates a large volume of long-term domestic financial resources. The availability of domestic resources, in addition to the GOC's commitment to maintain a policy framework conducive to market based approaches, underscores that the new program will have an important effect in permanently transferring to the private sector the business of providing low income housing finance. With its sizable domestic resources, dynamic private capital markets and supportive government policies, Chile would be among the first Latin American countries to responsibly address the shelter requirements of its low income population on the basis of domestic, private sector mechanisms and resources. Such an achievement would have an important demonstration effect in other developing countries.

This ambitious initiative will require committed and sustained support from A.I.D. or other donors in order to allow the widest possible initial participation of private financial institutions. Follow-on programs could consider local currency guaranties¹ to support future refinancing of securitized low income mortgages in the domestic capital market. Both the transition to private mortgage financing and the effective use of local currency guaranties will provide test-case experiences that could be widely transferable to countries with a major A.I.D. presence. The team believes this is an appropriate role for the ADC program in Chile.

Given GOC's strong commitment to the policy agenda contained herein, the feasibility of accomplishing its goals is very high. However, the mobilization of private sector resources (for what is an admittedly difficult social goal) will not be easy without the participation and commitment of Chile's powerful private financial sector.

1.2.3.1.1 Proposed Strategic Approach

The general thrust of our recommended strategic approach is to assist GOC in its sectoral efforts to secure a meaningful, continuing participation by private sector financial and support institutions in meeting the shelter needs of low income families.

¹A local currency guaranty in the context of A.I.D.'s Housing Guaranty (HG) program is an agreement in which a U.S. lender arranges for credit in a local currency, rather than in U.S. dollars. The Foreign Assistance Act of 1961, as Amended (1988), presently permits the issuance of local guaranties provided that the investor is a U.S. citizen; corporation, partnership, or other association under the laws of the United States; and/or a foreign corporation, partnership, or other association wholly owned by one or more such U.S. citizens, corporations, etc.

Our proposed strategic approach includes the following elements:

1. Expand the development and effectiveness of grass-roots institutions (PVOs, NGOs, cooperatives, local entrepreneurs, etc.) dedicated to **organizing the demand of shelter solutions for lower income families**, so that they may help to bring together (a) those families who do not naturally go to established financial institutions and (b) the financial institutions which are ill prepared to seek out such families as a potential client base. This approach, by wholesaling production, should also help to reduce mortgage origination and servicing costs.
2. Enhance the **financial appeal and marketability of mortgage instruments** for loans to lower income families so that they may be readily underwritten and/or purchased by private sector financial institutions and other investors, while at the same time allowing for the introduction of new, innovative mortgage instruments that can smooth out possible disparities between the rate of change in borrowers' income levels and their loan repayment obligations expressed in inflation adjusted UFs.
3. Encourage existing private sector financial institutions to invest in mortgages to lower income families and, should they fail to do so, promote the establishment of new institutions (particularly "mutuarias") willing to specialize in lower income lending. In this regard, the demonstration effect of a **successful mortgage origination operation for lower income families** is considered of vital importance to a broader long range involvement by the private financial community.
4. Provide support for an **active secondary market in lower income mortgages**, to promote prompt, easy, and inexpensive negotiability, as well as in-depth liquidity, to lower income mortgage instruments, thus providing the housing production industry with refinancing alternatives in local capital markets, specifically backing up the operation of market makers providing needed liquidity and negotiability.
5. Provide support for a **home-mortgage payroll deduction scheme** (similar to that existing for pension fund contributions) to ensure prompt collection of lower income loans and to achieve a considerable reduction in servicing costs, while simultaneously overcoming a mortgage lender's traditional (and understandable) reluctance to write small denomination loans.
6. Provide support for a **credit insurance scheme** (in amplification of the existing mortgage insurance coverage) to guarantee the timely and uninterrupted payment of principal and interest quotas on lower income mortgage instruments, with a view to enticing institutional and other investors to build up substantial portfolios of these securities.
7. Support the implementation of **progressive housing and lease-purchase programs** as interim or alternative solutions to the shelter needs of lower income families.

8. Establish conditions to facilitate a more fluid process for acquisition, replacement and sale of low cost housing, to avoid present disincentives to **home ownership mobility** and thus provide for a more efficient use of existing housing stocks.

1.2.3.1.2 Opportunities for Capital Assistance

Opportunities for capital assistance may be summarized as follows:

1. The provision of capital resources to promote and sustain the development of new financial mechanisms and private sector institutional involvement in primary and secondary markets for the financing of lower income shelter solutions.
2. Follow-on local currency guaranties to partially support the issuance and successful placement of securitized low income mortgages, in order to generate the domestic refinancing adequate to sustain a private low income mortgage lending industry.

Specifically, capital assistance could be used to support a policy dialogue and programmatic activities in the following three areas:

Mutuarias. Seed capital could be offered on a "tender" basis to mutuarias undertaking lower income lending programs. Preference could be given to those mutuarias promising adequate performance and providing the largest proportion of their own resources.

Insurance. A combination of foreign and domestic private insurers' funds could joint-venture to underwrite the cash-flow risk inherent in the time delay required to collect on the GOC's credit insurance coverage of low income mortgages.

Market Making. Available foreign funds could be joint-ventured with matching funds from private brokers or institutional investors willing to make a market in the enhanced lower income mortgage instruments. It is our understanding that such an activity would be permitted under the Foreign Assistance Act so long as HG resources were not used for primary lending at an earlier phase of program development, and A.I.D. is presented eligible expenditures equivalent to the dollar amount of the HG loan.

1.2.3.2 Strategic Approach and Opportunities in Municipal Development

The picture with respect to government policy initiatives in the area of municipal development is currently much less well-defined in comparison to the housing finance sector. With the return of democracy to Chile, the topic of decentralization has resurfaced in the arena of public debate. There is a broad consensus that decentralization is necessary for Chile's future development. But decentralizing and democratizing the government will achieve nothing unless the authority and resources to promote development and to attend to social needs are also transferred.

The current state of flux with respect to the debate on decentralization, nevertheless, presents A.I.D. a timely opportunity to formulate a medium-term strategic approach to defining a policy dialogue with the GOC on the key issues described above. There is also a number of specific short-term opportunities involving technical assistance, training, and studies that A.I.D. could pursue and support. Capital assistance programs could be considered in two or three years, once the institutional environment has solidified. The following paragraphs provide a broad outline for the proposed medium-term strategic approach, as well as the particulars of short-term opportunities. For the purpose of this discussion, our recommendations in the areas of municipal development/decentralization, urban development and the environment will be structured to support Chile's ongoing municipal development process.

1.2.3.2.1 Medium-Term Strategic Approach

The following are the principal elements of the proposed medium-term strategic approach for municipal development:

- 1. Provide civic education to strengthen local and regional democratic institutions.** After nearly two decades of non-elected municipal governments, civic education for democracy at the municipal level will be important to the success of this re-emerging democracy.
- 2. Improve financial autonomy of local government without abandoning the fiscal responsibility instituted by the previous government.** This element would address the existing centralized budgeting process as it impedes local initiative and efficiency.
- 3. Support the development of programs and projects at the local level that would stimulate social and economic development.** Policy discussion would support ongoing government initiatives to have capital assistance programs at the level of local government serve as the catalyst for social development.
- 4. Support the targeting of project activities in those areas of the country that are most economically viable.** Technical and capital assistance would be targeted on those regions and principal secondary cities exhibiting high economic growth potential in the agricultural, mining, fishing or forestry sectors.

1.2.3.2.2 Short-Term Opportunities

AID's objective in pursuing these short-term opportunities in municipal development would be four-fold: (1) to serve as a catalyst in supporting the ongoing dialogue between Chilean public and private sector organizations on selected local government topics; (2) to establish linkages between appropriate U.S. private sector organizations and Chilean institutions to address specific problems at the local level; (3) to establish itself as a serious player with key Chilean actors and institutions in the municipal development area; and, (4)

to define a specific policy agenda in this field that could lead to a capital lending program in two to three years.

Decentralization and Municipal Development

- 1. Provide training to local and regional government staff in strategic investment planning.**
- 2. Finance three to five pilot projects in public/private cooperation for local development.** These pilot projects would include training for municipal officials and private sector representatives in the design and implementation of mutually beneficial investments (i.e., project identification, financial packaging, and implementation).
- 3. Support diagnostic studies of key regions in Chile.** Diagnostic studies of the social, economic, and demographic problems of key regions in Chile would facilitate a strategic public investment planning process for those areas and could provide an information base useful to public/private efforts to promote local development.
- 4. Support small, innovative pilot projects in local and regional government administration.** Identify and replicate a series of pilot projects that show that local government can be the catalyst for both social development and economic development.
- 5. Support the development of a decentralized database management system for local and regional government.** Identify the data most needed for local and regional government, direct the flows of information to the local and regional level, train local and regional government staff to better use the information, and create mechanisms to supply information to the community to improve local ability to generate project proposals and participate in local government.
- 6. Support a training program in local financial administration and accounting.** Assist the Contraloría (Hacienda) to train staff in its regional offices in financial administration and accounting.

Capital lending possibilities in the short term are scarce, but opportunities may develop in three to four years. Depending on the direction the current debate on municipal and regional finance takes there could be an opportunity in a few years to finance municipal bonds (or secondary market instruments for municipal bonds); however, at this point the prospects look unlikely. If regional development corporations experience some success, or municipal development corporations are reinstated, they could provide some future opportunities for capital lending.

One immediate option exists for capital assistance through MIDEPLAN's proposed pre-investment fund. While the GOC is very carefully avoiding getting directly involved in productive activity, it wants to induce private sector investment. Yet the government's investment funds for the regional and municipal levels are restricted to social investments (i.e.

helping the poor). The one financial vehicle it has chosen to stimulate private investment is the Fondo de Pre-Inversion (Pre-investment Fund), a decentralized fund that would provide 50 percent of the cost of a pre-feasibility study (to be matched by a private entrepreneur) in areas or activities where the private sector is not developing on its own. Evidently no international donors have yet offered to capitalize this fund.

Through a timely policy dialogue with the GOC and through limited intervention targeted at influential points in the decentralization process, as suggested here, A.I.D. could play a useful role in supporting Chile's efforts to strengthen the local public and private sectors.

Urban Development and the Environment

1. Assist MINVU and Chilean Construction Association to analyze implications and alternatives to continued peripheral expansion of the country's urban areas. One option being proposed is to investigate and formulate alternative strategies, such as urban redevelopment/revitalization via densification, to combat the deterioration of Chile's center cities, including Santiago.
2. Assist MINVU and the regional water and sanitation authorities in the investigation of alternative small-scale, cost effective systems for the supply of potable water and the treatment/disposal of wastewater.
3. Assist in the examination of whether the Santiago/Valparaíso/Viña del Mar conurbation should be treated as a macro-region with respect to industrial location, the installation of infrastructure, and the siting of new shelter schemes.
4. Assist in analyzing the need for and the identification of alternative forms of metropolitan government for Chile's larger urban areas (currently composed of multiple, poorly coordinated municipalities).
5. Assist MINVU in strengthening its urban development capacity and capabilities.

2 CONTEXT FOR POLICY ARTICULATION

2.1 Demographic and Economic Trends

2.1.1 Demographic Trends

The population of Chile was estimated at 12,961,027 as of June 30, 1989. During 1990, it is expected that the population will reach 13,173,060. Population growth has slowed to a rate of 1.7 percent. However, the rate of population growth alone is an inadequate indicator of the need for housing and related public services. Changes in household size and household formation also have an important influence on housing need. The annual rate of household formation is currently estimated at 2.5 percent, up from 2.4 percent registered during the 1980s. On the other hand, household size is decreasing. In 1985, the average household size was 4.44 persons. It is estimated that this figure declined to 4.28 persons per household in 1989, and will continue to decline through the early 1990s. Declining household size and increasing household formation over the next five years will tend to accelerate the need and potential demand for new shelter solutions.

Declining household size is due to the increasing number of nuclear rather than extended families occupying a single unit, and to the rise in single-person households among both older and younger adults. Many families in all income strata are choosing to have fewer children, as well.

In 1988, there were 1.095 families per household—a total of 3.23 million families in 2.95 million housing units. 2,096,634 of these families are nuclear, with 708,721 extended families, 236,240 households of single individuals and 191,945 of other situations. This impact of population growth and household formation in each of Chile's regions may be seen in **Table 1**.

2.1.2 Economic Trends

2.1.2.1 Macroeconomic Overview

The World Bank classifies Chile as a highly-indebted middle income developing country, with a GDP per capita of US\$1,979 (1989). Real GDP grew 10 percent in 1989, following a few years of real but modest growth (see **Table 2**). Allowing for population growth, GDP grew by 7.3 percent per capita. The principal economic objective of the new government is to consolidate the process of economic growth with better levels of social justice and equity. Except for a slump in 1982 in which Chile experienced a negative rate of growth, GDP has grown at a rate between 1.3 percent and 16.1 percent over the past twenty years.

High levels of inflation, although lower than those experienced in neighboring countries of Latin America, have caused significant macroeconomic adjustments over the past several years, among them the creation of a new unit of currency—the peso—to replace the escudo,

Table 1. Current and Projected Population by Region: 1990, 1995

Region	Population		Households	
	1990	1995	1990	1995
I	358,088	410,343	85,022	101,113
II	389,547	415,487	96,424	107,547
III	197,842	202,813	50,593	55,309
IV	486,493	525,432	110,976	125,934
V	1,381,948	1,478,281	348,336	386,960
VI	649,764	684,179	152,452	170,205
VII	840,457	902,646	181,494	201,836
VIII	1,674,243	1,753,662	378,208	418,485
IX	795,932	853,187	170,808	188,941
X	922,543	957,212	208,275	228,109
XI	80,278	88,782	19,099	22,013
XII	159,885	181,551	39,143	45,612
Metro	5,236,041	5,783,703	1,267,324	1,452,497
TOTAL	13,173,060	14,237,278	3,108,154	3,504,560

Source: Luis Duran B., "Antecedentes Regionales de la Situación Habitacional en Chile," CPU Working Document No. 25/89, September 1989.

Table 2. Economic Growth of Selected Sectors, 1984-1988 (in percent)

Sector	1984	1985	1986	1987	1988
GDP	6.3	2.4	5.7	5.7	7.4
Consumption	--	--	4.9	4.8	9.6
Exports	6.8	6.9	9.8	8.8	6.1
Imports	16.5	-11.0	9.7	17.0	12.1
Capital Formation	9.0	14.8	7.1	16.2	10.7

Source: MIDEPLAN, *Informe Sobre Chile*, 1990.

whose value had seriously eroded. As a means to balance the need for long term savings and credit instruments with the imperative of restraining inflation, the government initiated a system of indexing financial transactions in 1965. The UF ("unidad de fomento" or development unit) is the term used to denominate values of loans, savings accounts, and other significant market transactions, including the price of houses for sale. Currently the UF is equal to about US\$20, or to 6,500 pesos. (See Section 2.4.3.1 for additional details on the UF system.)

A problem experienced during the late 1989 - early 1990 period of political transition was an increase in the annualized rate of inflation to 35 percent. This is attributable largely to the tight money policies instituted in advance of the December 1989 elections. Devaluation, in the view of the U.S. Embassy economic counselor,² may have been preferable in response to the previous government's earlier expansion of the money supply and other actions which increased the pace at which the economy was driven by inflation. Early projections for 1990's inflation level were optimistic; however, the rate of inflation for the year has been "much higher" than anticipated—with the U.S. Embassy now estimating an annual rate of 30 percent following September's monthly increase in the Consumer Price Index of 4.9 percent (the highest monthly increase in six years).³

According to the World Bank's structural adjustment report on Chile, aggregate investment of between 19 percent and 24 percent of GDP is required if a moderate but stable level of economic growth of 5 percent is to be maintained. Aggregate investment averaged just 15.3 percent of GDP between 1965 and 1989, although this was a slightly higher 16.4 percent for the decade of the 1980s alone. The incremental capital output ratio (ICOR) for the decade was 4.8. For 1989, investment rose to 21 percent of GDP, providing Chile's economy with the resources it needs for growth if savings and investment levels can be maintained.

During the period 1970-1989, output in all sectors of the Chilean economy grew by an average 60 percent in comparison with population growth of 40 percent.

The construction sector's contribution to GDP has increased gradually since 1982, reaching 11 percent of GDP in 1987 and 12.7 percent in 1989. Growth in the construction sector has generally outpaced that of GDP growth, with construction's expansion of 12.7 percent in 1989 being 2.7 percent higher than that of GDP as a whole. Construction's share of capital formation ranged between 55 percent and 72 percent over the period 1960-1982.

The Aylwin government plans to raise public investment in housing from 1.2 percent of GDP in 1990 to a level equal to that of the previous government. To assist in this regard, preferential tax treatment of private investment in housing has also been stated publicly as a policy objective.

² Interview with Glen Rase, Economic Counselor, U.S. Embassy, Santiago, November 15, 1990.

³ Cable to A.I.D./Washington from U.S. Embassy, Santiago, November 20, 1990.

During the coming year, growth is expected to stabilize at 3 percent to 5 percent in real terms. The actual level depends, in part, on progress made in reaching trade agreements and other anticipated gains in the export sector. In the short term, the peso's higher value has made it difficult for agriculture and textiles, which are considered non-traditional exports, to expand their share of international trade. Within Chile, the textile industry has made a comeback following a dramatic decline during the 1982 economic collapse.

In the agricultural sector, production expanded following substantial investment in plantations of fruit trees in the central valley. There were high expectations for increased export earnings from the sale of fruit in international markets. However, Chilean fruit has met with some resistance and import restrictions in European and North American markets, leading to less of a positive impact on the economy than had been anticipated. This is exacerbated by the fact that prices for fruit in world markets are not as high as had been projected.

2.1.2.2 Balance of Trade and Foreign Reserves

Chile has maintained a favorable balance of trade over the past decade, although its trade surplus has declined during the past two years. In 1988, exports were valued at US\$7.06 billion, with imports of US\$4.73 billion. The value of exports rose to US\$7.6 billion for 1989, with export values for the year ending August 1990 reaching US\$8.5 billion. Export and import values are compared in Table 3.

Table 3. Foreign Trade and Trade Surplus: 1985-1990
(US\$ billions)

	1985	1986	1987	1988	1989	1990*
Exports	3.8	4.3	5.0	7.1	8.0	8.5
Imports	2.8	3.0	3.9	4.7	6.4	6.9
Surplus	1.0	1.3	1.1	2.4	1.6	1.4

* 1990 figures include those for the year ending August 31, 1990

Source: CORFO (Chilean Development Agency)

The growth of the foreign sector compared with that of other selected sectors is shown in Table 2.

The United States was Chile's largest trading partner during 1988, purchasing 17.9 percent of total exports. Japan was second with 13.3 percent.

Chile's balance of payments varied over the past decade, but was a positive US\$732 million for 1988. This surplus grew to US\$1.42 billion for the first eight months of 1990 (CORFO 1990). The current account, however, was negative over the 1980s, although the current account deficit declined from a 1981 peak of US\$4.7 billion to a negative US\$167

million in 1988. This current account deficit is not serious, though more effective fiscal policy and economic tightening is needed.

Total external debt stood at US\$16.25 billion at the end of 1989. Medium and long-term debt made up US\$13.3 billion of this amount. Scheduled payments for medium and long-term foreign debt are US\$370 million in 1990, including US\$304 million in public debt and US\$66 million private, with a smaller payment of US\$228 million projected for 1991 (US\$215 million public and US\$13 million private). Commercial debt has been cut by US\$10 billion since 1985, and Chile will be free of debt payments for the next four years (CORFO 1990).

Foreign reserves on hand at the Central Bank were valued at US\$1.9 billion at the end of 1988, rising to the level of US\$2.1 billion in 1989. The trend towards improvement continued in 1990, with the level of reserves reaching US\$4.3 billion by September, while international assets held by Chile's banking system totalled just under US\$5.9 billion at the same point.

2.1.2.3 Structure of Foreign Trade

By sector, mining represented 58.2 percent of exports in 1988 (US\$4.1 billion), followed by industry with a 29.6 percent share valued at US\$2.1 billion. Agriculture and fishing accounted for 12.2 percent or approximately US\$861 million. Intermediate goods accounted for US\$2.68 billion of a total US\$4.73 billion in imports, while capital goods and consumer goods accounted for US\$1.26 billion and US\$789 million, respectively of this total.

The forestry industry is booming, with its contribution to 1990's exports expected to exceed US\$900 million. Export earnings from copper, which reached US\$4.33 billion in 1989, are also expected to increase.

Prices for copper—Chile's principal export—remain high, currently at about US\$1.10 per pound. An agreement reached with the World Bank as part of Chile's stabilization policy calls for a copper "reference price" currently equal to 87 cents (and derived from a rolling average of prices for the past several years). Earnings in excess of this price go to the government until the price reaches 93 cents, at which point the surplus goes into a special stabilization fund. Copper prices must fall below 75 cents before a drain on reserve funds will arise.

Currently, 75 percent of Chile's copper output is produced by CODELCO, the state copper company. While analysts expect CODELCO's production to decline, they also anticipate that total output will increase due to the rapid expansion of private mining concerns. The ability of the Chilean economy to produce and export more copper at current high market prices will help to maintain economic stability even in the face of higher petroleum prices.

2.1.2.4 Financial Markets, Savings and Public Finance

Gross national savings as a share of GDP has been relatively stable, averaging between 10 percent and 16 percent, with lows during the 1972-73 recession and from 1981 to 1986, when the rate ranged between 2 percent and 8 percent. The high was 20.7 percent in 1974, and it had risen again by 1988 to 16.3 percent. The aggregate savings rate increased to 20 percent in 1989, with the public and private sectors accounting for 6 and 14 percent, respectively, of this total. The recent increase in national savings can be attributed in part to greater public participation in private pension funds (AFPs).

Bank deposits in pesos in December 1989 averaged \$8.8 billion, with deposits denominated in foreign currencies valued at an average US\$5.28 million. Savings, including "letras," totaled US\$4.88 billion at this time. Of total savings, there were 464,094 savings accounts for housing in Chilean banks as of December 1989, with total savings of US\$181.5 million. Reserves in the Banco del Estado were valued at US\$265 million, with US\$301 million in the Banco de Chile.

High interest rates have characterized the Chilean economy for some time. Annual average rates rose from 27.9 percent in 1983 to 31.6 percent in 1985, then fell to a low of 14.9 percent in 1988. Rates rose again in 1989 to an average level of 27.5 percent, but have declined somewhat during 1990. Real interest rates in Chilean banks during 1989 averaged 5.1 percent for short term deposits and 11.8 percent for short term credits. The magnitude of this spread has contributed to concern on the part of the new government about access to credit for all sectors. In response, Aylwin has announced his desire to streamline the country's financial sector to achieve more efficient intermediation.

The banking system is solid, and capital flight is not currently an issue. As mentioned above, the level of domestic savings is significant, and local markets offer a real rate of return. Pension funds (AFPs) and others taking in the savings of Chileans are restricted in their investments, however. Central Bank paper that had been issued earlier this year to utilize some of this savings is no longer issued due to tight legal limits. With an overall savings increase of 2 percent during 1989, there is corresponding pressure to expand the availability of productive investment opportunities with terms which correspond to the periods for which funds are available. However, only the Central government and banks are allowed to issue long-term financial instruments. Thus, there exists an imbalance in local financial markets between the lack of long-term debt instruments and the abundance of revenue (savings) currently generated.

Chile's financial sector is characterized by a lack of financial institutions devoted exclusively to the provision of mortgage financing. The savings and loan system was effectively dismantled in the late 1970s, at the same time that the specialized mortgage banks were encouraged to become multi-purpose banks. Of existing banks, only two are still actively providing home mortgage loans: Banco del Desarrollo and Banco Hipotecario Internacional Financiero (BHIF). On the other hand, there are a few recently created "Sociedades

Administradoras de Mutuo Hipotecario" (mutuarias), akin to a United States mortgage bank, that are becoming active in the field of housing finance. (See Section 2.4.3.)

While high-priced capital is available for well-to-do borrowers, credit is scarce for the mass of Chile's below median income households. Chile's financial markets require organization and stabilization in order that credit can be channelled at rates and terms affordable to a lower income borrower and with acceptable risk to the lender and to the investor. Leasing of equipment has become common among commercial concerns for whom financing of capital purchases is too costly or unavailable.

Despite its high level of indebtedness, Chile has been able to maintain sufficient macro-economic stability to provide for significant and sustained public investment in fixed capital. In 1990, fixed capital investment is expected to exceed 20 percent of GDP. A similar level of investment has provided for growth rates of at least 3.2 percent per year over the period 1965-1989. MIDEPLAN guidelines indicate that gross investment should grow during the coming decade to a level of approximately 22 percent of GDP in order to maintain a real annual growth rate of 5 percent.

Concern has been expressed by both the public and private sector about inadequate investment in infrastructure to sustain the foregoing projections for the economy's growth. For any significant expansion of employment and economic development, better road networks are required, along with the elimination of current bottlenecks to the efficient transportation of goods produced. In order to address this concern, MIDEPLAN plans to rectify a two-decade decline in investment in public works (down 34 percent) by earmarking 6.6 percent of gross investment for the period 1990-1995 to go to infrastructure.

With respect to public finance, the Government of Chile has run a fiscal deficit over the past several years. Figures for selected years are shown in **Table 4**.

These proportions include both domestic and foreign currencies and represent real debt. By 1988, total public sector expenditures of US\$9.45 billion included US\$1.27 billion in debt service compared with public income of US\$8.97 billion.

Regionally, investment opportunities are strong. While Santiago typically attracts the greatest share of investment, other regions do not represent higher risks to potential investors, according to the U.S. Embassy.⁴ In the north, the mining industry is booming; while the forestry sector in the south is also strong. Both regions require additional investments in infrastructure in order to maximize their potential for significant economic development. The expansion of road networks and transportation capacity is particularly needed, along with water and sewerage systems and other facilities required for corresponding population growth.

⁴ Interview with Glen Rase, op. cit.

Table 4. Public Expenditure and Deficits, 1960-1988

Year	(Deficit) or Surplus as Percentage of Total Expenditures
1960	(20.8%)
1969	(1.9%)
1970	(10.4%)
1972	(55.0%)
1979	7.2%
1985	(19.3%)
1987	(0.1%)
1988	(5.6%)

2.1.2.5 Employment and the Construction Sector

The total labor force in 1990 numbers 4,652,300, with a participation rate of 50 percent for all those over 14 years of age (MIDEPLAN, 1990c). Twenty-six (26) percent of the labor force is employed in services, with 17.3 percent in commerce, 16.6 percent in industrial manufacturing, and 19.1 percent in agriculture and fishing.

Urban unemployment levels generally exceed those for rural areas, with Santiago generally representing the highest level of unemployment in the country. The Metropolitan region, according to MIDEPLAN, accounts for over 40 percent of unemployment.

Among Chileans as a whole, 45 percent have regular wage or salary income in the formal sector. In Santiago, this percentage falls to 35.5 percent.

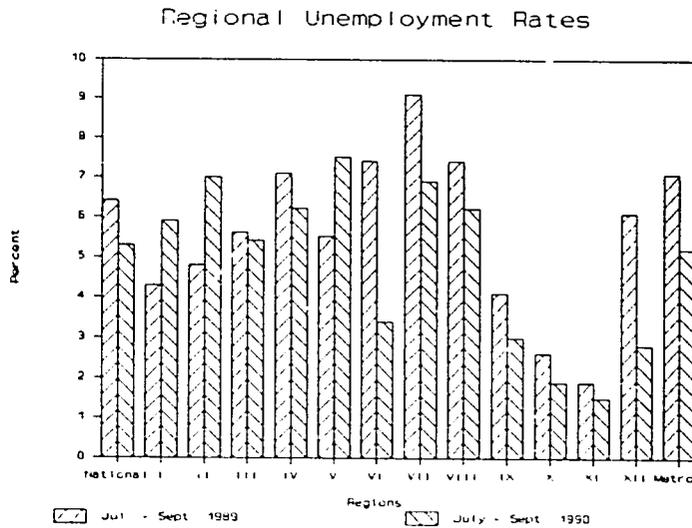
The unemployment rate stood at 6.7 percent at the end of September 1990 for the country as a whole. National rates and regional variations are noted in **Table 5**.

Unemployment reached a high of 639,200 in 1982, falling to 348,000 persons in 1988. The construction sector has consistently registered the highest level of unemployment, indicating significant excess capacity. The construction sector suffered particularly during the economic depression of 1982-1983. At that time, overall unemployment reached 20 percent, while construction far exceeded the overall rate with 50 percent of its workers unemployed. By late 1988, however, employment had rebounded considerably, with the overall unemploy-

Table 5. National and Regional Unemployment Rates

Periods	National	Regions													
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Metro	
1989	July - Sept.	6.4	4.3	4.8	5.5	7.1	5.5	7.4	9.1	7.4	4.1	2.6	1.9	6.1	7.1
	Aug. - Oct.	6.4	4.8	4.7	5.6	6.3	5.4	7.2	8.1	7.0	3.4	2.6	2.2	5.2	7.5
	Sept. - Nov.	5.9	4.5	4.6	5.2	5.1	5.3	6.4	7.2	6.0	3.0	2.1	3.1	5.7	6.8
	Oct. - Dec.	5.3	5.1	5.4	5.8	5.8	5.1	5.4	6.7	5.5	2.7	1.8	3.7	5.4	6.0
	Nov. - Jan. 1990	5.0	5.7	6.4	5.6	5.2	5.7	4.8	6.4	5.8	2.7	1.6	3.4	4.6	5.2
	Dec. - Feb. 1990	5.0	5.8	7.3	5.5	5.7	6.2	4.1	6.8	6.1	2.7	1.7	3.1	3.0	4.8
1990	Jan. - Mar.	5.3	5.9	7.0	5.4	6.2	7.5	3.4	6.9	6.2	3.0	1.9	1.5	2.8	5.2
	Feb. - Apr.	5.6	5.5	6.2	6.3	6.4	7.3	3.3	6.8	5.7	3.2	2.1	2.4	3.6	6.1
	Mar. - May	6.1	5.2	5.8	6.9	5.6	7.7	4.2	8.4	5.7	3.2	2.2	2.6	4.5	6.8
	Apr. - June	6.5	4.8	5.8	8.3	4.9	7.7	5.8	9.5	5.4	3.5	2.4	4.2	5.1	7.5
	May - July	6.7	4.8	5.9	7.9	4.5	8.1	6.6	10.2	5.9	3.6	2.8	4.8	4.4	7.6
	June - Aug.	6.7	5.2	5.7	7.9	5.2	8.3	6.6	9.5	6.3	3.4	3.0	4.8	3.6	7.5
	Jul. - Sept.	6.6	5.4	5.7	7.2	5.9	8.3	6.4	9.6	6.4	3.4	3.2	4.8	3.6	7.0

Source: Instituto Nacional Estadístico, *National Employment Survey*.



ment rate falling to 6.3 percent. Unemployment in the construction sector still stood, however, at a relatively high 11.4 percent.

This relatively high rate of unemployment in the construction trades, however, fails to account for the fact that this sector experienced the greatest aggregate employment gains during the past year. In some geographic areas, there were shortages of experienced construction workers, particularly those with specialized skills.

Projections for increased housing production by MINVU will clearly have an impact on the construction sector and on employment and economic growth as well. MINVU reports that residential construction makes more intensive use of labor than most other sectors. Each UF invested in housing generates 0.00289 person-years of direct employment. Therefore, a housing unit valued at 346 UF or US\$6,920 produces one person-year of direct employment. Including employment that is indirectly generated, each US\$2,500 invested in housing generates one person-year of employment in Chile. MINVU projects that a total of 100,000 units will be produced during the year. Assuming a total estimated cost of US\$600 million, this production would result in 240,000 person-years of work in the residential construction sector.

Overall, wages increased 3.1 percent in real terms during 1989. For Chilean workers, this meant that real income and purchasing power reached 1981's record high levels.

The composition of the labor force is expected to change, with more workers entering the formal sector. Opportunities are most likely to increase in the mining and forestry sectors if projections for expansion of these sectors become reality. In that case, related occupations are also likely to require increased workers, such as truck drivers needed to transport the increase in goods produced.

In the cases of expansion in primary industries and related products such as those produced by mining and forestry, employment opportunities will be limited principally by the lack of training and skilled workers in locations with rapid growth potential. Many such areas are distant from Santiago, and their economic development is hampered by inadequate infrastructure, which may prevent the efficient transportation and export of primary products. In most sectors, potential entrepreneurs and employers point to the lack of skilled labor outside greater Santiago as a significant barrier to economic development elsewhere in the country.⁵

⁵ MIDEPLAN takes into consideration the existence of deficiencies in labor force skill levels in its efforts to assist regional development. MIDEPLAN staff note that the lack of public funds for worker training, combined with private sector uncertainty as to the benefits derivable from investment outside Santiago, tend to reinforce the Metropolitan Region's pre-eminent position regarding new investment and the concomitant lack of private sector investment in many regions. This is particularly true when infrastructure and other key elements are missing from what many localities can offer new business ventures.

2.2 Urbanization And Economic Development

2.2.1 Urban Population Growth

Eighty-four point six (84.6) percent of Chile's population was urban in 1989, with the urban share likely to reach 90 percent by the end of the decade. Currently, the urban population numbers about 11,149,276. Sixty-three (63) percent of Chileans live in Regions V (Valparaíso), VIII (Concepción), and in the Santiago Metro region.

Given a growth rate of 1.7 percent, the urban population may be expected to exceed 13 million by the year 2000.

Population by region, with the populations of the largest urban centers, is found in **Table 6**. Santiago expanded at an annual rate of 3.8 percent during the 1970s, but its growth has slowed to a rate of 2.45 percent. Concepción, the third largest urban center, is growing at 4.5 percent a year, with Valparaíso's annual growth rate equal to 2.8 percent. With nearly 85 percent of Chileans already residing in urban areas, it is expected that the initial process of rural to urban migration is more or less complete, with projections for urbanization reaching 90 percent of the total population by the end of the decade.

Fifty-six (56) percent of the country's population currently resides in the three largest centers of Santiago, Valparaíso/Viña del Mar, and Concepción/Talcahuano. Santiago alone accounts for a population of 5,133,747. The two other large urban centers of Valparaíso/Viña del Mar, with 591,081 and Concepción/Talcahuano, with 547,223 brings the total for the three largest cities to 6,272,051 people.

It may be noted that within Santiago's burgeoning population there are a number of municipalities, some of which are sizeable cities in their own right. The largest of Santiago's municipalities is La Florida, with a population of 347,724, followed by Peñalolén, with 211,390. These two have been the site of much MINVU-sponsored housing development in recent years, and are characteristic of relatively new urban areas in which housing has been built without significant development of other urban facilities such as commercial centers, recreational and community facilities, or adequate road networks to accommodate increased traffic flows to employment centers.

There are currently 324 municipalities distributed among the following population categories (World Bank 1990d):

**Table 6. Population by Region and Largest Urban Centers, June 1989
(with regional growth rates)**

	Region/City	Population	Growth Rate (1982-1989) (in percent)
I.	Tarapaca	347,180	3.20
	Arica	186,303	
II.	Antofagasta	382,315	1.54
	Antofagasta	227,263	
III.	Atacama	196,826	1.11
	Chañaral	39,929	
	Copiapó	79,340	
IV.	Coquimbo	477,657	1.76
	La Serena	113,905	
	Coquimbo	112,262	
V.	Valparaíso	1,367,317	1.80
	Valparaíso	288,294	
	Viña del Mar	302,787	
	San Antonio	18,224	
VI.	Libertador B. O'Higgins	641,139	1.25
	Rancagua	189,781	
VII.	Del Maule	827,361	1.79
	Curicó	103,609	
	Talca	173,893	
VIII.	Bio Bio	1,656,820	1.25
	Chillán	157,247	
	Concepción	303,680	
	Talcahuano	243,543	
IX.	Araucania	782,609	1.55
	Temuco	239,048	
X.	Los Lagos	914,320	1.10
	Valdivia	120,636	
	Osorno	130,712	
	Puerto Montt	120,342	
XI.	Aisén del General Carlos Ibáñez del Campo	78,458	2.28
	Coihaique	48,185	
XII.	Magellanes	155,278	2.11
	Punta Arenas	119,692	
XIII.	Santiago	5,133,747	2.45
	La Florida	347,724	
	Peñalolén	211,390	
	El Bosque	184,549	
	Santiago	161,649	
TOTAL		12,961,027	

Source: Instituto Nacional Estadístico, *Compendio Estadístico*, 1989.

Population	Greater Santiago	Other Chile	Total
> 100,000	23	18	41
50,000-100,000	11	9	20
20,000-50,000	8	63	71
<20,000	9	183	192
TOTAL	51	273	324

2.2.2 Urban Economic and Spatial Structure

It is anticipated that population growth will be fastest in secondary cities as a whole during the coming decade, and, in particular, in those cities likely to experience the greatest gains in economic development. Secondary cities in northern mining regions already face shortages of housing and urban services, and these problems are likely to increase. The cities affected include Antofagasta and Iquique. The mining industry is the economic foundation of these regions, and copper prices are the biggest determinant of economic well-being there.

The other region whose cities are experiencing rapid population and economic growth, in combination with inadequate supply of housing, infrastructure, and urban services, is the South, where the forestry industry is strong. Concepción, the region's largest seaport, has a high growth rate already noted above. Other centers include Temuco, Valdivia, Osorno and Puerto Montt. Temuco, in Region IX, is the center of a region with high levels of poverty and correspondingly low levels of facilities. The lack of infrastructure, including access roads, is a significant impediment to the development of the forestry industry in the south and to the region's economic development in general.

The central valley area, extending some 600 miles in a north-south direction, has been expected to be the locus of considerable economic growth in the agricultural sector. However, Chile's recent difficulties in expanding its exports of fruit and other agricultural products have resulted in more cautious investment in communities with economies based on the fruit industry. This central region, in which Santiago is located, has benefitted from some infrastructure development in the agricultural sector in recent years. Train service currently connects Rancagua with Santiago, with the area between these two centers considered a corridor for industrial, commercial, and corresponding population growth. Cities in the southern part of the agricultural valley, including Chillán, Talca and Curicó, which are relatively distant from Santiago, appear to have greater needs for additional housing and urban development investments compared with Rancagua and other centers located closer to the capital.

If current economic trends continue, it is the secondary cities of the north and south that will experience the most rapid growth and the greatest demand for housing production and urban services.

Secondary cities are relatively evenly spaced in geographic terms throughout the country, with only Region III in the mid-north and remote Region XI in the far south lacking one city of greater than 100,000 persons. All other regions among the twelve outside the Santiago metropolitan region have between one and three cities with populations exceeding 100,000.

While there is no breakdown of urban versus rural contribution to the economy, some figures are available for Santiago. This largest center is responsible for generating 43 percent of gross domestic product (GDP). 58.5 percent of industrial employment is located there, although 73 percent of its production is in the service sector, including government.

2.2.3 Poverty, Income and Social Benefits

In figures for August 1990, MIDEPLAN estimates that the minimal monthly subsistence-level income is US\$132. This amount is required for the provision of minimal nutrition, clothing, and transportation, with little else affordable. Households with incomes below this level are termed "indigent," and their proportions by region and by urban or rural residence are summarized in **Table 7**, which shows that 13.5 percent of all Chileans fell into this category in 1987. **Table 8**, with figures for total population, indicates that 16.8 percent of all Chilean individuals are indigent.

The legal minimum wage is currently US\$82, which represents a 37 percent nominal increase over the US\$60 minimum in effect prior to July 1990. With reference to **Table 10** on median incomes, the income for the lowest decile (US\$64.25) closely corresponds with the US\$60 minimum monthly income in effect during March 1990. According to MIDEPLAN's estimates of subsistence requirements, those households with one wage earner whose income is at the legal minimum will fail to be able to meet their minimal nutritional and other needs.

The minimum "basket" of food, clothing, shelter, and services necessary for the typical family was estimated by MIDEPLAN to cost US\$217, or more than twice the minimum wage. US\$217, therefore, as of August 1990, is MIDEPLAN's cut-off for determining household "poverty" levels. The 1987 CEPAL survey of total population, reflected in **Table 8**, identified 44 percent of all Chileans as too poor to afford to purchase these minimal goods and services. MIDEPLAN estimates the current proportion of Chileans in poverty at 39 percent.⁶

Of Chile's 13 regions, **Table 8** indicates that the Santiago Metropolitan Region had the greatest aggregate number of individuals living in poverty—over 1.8 million (43.1 percent of

⁶ Interview with Roberto Jimenez, MIDEPLAN, November 27, 1990.

Table 7. Chile, 1987: Households in Poverty and Indigence by Regions and Urban/Rural Areas

Regions	Urban Areas				Rural Areas				Total			
	Indigence		Poverty		Indigence		Poverty		Indigence		Poverty	
	# Persons	%	# Persons	%	# Persons	%	# Persons	%	# Persons	%	# Persons	%
Region I	7,174	10.4	26,076	37.7	408	8.8	992	21.4	7,582	10.3	27,068	36.6
Region II	8,310	9.8	26,859	31.8	230	16.4	390	27.8	8,540	10.0	27,249	31.8
Region III	4,054	9.8	15,420	37.4	476	11.5	1,428	34.5	4,530	10.0	16,848	37.1
Region IV	9,993	14.5	28,948	42.0	4,563	14.5	15,391	49.0	14,556	14.5	44,339	44.2
Region V	33,063	11.4	93,200	32.1	5,472	10.7	21,915	42.9	38,535	11.3	115,115	33.7
Region VI	11,214	13.8	32,367	39.8	7,896	12.5	25,004	39.5	19,110	13.2	57,371	39.6
Region VII	13,352	13.6	37,104	37.7	11,235	14.4	34,240	43.8	24,587	13.9	71,344	40.4
Region VIII	53,496	20.4	126,140	48.1	16,865	19.0	47,338	53.4	70,362	20.0	173,478	49.4
Region IX	23,704	22.0	54,219	50.4	21,344	28.1	41,561	54.7	45,048	24.6	95,780	52.2
Region X	21,446	18.9	50,081	44.2	10,508	13.4	33,820	43.1	31,954	16.7	83,901	43.8
Region XI	558	4.5	2,790	22.4	260	4.0	1,300	19.9	818	4.3	4,090	21.5
Region XII	1,608	4.7	5,896	17.4	70	4.0	301	17.4	1,678	4.7	6,197	17.4
Metropolitan Region	120,235	10.9	365,970	33.2	3,255	8.0	12,648	31.0	123,490	10.8	378,618	33.2
(Greater Santiago*)	(112,111)	(10.8)	(337,374)	(32.6)	-	-	-	-	-	-	-	-
TOTAL	308,207	13.0	865,070	36.6	82,583	15.7	236,328	44.9	390,790	13.5	1,101,398	38.1

*Province of Santiago, including urban communities of San Bernardo and Puente Alto.

Source: CEPAL, Division of Statistics and Forecasting.

Table 8. Chile, 1987: Population in Poverty and Indigence by Regions and Urban/Rural Areas

Regions	Urban Areas				Rural Areas				Total			
	Indigence		Poverty		Indigence		Poverty		Indigence		Poverty	
	# Persons	%	# Persons	%	# Persons	%	# Persons	%	# Persons	%	# Persons	%
Region I	37,332	12.7	130,344	44.2	2,170	12.4	5,362	30.7	39,502	12.6	135,706	43.4
Region II	45,813	13.0	134,328	38.2	1,175	21.5	2,040	37.4	46,988	13.2	136,368	38.2
Region III	21,800	12.9	77,446	45.9	2,975	15.8	8,177	43.4	24,775	13.2	85,623	45.7
Region IV	52,324	18.0	142,768	49.2	27,807	17.9	88,326	57.0	80,131	18.0	231,094	51.9
Region V	158,609	14.0	433,007	38.2	29,979	13.1	109,647	47.9	188,588	13.8	542,654	39.8
Region VI	56,646	16.7	152,810	45.0	44,086	16.2	123,986	45.6	100,732	16.5	276,796	45.3
Region VII	67,869	16.3	182,394	43.8	61,204	16.7	184,468	50.5	129,073	16.5	366,862	46.9
Region VIII	279,234	24.1	627,007	54.0	100,383	22.8	262,998	59.7	379,617	23.7	890,005	55.6
Region IX	122,773	27.9	250,242	56.9	127,880	36.2	225,653	63.9	250,653	31.6	475,895	60.0
Region X	114,491	23.6	243,099	50.1	63,148	18.0	177,898	50.7	177,639	21.2	420,997	50.3
Region XI	2,418	5.1	12,214	26.0	1,222	5.5	5,928	26.9	3,640	5.3	18,142	26.2
Region XII	6,784	5.5	23,800	19.2	308	5.0	1,365	22.1	7,092	5.4	25,165	19.3
Region Metropolitan (Greater Santiago ^a)	636,573 (594,820)	13.5 (13.4)	1,823,733 (1,683,908)	38.7 (38.0)	16,182 -	8.9 -	63,705 -	35.2 -	652,755 -	13.3 -	1,887,438 -	38.6 -
TOTAL	1,602,666	16.1	4,233,192	42.5	478,519	19.8	1,259,553	52.1	2,081,185	16.8	5,492,745	44.4

^aProvince of Santiago, including urban communities of San Bernardo and Puente Alto.

Source: CEPAL, Division of Statistics and Forecasting.

Chile's total urban poverty)—in 1987. This figure represents 38.7 percent of the Metropolitan Region's total urban population. While high in absolute numbers, Santiago's incidence of urban poverty is less than many of the country's other regions. The southern regions—Regions VIII (Concepción), IX (Temuco), and X (Valdivia and Puerto Montt)—have particularly high rates, with over 50 percent of their urban populations classified as poor.

The World Bank offers more conservative estimates of poverty in Chile (World Bank 1990c), as seen in Table 9. It classifies an individual as poor if his/her income is in the first

Table 9. Regional Distribution of the Population in the First Income Quintile

Region	Region's Share of Chile's First Income Quintile	Percent Regional Population in Poverty
I	2.1%	11.9%
II	2.2	11.0
III	1.0	15.8
IV	3.8	20.6
V	10.3	11.6
VI	5.4	14.2
VII	6.9	11.6
VIII	9.2	16.3
IX	8.8	15.1
X	9.2	21.1
XI	0.2	17.4
XII	0.4	17.2
Metro	30.3	6.4

Source: World Bank, *Social Development Progress in Chile: Achievements and Challenges*, 1990.

quintile. According to the World Bank, over 30 percent of Chile's poorest quintile live in the Santiago Metropolitan Region. Adding the bottom quintile from Region V (Valparaíso/Viña del Mar), we find that over 40 percent of the poorest 20 percent of all Chileans live in these two largely urban regions. Across the board, however, the World Bank figures for regional poverty are significantly lower, in some cases by a factor of three or four, than the CEPAL figures used by MIDEPLAN (Table 8).

Median household income is estimated at US\$199 or US\$2,388 per year, as indicated in **Table 10**. Housing comprises an average 25 percent of consumer spending, exceeded only by food (33 percent) as a share of household expenditure. Clothing (8 percent), transportation and communications (17 percent), and other items (16 percent) make up the remainder.

Table 10. Household Income by Decile, March 1990

Decile	Monthly Income (US\$)
1	64.25
2	102.53
3	130.85
4	166.98
5	198.62
6	229.67
7	291.58
8	376.34
9	538.83
10	1,846.37

Source: National Institute of Statistics.

Monetary or nominal household income grew at an average annual rate of 14.3 percent during the period 1985 to 1987. Purchasing power of this income eroded approximately 2.5 percent during this period, resulting in real income increases totalling about 12 percent. The greatest gains were made by higher income households, who experienced nominal increases of 135 percent, while incomes for the lowest decile grew 18 percent. Income changed least for those in the sixth and seventh deciles, with a nominal increase of only 6 percent and a real increase of 3.5 percent over the 1985-1987 period. In 1987, the poorest 40 percent of households in Chile received 11.85 percent of monetary income, almost the reverse of the wealthiest decile that received over 40 percent of total income. By 1989, the lowest four deciles' share had grown to 16.64 percent.

Table 11 illustrates the share of total income earned by each income decile for 1985 and 1987.

Over the period 1978-1988, real expenditures declined for all income levels except the highest quintile, as shown in **Table 12**. As indicated in this table, the lowest income quintile

Table 11. Share of Total Income Earned, 1985 and 1987

Decile	% Income (1985)	% Income (1987)
1	0.56	1.14
2	2.41	2.71
3	3.46	3.59
4	4.57	4.41
5	5.63	5.69
6	7.31	6.80
7	8.60	7.97
8	11.51	11.45
9	17.05	16.18
10	38.90	40.06

Source: ODEPLAN, *Gasto Social Efectivo*, 1989.

experienced the greatest decline in real consumption during the period, with their 1988 consumption only 85 percent of that of ten years earlier.

Table 12. Household Consumption, 1978 and 1988

Quintile	Share of Total Consumption (%)		Avg. Household Consumption/Mo. (US\$)	
	1978	1988	1978	1988
1 (low)	5.2	4.4	66	56
2	9.3	8.2	118	104
3	13.5	12.6	175	160
4	21.0	20.0	266	256
5 (high)	51.0	54.8	648	700

Source: National Institute of Statistics, Family Budget Surveys for years cited.

Chile's social safety net provides some relief to poor families. Those in need of food, housing, or other items may apply at their local municipal office for assistance. Staff in the municipality complete an information card on the applicant family, often going to the

family's home to complete a survey that verifies housing characteristics and need. Answers are weighted, and results are tabulated by computer to determine the distribution of resources to those most in need. Assistance may include US\$4.38 per month per child under the age of 15, or up to US\$40 per month for wage earners for the family income supplement, plus housing subsidies or access to housing programs such as the sanitary core house program. Those in the informal sector receive a supplement equal to one-third of their estimated earnings. Vouchers are limited in number for all forms of assistance. Improvements in family income may disqualify some applicants from receiving certain benefits. New applicants may have to wait until others are no longer eligible for a program that involves recertification only once every three years. All families with children may receive an allowance for their children within the limits of available resources, leaving some to question the equity of a program which includes the wealthier income groups while many who most require assistance have to wait.

The government reimburses municipalities for the time they expend in obtaining survey data, assuring that there is no disincentive to obtaining information on local households or in processing their applications for assistance.

MIDEPLAN estimates that 15 percent of the poor fail to receive any social benefits, due to the combination of scarce resources and lack of information among potential beneficiaries as to the availability of assistance or methods for obtaining it. In 1988, social expenditures for health, housing and education accounted for 53 percent of the public budget and 18 percent of GDP. While health care has been decentralized and fees are charged for service to recover some costs, it is estimated that 56 percent of the population is too poor to pay any fee for health services.

2.2.4 Demand for Shelter and Basic Services

According to the World Bank, Chile's housing backlog stands at 1.2 million units (World Bank 1989). This figure includes those families doubled up with others in the same household or in a makeshift house on a shared lot, those without water and sewerage facilities, and those residing in deteriorated houses.

On the other hand, MINVU estimates that the current "new" housing deficit is 800,000 units, not accounting for future housing needs. Program beneficiaries of current MINVU programs are those families and individuals who currently lack adequate shelter and whose incomes are below US\$300 per month, as this is the maximum monthly household income to qualify for the subsidies available from MINVU for the acquisition of housing. This income restriction includes households in the lowest seven deciles of the population.⁷

⁷ In a recent speech, Chilean President Aylwin noted his concern to target the allocation of housing subsidies to those families with incomes below \$80 per month (about the 15th percentile of household income), which, he reported, number about 600,000.

Those able to obtain mortgage loans, however, do not include the lowest income families who do not have the capacity to save or to make minimal mortgage payments. Three of MINVU's principal housing programs, whose relevance has been reaffirmed by the new government, are all capable of reaching some families in the first income decile. These are the Basic Housing Program, whose substantial subsidy of up to US\$4000 permits low income families to acquire simple but modern and structurally sound housing units on titled lots. These units are expandable depending on family finances and self-construction capabilities. Initial mortgage amounts are on the order of US\$1500, with monthly mortgage payments small enough to enable those with incomes as low as US\$63 per month to afford them under the assumption that 20 percent of income is available for mortgage payments.

The Cámara Chilena estimates that 50 percent of the housing deficit is represented by the poor, while those with a capacity to save account for another 35 percent. If 50 percent of a deficit of 800,000 units is proportionally shared by the poor and indigent, then as many as 142,076 progressive housing or other very low-cost solutions may be required, along with 257,924 units of Basic Housing or Unified Subsidies for the poor.

According to MINVU, there were 329,317 applicants for the Basic Housing Program nationwide as of February 1990. 156,905 families, or 48 percent of all applicants, lived in the Santiago Metropolitan region. These figures are likely to be the best available estimate of demand for this program. Sixty (60) percent of all subsidies go to those defined by MINVU as "extremely poor," defined as those unable to afford shelter solutions priced higher than those of the Basic Housing Program. In comparison, MIDEPLAN figures from Table 7 estimate that 36.6 percent of urban households are poor. The approximately 865,000 households classified as poor represent a good estimate of the total urban market for this program, less those who have already received program benefits.

In a survey of 967 SERVIU applicants in the Metropolitan Region, Region V and Region X, MINVU learned that 67.5 percent of all applicants preferred access to a complete home in the Basic Housing program rather than possible alternatives such as progressive housing.

Special Housing Programs for workers and the Unified Subsidy Program generally require somewhat higher incomes but are able to serve those with monthly earnings between US\$60 and US\$300. Groups able to afford housing at these low to moderate income levels represent a substantial portion of housing demand and a significant share of the families identified as living in poverty.

The poorest families—perhaps one fourth to one half of the 14 percent of households classified as indigent—will require shelter solutions that are based on combinations of reduced costs and direct subsidies, as these families are not able to meet the monthly mortgage payments of the Basic Housing program. They are most likely to benefit readily from programs of sites and services or from progressive housing solutions. Currently, MINTER operates a sites and services program that is combined with the construction of sanitary core houses. This accomplishes several important objectives for those of lowest incomes: First,

it provides titled lots or clear legal title to lots already occupied, providing the new owner with the incentive to invest time and future financial resources in its improvement. In addition, access to water, sewerage, garbage disposal, and electricity are secured, along with the provision of basic bathing and kitchen facilities.

In the experience of MIDEPLAN in tracking poverty, those classified as "poor" but not "indigent" are likely to benefit from the Basic Housing Program. Those below that level will require shelter solutions that are not based exclusively on savings, such as progressive housing or sanitary core units.

2.2.5 Affordability

In the Chilean context, affordability for a specific shelter solution is based on the total cost of the unit, the downpayment (savings) required, the MINVU subsidy applied, the financial terms of the mortgage loan extended, and the income of the beneficiary family. In the estimation of affordability for a particular unit type, MINVU assumes a debt/income ratio of 25 percent. While certainly a high proportion of income for an indigent family to make available for housing, the "formal" nature of the MINVU housing program has not, as yet, permitted the introduction of alternative mechanisms for estimating paying capacity.

Nevertheless, MINVU has demonstrated over the last several years that its subsidized housing program can efficiently provide a range of housing solutions that are affordable to low income families. Table 13 presents the affordable income and distribution percentile ranges for the various elements of its subsidized housing program. This table illustrates that the Basic Housing program reaches households with monthly incomes between US\$40 and US\$108, while the Unified Subsidy assists those in the US\$90 to US\$270 range. Only progressive housing, including the sanitary core program, currently is able to reach those with the most limited resources who are unable to satisfy the savings or repayment requirements of the Basic Housing program.

Also of concern is the affordability of the housing finance program to MINVU. The question has been raised as to whether the availability of housing finance is, in fact, a significant constraint to the development of affordable housing for low and moderate income people, or whether a limited supply of subsidies is more important in its impact. MINVU plans to build 75,000 housing units during 1990. These production estimates, according to the projected distribution of unit types, will require US\$386.67 million in mortgage financing, and US\$212.78 million in housing subsidies.

It may be noted that the World Bank housing sector loan will provide US\$200 million for assistance to MINVU for its housing program over a three-year period. This amount is slightly less than the annual requirements for the entire housing subsidy program. However, this loan is significant. It permits MINVU to have an additional US\$67 million for each of three years to add to resources from its own budget for subsidies.

Table 13. Target Group Served By Specific MINVU Housing Program (1988)

Program	Range Of Incomes In US\$ Per Month	Income Decile (%)
Sanitary core	\$0 - \$40	< 10
Basic Housing	\$40 - \$108	5-20
Special (Worker) Housing	\$108 - \$135	20-30
Unified Subsidy (1st rung)	\$90 - \$270	15-70
Unified Subsidy (2nd rung)	\$270 - \$576	70-85
Unified Subsidy (3rd rung)	\$576 - \$1,548	85-95
Cooperatives (all programs)	\$90 - \$720	15-85

Source: Ramón Undurraga, "Presente y Futuro del Sistema de Financiamiento Habitacional en Chile," 1990.

Households with incomes up to US\$300 per month may qualify for the first tranche or range of the Unified Subsidy program. With relatively few subsidies (7,500 for the whole country planned for 1990) available above that level, many seeking housing are attracted to the completely private market, as this is free of MINVU/SERVIU application processes and waiting times, and offers more numerous opportunities.

It may also be noted that the inclusion of environmental considerations in housing development does not necessarily result in increased costs to individuals or households who become beneficiaries of housing finance programs. An analysis of the cost implications to MINVU in acquiring central city sites, for example, or in improving the quality of paved roads, might be a worthwhile guide to future development. There have been some studies—notably a 1985 one done for MINVU⁸ on the comparative costs of building housing in areas with existing infrastructure versus those to which it must be extended—which could form the basis of further research and assistance. Based on the general findings of this study, it may

⁸ This report, cited in an interview with Ernesto Labbe, Director of the Urban Development Division of MINVU, has, according to Labbe, "been neglected". Its findings have never been thoroughly analyzed or incorporated into MINVU policy.

be possible to reduce unit costs by using the existing network of services, although this reduction is likely to be offset, in part, by higher land values in central city areas.⁹

2.2.6 Gender Considerations

SERNAM (Servicio Nacional de la Mujer), the national office on women, says that poverty and poor housing disproportionately impact on women and dependent children. Current housing programs fail to consider adequately the needs of the increasing numbers of female-headed households. Specifically, SERVIU procedures to acquire housing through the Basic Housing program actually discriminate against households headed only by women. The "point" ("puntaje") system which assigns points to each person in a family gives more points to a household of three children with both parents present than to three children in care of only their mother by counting individuals rather than weighting such factors as single parents and need. Less directly, requirements for savings and regular income may further impair the ability of the poorest women who are household heads to obtain the housing they need for raising healthy children.

The 1982 census counted 82,489 one-person households of single or widowed women, and 274,069 female-headed households.

Outside the dwelling unit, whatever its tenure and condition, there are few facilities such as day care centers in low income communities. Women fortunate enough to work for large employers receive care for their children at the workplace under a law which requires employers with more than 20 female employees to provide day care for infant children. Those women whose income is earned from small employers or in the informal sector are, therefore, not covered under this law.

Women also have difficulty in gaining access to credit to initiate or expand small business ventures on their own. Current law primarily recognizes a husband's title to property, with a wife's access granted by virtue of her marriage. This limits women's ability to offer marital property as collateral for a loan, and fails to recognize financial contributions made by wives to the successful operation of the household, regardless of the level of their earnings. Divorce is illegal in Chile. While separation is increasingly common, the rights of women and children to continue to reside in the family home are not well protected.

As life expectancy increases and it becomes possible for women to live without their parents or children while supporting themselves, there will be increased demand for small housing units suitable for single or widowed women. While there may be demand, as well,

⁹ Local architects, such as those with the Institute for Urban Studies at the Catholic University, have already analyzed the costs of building at a denser level inside the city. They have determined that the optimal type of residential construction is the townhouse. Construction of more than three floors requires higher standards and extra costs related to earthquake-resistant building. This and other studies could assist in a more comprehensive financial analysis of current and alternative housing programs.

for housing for men on their own, SERNAM has focused on the relatively rapid growth of single-person households of women. This trend is contributing to the declining average household size and to the resulting demand for small housing units.

While SERNAM functions only in an advisory and research capacity within the government, a law creating a new National Women's Service with staff at the national and regional levels passed the Chamber of Deputies and has been sent to the Senate for its approval. According to SERNAM officials, passage of this law and creation of the National Women's Service, with its own staff and budget, would permit the more systematic examination of these and other issues affecting women in Chile. The SERVIU "puntaje" system, property ownership and access, the need for community centers capable of providing space for child care and for neighborhood organization and activities, and efforts to combat domestic violence are all priorities to be addressed.

Currently, SERNAM operates with financial support from the Nordic countries. Its staff believe that the establishment of the National Women's Service under law is the first step towards public recognition of the rights and special needs of women in the society.

2.2.7 Urban Growth Management

2.2.7.1 Land

In the process of housing development, MINVU purchases large tracts of land directly and extends off-site infrastructure needed for the construction of housing. Local SERVIU offices identify sites in accordance with the local physical plan and negotiate for their purchase.

Developers who bid for the construction of MINVU-financed projects may also use their own land for construction of those projects for which bids have been accepted. Bid documents submitted by the contractor specify the land the builder will use in the project, thus permitting developers to substitute their land, depending on its value and location. MINVU often solicits bids for large numbers of units at a time, and contractors may bid for a portion of the total available, often collaborating with each other in the knowledge that the total package will provide work for several different firms. In some cases, developers argue that MINVU/SERVIU land is not of the best quality for housing development, often requiring extensive grading or drainage work before it can be used. Savings can, therefore, be made by developers able to acquire land and hold it in reserve for the construction of government-subsidized housing projects, assuming that they can identify and purchase land at a cost affordable to MINVU projects.¹⁰

¹⁰ Land is inventoried in a national cadastre, for which improvements are planned and needed in terms of computerization and the application of technology to land management. On the whole, land is available for housing development. Coordination takes place among ministries to insure the provision of access and water and sewer development. Title problems are likely to affect the open sale and purchase of some available sites, and assistance and intervention on the part of MINVU or other officials may be required. Some advocate a modified

Residential development has been using up an estimated 1500 hectares (3700 acres or nearly six square miles) in the urbanized periphery or designated expansion area of Santiago each year. While 92,000 hectares are considered "available" for urban expansion outside the current consolidated area, construction there has added to the environmental and urban development problems described elsewhere in this report. In an article published on November 24, 1990 (*El Mercurio*), MINVU reports that an estimated 35,000 hectares (86,485 acres or 135 square miles) are available for development within the current urbanized boundaries of the collection of municipalities which make up Greater Santiago. Further, MINVU projects that one million people could be housed in these areas, thus better utilizing the existing stock of urban land.

2.2.7.2 Rental Market

Government policy in the past twenty years has focused on the importance of home ownership rather than rental opportunities. There is a high rate of home ownership among all income levels: 62 percent of all Chileans are homeowners, including 56 percent of those in the lowest income quintile.

MINVU reports that total renters currently number 279,793 households, of which 257,405 or 92 percent are urban. The 1982 census counted 465,268 rented units, or 19 percent of the total 2,448,779 dwelling units. At that time, only 25,009 units were available for sale or rent in the entire country—just 1 percent of total units. (Generally, a 4 percent vacancy rate is viewed as the proportion necessary to maintain a well-functioning housing market that provides for the supply required to meet the demands of labor mobility and normal growth). Differences in figures for home ownership and rentals are accounted for by the fact that a significant number of workers receive housing from their employers.

Among those in the lowest income decile of renters, 15 percent to 25 percent of income is expended for rent. Typically, renters must pay more for their housing than owners, as seen in the following MINVU figures (these include mortgage or rental payment only):

Income Quintile	Income For Housing (%)	Income For Rent (%)
1	17.0	13.0
2	14.7	16.5
3	14.2	18.0
4	14.4	21.0
5	16.2	28.5

"eminent domain" or condemnation procedure for urban land in areas to be targeted for redevelopment: proposals include options such as attempts to inform the owner of record of the desire to purchase, with publication of these tracts, and a limited time period for owners to provide evidence of their title prior to seizure of the property.

MINVU has proposed a rental housing initiative in which those desirous of better housing but without the savings typically required to participate in established home purchase programs could lease a unit while saving to purchase it. (See Section 4.3.2.6 for more details on this program.) The subsidy to be applied to the unit would be deferred for two years to give tenants the opportunity and incentive to meet savings requirements. Plans for such a program are only in the very preliminary stages, but MINVU efforts to share this idea with the Cámara Chilena and others have been met with controversy and a lack of support because opponents of this plan believe the initial design fails to include adequate provisions for management and maintenance and does not analyze affordability or the market for such units. There is widespread recognition of the potential role of rental housing in labor mobility, which has raised the notion of rental housing in the minds of many. Others argue that an established rental market is a necessary component of a comprehensive and modern housing market.

2.2.7.3 Abandonment of Downtown Santiago

This issue has begun to be one of those of greatest concern among the working groups comprising the National Commission on Human Settlements (See Section 4.1) and others in the academic and professional community, both public and private, concerned with housing issues. There are a number of properties within the established limits of Santiago which are vacant or abandoned and which could be made available for housing construction or other urban renewal projects, according to both MINVU and the Cámara Chilena. Many of these properties are located within the Municipality of Santiago itself, where access to employment and public transportation as well as cultural and commercial facilities may make these desirable locations for housing activity. At present, there is no inventory of these properties, and admitted deficiencies in property and tax records may make their identification difficult.

The impacts of abandoning the old downtown area are considerable, and the costs—in travel time, infrastructure extension, and environmental degradation—of concentrating development in outlying areas are discussed in detail elsewhere in this report.

MINVU's own approach to housing development over the past several years has contributed to the neglect of established urban neighborhoods: in the interest of efficiently constructing large numbers of units, virtually all projects in Santiago have been located at the expanding urban boundary. There are no established programs which provide credit for the repair or renovation of existing homes; nor is it possible to use housing subsidies to acquire an existing unit, although policy changes have been proposed to address these gaps. The Cámara Chilena is interested in opportunities for reinvestment and reconstruction in older neighborhoods, but this interest cannot be translated into activity without assistance in two areas: first, as mentioned above, is the need for credit to acquire and rehabilitate existing properties; second, many deteriorated and abandoned properties have title problems that

are complex and costly to resolve.¹¹ It is more lucrative and reliable, currently, for developers to acquire sites not previously developed. The Cámara Chilena estimates that approximately 1000 hectares of prime land close to the center of Santiago are currently occupied by deteriorating housing which requires demolition or substantial rehabilitation.

Those interviewed on this topic recommend government assistance in making clear title available to these inner city properties. Municipalities, including the Municipality of Santiago located at the core of today's sprawling city, may have much to gain from property tax revenues if deteriorating buildings and abandoned parcels are put back on the tax rolls.

Tax policy may also be used as a tool for the provision of incentives for investment in declining neighborhoods through, for example, the provision of tax breaks to individual or corporate investors who develop or renovate housing in certain target zones.

2.2.7.4 Land Registry/Titling Process Problems

As mentioned above, there is a national cadastre in need of computerized updating and improvement. The regularization of land titles has long been an issue MINVU has attempted to address. Between 1978 and 1988, 532,187 land titles were regularized, and plans call for continued efforts in this regard. The lack of clear title to many small properties developed in years past in urban centers has been noted as important by government officials, the Cámara Chilena, the Institute for Urban Studies, and others as a critical obstacle to renovation and improvement of urban life. There is, initially, the need for an inventory of properties which are unoccupied, unproductive, and suitable for reuse for housing or other purposes.

2.3 Urban Housing and Infrastructure Characteristics

2.3.1 Housing Characteristics and Coverage of Basic Services¹²

There are three principal sources of primary data available in Chile for the 1980s to measure changes in housing characteristics and the coverage of basic services (Instituto Nacional Estadístico 1982; Pontificia Universidad Católica de Chile y ODEPLAN 1985 and 1987). These three data sources are the National Census of Population and Housing and the

¹¹ Both the Cámara Chilena and MINVU staff admit that there is considerable uncertainty in the housing market with respect to acquiring deteriorated properties for renovation or redevelopment. Current "laissez-faire" urban development policies, which permit developers to build new suburbs and which facilitate urban expansion by the provision of necessary infrastructure and require the construction of houses in large numbers for MINVU, work against redevelopment of established areas where available parcels are relatively small. Within the central city areas, builders anticipate the need to resolve title problems, although no study of the extent to which such problems exist has been done. Clearly, MINVU's own efforts to acquire large peripheral parcels of land to make available for housing development, instead of exploring the acquisition of alternative sites in established areas, contribute to the problem.

¹²The material for this section is taken primarily from Haindl, et al. 1989.

two National Socioeconomic Surveys (CASEN I and II) carried out in November 1985 and December 1987 by the Economics Department of the University of Chile under contract to the then National Planning Office (ODEPLAN). While the three data sources use slightly different definitions and general concepts for the variables employed, there is a high degree of similarity among the three sources. This not only permits an analysis of shelter conditions and characteristics as of December 1987, but also facilitates a determination of the change in selected variables during the five and one-half year period covered by the three data sources.

This section discusses the quality of shelter in Chile on the basis of access to potable water, formal sanitation systems, and electric lighting; level of overcrowding; type of dwelling unit in terms of permanent versus semi-permanent materials; and, tenure patterns.

2.3.1.1 Coverage of Basic Services

2.3.1.1.1 Potable Water

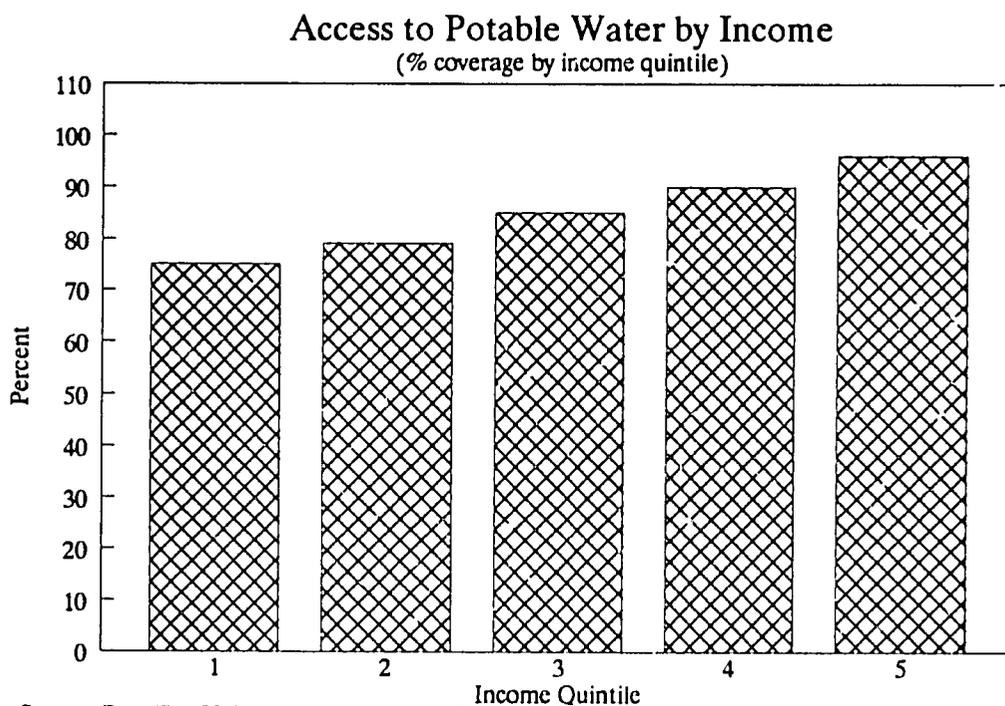
The World Health Organization (WHO) has identified access to potable water as one of the key factors to reducing the incidence of infectious diseases, particularly among children. The Chilean government invested heavily in the provision of treated water during the decade of the 1980s. The results of this effort have been quite positive. Chile's water supply and sewerage coverage levels are currently among the highest in Latin America. They are similar to those of Colombia and Costa Rica. By December 1987, almost 85 percent of Chile's households had access to piped potable water. This is an improvement from slightly over 80 percent in 1982. Of the total population served in 1987, two million households had access to potable water within their dwelling unit, while 470,000 had an exterior water tap somewhere on the plot.

In 1987 of a total urban population of about 10 million (81 percent of Chile's population), 97 percent was connected to a piped water system. In comparison, government statistics indicate a coverage of 71 percent for the country's "concentrated" rural population.¹³

Chart 1 shows the distribution of access to potable water by household income quintile. As one would expect given Chile's very high overall coverage levels, 96 percent of the highest quintile has access to potable water. However, even the lowest quintile's access to potable water of 75 percent compares very favorably with other countries with a similar level of development.

¹³Government figures for "concentrated" rural population refer to those 600,000 persons who reside in villages of 150 to 3,000 inhabitants. This 30 percent of the total rural population presents sufficient economies of scale to warrant the installation of a piped water system. While the overall coverage of the total rural population is not known, it would obviously be considerably less than the above percentage.

Chart 1



Source: Pontfíca Universidad Católica de Chile y ODEPLAN, CASEN II, 1987.

2.3.1.1.2 Waste Disposal

In conjunction with the provision of potable water, the proper disposal of human waste is another key determinant in the reduction of a population's rate of infectious disease. Chile improved its record significantly with respect to formal sewage disposal (water-borne or septic systems) between 1982 and 1987. In 1982, slightly more than 62 percent of all households had access to a formal disposal system. This figure increased to 72 percent by 1987.

Table 14 shows access to water-borne or septic disposal systems by income quintile for 1987. Perhaps the most interesting conclusion from this table is that only about half of the poorest households have access to formal disposal systems, compared to over 90 percent for the highest income quintile.

Disparities also exist between urban and rural areas, and particularly between urban and rural poor households. 86 percent of all urban households dispose of waste through either a water-borne or septic system, versus only 12 percent in rural areas. The rural poor, however, is considerably worse off than its urban counterpart. While almost 70 percent of the poorest urban quintile has access to formal disposal systems, only slightly more than

**Table 14. Access to Formal Sanitation Systems
(percentage of total households by income quintile)**

Quintile	No	Yes	Total
1	47.2	52.8	100
2	38.4	61.6	100
3	28.2	71.8	100
4	18.0	82.0	100
5	6.2	93.8	100
TOTAL	27.7	72.3	100

Source: Pontificia Universidad Católica de Chile y ODEPLAN, CASEN 1987.

5 percent of the corresponding rural population has a similar level of coverage. This negative rural situation is somewhat ameliorated due to the fact that most rural families have access to a pit latrine. Given the lower densities and depressed economic conditions, pit latrines offer a technically and economically viable solution for the disposal of human waste in Chile's rural areas.

In summary, relatively slow population growth, the importance given to sector investments during the 1970s and 1980s, and the efficiency of sector institutions explain the high service levels attained in water supply and sanitation. However, it is only recently that government has begun to address the problem of wastewater treatment. The team understands that there are currently only two treatment plants operating in the entire country, which serve less than 6 percent of the total population. The country faces worsening environmental and related contamination issues as a legacy of previous governments' failure to address this issue.

2.3.1.1.3 Electricity

Overall, there exist high levels of access to electricity in Chile. More than 90 percent of all households have an electrical connection, with the majority of unserved households to be found in rural areas. This represents an improvement of about five percentage points in electricity coverage since 1982. As would be expected, **Table 15** indicates that electricity coverage is directly related to income. Differences by income quintile within urban and rural areas, however, are relatively small. There are major disparities, however, in electricity coverage between urban and rural areas. Overall, 98 percent of urban households have an electrical connection, in comparison to only 62 percent in rural areas.

**Table 15. Access to Electrical Hookup
(percentage of households by income quintile)**

URBAN

Quintile	No	Yes			Total
		Without Meter	Common Meter	Individual Meter	
1	5.6	5.8	28.7	59.9	100
2	2.1	3.8	27.0	67.1	100
3	2.0	1.9	21.9	74.2	100
4	0.9	1.3	15.9	81.9	100
5	0.2	0.3	7.4	92.1	100
TOTAL	2.0	2.5	19.5	76.0	100

RURAL

Quintile	No	Yes			Total
		Without Meter	Common Meter	Individual Meter	
1	44.9	5.0	15.5	34.6	100
2	37.3	6.0	19.8	36.9	100
3	35.3	3.6	19.7	41.4	100
4	32.9	4.0	13.7	49.4	100
5	32.0	5.4	10.6	52.0	100
TOTAL	38.0	4.9	16.9	40.2	100

Source: Pontificia Universidad Católica de Chile y ODEPLAN, CASEN 1987.

2.3.1.2 Levels of Overcrowding

The United Nations CEPAL Office in Santiago takes the incidence of overcrowding as a good indicator of a population's "quality of life". In light of the commendable production record of the previous government's public shelter program, the issue of overcrowding, parti-

cularly as it relates to the question of "allegados",¹⁴ elicits strong debate among the sector's decision-makers, policy analysts and practitioners. Chile, in its "Map of Extreme Poverty", considers overcrowding to exist if there are more than four persons per dwelling unit living space (not including bathrooms and kitchen). CASEN II (1987) shows that only 4.7 percent of all households live in overcrowded conditions. There are, however, differences in overcrowding between urban and rural areas. CASEN II notes that the highest levels of overcrowding are found in rural areas; 7.6 percent versus 4.0 percent in urban areas.

Perhaps it will come as a surprise to some of the participants in the current debate concerning "allegados" that statistics show significant reductions in overcrowding since 1970. These figures show a drop in overcrowding from 11.2 percent in 1970, to 7.5 percent in 1982, to 4.7 percent in 1987. As noted previously, this downward trend can be attributed primarily to the massive social housing programs undertaken by previous governments of the 1970s and 1980s. Decreases in average household size have also contributed to decreases in the percentage of household overcrowding.

Although the incidence of overcrowding has decreased in global terms since 1970, **Chart 2** highlights the fact that a significant percentage of the poorest households, and particularly rural households, still live in overcrowded conditions. The referenced chart indicates that 11 percent and 13 percent, respectively, of urban and rural households in the poorest quintile live in overcrowded conditions.

2.3.1.3 Type of Dwelling Unit

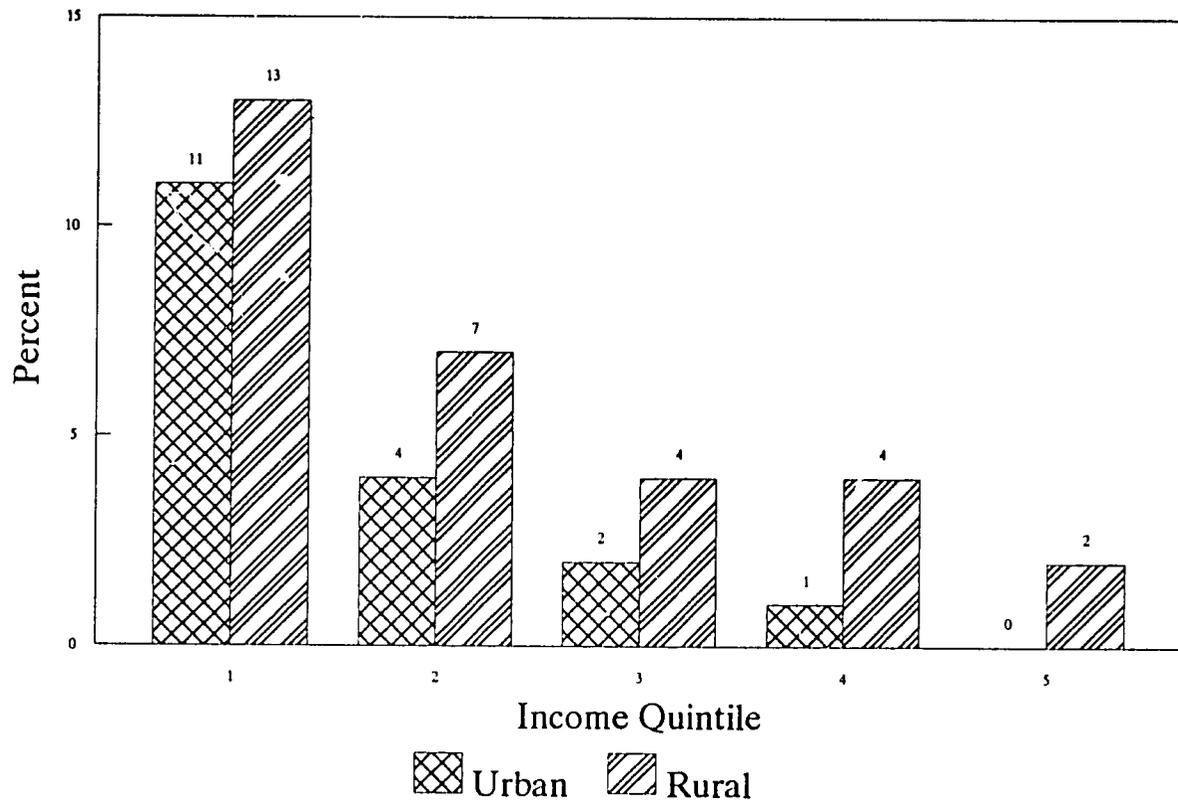
The 1982 Census and the CASEN surveys define dwelling type in terms of the permanence of the materials used in the structure. Five major categories are identified, of which two—permanent and semi-permanent—make up over 99 percent of all dwelling units. This assessment will follow Chilean definitional custom that classifies dwellings with an estimated life of at least 10 years as permanent, and those with less as semi-permanent. Included in this first category are single-family units, apartments, and "conventillos" (single units, often rented, sharing common services and cooking facilities). The semi-permanent category includes informally-constructed urban and rural units such as "mediaguas", "mejoras", "cal-lampa" (urban areas); and, "rancho", "ruca" and "choza" (rural areas). These informal units are characterized by the use of lightweight wood or scrap materials in urban areas (cardboard, tin, broken bricks or blocks), and by natural materials such as mud, thatch, cane and stone in rural areas.

The 1982 Census enumerated 2.3 million housing units in Chile. The 1987 CASEN II survey shows that 85 percent of all households lived in permanent dwellings. In addition, **Table 16** notes that there is a positive relationship between household income and permanence of the dwelling unit. In the poorest quintile, 71 percent of all households lived in

¹⁴"Allegado" is a peculiarly Chilean term used in the context of those individuals or families who are forced (choose) to live with other households because they are unable to find (afford) acceptable shelter elsewhere. The closest word in English that captures the sense of "allegado" is "doubling up".

Chart 2

Rate of Overcrowding by Urban/Rural Area
(percentage of overcrowded households by income quintile)



Source: Pontificia Universidad Católica de Chile y ODEPLAN, CASEN II, 1987.

permanent dwellings versus 98 percent in the highest quintile. The remaining 15 percent of total households lived in semi-permanent units, the majority in the lowest income stratum. Almost 30 percent of the poorest households lived in semi-permanent units such as ranchos and mediaguas. Finally, few differences by income quintile were noted between urban and rural areas for permanence of dwelling unit, and the urban/rural mix of dwelling unit type (excluding apartments) was similar to the national distribution.

**Table 16. Distribution of Households by Type of Dwelling Unit
(percentage of households by income quintile)**

Quintile	Semi-Permanent			Permanent				Total
	Call- ampa	Rancho	Medi- agua	Single- family	Apart- ment	Conven- tillo	Other	
1	0.5	3.3	25.3	66.8	1.6	1.1	1.4	100
2	0.2	1.8	19.0	73.8	2.9	1.0	1.3	100
3	0.2	1.1	13.5	79.6	3.6	1.0	1.0	100
4	0.0	0.8	7.8	83.8	6.3	0.7	0.6	100
5	0.0	0.2	2.0	83.3	13.5	0.5	0.5	100
TOTAL	0.2	1.4	13.5	77.4	5.6	0.9	1.0	100

Source: CASEN 1987.

2.3.1.4 Tenure Patterns

Most housing in Chile is single-family (77 percent) and owner-occupied. The 1982 Census and CASEN survey figures indicate that the level of home ownership has remained more or less constant in Chile during the 1980s. All three sources indicate a percentage of home ownership of about 62 percent, with 18 percent rented and 19 percent ceded (occupied by friends or relatives of the owner).

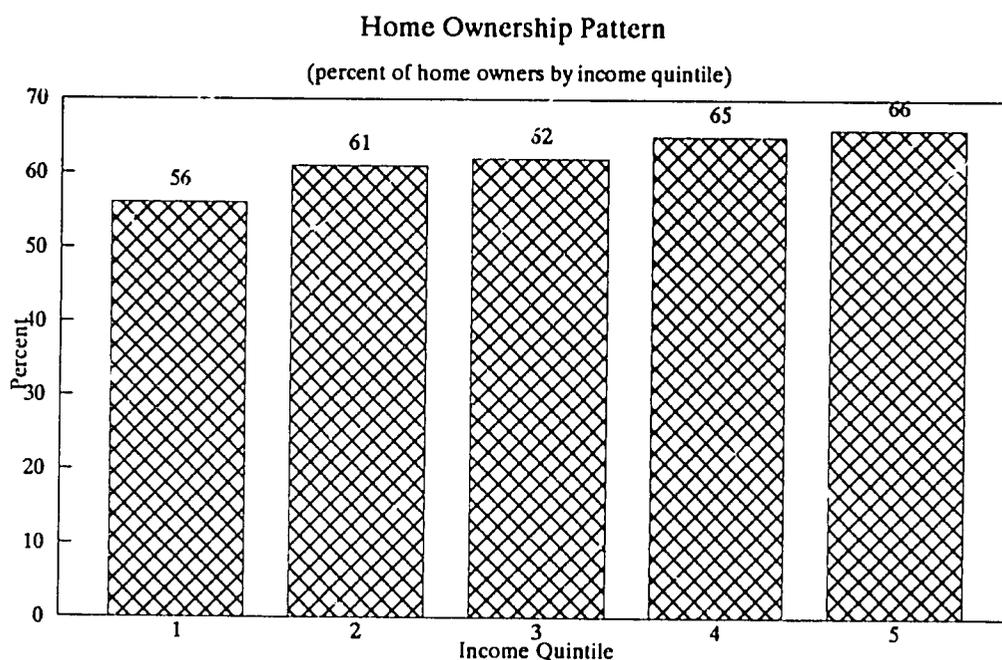
Interestingly, **Chart 3** shows that there is minimal variation in home ownership with increasing income. The 1987 CASEN II survey indicates that home ownership varies from 56 to 66 percent between the lowest and highest quintiles. This limited variation by income group is most likely due to the massive government housing programs of the 1970s and 1980s, which emphasized home ownership for lower income households.

2.3.2 Housing Deficit and Future Needs

There have been many articles written by Chilean professionals regarding a general methodology for estimating housing deficit and future needs.¹⁵ The below-cited studies define housing deficit in two distinct ways. The first definition estimates housing deficit, at a given point in time, as the difference between the total number of households and the supply of dwelling units (existing and under construction). The second defines deficit in terms of quantitative, as well as in qualitative, deficiencies of the housing stock. Quantitative deficiencies include such elements as replacement of substandard units, provision of water

¹⁵See the following sources: CORVI 1961; Dockendorff V. 1978; MacDonald 1983, 1985, and 1988; MINVU 1974; Saieh B. 1984; and Duran B. 1989.

Chart 3



Source: Pontificia Universidad Católica de Chile y ODEPLAN, CASEN II, 1987.

and/or sanitary connections, and upgrading/expansion of the dwelling unit. For a detailed discussion of these two approaches to defining housing deficit, the reader is referred to the cited studies. However, without going into a lengthy discussion of the pros and cons of each, the second definition based on quantitative and qualitative deficiencies will be employed in this assessment. The rationale for this decision is that it does not appear convincing, notwithstanding the hotly debated "doubling up" factor, to assume that every household requires an individual dwelling unit. On the contrary, use of this definition would tend to overstate the "new construction" requirements of the existing housing deficit, while not taking into consideration any of the qualitative deficiencies.

It was this latter definition of housing deficit that was employed in the very thorough and meticulously documented study of Chile's housing sector undertaken by the Catholic University's Institute of Economics as part of the World Bank-financed First Public Sector Housing Loan (Loan 2482-CH) approved in December 1984 (Pontificia Universidad Católica de Chile 1988b). This study estimates current housing deficiencies and future needs on the basis of a series of cross-tabulations of information from the November 1985 CASEN I survey. This survey was used to estimate the following two principal components of housing deficit by decile of the urban and rural population: (1) new construction required to replace substandard units and to eliminate "doubling up"; and, (2) rehabilitation requirements such as the provision of water and sanitation connections, repair/upgrading of the dwelling unit,

and/or expansion of the dwelling unit. **Table 17** summarizes the two principal components of housing deficit by quintile for 1985.

Table 17 indicates that there are over 1.2 million households living in inadequate shelter conditions. Of this total, 423,000 (35 percent) require a new dwelling unit to replace a

**Table 17. Existing Housing Deficiencies by Income Group
(thousands of units - 1985)**

Requirements Backlog	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
New Construction Requirements						
Replacement of Sub-standard Units	108,000	66,000	51,000	28,000	10,000	263,000
To Eliminate "Doubling Up" ^a	56,000	43,000	34,000	19,000	8,000	160,000
Subtotal	164,000	109,000	85,000	47,000	18,000	423,000
Rehabilitation Requirements						
Sanitation Only	108,000	112,000	91,000	69,000	34,000	414,000
Sanitation & Improvement	4,000	4,000	3,000	2,000	1,000	14,000
Improvement ^b	32,000	23,000	18,000	9,000	8,000	90,000
Enlargement ^c	57,000	75,000	62,000	55,000	28,000	277,000
Subtotal	201,000	214,000	174,000	135,000	71,000	795,000
TOTAL	364,000	323,000	259,000	182,000	90,000	1,218,000

^a Doubling up is the sharing of a dwelling or a lot by two or more households who maintain separate budgets and cooking facilities.

^b Improvement includes remodeling to eliminate substandard elements, the erection of a standard house to replace a shack, and the renovation of tenements into separate apartments.

^c Enlargement refers to the adding of rooms to an existing dwelling to relieve overcrowding.

Source: World Bank, *Staff Appraisal Report*, Chile, Second Housing Sector Project, Washington, DC, March 1989.

substandard one or to alleviate the "doubling up" of households (defined in the Catholic University study as more than one family per dwelling). The remaining 796,000 families with shelter deficiencies (65 percent) require some type of improvement to the existing dwelling unit. The largest deficiency in this category is those households who do not have formal water and sewerage connections (34 percent of total). The next two largest deficiencies consist of the need to improve substandard construction due the use of informal building materials (7 percent) and to enlarge the dwelling unit to relieve overcrowding (23 percent).

With respect to future housing needs, **Table 18** estimates the number of new dwelling units that must be constructed annually to meet the requirements of new household formation and replacement due to obsolescence of the existing stock. For 1989, the table shows that slightly more than 80,500 units will be required to meet new housing needs. Approximately 77 percent of this annual need is required to serve new household formation, while the remainder (23 percent) will go toward replacing obsolete stock and/or dwellings removed from the stock due to fire, natural causes or changes of land use.

**Table 18. Future Housing Need
(number of dwelling units)**

	1988	1989	1990	1995	2000
New Household Formation	61,528	62,078	62,182	62,893	62,124
Obsolescence	18,322	18,322	18,322	18,322	18,322
Total	79,850	80,400	80,504	81,215	80,446

Source: p. 75, Chapter V., "Proposiciones para la Configuración de Sistemas Habitacionales", *Investigación de Alternativas de Sistemas Habitacionales*.

2.3.3 Housing Supply

Formal sector housing production has increased dramatically since the severe downturn associated with the economic depression of 1982/83. Housing starts, which dropped by over 50 percent between 1982 and 1983 (from 54,000 to 27,200 units), have rebounded at an annual growth rate of almost 18 percent in the seven-year period to 1989. Total formal sector housing starts reached almost 85,000 units by 1989. (See **Table 19**.)

While unsubsidized private sector production has generally increased, albeit with significant annual fluctuations, publicly contracted units and subsidized private housing has accounted for the greatest part of the sector's recovery since 1982. Chile's public sector production, whose design and construction is performed almost entirely by the private sector, grew from 22,000 units in 1982 to almost 77,200 units in 1989. These public sector figures represent approximately 75-90 percent of total formal annual production between 1982 and 1989. The great majority of this output has gone to benefit Chile's lower-middle and lower income households.

Increased formal sector production during the latter half of the 1980s has tended to have a converse effect on informal shelter activities. If current production levels are sustainable, Chile's formal shelter sector could achieve that rarity among developing countries of being able to meet the aggregate needs of new household formation and planned obsolescence. Formal sector production for 1989 of almost 85,000 units exceeded estimates of

Table 19. Formal and Informal Public/Private Housing Starts (by year)

Supplier	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
MINVU Supported										
Direct ^a	15,050	13,513	7,629	10,363	16,338	23,112	26,037	25,219	15,210	27,449
Mixed	1,176	2,265	4,970	3,126	4,080	1,977	1,054	492	11,075	16,571
Indirect ^b	7,675	11,221	7,925	8,510	13,522	15,885	22,559	22,166	34,423	33,149
Subtotal	23,901	26,999	20,524	21,999	33,940	40,974	49,650	47,877	60,708	77,169
Private	13,444	21,894	34,035	5,167	3,772	3,264	15,989	5,757	8,410	7,823
Total Formal Production	37,345	48,893	54,559	27,166	37,712	44,238	65,639	53,634	69,118	84,992
New Household Formation & Phased Obsolescence	72,150	73,000	73,900	74,750	75,650	76,600	77,500	78,900	79,850	80,400
Estimated Informal Production	34,805	24,107	19,341	47,584	37,938	32,362	11,861	25,266	10,732	(4,592)
MINVU Upgrading Program	8,862	6,265	7,575	4,187	9,797	8,738	11,762	16,253	9,696	11,268

^aIncludes Basic and Special Housing Programs.

^bIncludes Unified Subsidy and Rural Housing Programs.

Source: PADCO elaboration of MINVU and Chile Construction Association figures.

new housing requirements of 80,400 (see Section 1.3.2) for the first time. Obviously, questions regarding the sustainability of these production levels, as well as regional disparities in shelter production and existing deficiencies in rural housing, will necessitate the continued output of the informal sector to cover all new housing needs.

2.4 Institutional Framework

The following section presents a brief overview of the principal public and private institutions that comprise Chile's shelter and urban sector. Public sector institutions are grouped along broad functional lines related to urban development and the environment, decentralization/municipal development and housing finance. Private sector organizations working in the shelter sector are described in terms of builders and developers, cooperatives and NGO/PVOs.

2.4.1 Urban Development and the Environment

2.4.1.1 Public Sector

2.4.1.1.1 Ministry of Housing and Urban Development (MINVU)

Chile's Ministry of Housing has responsibility for housing sector policies and public sector shelter programs. It is headed by a minister who is assisted by an undersecretary for housing and three groups of senior level advisors—planning and coordination committee, ministerial advisory committee, and personal assistants. MINVU has its central offices in Santiago. The central office is organized into six divisions (urban development, housing policy, finance, legal, technical studies, and coordination of external credit). These six divisions have six support sections (social services, public relations, organization, auditor, general services and personnel).

The Ministry is represented in each of the 13 regions of the country by a Regional Ministerial Secretariat (SEREMIs). The SEREMIs coordinate their activities with the corresponding Housing and Urban Services (SERVIUs) units in each region. The SERVIUs are responsible for implementing MINVU's physical shelter program throughout the country. The SERVIUs work in close coordination with local municipalities whose responsibility it is to approve all shelter projects prior to construction and to take over the operation and maintenance of all roads and other infrastructure services following a pre-specified contractor warranty period. The municipalities also assist the SERVIUs by verifying the socio-economic status of prospective beneficiaries who apply for the Ministry's subsidized housing programs.

One of the few institutional changes of the previous government directed at MINVU was the consolidation into the SERVIUs of several Ministry housing agencies (CORHABIT, CORVI, etc.) that dated from the 1960s. This consolidation served as the forerunner for a reduction in Ministry personnel from a high of 40,000 to a current figure of approximately 3,000. This dramatic reduction in staff did not adversely affect productivity, since most of

the prior construction, marketing, financing and related functions of these agencies were shifted to the private sector. This reduction in staff permitted MINVU to maintain and/or recruit high quality personnel in order to function primarily as a manager and monitor of the nation's shelter programs.

2.4.1.1.2 Water and Sanitation Sector¹⁶

A major reorganization of Chile's water and sanitation sector was carried out during the final months of the previous government. The major thrust of this reorganization included the creation of a new legal framework to incorporate all water and sanitation operations into 13 mixed public/private regional companies, to transfer the assets of the previously separate urban and rural operations to the respective regional companies, and to eliminate the role of the Ministry of Public Works, except for a minor technical and normative oversight role.

This section describes the newly created organizational structure for Chile's water and sanitation sector.

Development Corporation (CORFO). CORFO is the central government agency responsible for the monitoring and management of public sector corporations for the Ministry of Hacienda. In this capacity, CORFO has primary oversight responsibility for the financial and management decisions of each regional water company that are described below. This is a similar role to one it traditionally has played with Chile's electric utilities and other state enterprises. The legal framework creating the regional water companies designates CORFO as the sole owner of all company shares until such time as government decides to offer them for sale to the public. The board of directors of each water company is appointed by CORFO.

Regional and Metropolitan Water Companies. The Pinochet government created the regional and metropolitan water companies in January 1990. They have responsibility for the provision of all urban and rural water supply and sanitation. This new structure for water and sanitation divides the country into 12 regions and two major metropolitan areas (Santiago and Valparaíso). Each regional/metropolitan company is responsible for all water and sanitation services within its urban and rural catchment areas. All the assets and liabilities of the previous National Department of Sanitary Works urban operations (SENDOS of the Ministry of Public Works) have been assumed by the regional water companies. Most of the regional staff of SENDOS has also been absorbed by the regional water companies.

The rural communities formerly supported by SENDOS have also been transferred to the regional companies in order to ensure the continued provision of needed technical assistance, and for servicing the debt of prior capital investment. Rural catchment areas include

¹⁶The material for this section is paraphrased from a recent country profile on Chile's water and sanitation sector by Dan Edwards of Training Resources Group as part of A.I.D.'s WASH program.

all communities of 150 to 3,000 persons with population densities of at least 15 persons per square kilometer.

Each regional water company is legally incorporated as a public/private shareholding corporation (up to 49 percent of the shares may be privately held under the law). However, recent statements by the Aylwin government, which run counter to policy initiatives of the previous government, indicate that it does currently not intend to sell off the shares of regional water companies to private investors.

Ministry of Public Works, Superintendent of Sanitary Services. The Ministry of Public Works Superintendent of Sanitary Services is the national norms and standards regulatory body for the water and sanitation sector. It has three primary functions: (1) to negotiate and set tariffs; (2) to establish and enforce technical standards; and, (3) to oversee and regulate the granting of business concessions for operating the semi-public water utilities. The latter function includes determining and monitoring the geographical boundaries of catchment areas. A temporary duty of the Superintendent's office is to oversee the transfer of assets from the former centralized SENDOS operations to the regionalized public/private company status.

It is worth noting that within the existing legal and regulatory framework governing water and sanitation companies, the municipalities do not have a role in the making of policy, the setting of tariffs, or the drafting of plans and programs.

2.4.1.1.3 Environmental Agencies

Almost immediately upon assuming power, the new government put into place its plans for the creation of two institutions to coordinate and advise the country's public sector entities on environmental and natural resource matters: (1) the Special Commission for the Decontamination of the Metropolitan Region (Special Commission), with responsibility for greater Santiago; and, (2) the National Environmental Commission (CONAMA), with responsibility for the rest of the country.

CONAMA. Government created the National Commission by Supreme Decree No. 240 on June 5, 1990. The new law was gazetted in the official government newspaper on September 8, 1990. CONAMA was conceived of as a high-level inter-ministerial body charged with studying, analyzing, evaluating and making recommendations to the executive branch of government on all matters related to environmental protection and natural resources management in the country. Its overall mandate is to facilitate coordination, communication, and strengthening of the public sector on environmental matters. This mandate applies across ministries and vertically down to regional and provincial authorities and local organizations.

Structurally, CONAMA carries out its mandate with the direct support of the President and through a three-tier organizational structure. The policy-making body of CONAMA is a Committee of Ministers, consisting of seven key ministries. It is responsible for approving

the Commission's global policy directions regarding environmental initiatives. This body is chaired by the Minister of Bienes Nacionales.

The second-tier Operations Committee includes representatives from the seven ministries on the Ministerial Committee. In addition, it consists of all other ministries of the cabinet, plus the Secretary General of the Presidency, the National Energy Commission (CNE), and the Development Corporation (CORFO). This Committee serves as the technical advisory body to the sectoral ministries on all matters related to the evaluation of all studies and proposals submitted to it by the Technical and Administrative Secretariat (see below) or the ministerial representatives.

The Technical and Administrative Secretariat, located in the Ministry of Bienes Nacionales, has responsibility for carrying out CONAMA's daily activities. The Secretariat is headed by an Executive Secretary, who is appointed directly by the President. The Executive Secretary also chairs the Operations Committee. CONAMA's law calls for the creation of Regional and Provincial Commissions that will be presided over by the Regional Intendentes and Governors, respectively. These decentralized commissions will facilitate regional, provincial and local collaboration and participatory linkages to the National Commission.

The primary technical functions of the Secretariat are to study and formulate proposals and projects for approval by the Committee of Ministers. At the same time, the Secretariat should submit all matters related to the environment to the Operations Committee for its review and comment. Specifically, the Secretariat has the following functions: (1) propose mechanisms for better coordination, consultation and information sharing across ministries, and for evaluating results; (2) propose priority legislative and administrative reform in the environmental area; (3) prepare programs in environmental education and dissemination; (4) prepare action and investment programs; (5) propose to the Ministry of the Interior programs for the decentralized environmental commissions; (6) establish technical ties with international organizations working in the environmental field.

Special Commission for the Decontamination of the Metropolitan Region. Given the scale and severity of environmental problems in greater Santiago, the newly elected government established a parallel inter-ministerial coordinating commission for the Metropolitan Region. This commission is similar in structure to the National Environmental Commission (CONAMA). The Special Commission for the Decontamination of the Metropolitan Region (Special Commission) was created by government decree on April 18, 1990. Its creation and organization, in fact, predates CONAMA's by several months.

Like CONAMA, the Special Commission is a three-tier coordinating body whose principal function is to formulate plans and programs for the alleviation of Santiago's environmental problems. The Special Commission consists of the same three types of committees as CONAMA—Committee of Ministers, Operating Committee and a Technical and Administrative Secretariat. It is located institutionally in the General Secretariat of the Presidency. Its reporting and approval chain of command runs vertically to the President of the Republic.

The Operating Committee has the responsibility for overseeing the implementation of environmental plans and programs previously approved by the Committee of Ministers. This Operating Committee is comprised of the Intendente of the Metropolitan Region, the Alcalde of Santiago, regional secretaries for the Ministries of Transport, Housing and Public Works, the director of the Metropolitan Environmental Health Service (SSMA), the director general of the Metropolitan Water and Sanitation Authority (EMOS), the National Energy Commission and the Executive Secretary of CONAMA.

The Technical and Administrative Secretariat is the executing arm of the Special Commission. It advises the Operating Committee on technical matters, and is responsible for formulating and implementing plans and programs.

2.4.1.2 Private Sector

2.4.1.2.1 Private Builders and Developers

Chile is noted for its well organized, competent and experienced private sector, particularly in the construction field. The Cámara Chilena de la Construcción, founded in 1951, functions as a national trade association of residential and commercial builders and producers of building suppliers. It appears to serve its constituency well, offering insurance, pension funds, and other ancillary services. AFP Habitat—a pension fund set up in 1981—includes 600,000 affiliated workers and accounts for 17 percent of AFP resources. In addition, however, it takes an active role in analyzing and proposing solutions to housing, environmental, urban development, and related problems, functioning as an effective forum or "think tank" for comprehensive study of topics of concern to the building industry, its managers and workers.

MINVU does not carry out construction projects itself, but puts them out for bid to the private sector. There has not been a lack of skilled firms or requisite building materials to complete housing initiated by the public sector. There is an established process of soliciting bids which is widely understood, with the Cámara assisting by publishing upcoming projects in its own monthly magazine. This publication provides news of industry and government initiatives, construction technology, and a variety of projects throughout the country, and also addresses current issues such as the housing deficit and the environment.

Developers are well attuned to the MINVU subsidy system and to the issuance of "calls" for subsidies and bids for construction. Many build units which conform to the standards and costs applicable to the Unified Subsidy program on a speculative basis, knowing that the availability of subsidy vouchers on the part of some of those seeking housing will enable these units to be sold readily.

Residential builders are willing to cooperate with those who "organize demand," such as cooperatives and others who identify families qualified to purchase units through the Unified Subsidy's vouchers, as these organizations often serve to assure the builders of an adequate number of buyers for the homes they develop. Their ability to have additional

members waiting for houses beyond the number a builder may develop in a single project serves as a cushion for the developer, insuring that all units will be sold. Hogar de Cristo, for example, has established a solid working relationship of this type with a large residential builder to the benefit of both. Hogar de Cristo assures the builder of buyers for all units while acquiring access to houses for the low income families it seeks to assist.

The Cámara Chilena has its own housing corporation to sponsor the development of housing for employees of member firms. This corporation has provided home ownership to 20,000 families in the fifteen years since its establishment in 1976. It has offices in all major centers throughout the country and builds substantial numbers of units annually, helping members to qualify and to obtain subsidies to assist with their purchase. The housing corporation has 5,000 members saving for housing in Santiago alone, with 1,300 in other centers, and is able to utilize either the Unified Subsidy program or the Special Worker Housing program to respond to demand exhibited by members.

2.4.1.2.2 Cooperatives and Other NGOs

Cooperatives have been active participants in the housing field for a number of years. COVIP, an umbrella organization of cooperatives and nonprofit developers including Habitacoop, Provicoop, Invica, Conavicoop, and the Cámara Chilena's Housing Corporation, represents significant capacity to organize those who seek home ownership opportunities. COVIP members and other cooperatives serve as a vehicle for members to save the required down payment for purchase of a house which qualifies for the Unified Subsidy. Members also participate in the planning and other activities of their cooperative, and learn to take leadership roles in their own groups and communities. COVIP members account for 18.5 percent of the Unified Subsidy market each year, with a total production of 4,500 to 5,000 units annually.

These "open" cooperatives continue their work indefinitely, recruiting members, having them save, using member savings to acquire land, and operating as developer of a subdivision of housing units which will conform with member needs and financial capacities. Their staff continue to develop their skills and are able to function as professional developers and community organizers. "Closed" cooperatives function in much the same way, but are typically organized only to address the housing needs of the original group of members. After housing is produced, the closed cooperative ceases to exist.

In addition to the COVIP network, which operates primarily in the Santiago Metropolitan Region and in Regions V and VII in the central valley and adjacent coastal centers, there are a few other cooperatives with successful records of production. Most notable among these is Vimacaucoop, based in Temuco and established to serve Region IX. Vimacaucoop builds about 200 units a year and had constructed 1,595 total units by mid-1990.

Both open and closed cooperatives continue to function as important contributors to the housing development process. There have been legislative restrictions limiting cooperatives

to working only in those areas where they were already established. While these are expected to be lifted, restrictions such as this have prevented the spread of these democratically-operated organizations. Nevertheless, some now have a significant wealth of experience and would be able to collaborate with builders to develop large-scale projects in areas with considerable demand. Some would also be capable of cooperating with municipal governments to provide a variety of urban facilities and services—with construction industry participation as well—if resources were available.

There are other NGOs active in the housing field, most notably Hogar de Cristo, which recruits families to purchase homes through the Unified Subsidy program in a manner similar to that of the cooperatives. However, most of their programs deal with the very poor. This church-supported organization builds 10,000 prefabricated, simple wooden houses a year for sale to low income families at prices they can afford. This activity makes Hogar de Cristo stand out in its ability to address the housing needs of the informal sector and others living in poor conditions in poblaciones and informal settlements. Many of these "mediaguas" or wooden units are combined with titled lots and sanitary cores, through the MINTER program, to provide residents with minimal but sanitary living conditions.

Taller Norte works in greater Santiago with informal sector settlements to build self-help additions and improvements. It relies on church and other private contributions for support in addition to volunteer labor on the part of beneficiaries. This and other NGOs are exploring innovative ways to address the housing needs of the lowest-income Chileans. Invica and Taller Norte have joined hands to assist families with funds from a Spanish association, while Hogar de Cristo and Invica are collaborating on a project in Chillán. Efforts such as these are necessary to assist the poor to acquire more than legalized lots with sanitary cores. As one community advocate explained, the reality of the banking system is that credit is not available to help the poor to finish whatever they get, as in the case of the sanitary core program.

Some NGOs such as Hogar de Cristo operate with grants or other financial support from churches or other nongovernment sources. Others, such as the cooperatives, operate much like any private sector business, earning a small amount on each unit produced in order to support the organization and its staff. COVIP and its members have obtained A.I.D. housing guaranty resources to assist them to finance the costs of construction.

2.4.2 Decentralization and Municipal Development

2.4.2.1 Regional Government

Regional government in Chile is an administrative arm of the central government—not an autonomous unit representing the region itself. Each of the 13 regions (12 regions plus Metropolitan Santiago) is headed by an intendente named by the President. All were replaced by the new President this year. The intendente is considered the representative of the President in the region and has the status and confidence nearly equal to that of a cabinet minister.

Regional governments carry out investment planning on a project-by-project basis. The law assigns regional government the task of preparing and approving the investment budget for its region. With a minimum of 15 employees, the regional office of the Planning Ministry, called SERPLAC, is designated to carry out the planning and budgeting functions. SERPLAC applies rigorous methodologies to evaluate all public investment projects proposed for the region (other than those carried out by municipalities with their own discretionary funds). SERPLAC reviews projects for technical and financial feasibility, as well as conformance with national policy (primarily, whether or not the project benefits the very poor). It also checks proposed projects for compatibility with the regional development plan and the national development plan. SERPLAC enters acceptable projects into the Banco Integral de Proyectos (Project Bank), the list of approved public investment expenditures.

SERPLAC is also assigned by law the task of regional development planning—i.e. developing an investment strategy that would serve as a framework for investment decisions by the sectoral ministries and promote the integrated development of the region (see policy dialogue issues, below). In practice, few regions formulate more than perfunctory regional development plans, and investment projects are analyzed and approved on a project-by-project basis without considering their role in a larger strategy.

Regional governments have little control over central ministry investment decisions. One reason why few regions develop strategic investment plans is their lack of control over central ministry investment decisions in the region. Regional government by law is supposed to coordinate central ministry activities at the regional level. Each central ministry has a regional office, called the Secretaria Regional Ministerial (SEREMI), with limited operational autonomy. The SEREMI serves a dual role as technical advisor to the Intendente and supervising agency for the regional activities of its respective central ministry. While the Intendente is supposed to coordinate the sectoral investments of the various central ministries under the guidance of a regional development plan, in practice the SEREMI follows primarily the central ministry orders, especially with respect to investment priorities.

The only investment capital that regional governments have some control over comes from the FNDR (National Fund for Regional Development). The military government established the centrally-controlled FNDR with government funds for the purpose of promoting decentralized infrastructure investments that benefit the very poor—eg. housing and community infrastructure, health, and education facilities. Since 1985 the FNDR has been financed almost exclusively with loan money from the Inter-American Development Bank. Days before the new government took office the IDB signed a four year contract for US\$210 million in loans to continue the fund. Strict eligibility rules govern the use of all but 25 percent of the fund which is left up to local discretion. The 75 percent that does not come under local discretion is centrally administered by the Subsecretariat for Regional Development of the Ministry of the Interior in Santiago. The regional governments do have the ability to prioritize projects for implementation once they have been approved by the regional representative (SERPLAC) of the Ministry of Planning and included in the regional budget set by Hacienda and approved by Congress.

National policy seems to be holding sway over regional political pressure in the allocation of public investment money. While the regional subsecretariat of the Ministry of the Interior has a formula for allocating FNDR funds, the current government has allowed exceptions to the formula. As a result, the Subsecretariat quickly became the object of regional political pressure by members of Congress. Most regional government officials interviewed, however, recognized the need for national policy criteria to supersede regional interests in allocating the funds. The GOC hopes to reinstate a hard and fast formula in the upcoming legislation concerning regional government, in order to avoid politicization of the FNDR.

The GOC is now developing legislation that would strengthen regional government, possibly by creating regional development corporations. Since municipal reform legislation is about to emerge from Congress, the administration has begun to formulate follow-up legislation that would strengthen regional government. While it is difficult to gain support within the government for strengthening regional control over central ministry budgets, there is a strong current within the administration to strengthen regional government by creating public or mixed regional development corporations. These corporations, governed by a board representing the spectrum of organized groups in the region, would undertake not only social investment in the region, but also productive investment—i.e. public investment intended to stimulate private investment. Corporation activities could include a range of projects from flood control infrastructure or other natural hazard mitigation, to revolving loan funds and technology transfer for business development. Regional governments are currently prohibited from such activity not only by law, but also by IDB guidelines for the FNDR. (Legal changes would have to be accompanied by a renegotiation of the IDB loan terms.) The regional development corporations would devise an investment strategy that would guide their investments and inform the private sector of future directions. Another proposal to strengthen the regional governments would allow the SERPLAC, the regional offices of the Planning Ministry, to authorize the entry of proposed projects into the national project bank (BIP) without approval from Santiago.

Future regional legislation may also propose expanding and decentralizing the FNDR and creating a new fund to underwrite private sector pre-investment studies. The proposal would not only expand the number of eligible uses, but also the amount of FNDR funds by bringing national contributions to the fund up to the legally mandated 5 percent of the total national investment budget. Under this proposal, much of the administration of the FNDR would be decentralized to the regional governments. The FNDR would be accompanied by a regionally administered pre-investment fund that would pay for about half the cost of a pre-investment feasibility study.

With all these proposed changes, the GOC remains steadfast to the principle that the public sector's role is not to replace or compete with the private sector, but to strengthen it. The government officials interviewed were all very careful to stipulate that these proposals would aim only at stimulating private investment in places or activities where the private sector had little information about opportunities. For example, the regional development corporation would become a partner of private enterprise only in the poorest or most

distant regions where private sector investment was weak. Similarly, the pre-investment fund would assist feasibility studies only for places or activities in which there was no existing private sector experience or interest to draw upon.

The new legislation may also propose democratizing the regional governments to some degree. One area of likely reform for regional government now being discussed by the administration is to democratize the regional development councils (CODERE). The CODE-RE are presided over by the intendente and composed of the region's provincial governors, one member of each branch of the armed forces and Carabineros, and representatives of the organized private sector of the region (eg. regional NGOs and commercial associations) chosen by the intendente. While the councils are supposed to advise the intendente on budget decisions, in practice the councils are not very functional under the new government. The most likely proposal to emerge from the administration's commission dealing with regional government reform is to have a council of representatives from the entire range of organized groups in the region that would be elected directly by their members. Like the proposed municipal social and economic council (see below), this elected body may be simply advisory. Some members of the commission are also advocating an additional body of directly elected representatives akin to a regional parliament that would be more than just an advisory group.

2.4.2.2 Provincial Government

Provincial governments will probably continue to play a minimal role, even in the area of municipal coordination and support. The military government minimized the role of the provincial governments when it introduced regional governments in 1974. The provincial level still exists but is largely devoid of any but ceremonial functions. There have been some proposals for the provincial governments to coordinate and assist municipal governments in areas where the municipalities are small and poor. The most likely proposal from the commission, however, is for the regional government to provide technical support to the municipalities and coordinate public investments among them.

2.4.2.3 Municipal Government

The municipalities have not been able to exercise all the new functions the military government authorized to them. The municipal reforms of the military government left the municipalities with a long list of legally authorized functions, some exclusive and some shared with the ministries. In practice the functions exercised are limited largely to transit and public transportation, garbage collection, parks and public space maintenance, street lighting, community development, sports and recreation, basic health care and elementary education. Financial, administrative, technical, and even legal constraints prevent the municipalities from carrying out many of their functions. Basic health care oversight has been particularly slow in being transferred to the municipalities and in most places is still in the hands of the Ministry of Health. Primary education is often put into the hands of a semi-autonomous municipal corporation. Municipalities are by law responsible for urban land use plan-

ning and regulation. In practice, however, the function, in many instances, is undertaken by the Ministry of Housing.

Investment project planning is relatively strong at the municipal level, even though most public officials see the need for improved capacity. Each municipality above 30,000 residents has a municipal office of planning and coordination, called SECPLAC. It is answerable to the mayor, but advised by the regional SERPLAC. Its main role is to perform the technical studies and evaluations supporting proposed municipal investments. SECPLAC personnel tend to be well trained by MIDEPLAN in project preparation and evaluation. Municipalities that do not have a capable SECPLAC will often get technical assistance from SERPLAC on project evaluation.

While SECPLAC is also charged with preparing a municipal development plan, municipal development planning is rarely carried out. Because of the emphasis of the national budget system on project-by-project analysis, the lack of municipal control over sectoral investments by the central ministries, and the lack of strategic vision among municipal leaders and staff in formulating project proposals, this task is largely a pro forma activity—little more than a project wish list. While SECPLAC personnel may be well trained in project preparation and evaluation, they are not trained in strategic development planning.

Another strong point of the municipalities is in the administration of poverty assistance. Under the military government Chilean municipalities became highly efficient in this area. Municipal social development departments (called either DESOCO or DISOCO) were required by the military government to track the extremely poor target population and to administer poverty assistance such as rent subsidies, food programs, and employment programs with central government funds. DESOCO became the vehicle for detecting local needs and channeling community participation non-politically. Current proposals are to provide the municipalities with more democratic channels of demand expression—see below.

The current government has continued the previous government's example of privatizing municipal service delivery, although not all municipalities have followed through. Because of central government restrictions on municipal staff sizes, the municipalities have a direct incentive to contract services from the private sector. These contracted services include garbage collection and disposal, street maintenance and repair, transportation (including municipal vehicles), and construction. There are extremely detailed bidding procedures enforced by central government's Contraloria for this contracting.

The use of municipal corporations for service delivery is currently under debate. Some of the largest municipalities provide services through municipal corporations, defined as not-for-profit private organizations. While originally intended by the military government to be a mechanism for education and health service delivery, municipal corporations have operated child care, student food programs and other municipal services (eg. cemeteries) not subsidized by the central government. Afraid that the municipalities were creating corporations as a way of avoiding direct hire limitations on municipal personnel, the Contraloria prohibited the creation of new municipal corporations in 1988. There is currently a debate

on whether or not to expand the use of municipal corporations. The administration's proposed municipal reform bill actually includes authorization of municipal enterprises for public service delivery on a partial cost recovery basis (recovery of operating costs, not investment costs). Yet the administration is not as actively defending this aspect of the bill as much as others (see below).

As mentioned previously, until 1990 water and wastewater systems were built and operated by totally public enterprises reporting to the Ministry of Public Works. While the rapid conversion has caused some procedural problems, the new enterprises seem to be functioning. The regional water companies subordinate their investment decisions to the requests of the Ministry of Housing, but simply take under advisement requests from the municipalities for changes in, or additions to, their investment plans.¹⁷

Chilean municipalities have a very narrow revenue base and little legal capacity to raise revenue themselves. The major sources of municipal revenue are controlled by the central government:

¹⁷For Santiago and Valparaiso, the change from a 100 percent public enterprise for building and operating the water systems to the mixed enterprise has simply meant a change in administrative oversight from the Ministry of Public Works to CORFO. In the regions the change has been more complicated. Although the offices have the same personnel, new operating procedures have not been well defined, turning day-to-day administrative activities into uncharted expeditions. Nevertheless, in one region (VI) the regional water company was reportedly doing well financially.

The infrastructure investments of the regional water companies require coordination with the Housing Ministry, the municipalities, and the regional government. This coordination is partly structured and partly negotiated. According to the manager of planning in the Santiago metropolitan water company, the Ministry of Housing has the final word in cases of conflict, since the Housing Ministry must coordinate a number of infrastructure providers (electricity, roads, etc.). The Santiago water company consults the municipal land use plans when developing its investment plan for the year and the water company must inform the municipalities of its final investment plans. Nevertheless, the municipality can only request changes or additions to the water company's investment plan.

The Santiago water company has largely ignored the regional level government—i.e. the Intendencia that is supposed to coordinate all the sectoral actions for Greater Santiago. The Intendencia has named special commissions to deal with particular problems that cut across municipal boundaries, but the Santiago water company has chosen not to participate. This attitude toward the Intendencia as a political body incapable of coordinating the sectors at the regional level may underlie the recent call for a metropolitan government for Santiago (El Mercurio, November 22, 1990).

The Santiago water company reports a problem with Hacienda's budget allocations, which leave the enterprise paying interest on a large World Bank loan without being able to invest it. Thus the interest payments accrue but the infrastructure which would generate the income to offset the interest payments is not built yet. The manager of planning offered no solution to the problem, however, because she realized that Hacienda's motive for putting a lid on the company's investments—viz. to control inflation by carefully designating spending ceilings for each public entity—was sound. She also seemed quite accepting of the Ministry of Planning's social criteria for evaluating investment projects, under which a number of her financially optimal projects have been rejected or modified.

1. **Property taxes.** The central government assesses property values, sets property tax rates, collects property tax payments, and returns 40 percent of the receipts to the municipality of origin. The rest goes into a redistributive fund called the Fondo Común Municipal to assist the poorer municipalities.
2. **Vehicle and Business Permits.** The central government likewise establishes rate structures for the other principal source of municipal revenue: vehicle and business permits. Payments of these fees are made directly to the municipal authorities, but enforcement remains largely a central government function.
3. **Municipal Fund (Fondo Común Municipal).** This fund is financed by the 60 percent of property taxes collected from each municipality that is retained by the central government. The central government provides no additional funds, but rather redistributes the revenues among municipalities. The fund is a principal source of discretionary income for the majority of municipalities (mainly those under 20,000 inhabitants). Because the municipal sources of revenue highly favor the richest municipalities—those with the most business activity, the greatest vehicle use, and highest property values—the municipal fund is very critical for compensating the poorer municipalities. The funds are allocated by formula based on population, poverty, and fiscal need.
4. **Central Government Transfers** for basic education and primary health care. Central government transfers to pay for these designated functions are based on services rendered; i.e. the municipalities that provide the greatest services (eg. number of pupil days taught) receive the greatest transfers. These transfers are consistently insufficient to cover total costs, so that the municipality must use some of its own discretionary funds from property taxes, vehicle and business permits, and municipal fund returns to fill the gap.
5. **FOSIS (Social Investment Fund: Fondo de Solidaridad e Inversión Social).** A new fund started by the current government using primarily foreign aid, it is administered by the Ministry of Planning (MIDEPLAN's only capital fund). Designed to address extreme poverty at the grassroots level, the fund provides loans to micro-entrepreneurs and operating funds for grassroots groups that address low income youth needs, drug problems, pregnancy, and residential crowding (allegados). FOSIS may also be used for other social needs such as health and education that are covered by other funds as well. Community groups, NGOs, and municipalities apply to the regional SERPLAC for these participatory self-help projects.¹⁸
6. **FNDR (National Fund for Regional Development).** Aimed at capital investment benefitting the very poor in construction and repair of community schools, health centers, residential infrastructure, and cultural facilities, about 85 percent of the

¹⁸ A few observers commented that the new fund was created to give the Minister of Planning a chance to play porkbarrel politics.

grants made by the fund are to municipalities, with the remainder going to the regional governments.¹⁹

2.4.3 Housing Finance Sector

Chile's financial sector is characterized by the lack of financial institutions devoted exclusively to the provision of mortgage financing. The savings and loan system was effectively dismantled as a result of the economic crisis of the late 1970s, at which time the existing commercial banks were encouraged to become multi-purpose banks. Currently, there are only two commercial banks actively providing home mortgage loans: Banco del Desarrollo and Banco Hipotecario Internacional Financiero (BHIF). There are, however, a few recently created "Sociedades Administradoras de Mutuo Hipotecario" (mutuarias), akin to a United States mortgage bank, beginning to operate in the field of housing finance.

These institutions rely on the eventual sale of their mortgage portfolios to institutional investors, which presently consist primarily of pension funds (AFPs) and insurance companies. Financial institutions create a market for their mortgage portfolios through the issuance of "letras hipotecarias" backed by existing mortgages and with matching maturities. The letras are issued on a full-recourse (banks) or non-recourse (mutuarias) basis and are readjustable on the basis of the UF system (see below).

None of the existing financial institutions is active, nor has any immediate plans to become active, in originating mortgages for lower-middle and lower income households (housing units of under UF400 (US\$7,200)). The two commercial banks active in the housing market have oriented their lending activities to serve a housing market of UF700 (US\$12,600) and upwards and the mutuarias of UF2,000 (US\$36,000) and above.

This section continues with a brief description and analysis of the principal institutions that comprise Chile's housing finance sector. Prior to this discussion, however, the above introductory paragraphs conclude with a description of the primary financial mechanisms and instruments that underpin the housing sector.

2.4.3.1 Financial Instruments

2.4.3.1.1 "Unidad de Fomento" (UF)

The law constituting Chile's Central Bank (No. 18840) authorizes banks, financial institutions and savings and loan cooperatives to use adjusted value mechanisms for their financial operations. The value of the system currently in use in Chile, the "unidad de fomento" (UF), is adjusted bimonthly based on changes in the consumer price index. As of November 1990, one UF equaled about 6,500 pesos, or US\$20.

¹⁹ The grants to the municipalities tend to be smaller than the grants to the regional governments.

The UF's objective is to maintain in real terms (after adjustment for inflation) the value of a stream of cash flows occurring at regular intervals. It is used almost universally in real estate transactions. Loans are denominated in UF rather than in pesos or other currency, as are prices for properties available for sale. This approach serves to maintain the value of property, for example, during the entire period prior to its sale, allowing properties on the market for some time to be valued competitively with respect to newer listings. Borrowers, by obtaining credit in UFs, must repay their obligations in UF as well. This eliminates the inflationary aspects of borrowing "dear" and repaying "cheap" so common to many economies in which inflation is an issue.

2.4.3.1.2 "Letra de Crédito Hipotecario"

Banks and financial institutions issue "letras de crédito hipotecario" (letras) as a means to refinance their mortgage loans. These are issued to bearers on a full recourse basis and are written in amounts, terms and adjustability (UF) to match the underlying mortgages. As such, they carry attached coupons of equal amounts to cover principal and interest payments.

Until 1988, these letras were the only practical vehicle for residential mortgage lending. They have provided the bulk of lower income lending as conducted by the Banco del Estado and those private banks active in this sector. However, their use is limited by the issuer's willingness and ability to incur such a direct debt obligation.

2.4.3.1.3 "Mutuo Hipotecario con Clausula a la Orden"

These securities are nothing more than endorsable mortgages issued by the mutuarías. The original creditor (loan underwriter) can sell them freely and without recourse. Their advantage over a letra is that the originator is not restricted by balance sheet considerations. On the other hand, their liquidity suffers to the extent that they lack the direct guarantee of an issuing financial institution.

They are written by the mutuarías and similar mortgage originators in favor of individuals to finance the purchase, construction, expansion or repair of urban homes. They are specifically defined in the pension fund law as an allowable investment for these institutions.

2.4.3.2 Public Sector Institutions

2.4.3.2.1 Supervisory Agencies

Chile's financial institutions are subject to regulation and supervision, depending on their charter, respectively, by (a) the Superintendency of Banks and Financial Institutions, (b) the Superintendency of Securities and Insurance and (c) the Superintendency of Pension Fund Managers. These various Superintendencies are very professionally managed and produce regular reports and statistical information. An inter-agency commission (Comisión Clasificadora de Riesgo), composed of the three Superintendents and four members repre-

senting the pension funds, is entrusted with establishing risk criteria for pension fund investments.

In addition, there are a number (10 at present) of rating agencies (Entidades Clasificadoras de Riesgo) which on a regular basis analyze and rate companies issuing publicly traded securities. These agencies, which themselves are regulated by the Superintendency of Securities and Insurance, also rate banks and insurance companies on a confidential basis. Government is currently considering the advisability of making public the results of these ratings.

2.4.3.2.2 Banco del Estado

While the Ministry of Housing, through the regional SERVIUs, issues mortgage credit, it also relies on public and private sector financial institutions to provide mortgage loans. These loans, combined with household savings and MINVU's direct subsidies, enable families to purchase affordable housing. The Banco del Estado is the only financial institution presently active in providing mortgages for lower-middle and lower income households (housing with unit costs of up to UF 400 (US\$8,000)). As such it is also the only channel for financing the mortgages originated by the HG-008 Program and most other programs of the housing cooperative movement.

In these cases, the Bank acts as an agent of the Ministry of Housing. Its role is limited to the creation of letras that are backed by the loans granted. These letras are then sold in the Stock Exchange to individual and institutional investors (AFPs currently hold 75 percent of outstanding letras). The Bank itself is compensated by GOC for any discount required to sell the letras. This is referred to as the "implicit" subsidy.

Although there has been some past consideration of privatizing the Banco del Estado, this is no longer believed to be a viable option. In any event, it is reported that the proposed privatization would only have entailed transferring ownership to employees and account holders.

2.4.3.3 Private Sector Institutions

2.4.3.3.1 Primary Market

Banks. All commercial banks are empowered to make long-term mortgage loans. However, only a few are actively involved in this area. Of these, just two stand out in the lower-to-middle income range: Banco del Desarrollo and Banco BHIF. Similar to the case with the Banco del Estado, financing for these loans is raised through issuance of letras hipotecarias.

Specialized Mortgage Corporations. To compensate for the demise of financial institutions exclusively devoted to home mortgage operations, a variety of specialized corporations have been authorized to mobilize credit for home ownership purposes.

1. Law 18815 (1989) regulates the creation of investment funds and their management companies. Among these, the "Fondos de Inversión Inmobiliarios" and the "Sociedades Administradoras de Mutuos Hipotecarios" (referred to herein as mutuarías) can be specifically organized to originate home mortgages for their own portfolios or for sale to willing investors. In this regard, they act similarly to a U.S. "mortgage bank". Only a handful have been or are in the process of being created so far; all by insurance firms (AETNA, La Construcción, Grupo Union-AIG, Andueza Corredores). Approved investments for these funds are urban real estate, endorsable mortgages and shares of "Sociedades Anonimas Inmobiliarias."
2. Defined by Decree-Law 3500 (1980), the "Sociedades Anonimas Inmobiliarias de Giro Unico" are similar in function to the mutuarías. They are empowered to invest in physical real estate (other than for home purposes) and in mortgages on real estate (including home mortgages). Two have been created so far (La Esperanza and Rentas Inmobiliarias) with their shares acquired by different AFPs (each limited to a 20 percent maximum ownership).
3. In addition, GOC (MINVU) has proposed the creation of "Sociedades Anonimas Inmobiliarias" specifically designed to administer a new hire/purchase housing program for lower income households who have difficulty meeting MINVU's normal savings and downpayment requirements.

2.4.3.3.2 Secondary Market

A secondary market for mortgage instruments exists to the extent that certain institutional investors—AFP's and insurance companies—purchase for their own portfolios the securities created by other primary financial institutions. However, this secondary market is not a true one inasmuch as such securities are not actively traded.

Pension Funds (AFP's). Pension fund management companies, known as "Administradoras de Fondos De Pensión (AFP's)", were created in 1980 to administer all private sector pension funds. Employees and workers are free to choose their AFP and can move freely between them. AFP's, which compete strongly for business, are supervised by their own Superintendency of AFP's. There are presently 14 AFP's operating in Chile with a combined long-term investment portfolio expected to reach US\$6.3 billion by year-end 1990, representing over 20 percent of GNP. Current projections estimate that by the year 2000 these institutions' assets will reach 39 percent of GNP and 50 percent by 2010.

Assuming that the 16 percent of their portfolios currently invested in letras hipotecarias is maintained, AFP's could hold close to US\$2 billion of such mortgage instruments by the year 2000. However, constraints may limit the availability of these instruments for additional investment. By comparison, the mortgage investments held by AFP's were close to 50 percent of their total portfolio in 1985.

Insurance Companies. Life insurance companies are also important long-term institutional investors, with over US\$200 million of their reserves invested in letras hipotecarias at June 1990. Current projections indicate that these companies could invest up to US\$1.2 billion in mortgage instruments by the year 2000 and close to US\$6.3 billion by 2018 if regulations permit.

Projections for the current decade indicate that taken together, AFPs and insurance companies will collect and invest at the rate of US\$80 to US\$100 million net per month. Thus, it is expected that they could play a principal role in financing low income mortgage lending if appropriate instruments can be created with all necessary guarantees of safety, liquidity and yield.

Santiago Stock Exchange. The Santiago Stock Exchange, created in 1897, trades a substantial volume of equities and fixed income securities. During 1989, out of a total US\$22 billion traded overall, US\$12 billion was in fixed income securities of which just under US\$1 billion was in letras hipotecarias. The stock exchange could play an important role in expanding the market for properly structured low income mortgages.

3 KEY ISSUES AND CONSTRAINTS

The following sections present a discussion of the principal issues and constraints identified during the team's field work in Chile in the areas of urban development and the environment, decentralization/municipal development, and housing finance.

3.1 Urban Development and the Environment

Chile is one of the most highly urbanized countries in Latin America. Its urban population equalled about 84 percent of total population by mid-1990. Chile experienced its fastest urban growth during the 1950s and 1960s. Since then, urban growth has been declining. Today rural-urban migration is negligible, with natural population growth at a relatively low annual rate of 1.7 percent.

The country's most severe urban pollution problems are concentrated in the Santiago/Valparaíso/Viña del Mar conurbation. With an estimated population of 4.9 million in 1990, the greater Santiago region itself accounts for about 46 percent of urban population and 39 percent of the population of the entire country. Furthermore, 56 percent of the country's total urban population is concentrated in the three largest cities of Santiago, Valparaíso/Viña del Mar and Concepción. While Santiago's growth rate has been declining since the early 1970s, it continues to have the highest concentration of environmental problems of Chile's urban areas, particularly with respect to air pollution and lack of wastewater treatment.

A quick review of statistics related to Santiago's water and sanitation sector do not provide the full picture regarding existing environmental problems. Chile's water supply and sewerage coverage levels are the second highest in Latin America. In 1985, about 95 percent of the urban and 68 percent of the concentrated rural population had access to potable water through house connections. For the same year, 75 percent of the urban population had sewerage connections or septic tanks. Slow population growth, the importance given to sector investments during the 1970s and 1980s, and the relative efficiency of sector institutions explains these high service levels.

Although these figures indicate that Chile is relatively well off with respect to the coverage of water and sewerage services, the past growth of the Santiago/Valparaíso/Viña del Mar conurbation has generated a series of serious environmental problems. The two environmental problems most typically cited by the public in the Santiago/Valparaíso/Viña del Mar region are air pollution and the discharge of untreated sewerage into natural water courses. A third environmental issue that has received some attention of late in the local media, and that will be addressed in greater detail in this paper, is the negative impact on the quality of life of poorly conceived urban growth and land management strategies.

3.1.1 Atmospheric Contamination

With respect to atmospheric contamination, the Santiago Metropolitan Region is severely constrained by its geographic location and distinct climatic conditions. Its location, surrounded as it is by mountains on three sides, is unfavorable for the dispersion and diffusion of air pollutants. Additionally, the low velocity and lack of prevailing winds, the common occurrence of thermal inversions during the winter months of May through September, and limited rainfall have created a situation whereby relatively low emission levels of gases and suspended particles have produced high levels of air contamination. Although most severe in the Santiago Metropolitan Region, the problem of air pollution can be found in the rest of the country's central valley.

Air pollution in Santiago is worse than one would expect given its level of emissions. Many industrialized cities of the developed world, whose emission levels are higher than Santiago's due to greater economic activity, have better environmental quality than Santiago. In other words, Santiago's geographic and climatic conditions combine to produce local problems that might not be as serious in other countries.

The city's air pollution problem is caused by a combination of vehicular exhausts, dust particles that rise from unpaved streets, and industrial point sources. Over the past decade, these principal sources of air pollution have increased significantly.

This increase is due to several factors. The number of registered buses in Santiago doubled between 1980 and 1988 (from 6,000 to 12,000). In the last three years, the number of registered automobiles in the Metropolitan Region increased by 30 percent, reaching 450,000 in December 1989.

The consumption of electrical energy, which is a good indicator of industrial activity, is growing at an annual rate of eight percent. The consumption of gasoline is also growing at an annual rate of about 10 percent. These factors indicate that in the absence of public sector initiatives to introduce new technologies to reduce the proliferation of pollutants, Santiago's continued demographic and economic growth will tend to aggravate already serious environmental conditions.²⁰

Santiago's air pollution problem is caused by two principal elements—gases and suspended particles. **Table 20** summarizes the main sources of gas and particle contaminants of Santiago's air. The principal gas pollutants are carbon monoxide, nitrogen oxides, sulfur oxides and ozone. It is interesting to note that gasoline-powered vehicles are the principal source of gas contaminants such as carbon monoxide, nitrogen oxides and ozone. On the other hand, residential and industrial polluters are the primary source of ozone contamina-

²⁰Discussions are currently underway between the governments of Argentina and Chile to authorize the construction by a private consortium of a natural gas pipeline between Argentina's Neuquen province and Chile's central valley. Natural gas would provide a cleaner burning alternative for many of the existing oil-powered industrial, and possibly vehicular, users of the Santiago Metropolitan Region.

Table 20. Sources of Average Annual Emissions by Contaminant, Santiago (in percent)

Source	Contaminant					
	Carbon Monoxide	Nitrogen Oxides	Sulfur Oxides	Ozone	Suspended Particles	Respirable Particles
Residential	9	2	5	23	5	2
Industrial	10	8	82	29	17	6
Vehicles (gas)	79	59	9	44	2	6
Vehicles (diesel)	2	31	4	4	4	71
Soil Particles	--	--	--	--	72	15
TOTAL	100	100	100	100	100	100

Source: IRM/Cade Idepc, 1989.

tion. Finally, blowing soil is the primary source of suspended particles, while diesel-powered vehicles (mainly the city's privately-owned bus fleet) are the major source of those particles that find their way into the human respiratory system. The small size of diesel engine emissions (less than 10 microns) is responsible for this occurrence. Since other gases attach themselves to the diesel emissions, this type of suspended particle exhibits toxicity levels far higher than the natural dust particle alone.

According to the information available from the MACAM monitoring system (see below) and Santiago's Metropolitan Environmental Health Service (SSMA), the urban area of Santiago regularly exceeds the established norms for environmental quality with respect to carbon monoxide between the months of May and September. Likewise, ozone levels are exceeded during the months from December to March; and those for suspended particles between the months of May and September. For this latter pollutant, it is only in the last two years that local monitoring devices have been set up to monitor this contaminant. Since that time, however, the established annual norms have been amply exceeded. The norms for sulfur and nitrogen oxides are exceeded only on a few occasions during the year. However, these gases must be closely monitored, particularly nitrogen oxide, since, in combination with volatile organic compounds, they are an intermediate step in the formation of ozone.

3.1.2 Contamination of Water Courses

The contamination of water courses in the Santiago/Valparaíso/Viña del Mar region is also a critical environmental issue. Although 90 percent of the Santiago Metropolitan Region has access to water and sewerage service connections, all wastewater is currently discharged untreated into the city's natural water courses, primarily the Mapocho River and the Zanjón de la Aguada. The untreated water from these water courses is used to irrigate fruits and vegetables on land located at the city's periphery. This has placed the health of

Santiago's population at risk. Statistics show a high incidence of gastroenteric diseases such as typhoid fever, hepatitis, amoebic dysentery and others. The figures for these diseases for Santiago are higher than for other cities of the same size and a similar coverage of water and sanitation facilities. Local health officials fear the possibility of an epidemic if the city continues to discharge untreated sewage into its primary water courses.

The situation in Valparaíso/Viña del Mar has also reached crisis proportions. This urban area currently discharges untreated sewage into open channels or directly into the sea. This local situation is aggravated by river-borne industrial wastes and sewage from the cities of the Central Valley, including Santiago. The environment, particularly in coastal areas, has deteriorated to such an extent that only a few of the beaches found in the vicinity of Valparaíso/Viña del Mar will be open to the public during the summer months of 1990/1991.

3.1.3 Poor Urban Growth and Land Management Strategies

In recent years, the GOC, through its Ministry of Housing (MINVU), has focused its attention on the production of housing in response to the overwhelming deficit and public demand for adequate accommodation. Many within its ranks currently recognize the corresponding lack of emphasis given to urbanization and to the overall improvement of the urban or "built" environment as it relates to a betterment in the quality of life. Some of these urban development issues have a clear relationship to the environment and thus will stimulate ideas concerning environmental activities which could themselves contribute to a more desirable urban atmosphere.

In the push to build housing, large tracts of similar, relatively low density housing units have been developed in unbroken blankets covering the urban landscape. These schemes are often linked by only minimal threads of streets and water and sewer lines. This is particularly the case in the expanding suburbs of Santiago.

There are several aspects of this approach to housing development which have ramifications for the environment. First, initial developments have been constructed with roads, perhaps adequate for the traffic it generates, but not for the increasing flow of traffic coming from each marginal development beyond that for which the initial road was built. In the Santiago Metro area, many such roads provide the only access to the central city for thousands of lower income residents who must work there, and whose transportation is limited to highly-polluting "collective" buses. In addition, many roads are not paved, and the dust produced by the increasing level of traffic has become a significant contributor to the particulate content of the air which urban residents must breathe.

Second, the density and physical planning of many large suburban housing areas is not adequate to permit the proper absorption or drainage of periodic rainwater. During rainy periods, water does not have anywhere to go, causing spot flooding of roads and, later, muddy roads and walkways which make travel difficult. Many residential areas lack storm-water drainage systems, and extensive residential development only aggravates the problem.

Third, residents of many new developments, particularly those in the sprawling suburbs of Santiago, have access to few public facilities. While schools and medical clinics are provided in requisite numbers—now under the direction of the corresponding municipalities—many low income communities lack sports fields, playgrounds, community centers, small restaurants, commercial centers, and other cultural and recreational facilities. While it may seem that such facilities are less essential to life than is the case with safe and secure housing, sanitation, and basic transportation, we must consider their impact on the daily life and development of a community and its people.

Without places for play, sports, and recreation, youth have few constructive outlets for their spare time. Supportive relationships are not built, opportunities for exercise and companionship are limited, and frustration and delinquent activities may result. Similarly, adults do not have places to gather informally and socially, to seek supplemental employment or pursue other economically productive efforts close to home, or to resolve community conflicts and plan for improvements. For example, the lack of community centers of a minimal nature has been implied as a contributing factor in women's lack of information in poor neighborhoods about their rights and opportunities for themselves and their children, and in the incidence of domestic violence. It is certainly difficult to organize communities to undertake improvement activities without a place for people to gather.

The alternative to low-density suburban development has its limitations, however. There is interest inside and outside MINVU to make better use of the existing stock of urbanized land, particularly in the central city areas where transportation and convenience are important to many. Earthquake-related construction standards limit the number of stories which can be built in addition to the high cost of including elevators in structures with more than three or four levels of housing units. For these reasons, MINVU views townhouse-type design as the most intensive or efficient able to be used; but this is a limited solution to the spread of housing in the ever-enlarging urban perimeter.

Much has been written in Chile about the economies of scale of providing urban services, health, and education in communities of larger population and higher density. However, any excess or potential savings in public resources has not, apparently, been made available for reinvestment in the same communities which were so efficiently produced. For example, garbage collection, which has been within the domain of the private sector (on contract to the municipality) in most places for some time, is said to be inefficient in some densely-populated "poblaciones" and areas of public housing. Many have too few garbage trucks, for example, to keep up with what is thrown away by growing residential areas, leading to renewed health risks.

Traditionally, in Chile and elsewhere, urban settlements arise around good agricultural land which attracted the first settlers. Urban expansion, therefore, often takes place in prime agricultural land, leaving less and less productive land to produce food for an increasing population. This balance between the capacity of the land to provide for urban growth and agricultural production is another of the several issues for which policy direction is needed if the objective of environmental preservation is to be considered in Chile's development.

3.2 Decentralization and Municipal Development

3.2.1 Introduction

After seventeen years of military dictatorship, Chile is now experiencing a democratic transition. The newly elected government of Chile (GOC) that took office in March, 1990, has just over three more years remaining of a four-year transitional term in which to consolidate the democracy and ensure its survival. An advanced developing country,²¹ this democratic transition is being built upon a market-oriented economy. The GOC is continuing the military government's basic development strategy of leaving productive activity to the private sector and using government to maintain a social safety net for the very poor. Chile's two-fold challenge is to show that democracy works and that the private sector can play a vital socially responsible role in the new democracy.

Growing urban problems throughout Chile will test the mettle of the new democracy. Greater Santiago's five million inhabitants account for nearly 40 percent of the country's population. While Santiago continues to grow, secondary cities of between 100,000 and a million inhabitants grow even faster. Poverty is increasingly an urban problem throughout the country. With it comes a host of new or exacerbated urban problems to solve: lack of housing and infrastructure, environmental degradation, inadequate employment and training opportunities, public health problems, youth unemployment, drug addiction. Whether the elected government can respond effectively to these urban problems will be a crucial test for the new democracy.²²

With the return of democracy to Chile, the issue of decentralization has resurfaced in the arena of public debate. There is a broad consensus that decentralization is necessary for Chile's further development: population must be decentralized in order to use the country's resources more effectively, and government must be decentralized in order to be more efficient and responsive. Local capacity of the public sector must be strengthened to address growing social needs. Local capacity of the private sector must be strengthened to provide jobs and reduce migration to larger cities. Popular election of municipal mayors is seen as a step toward strengthening local government, since the elected officials would be more responsive to local voters than the current mayors, who are appointed by the central government. But decentralizing and democratizing the government will achieve nothing unless the authority and resources to promote development and attend to social needs are also transferred. The decentralization debate focuses on how best to strengthen local government.

²¹A.I.D. uses the designation ADC to indicate an advanced developing country—i.e. a developing country with above average income levels. A.I.D. projects in ADCs are generally focused on specific opportunities consistent with US policy priorities, rather than comprehensive sector programs addressing the gamut of local needs.

²²Many public housing officials of the new government measure their success in terms of whether they have been able to avoid "tomas", i.e. spontaneous takeovers of land by the poor for housing. Tomas were outlawed and repressed by the military government.

While the specifics of local government strengthening are still in debate, foreign donors, and specifically USAID/Chile, can take advantage of short-term opportunities to contribute.

A municipal reform bill that would allow direct election of mayors is close to conclusion in the Congress. After passage of that bill, debates on municipal functions and financing will take place around the enabling legislation that will accompany the constitutional reform. Also under debate by the current government, but without any specific legislation or reforms being introduced to Congress yet, is the strengthening of regional government and its relationship to both provinces and municipalities. Thus the specific nature of decentralization in Chile is not yet totally defined. Only after government takes certain political decisions will this current state of flux present AID a timely opportunity to enter into a policy dialogue with the GOC on key issues. There are also a number of specific short-term activities involving technical assistance, training, and studies that AID could support as the forerunner to capital investment programs in two or three years, once the institutional environment has solidified.

3.2.2 Decentralization under the Military Government

The military government, in power from 1973 to 1990, strengthened local and regional administration. Major steps were taken in decentralizing the central government. It created a regional level presence for the central government by creating thirteen regions, each with regional offices of the central government ministries and a regional administrator (intendente) named by the President. It harnessed the municipality, whose mayors were also named by the President, as the implementing arm for some important central government functions—basic education, primary health care, and social programs for the very poor. It also strengthened local administrative and technical capabilities to a level seldom found in Latin America.

The military government nevertheless maintained strong central control, using this regional and municipal administrative network as a mechanism, not just for top-down control of the populace, but also for implementing national policy aimed at decentralization, privatization, and social investment for the very poor. To this end the military government created a sizeable fund (with international assistance) for regional and local social infrastructure projects, called the Fondo Nacional De Desarrollo Regional (FNDR). The military government also created a redistributive mechanism for municipal revenues (Fondo Comunal Municipal). Both of these funds were aimed at social investments to help the very poor and territorially decentralize public investment. But the military government did not relinquish central control. It maintained tight administrative, financial, and political control over the regional intendencias and municipalities. While the municipalities were given discretion over expenditures of their own resources, the central government maintained control over the amounts of those resources.

3.2.3 Remaining Obstacles to Decentralization in Chile

A policy dialogue²³ with the GOC could address the principal remaining obstacles to decentralization in Chile.

The government of Chile (GOC) is in a good position to pursue decentralization. Public investment policy makes territorial decentralization a priority; moreover, this policy shows up in the actual territorial allocation of public investment, which favors the poorer regions. Most public officials interviewed from the municipal and regional levels accept the national criteria for allocating public investment and realize that their own territorial interest must take second place to larger national policy concerns. Nevertheless, there are several obstacles to decentralization that AID could address in a policy dialogue with the GOC.

The primary obstacle is the highly centralized control of local government resources. The government is trying to democratize local government without losing central control. Employing a rigid interpretation of the concept of the unitary state, the government is reluctant to give much financial or decision-making autonomy to either the municipal or regional governments. The Treasury (Hacienda) retains firm budgetary control, not only over the central sectoral ministries, but also over the regional and municipal governments. Thus the first issue for a policy dialogue on decentralization would be how to improve the financial autonomy of local government without abandoning the concept of the unitary state. This issue would include discussion of the centralized budget process as it impedes local initiative and efficiency. It would also introduce ideas of cost recovery (including investment costs) and development bond financing. It should be kept in mind, however, that such ideas may be interpreted as treading on the deeply ingrained principle of the unitary state and a consensus that federalism would not work in Chile.

Another obstacle is the lack of strategic investment planning at the regional and local levels. Strategic investment planning is a process of goal-oriented action planning (not unrealistic comprehensive plan making) designed to facilitate investment decisions by taking into account the interaction among proposed investments. In the case of regional and municipal strategic planning the territorial interactions of proposed investments would be taken into account. The result would not only turn public investment wish lists into strategic packages, but also indicate to private investors what directions the region's or municipality's development can be expected to take. A major impediment to decentralized strategic investment planning is the inability of regional and municipal government to coordinate sectoral investments of the central ministries in their territory. Sectoral investments represent about 85 percent of public investment in the regions. With FNDR funds, which the central ministries do not control, the careful project-by-project scrutiny of proposed projects required by the national investment system impedes strategic investment planning.²³ Finally, with those

²³One of the legacies of the military government is a carefully structured system of control over local and regional public investments that ensures efficiency and conformance to national policy. The Ministry of Planning checks all proposed investment projects for technical quality, financial feasibility, cost effectiveness, and social rate of return (i.e. to what extent a project benefits the poor). This careful project-by-project scrutiny of proposed

funds over which the municipalities have total discretion, the lack of a strategic planning custom or capability at the local level becomes the bottleneck. Thus the second issue for a policy dialogue on decentralization between AID and the GOC would be the introduction of strategic investment planning at the regional and municipal levels.

The final obstacle is the lack of cooperation and communication between the private and public sectors at the local and regional levels. In spite of central government policies to create a good business climate, there is much distrust between the private business sector and the public sector at the local level. If decentralization is to become an economic reality, municipal and regional government officials need to learn to work with local businesses and investors; and civic consciousness needs to be fostered among regional business groups. Thus the third major issue for a policy dialogue on decentralization with the GOC would be building a public/private partnership in the regions. The creation of local elected representative councils that would bring the private and public sectors together at the same table would be an important step. The Municipal Social and Economic Council proposed in the administration's municipal reform bill would create such a vehicle, and a similar structure is being discussed for the regional level. Even with these fora in place, there would be a need to help translate the dialogue into successful public/private projects that could serve as a model to emulate.²⁴

3.3 Housing Finance Sector

Chile traditionally has had a two-tier system for extending housing credits—one tier through government agencies and the other through formal finance institutions. With respect to the former, MINVU's regional offices (SERVIUs) presently provide direct credits and service mortgages for its lower income beneficiaries through its Basic Housing Program. MINVU currently services about 320,000 mortgage loans in its portfolio.

Formal, and particularly private, financial institutions have directed their lending activities primarily toward middle and upper income households. Until they were dismantled following the economic crisis of 1977, Chile had a private housing finance system in which mortgage financing was largely provided by specialized savings and loan type institutions (S&Ls). To replace the defunct S&Ls, government authorized the commercial banking system to originate, service, and invest in amortized, fixed rate, long-term mortgages.

To reduce the exposure of the commercial banks to interest rate fluctuations, the Superintendency of Banks required that the commercial banks finance their mortgage portfolios through the issuance of "letras de crédito hipotecario" (letras) with cash flow

public investments, however, impedes strategic investment planning.

²⁴It is worth noting that when current government officials speak of the private sector, they are referring not only to private business, but also to the non-profit sector of NGOs and cooperatives. This third sector showed itself to be a very productive force in the regions during the military government. It is still quite active, especially in low income housing provision.

characteristics similar to those of the banks' mortgage loans. Most letras are issued and readjustable on the basis of the UF system. Financial institutions may only issue letras backed by existing mortgages held by them and with matching maturities. Letras are liabilities of the issuing financial institution that are not matched by specific mortgages in case of bank insolvency or liquidation. Recently, in order to expand the base of mortgage originators, government authorized the creation of "Sociedades Administradoras de Mutuo Hipotecario" (mutuarias) that are similar to US mortgage banks and are permitted to originate an endorsable mortgage.

Counterbalanced against the commercial banks issuance of mortgage instruments are Chile's very strong and growing private capital markets. The long-term investible resources for these capital markets are provided primarily by institutional investors such as life insurance companies and pension funds. Presently the pension funds (AFPs) are the prime investor in letras. There are presently 13 AFPs operating in Chile with a combined long-term investment portfolio estimated at US\$5.7 billion. Life insurance companies are also important long-term investors with assets of approximately US\$4 billion. Taken together, these two investors are projected to have between US\$80-100 million in investible revenue available per month during the present decade.

As of July 1990, AFPs held US\$830 million in letras, representing 52.1 percent of letras available in the market. With the AFPs having gained widespread public acceptance, their revenues are currently growing at an annual rate of 13.9 percent in real terms. By the end of 1990, it is expected that AFPs will hold financial resources valued at about US\$6.3 billion, an amount equivalent to over 20 percent of Gross Domestic Product. However, while nearly 50 percent of AFP resources were invested in letras in 1985, this share has decreased to the current level of 15.9 percent due to the lack of sufficient mortgages to absorb the increased level of available resources.

Insurance company investments in letras, as of June 1990, amounted to US\$216 million. Insurance company revenues, as a potential investment in letras, are also growing dramatically, and are expected to reach US\$1.28 billion by the year 2000. Insurance companies have also begun to invest in the mortgage instrument of the newly created mutuarias ("mutuo hipotecario"), with an amount equal to about US\$27 million as of June 1990. However, the obstacle to continued growth in this type of investment is the lack of sufficient mortgage instruments with security, yields and liquidity compatible to other investment opportunities in the marketplace.

To date, Chile's primary financial institutions have been uninterested in developing mortgage instruments for the massive financing of shelter that would be attractive to institutional investors. This is particularly true for the financing of lower cost solutions. Of the country's private commercial banks, the Banco del Desarrollo and the Banco Hipotecario Internacional Financiero (BHIF) are the primary lenders for home mortgages. The two banks combined accounted for almost 80 percent of private savings accounts for housing as of December 1989 (see Table 21). Unfortunately, neither these two institutions nor the recently created mutuarias are originating mortgages for housing units costing less than 400

Table 21. Number and Amount of Savings for Housing as of December 1989

Institution	Savings Accumulated ('000s of UF)	Total Amount Contracted ('000s of UF)	No. of Accounts
Banco de Chile	9	55	573
Banco Internacional	2	6	79
Banco Osorno	57	344	4,123
Banco del Estado de Chile	5,238	10,446	351,064
Banco de Crédito e Inversiones	343	762	6,549
Banco Concepción	146	211	3,098
Banco Bice	1	0	10
Banco de Santiago	217	827	7,592
Centrobanco	3	17	222
Banco Bhif	1,646	3,447	38,787
Banco del Desarrollo	1,627	3,270	50,902
Financiera Fusa S.A.	4	87	1,095
TOTAL	9,293	19,472	464,094

Source: Superintendency of Banks and Financial Institutions.

UF (US\$8,000), which are affordable without a MINVU subsidy to below median income families. In fact, these private financial institutions primarily serve upscale income markets for units starting at 700 UF (about US\$14,000), and often exceeding US\$41,000. The financial sector is confident that these larger mortgages offer sufficient yields and guarantees to minimize the risks inherent in long-term investments.

Chile's financial institutions voice the traditional reasons for their lack of interest and confidence in extending mortgage credits to lower income households—poor creditworthiness of the debtor, high administrative costs to loan value, and unreliability and higher expenses related to collections. In addition to the lower yields associated with servicing portfolios with many small loans, private financial institutions also perceive a high political risk involved in the repossession of a mortgaged unit in the case of default.

Given private sector concerns, the state-owned Banco del Estado, along with the previously-mentioned direct lending of MINVU, is the only financial institution presently active in extending mortgages for housing costing less than US\$8,000. As such, it is the only channel for financing the mortgages originated by the ongoing HG-008 and the proposed HG-009, and by most other programs of housing cooperative movement.

Given the limited supply of resources from private financial institutions being made available for lower-middle and lower income shelter solutions, as well as finite government subsidies (see below), it is no wonder that significant unmet potential demand exists among Chile's urban poor. Chile's formal shelter sector, and particularly MINVU's housing programs, have done an admirable job over the last two years in meeting housing needs due to new household formation and the replacement of obsolete units (average annual production of 77,000 units versus 80,500 annual need). However, these production figures, which are probably at maximum levels given available financing and subsidies, have been unable to make any inroad on the new construction requirements of the existing deficit. The new construction component of housing deficit, which includes the replacement of substandard housing and the alleviation of the "doubling-up" factor, was estimated at 423,000 units in 1985. While an exact breakdown of this deficit figure along income lines is not available, a Cámara Chilena estimate that 50 percent of this deficit exists among the poor is probably conservative, given the greater impact of shelter problems on this income group.

Thus, a major constraint facing the finance sector is the imbalance between the supply and demand of shelter solutions, particularly among Chile's urban poor, caused by the insufficient availability of financing.

A second major obstacle concerns the inability of a large percentage of lower income households to qualify for either a direct or indirect MINVU subsidy through the SERVIUs or commercial banking system. Many lower income households do not have incomes nor the continuous employment necessary to meet MINVU's mandatory savings plan. In addition, inconsistencies in income flows, often characteristic of informal sector employment, make it difficult for lower income families to qualify for and comply with private bank lending criteria. Many of the same arguments that MINVU makes regarding the inability of Chile's rural population to qualify for or service a loan also apply to its urban population (see Section 4.3.2.5 on MINVU's Rural Housing Program). MINVU is beginning to address this issue through the development of its progressive housing and lease-purchase programs.

In addition to the issue discussed in the previous paragraph, there are other rigidities in MINVU's housing program that merit examination, and possibly revision, if its delivery system is to be more comprehensive and market oriented. Current Banco del Estado financing and MINVU subsidies are not available for home repair, renovation, or expansion. Owners of simple dwellings built in the informal sector are unable, as a result, to acquire resources to improve a potentially adequate shelter solution already in their possession.

It is unclear if the SERVIU inscription system permits applicants to move to another service area—such as a region offering new employment opportunities—without sacrificing their accumulated savings record and "points." This mobility could be an important factor both to young families seeking employment and to employers desirous of attracting skilled workers from other regions.

Thirdly, based on economic, as well as social and political reasons, there exists a relatively high rate of arrearage and defaults on the mortgage portfolios authorized directly

or indirectly by MINVU. Besides the obvious factor where a beneficiary has never, for political or other reasons, felt responsible for making timely monthly payments, there are two main reasons for this high rate of arrears: (1) periodic economic downturns during the decade of the 1980s that resulted in higher unemployment rates and declines in real wages; and, (2) the inability of many households, particularly lower income, to keep current with monthly payments that are adjusted bimonthly on the basis of the UF system.

In order to avoid serious losses and possible insolvency due to arrears and defaults in the institutions holding the mortgages, government, through the Central Bank, provided emergency funds or renegotiated outstanding loan portfolios on several occasions during the 1980s. Government provided this assistance directly to the banks and through loaning funds to the mortgagors to allow them to pay part of their monthly payments. The recent final report of government's Housing Finance Commission has recommended the adoption of a new mechanism(s) and/or administrative arrangements to replace government's implicit subsidization of these hidden costs.

A final issue that the assessment team has been unable to quantify, but which could take on greater significance in the near-term, is the lack of government financial resources to continue to expand the output of its housing program at a similar pace to the 18 percent annual increase achieved between 1983 and 1989. Although substantial progress has been made in achieving macroeconomic stability in recent years, Chile's financial sector currently experiences certain key imbalances which undermine the country's reliance on domestic resources to sustain a subsidized housing program. In addition to the previously-mentioned imbalance between the excess liquidity of the country's prime institutional investors and lack of secure and profitable mortgage instruments for long-term investment, two other imbalances emerge as critical to the equilibrium of supply and demand of financial resources:

- Inadequate public funds for expenditures required to meet domestic policy objectives in the social sector, including the demand for housing, education, health and basic infrastructure;
- Reliance on government to provide direct subsidies to meet the public demand for housing and other improvements in the standard of living.

Chile has instituted a state-assisted housing program that uses funds that would otherwise be available for other important sectors (see **Table 22**). Specifically, the Banco del Estado extended an estimated US\$172 million in mortgage credits during 1989 for units costing less than US\$8,000. There are, obviously, competing demands for these resources.

The challenge, therefore, is to reduce and, eventually, eliminate the role of government in the direct provision and financing of shelter and to replace it with private sector mechanisms. This transition could begin with the elimination of government intervention in subsidizing and financing housing units for households in the upper income ranges—such as those subsidies in the two highest categories of MINVU's Unified Subsidy Program.

Table 22. Chile: Housing Subsidies and Social Expenditures 1982-88

Year	Housing Subsidies	Percent of Social Expenditures
1982	26.3	1.35%
1983	51.2	2.69%
1984	79.4	3.87%
1985	90.3	4.43%
1986	91.6	4.41%
1987	107.0	5.49%
1988	153.4	7.73%

Source: Central Bank of Chile.

4 EXISTING GOC POLICY AND PROGRAMMATIC DIRECTIONS

The present section documents the new policy and programmatic directions of the Aylwin government with respect to urbanization and the environment, decentralization and municipal government, and housing finance.

4.1 Urban Development and the Environment

4.1.1 Introduction

What follows is a description of current urban development policy and the extent to which it has been implemented, along with an outline of the preliminary results of MINVU's National Commission on Human Settlements and its working groups. This latter information was only made available to the team at the completion of its field work. In the discussion of each of the seven working group's recommendations, there are some preliminary suggestions for program opportunities and directions. Some of these suggestions are redundant, reflecting the situation in which more than one group may have addressed a similar issue and proposed similar actions in response. It is not known what reception these recommendations will receive from the Minister of Housing and Urban Development, much less what specific programs and priorities will emerge. However, the following reflects discussions held with working group leaders, a review of some of their working papers as well as their preliminary files of recommendations to be sent to the Minister, and discussions with MINVU officials to determine their interests and concerns. Therefore, it is hoped that this will be sufficient to generate some project ideas which may support MINVU's own concerns and program activities directed at improving the quality of urban life.

4.1.2 Background

On March 4, 1985, Supreme Decree Number 31 created a National Urban Development Policy. In its introduction, the decree noted that "The Chilean population has experienced a strong migration from rural to urban areas, with urban areas reaching 81 percent of total populations in 1982. This level of urbanization is about that reached by countries in the stage of post-industrial development."

In reviewing the history of the country's urban development, this decree also noted that there was the beginning of a second migration—this time, from smaller towns to cities of greater importance, resulting in a population concentration of 56 percent in the three major urban centers of Santiago, Valparaíso/Viña del Mar, and Concepción. Each year, it is estimated that each of these major urban areas will grow by about 3000 acres (4.7 square miles). This urban physical expansion does not take into consideration a reduction in the existing housing deficit.

Despite the advantages of urban life sought by migrants, the government recognized the inability of the cities to "harmoniously" absorb the population flow or the accelerated change of habits of new residents. The decree noted a deterioration of environmental conditions, increased need for housing and services, and inefficient administration and management characterized Chile's cities. It further warned that growth threatened to go out of control, producing highly inefficient human agglomerations, and argued that the problems were due not to a lack of available resources but to the lack of prioritizing and coordinating long-term investments.

As a matter of policy, the decree stated that the government was obligated to serve the common good and would do so best by consideration of market tendencies and by permitting the private sector and individuals to pursue whatever economic activity they wanted within overall plans established by the State. Government investment should be involved in only those works needed to define the urban structure of each city.

At the time Government promulgated its urban policy, land policies were primarily based on the premise of encouraging the private sector to build and develop new areas with compensation to the community for the actual financial costs of service extension to such areas. Land was defined as urban when it was located in towns of more than 3,000 residents, with a minimal density of 30 persons per hectare, and "some element" of facilities. Three categories of urban land were defined with respect to the recovery of public expenditure on infrastructure:

1. In fully consolidated urban areas, developers would pay all planning costs but reduced fees for minimal public service extensions.
2. In areas capable of absorbing growth over the next 30 years (in three ten-year development phases) the developer would pay planning costs plus about half of the cost of service extension along with additional support to the municipality. (This support would be equal to the present value of the operating costs for ten years of the public services.)
3. In outlying or peripheral areas, developers would pay a higher level of costs, including all planning costs, the cost of all facilities and equipment, and special support to the municipality in an amount equal to the present value of the operating costs of the facilities for 20 years.

The decree gave the State the right to restrict development in areas needed for parks, public facilities (such as airports), or for environmental protection. Otherwise, regional plans were to establish norms for density of occupation, to restrict certain activities, and to encourage the long-term investment and confidence of land owners and users.

Infrastructure requirements for urban areas are spelled out in general terms, requiring the provision of potable water and water distribution systems, sanitation and wastewater treatment or disposal, production and distribution of electricity, the provision of telephone,

television, and radio transmission, roads and works for external defense. With respect to community facilities, it was noted that these have been inadequately developed with respect to housing construction, with a negative impact on the quality of urban life. An objective of the urban policy in this area was to assure the existence of minimal facilities through the provision of land, buildings, and incentives for the development of whatever facilities were determined appropriate. A fund was to be established to acquire or construct public facilities or appropriate private ones.

In actual practice, perhaps due in large part to resource constraints, the government has done little since this decree to alter the nature of urban development. On the whole, the urban policy has been permissive, allowing formal and informal sector developers to do whatever was possible within the limits of their resources and the agreements they could reach with local jurisdictions.

MINVU's new leadership reflects harshly on these past years, arguing that the former government tried to meet its "social debt" by building masses of housing with little concern for complementary facilities and amenities or for a long-term view of the quality of urban life.²⁵

On a larger scale, the issues of peripheral growth in Santiago, air pollution, other environmental concerns, traffic, few employment opportunities outside the city center, and

²⁵Some examples of poor policy were offered by an architect/developer with a firm that is an active member of the Cámara Chilena de la Construcción and one of Santiago's ten largest residential builders:

In the upper class residential area of Las Condes, there had been a number of informal sector houses of poor quality. During the 1980s, these were demolished, as it was decided that their residents should benefit from new houses in the Basic Housing program. Perhaps this was hastened by the attitudes of some residents who wished not to have poor neighbors in their midst. Families were moved to a new residential area to the south of the city. It was difficult for them to travel from there to their work as maids and gardeners and street vendors in Las Condes, and they sought work elsewhere. Their old positions could not be filled in Las Condes. Eventually, they left their new homes located in areas without work to return to the location where employment was more likely.

In La Pintana, in South Santiago, acre after acre of houses have been developed by SERVIU under the Basic Housing program. There are little or no community facilities. While the community offers housing units to thousands who had not had adequate shelter previously, residents must travel to work, school, and almost anything else they need on the buses which plod through traffic congestion, sending up clouds of dust from partially paved roads. While MINVU standards require the provision of certain amounts of open space and other facilities for each number of houses developed by contractors, the contractors find it easy to circumvent these requirements by submitting smaller packages of bids for the same project. These disaggregated bids are normally for a number of units slightly less than the amount required for the provision of complementary community facilities. One result of the lack of attention to the non-housing needs of the communities MINVU has responsibility for building is the poor response of some of the people seeking housing. One family interviewed had applied for the Basic Housing program and was offered a unit in La Pintana. When they visited the area, they were disturbed by the unbroken blocks of units crowded together, the local problems of delinquency among the youth, poor health and educational facilities and the lack of amenities. They turned down the unit available to them in favor of waiting for one in a more desirable locality.

continued pressure to build houses to meet the deficit all have contributed to MINVU's recognition that simply producing housing should no longer be its only role.

4.1.3 Current Proposals

In order to determine the nature of urban development problems and to take a fresh look at possible areas of activity, MINVU set up a National Commission on Human Settlements. The Commission identified seven working groups comprised of professionals outside the Ministry as well as inside it, with staff assistance as needed. What follows is a brief summary of each of the preliminary recommendations submitted by each group following an outline of the problem it addressed, along with the challenges and opportunities it offers for potential program activity:

4.1.3.1 Human Settlements and Regional Planning

This group examined the problems of a heavily centralized government and the lack of coordination among institutions involved in the planning of human settlements. They report that planning is fragmented, there are gaps in institutional relationships and functions, policies that are not based in reality, and a paucity of participation at the community level.

The preliminary recommendations include deepening the process of government decentralization in order to foster sustainable development in each region. This committee goes on to recommend a national policy on human settlements, along with coordination of government resources—particularly at the regional level. This coordination needs to address the compatibility of public and private sector projects.

This committee proposes technical assistance in project identification and preparation to insure that government resources complement efforts directed at maximizing private sector participation. Studies undertaken locally could identify gaps in program planning and coordination. Training to local public and private sector developers and to local NGOs could make procedures for gaining access to resources clearer.

Working group members echoed MIDEPLAN staff recommendations for funds for pilot or demonstration projects involving municipal governments in addressing local housing, urban development, and economic development needs.

4.1.3.2 Policy of Metropolitan Management

The growing Santiago metropolis exists in a region where some localities have little in common with the capital. A single appointed official or "intendente" must contend with urban and non-urban areas alike. Neither the serious problems of poorly managed urban growth nor the needs of smaller outlying communities is adequately addressed.

The working group recommended the creation of a metropolitan area with defined geographical limits and a coordinating council to attempt to plan for its more effective

management. Over a three-year period, a metropolitan government could be created, leaving the intendente to manage the remainder of the region. Among the areas of immediate action, six are recommended as priorities:

1. **Growth, densification and urban limits.** The issue of uncontrolled peripheral growth must be addressed, perhaps, in part, by establishing outer limits or boundaries for Santiago's expansion and responsibilities for the provision of water, sewage disposal, and other public services. Policies which encourage urban sprawl, including those to which MINVU housing programs contribute, must be examined for alternatives.

While the periphery of the city is growing, the ring of older neighborhoods surrounding the Central Business District is deteriorating. There are vacant sites, deteriorating houses and commercial buildings, and, in general, declining density of land that is already urbanized with access to roads, water and sewer systems, and public transportation. Some studies have been done which recognize the lower costs of developing housing on sites already urbanized in comparison with the costs of extending off-site infrastructure. Parks and other amenities already exist within the city's older neighborhoods.

Obstacles must be examined which impede reinvestment in the city center, particularly for residential construction or rehabilitation. Technical assistance to follow up studies of such barriers may identify incentives which could encourage redevelopment. Briefly, known obstacles include title problems and difficulties of land assemblage, as well as the economies of scale of constructing large suburban housing developments. Incentives for urban reinvestment could, perhaps, be linked with modifications in property taxation, preferential income tax treatment, selective use of expropriation, and the provision of housing finance under a HG program.

2. **Facilities.** While the need for more community facilities is widely noted, standards for their provision and the reform of bidding procedures for housing construction not requiring minimal facilities are needed. The role of community facilities in local community development, and the identification of which ones offer the greatest return on public investment in terms of community and economic development are not yet understood.

The issue of cost recovery for community or neighborhood-level facilities under a centralized government in which decisions regarding resource mobilization and disbursement are so far removed from the level at which such facilities are demanded also must be examined.

3. **Access and transportation.** The expansion of Santiago's boundaries presents transportation problems and raises the issue of access to employment by the people who live in peripheral communities. The provision of more transportation and better roads versus the geographic decentralization of employment and commercial oppor-

tunities is the key concern and, of course, relates closely to other issues raised by this working group.

4. **Infrastructure networks.** Again, the issue is one of better use of existing systems versus the extension of new ones, as well as that of whose responsibility it is to make such decisions and to plan their implementation.
5. **Zoning and special assessment/taxation mechanisms.** The role of zoning in creating a more rational metropolis is an area in which technical assistance is requested from those with experience in other large metropolitan areas. Special mechanisms to encourage preservation of agricultural land, open space, and sensitive environmental land have also been identified as topics about which there is insufficient information or local experience.
6. **Protection and improvement of the environment.** While running counter to current government thinking (see Section 2.4.1.1.3), one recommendation made by the working group is for the creation of a new Ministry of the Environment. More immediately, MINVU is requested to look at environmental issues impacting its programs. These include the following issues, which have been discussed within the working group and among other professionals concerned with the environment, such as the Institute for Urban Studies at the Catholic University.
 - The extensive network of roads built to serve sprawling peripheral housing areas typically are inadequately paved, and the volume of traffic—particularly buses—on these roads contributes significantly to the level of dust particles in the air. The large number of vehicles without proper exhaust systems further increases the incidence of carbon monoxide and other pollutants. (See the following Section 4.1.4 for a discussion of ongoing and proposed programs to ameliorate Santiago's air pollution problems.)
 - The need for more open space in MINVU-sponsored developments, including tree planting and recreation facilities, has also been deemed important. Community or neighborhood groups could be encouraged to become involved in tree planting or similar activities as a step towards gaining a sense of the benefits of community organization and participation. These efforts may also assist in sensitizing local residents to the problems of stormwater drainage and soil erosion, which also have not been addressed successfully in many developments.
 - Concern has been raised about the environmental impact of single family and progressive housing solutions, which, to date, have permitted lot sizes which, in the view of many, are not sustainable and which necessitate the continuous expansion of infrastructure. This working group is of the opinion that residential densities must increase, including in the central city areas as mentioned above. Assistance is needed to examine the costs and benefits of shelter solu-

tions which make more intensive use of urban land and, possibly, to finance pilot projects which demonstrate alternatives.

4.1.3.3 The Development of Intermediate Cities

The focus of this group is the strengthening of urban alternatives to Santiago. Economic growth in secondary and intermediate cities is important. A city's popular sense of its "identity" or recognized strength is part of this development. Some of the sectors in which growth is expected, such as mining in the North and forestry in the South, may contribute significantly to regional growth if local cities have the capacity to become centers of marketing, processing and other related economic activity that builds on local primary production. To do so, intermediate cities require improvements in infrastructure and in the quality of their human capital. Many note that Santiago's advantage in skilled labor is sufficient to attract industrial and commercial investment to the exclusion of other centers. There is the need to "dynamize" local economies to enable them to improve opportunities at a pace comparable to their rate of population growth, which now is higher than that for Santiago.

The working group also argues that improved infrastructure must be coupled with improvements in the quality of life in order to attract skilled and educated people to the intermediate cities.

In addition, there is need to strengthen municipal, provincial and regional governments, particularly with respect to their institutional and management capacity, their management of resources, and their ability to identify and develop projects. Recommendations also include the need for involving community organizations in development projects and in projects related to environmental education, protection and improvement. Some of the problems these cities face are similar to those of Santiago in terms of peripheral growth, dumping of untreated wastewater, and so on. Only their smaller size makes these issues seem less serious.

The ability of secondary centers to pay for required services is also a concern. One example given outside this working group is that of Valparaíso with respect to garbage collection. As with other municipalities, the choice has been made to employ a private firm to perform this service; however, resources do not permit regular collection in all areas, and the dumping of trash in ditches around the city has become a serious problem.

This group advises researching instruments that might be available for local use to finance projects, such as tax incentives and disincentives, and to discourage unwanted activities. The group recommends establishing a direct relationship between taxing authority and local revenue generation for services and development.

Finally, the working group advises that there has been inadequate attention given to intermediate cities in past censuses, and that data collected in the next census should be disaggregated below the regional level so that it is more useful for planning purposes.

4.1.3.4 Rural Settlements

Principal issues identified by this group are the loss of productive agricultural land to urbanization, the overall lack of attention given to the development of rural communities, the proliferation of "urban nuclei" in traditionally rural areas, and the lack of regional and spatial planning that might benefit rural communities.

A methodology to value prime agricultural land appears to be necessary prior to introducing any new regulatory or other instruments to inhibit the buying up and urbanization of rural land.

4.1.3.5 Policy of Land, Infrastructure and Facilities

This group begins by highlighting the fundamental scarcity of land and the need to provide for its wise use and allocation for public and private purposes. Classification and zoning of urban and non-urban land is sought so that peripheral land may be incorporated into urban areas in a planned manner which allows for the provision of essential services and community facilities. In particular, this group notes that the State, through the MINVU housing programs, is the biggest developer of non-urban land. MINVU itself contributes to the removal of land from agricultural production at a time when agriculture—particularly in the densely populated central valley—is seen as a sector which offers export growth potential. There is need for rational tax and land use policies to balance economic development, agricultural and environmental preservation, and improved housing opportunities as well as the need to better use existing urban land and infrastructure.

There is no coherent urban infrastructure policy to guide extension of infrastructure networks or to determine standards for services, their provision, their cost to users, or their financing and cost recovery by local corporations who now provide these services. Little is understood about the relationship between the provision of infrastructure of certain types and economic development. In the past, policies encouraged those able to invest in infrastructure to do so in order to reap private benefits; with the result that little was done to restrain harmful environmental effects or to encourage broader economic development opportunities and improvements in the quality of life. Neither are there rational, comprehensive, and enforceable standards for other public or community facilities, although these are perceived to be needed.

Balance is also required in terms of the development of an optimal mix of regulations or restrictions and incentives to encourage the development of alternatives to peripheral growth (particularly in Santiago) and the institutionalization of clear guidelines to development agents so that they will explore other options such as renovation of inner city areas. Tools which may be used include zoning, taxes and tax abatement, public/private partnerships to develop mixed commercial/residential projects in deteriorated urban zones, and the targeting of subsidies for housing built in rehabilitated areas.

Three areas in which recommendations were made by the group are:

1. Zoning and land classification to be able to evaluate land for urban or other potential uses, to identify areas for urban rehabilitation or renovation, to restrict "growth by extension" in outlying areas, to modify conditions for residential subdivision of land, to establish densification criteria for urban areas, to define compatible and incompatible activities for various urban locations, and to provide for community participation.
2. Coordination between planning and the provision of infrastructure, including the development of minimal standards for roads and other infrastructure networks, so that infrastructure resources are maximized as well as used to provide services to areas which conform with rational plans. In addition, there is the need to determine who will pay for the costs of infrastructure, both in terms of construction and operation.
3. Standards for the type, quantity, quality, location and grouping of facilities, along with the determination of responsibility for their construction and operation. Responsibilities for financing of start-up costs as well as those of operation and maintenance must also be clarified, and standards for their provision must be integrated into planning processes.

4.1.3.6 Revision of Legal Norms, Ordinances and Regulations

The working group advocates the reexamination and evaluation of the possibly outdated general construction and urbanization ordinances as a means to discourage peripheral growth and provide incentives for densification of existing urban areas. It also recommends that MINVU create a Subsecretary for Urban Development.

Markets need to be made more open to permit the buying and selling of used homes to facilitate labor mobility.

Standards are needed for pollution, stormwater drainage, agricultural land preservation, and others which affect the quality of the urban environment.

Technical assistance is needed with respect to the development of systems of incentives and regulations that can encourage greater participation by the private sector in meeting certain objectives such as the densification and reuse of the central city. Financial instruments appropriate for the provision of home improvements and investment in or purchase of existing properties are also required. Pilot projects, with financing, may be one way to begin to demonstrate some of the opportunities and interactions identified.

4.1.3.7 Local Management of Human Settlements and Participation

Issues of poverty and community participation must be more adequately addressed by MINVU, in terms of equity and efficiency. This working group advocates a greater role for municipal government and attention to developing competence among municipal officials so that they may function as a bridge between communities of residents and the central and regional governments. This group views the municipality not only as a provider of essential services but as a promoter of local development.

To accomplish this, there is need for training, technical assistance and exchanges for local or municipal officials as well as community education and consciousness development to permit local participation in project identification, support, and implementation. Investment and other private sector participation in local development must be encouraged through the promotion of sound project ideas. A bank of local projects may contribute to the success of the latter.

Coordination is lacking at the regional level; therefore, it is recommended that an interministerial commission be established in each region to coordinate resources and to communicate with municipalities and community organizations.

Municipalities should be given greater scope of activity and responsibility, extending to the capacity to sponsor or initiate business ventures. Information must be communicated to the local level about program resources or innovations, for example. Legal facilities to set up new businesses are also needed if local economic development is to be stimulated.

Most local areas require technical assistance to strengthen the capacity of municipal officials as their scope of activities grows. It may be that there will be a need for resources accessible by municipal governments as their responsibilities expand.

The foregoing recommendations of the seven working groups of the National Commission on Human Settlements are preliminary and not a matter of public policy. These recommendations were submitted to the Ministry of Housing and Urban Development on November 29, 1990 for review. It is expected that MINVU officials will meet with representatives of the working groups to discuss actions which might be taken and policies which may be devised, but there is no detailed timetable available as of the date of this report to guide the examination or implementation of these recommendations.

The appointed working groups have representatives (and, often, leaders) from the academic community as well as from the private sector, including the Cámara Chilena de la Construcción (Construction Chamber of Commerce). The issues addressed by the working groups are, in many cases, being addressed simultaneously within the membership of these two groups.

It may be worth noting those areas in which a consensus of government officials, academics, and private sector builders is emerging, as these may be the first areas to receive

attention and practical, feasible proposals. Among these are measures to counteract the peripheral growth of Santiago, including the call for zoning and other restrictions as well as incentives for urban rehabilitation projects; the need for investment in and improvement of infrastructure; government decentralization and the strengthening of municipal officials and management; increased community participation; and the need for solutions to housing need and urban development which enhance rather than destroy the environment.

The Cámara Chilena, in particular, has focused considerable energy on issues of urban development and the environment, calling for programs which will increase resources to finance infrastructure—especially road construction and paving—or provide incentives for better and more intensive utilization of urban land. For example, they have recommended that US\$200 additional subsidy per unit be granted to buyers of houses in urban redevelopment districts. This would also have a positive impact on the environment, as would ideas such as more extensive paving of roads and the treatment of wastewater. A US\$200 incentive to a family in need of housing may have an impact on household choice in the housing marketplace without actual increase in costs to the public sector, as the government currently must expend public funds on acquiring and holding land and on extending off-site infrastructure. Only an analysis of these costs and the extent to which they are passed on to purchasers of houses built with MINVU subsidies would reveal the true impact of such an incentive or alternative financial decisions.

The lack of appropriate technologies is an obstacle in some cases to successful change, as in wastewater treatment on a scale appropriate and affordable to smaller cities. Assistance—both technical and, later, capital—might be appropriate as part of a future urban development program. The structure of local government, with restrictions on municipal borrowing, also functions to impede local generation of projects and their successful financial management and cost recovery based on local resources.

Finally, the Cámara Chilena cautions against public support for those programs which offer low initial cost to beneficiaries—such as progressive housing and sites and services—but high costs overall to the economy and society in their use of land, removal of agricultural land from production, and demand for infrastructure extension. This and other solutions available to address the housing problems of Chile have been discussed by academics and builders for their overall impact on the environment without any clear methodology for assessing the costs or benefits of alternatives. Technical assistance or training is needed to enable project planners and proponents to examine, quantify and compare the costs and benefits in broad economic and environmental terms.

4.1.4 Environmental Specific Activities

Many of the environmental issues and concerns identified by the working groups of MINVU's previously described National Commission on Human Settlements have already begun to receive the attention of the Aylwin government's two newly-created environmental institutions. CONAMA, through its Technical Secretariat, has initiated a number of activities in the six months since its creation. It has assisted in the organization of environmental

commissions in seven of the country's 13 regions, and in the designation and formation of sectoral environmental units in the Ministries of Public Works, Mining, Bienes Nacionales and Planning. The Secretariat is currently working with the Ministries of Agriculture, Housing and Health in the process of organizing their environmental units.

The Secretariat has also been actively involved in educational and dissemination programs related to the environment. It has sponsored, with financial assistance from USAID/Chile, the publication of the atlas "Environmental Problems of Chile". This atlas was prepared by three well known environmental analysts from the Institute of Urban Studies at Chile's Catholic University, in conjunction with more than 400 public and private sector representatives from the 13 regions. The publication classifies and ranks the environmental problems facing the country according to their importance and the possibility of successfully intervening in their resolution. This is the first time that a cataloguing of environmental problems had taken place in Chile.

On the basis of the information gleaned from the preparation of the atlas of environmental problems and employing the same local team, the Secretariat has embarked on a second phase of analysis and discussion. This phase entails characterizing the magnitude of the most pressing regional environmental problems. It also involves establishing quantifiable indicators in order to be able to measure and monitor their existence and possible amelioration. With the availability of quantifiable information, the Secretariat will prioritize the country's environmental and national resource problems on a regional basis and will prepare an action plan with specific proposals to begin to address these problems. USAID/Chile will continue to support the Commission with this phase through the sponsorship of a series of regional seminars whose purpose is to disseminate the project's findings and conclusions to date. Through the participation of the Secretariat and the involved professionals, these seminars will continue to raise the public's awareness of the serious environment problems facing the country, and at the same time achieving a consensus on what public/private actions are required to begin to address them.

The principal medium-term objective of the Technical Secretariat is to formulate and to propose to the Committee of Ministers a national environmental policy and the necessary legal and institutional framework within which to implement it. As a first step in what is envisaged to be a one- to two-year process, the Secretariat has constituted a working group to prepare an inventory of all laws and regulations related to environmental matters. It is estimated that there exist over 2,000 laws and regulations governing the environment and natural resources management. Many of these laws are contradictory or simply out of date. This inventory, including the identification of obvious gaps in existing environmental laws, will serve as the point of departure for the preparation of a new legal framework that will guide the sectoral ministries in the subsequent revision of specific legislation dealing with the environment.

In addition to the ongoing assistance of USAID/Chile, the Secretariat is preparing proposals requesting technical and financial assistance to meet these medium-term objectives from other bilateral and international donor institutions. Discussions have advanced furthest

on a joint World Bank/GTZ US\$20 million project to support the strengthening of institutional capacity for those government entities with responsibility for environment and natural resource management. This project consists of two interrelated and reinforcing components.

The first component would support the development of inter-sectoral policies, and the corresponding legal and institutional framework. This component would be the project's centerpiece. It would support CONAMA's mandate that seeks to provide an overall national environmental policy and legal framework to guide inter-sectoral and sectoral policies, to strengthen the public sector's environmental decision-making and management capacity, and finally, to enhance public awareness of the environmental issues and the relationship between the environment, sound economic development, and quality of life.

The second component would support the development of the policy, legal and institutional framework for environmental action in three key sectors—forestry, fishery, and industry and mining.

In order to carry out this intensive program, the general consensus among local decision-makers is that the staffing of the Technical Secretariat must be strengthened. The Secretariat is staffed by a very small group of highly motivated and committed professionals. Additional staff is sorely needed, however, if the Secretariat is to have the capability to begin to address broader environmental issues of a systemic nature, rather than simply to play a day-to-day role as a crisis manager.

Following an intense period of inter-ministerial discussions and collaboration, the Special Commission launched its program for the alleviation of environmental problems in the Metropolitan Region only two weeks after its creation. The Special Commission identified four principal problem areas that form the basis for its program—air pollution, contamination of water courses from untreated sewage, noise pollution, and the disposal of solid waste.

The Special Commission's global program includes a policy statement that will guide its programmatic activities, as well as master and immediate action plans. The prime objective of the Special Commission, as manifested through its policy statement, is to recover and sustain a quality of life for the Metropolitan Region that is considered satisfactory and sufficiently healthy for its citizenry. The master plan presents short-, medium- and long-term actions to carry out the objectives of the program's principal policies. It proposes a series of immediate elements to initiate the plan's application. Finally, the Special Commission's global program includes measures that would be immediately instituted in the event of an environmental, particularly air pollution, emergency in Santiago. The Special Commission has been most active to date in addressing the city's problems of air pollution. The alleviation of air pollution problems forms the basis for the 1990 immediate action plan.

The rapid start-up of the Special Commission's activities can be traced to a series of thorough and systematic studies carried out since 1978 on Santiago's environment. These studies were financed and executed by a variety of central government, university and muni-

cipal/regional entities. The Inter-American Development Bank has contributed US\$2.5 million toward the partial financing of these studies. The studies have included the monitoring of air quality, the identification of sources of emissions, the examination of epidemiological problems, the monitoring of industrial wastes, the measurement of noise levels, the development of a meteorological model for testing the effects of alternative pollution control strategies, and the review of air quality standards and institutional mechanisms for managing air quality control programs. When taken together, these studies and projects provide a wealth of information on which the Special Commission will base specific actions to address Santiago's air pollution problems.

As noted, much analytical work regarding Santiago's air pollution problems has already been carried out. The Special Commission is of the opinion, however, that the regulatory framework that will provide the rules and incentives necessary to comply with air quality norms and standards is still not complete. It believes that the economic and technical regulations that will define the "rules of the game" for those sectors that will have to effect abatement measures and investments must be in place prior to the initiation of capital investments. The Special Commission's recent discussions with the Inter-American Development Bank have, therefore, centered on a potential two-phase lending program. The first phase would entail a final series of studies and pilot programs (US\$4.5 million) aimed at ensuring that future capital investments would be targeted in a cost effective manner. The Special Commission has proposed the following studies/pilot programs to the IDB:

- Provide incentives for the development of entrepreneurial capacity in the private transport sector;
- Define norms and standards for the detection of mobile emission sources (gas and diesel vehicles), and develop public sector capacity to evaluate, control and certify emission levels from this source, as well as to correct and maintain mechanical problems associated with gas and diesel engine emissions;
- Develop the public sector's capacity to control emissions from point sources;
- Define ways of measuring the emission of suspended particles from paved and unpaved roads and make recommendations for its control;
- Develop policies to control the discharge of industrial wastes;
- Define policies for the medium- and long-term management of the collection and disposal of solid waste from residential and industrial sources (including toxic wastes);
- Develop programs to evaluate the effects of air pollution on public health.

The results of these series of studies and pilot programs should be available by late 1991. At that time, a recent proposal prepared by the Special Commission calls for an IDB line of credit to support the financing of five distinct capital projects to address Santiago's environmental problems. The capital program is for an amount of US\$148 million. Of this total, the IDB would finance US\$66 million, while Chile's public and private sectors would finance US\$37 million and US\$45 million, respectively. The five capital elements of the program are as follows:

- Replacement and/or rebuilding of 5,000 diesel engines from Santiago's private bus fleet;
- Strengthening and upgrading of the inspection/repair capacity of the garages that provide maintenance to the city's cars and buses;
- Acquisition and retrofitting of catalytic convertors on the city's old and new taxis;
- Assistance in the purchase of equipment to reduce emissions from point industrial sources;
- Paving of 750 kilometers of streets in the city's marginal neighborhoods.

The Special Commission is also working closely with the Metropolitan Region's Water and Sanitation Authority (EMOS) in coordinating the debate over the long-standing practice of discharging untreated sewage into the region's water courses. During the previous government, both Santiago and Valparaíso/Viña del Mar received support from the World Bank to assist in addressing this sanitation problem, as well as deficiencies related to water supply and distribution. (See Section 5.1.2 for a description of these World Bank programs.)

4.2 Decentralization and Municipal Development

Previous sections have discussed the issues of decentralization that have surfaced following Chile's return to a democratically elected government, as well as the institutional structure that evolved during the previous government to address local government needs. As noted in this latter section, the specifics of the new government's policies and programs regarding local government are still very much in debate. However, certain signs are emerging as to how it will proceed in these areas.

Preliminary indications are that the new government will maintain the minimal revenue generating capacity of the municipalities. Before 1973 Chilean municipalities had a dismal record of fiscal responsibility. During the Allende government municipalities ran annual deficits equal to about half of their total budgets and about 3 percent of GNP (World Bank data). Hacienda officials are reluctant to allow sources of inflationary debt that lie outside their control. They are also concerned that municipal revenue generating capacity would bias business location decisions in favor of suboptimal locations because of local tax considerations. In keeping with a strict interpretation of the concept of the unitary state, the current government seems predisposed to maintain the military government's tight control over municipal resources. Thus it is not likely that the new government will allow municipalities any greater autonomy over local tax rates, the right to new revenue sources, or the power to borrow funds. Moreover, lack of investment capacity might prevent the municipalities from taking advantage of such fiscal powers, at least in the short run. Evidence to this effect is the fact that they are spending only 90 percent of their FNDR funds.

Mayoral elections may begin as early as July 1991. The military government's municipal reform put the authority to choose mayors in the hands of the regional councils (CODERE), except for the 15 largest municipalities, whose mayors were chosen directly by General Pinochet. Most of the military government appointees remain as mayors, since President

Aylwin is allowed to replace only those that resign. One reason for the current government's efforts to establish municipal elections as quickly as possible is to be able to gain control of more municipalities, especially while the new government's popularity is strong. To avoid turning municipal elections into a popular vote of confidence on the national government, however, the current administration has agreed to support phased municipal elections, in which only a few municipalities at a time would hold elections. With the municipal reform bill nearing Congressional approval (it has already been approved by the lower chamber), municipal elections could begin as early as July 1991.

The municipal development councils (CODECO) would become more democratic, but purely advisory, under the new Municipal Reform. The CODECOs, like the regional development councils, represent the organized population in the locality. The representatives of local neighborhood, business, and professional organizations are currently chosen by the regional council from a list of nominees submitted by the organizations. Designed by the military government to eliminate party politics and grass roots control from the municipal government, the CODECO are considered weak rubber stamps of the mayor's priorities. The municipal reform legislation about to emerge from Congress would allow each eligible group to directly elect its own representative. Neighborhood groups would get half of the council seats, and labor groups would be added to professional and business groups in the other half. While it would become more democratic, it would lose its decision-making power and become merely an advisory body to the mayor. The new entity would be renamed the Municipal Economic and Social Council (Consejo Económico y Social Comunal). Currently under discussion is whether or not to strengthen neighborhood organizations through a neighborhood fund (Fondo Vecinal) to be initiated with central government funds, but continued with membership fees from participating organizations. Nevertheless, there appears to be a consensus that the organized local population should gain a direct voice in municipal government only in an advisory capacity.

The administration's municipal reform bill would add a new council to the municipality that would be directly elected and have some decision-making power. This municipal council (consejo municipal) would take over the decision making power currently exercised (in theory) by the CODECO: eg. approval of the municipal budget and individual municipal investment projects. The administration does not seem to be defending this aspect of the bill as actively as it is defending the CODECO reform. The administration's bill would also grant the municipalities the right to promote private sector economic development and create municipal corporations for public service delivery.

4.3 Housing Finance Sector

4.3.1 National Housing Finance Policy

Current GOC housing finance policies build on those successfully implemented by the previous government. They are designed to achieve a major deepening and expansion of available solutions in favor of the very lowest income groups as well as to substantially in-

crease access by these groups to local capital markets and, in particular, to institutional investors such as pension funds and insurance companies.

The principal tenets of these policies are:

- Compatibility with government economic development policies under a "social-market" orientation;
- Programming, implementation, and marketing of housing projects based on private sector initiatives, with the promotion of private property ownership;
- Maximization of private sector participation in a shared effort among individual beneficiaries (savings), the financial markets (mortgage lending) and the state itself (subsidies);
- State housing subsidies that are explicit, direct, transparent, and granted to individual low and middle income beneficiaries on a strict merit system (measured by the length and extent of their own efforts) and that they be inversely proportionate to such beneficiaries' income levels;
- Access to an adequate shelter solution for those families caught in "extreme poverty" conditions based on their willingness and ability to finance the non-subsidized part of the purchase price; and
- Housing markets imbued with the necessary flexibility and liquidity to avoid locking families into the first obtainable solution and to permit them to move freely from one solution to the next as their family requirements and income may change.

MINVU recently summarized the specifics of its housing policies as follows (MINVU 1990d):

4.3.1.1 General Objectives

MINVU has defined two general objectives to guide its new housing policies:

- Develop housing stocks sufficient to provide shelter solutions at adequate prices and quality for Chile's total population;
- Develop the necessary conditions so that housing is viewed as an attractive investment in terms of liquidity and yields, including those units produced for lower income households.

4.3.1.2 Basic Policies

MINVU is of the opinion that the above objectives can be achieved through two basic policies:

- Promote a mix of home ownership and rental solutions;
- Facilitate transfers of used houses.

4.3.1.3 Specific Policies

MINVU's basic policies for housing financing are supported by specific policies that are grouped into five categories:

Subsidies. MINVU will continue to subsidize demand as a means of assuring a sustained level of construction resulting in a broad range of shelter solutions; but with a stronger bias in favor of the lower income groups.

Financing. MINVU seeks to expand the availability of long-term mortgage credit along with a reduction in its costs. In order to achieve this goal, MINVU wants to open the country's financial markets by providing incentives for the provision of smaller loans. These incentives, which could include competitive bidding for state subsidies and/or the creation of new mortgage insurance, will permit the establishment of a more open market able to finance both home ownership and lease/purchase arrangements.

Market Efficiency. MINVU wishes to create a market for housing that is open and comprehensive, that is able to provide for investments in rental housing, home improvements, and the purchase of existing as well as new houses through an efficient private sector financial market capable of maximizing domestic capital resources. A market characterized by access to relevant information is also desired, along with improvements in technology, management and worker skill levels that will permit increased productivity in this sector.

Individual Effort. The Ministry wants to change the public's perception of government as the sole provider of shelter to one of a shared responsibility, also dependent on the efforts of prospective beneficiaries (through savings) and organized private groups (through social and economic efficiencies in organizing demand).

Mortgage Instruments. The ideas proposed by the Finance Commission will require the identification of new financial instruments for their achievement. While solutions are not yet fully defined, they will be based on the principles of just and equitable development with economic growth.

4.3.2 MINVU Housing Program

The public sector's Ministry of Housing implements its housing policy through three distinct programs: (1) direct; (2) indirect; and, (3) mixed. The first of these programs is directed toward the country's lowest income groups. In this program, MINVU acts as the intermediary between the ultimate beneficiary (demand) and the supplier of housing. MINVU is forced to play this role because currently the lowest income families are not able to directly resolve their shelter needs through solutions available on local housing markets. MINVU's program in this area, which has several variations, is generically called the Basic Housing Program (BHP).

MINVU's second (indirect) approach is called Subsidized Housing Systems, and also includes several variations. In this type of initiative, MINVU participates only to the extent that it provides a subsidy in the form of a one-time write-down in the cost of the dwelling unit, which the beneficiary either constructs or purchases on the open market.

The third approach (mixed) used by MINVU is called Special Programs. This programmatic vehicle combines the two previous ones in that it operates on the basis of a housing subsidy with the option that the beneficiary can purchase a house directly from MINVU's regional offices (SERVIUs) or from an organized group such as a cooperative or NGO.

In addition to the three principal programs that will be discussed below in greater detail, MINVU has additional programs that include the construction of community facilities, the upgrading of the basic services of marginal neighborhoods, regularization of problems related to land titles, repair and construction of streets in low income areas ("poblaciones"), and the carrying out of urban transport projects.

Reflecting government housing policy, all the programs include several common elements that (1) provide up-front capital subsidies provided through government budget allocations; (2) facilitate home ownership; (3) rank potential beneficiaries on the basis of a transparent evaluation in which household savings is an important part; (4) make optimal use of the private sector and NGOs; (5) in many cases, allow the beneficiaries to select their own house and location; and, (6) do not distort Chile's private housing finance system. Finally, government housing programs are progressive. They ensure that the poor receive the most funds, and that the programs earmarked for this socioeconomic group receive the highest percentage of subsidy.

The following sections briefly highlight government's principal housing sub-programs.

4.3.2.1 Basic Housing Program (BHP)

This program targets the lowest urban income groups currently served by MINVU programs. MINVU's regional offices (SERVIUs) contract out the provision of complete design and construction packages under this sub-program to private developers and builders. Raw land is often included as part of these packages. Most units are one- or two-story dwellings on individual lots. Average unit size is about 34 square meters. Minimum plot size is 100 square meters for one-story units, and 60 square meters for two-story dwellings. MINVU subsidizes up to 75 percent of the unit's total cost, whose value is approximately 215 UF (about US\$4,300).

Program beneficiaries are selected primarily on the basis of a set of qualification criteria. Criteria include the number of family members, the amount of savings and length

of time saved, and the rating on the CAS survey.²⁶ Applicants are ranked according to score and allocated units depending on the amount of subsidy certificates periodically made available by MINVU (see below).

Dwelling units allocated through the BHP program are financed by an up-front subsidy, applicant savings, and a loan granted by the respective SERVIU with terms of up to 20 years repayment and a real annual interest rate of 8 percent. Monthly payments cannot exceed 20 percent of the combined income of the applicant and spouse. On the other hand, monthly payments also can not be less than 0.3 UF (currently US\$6.00).

Present MINVU policy aims to eliminate certain hidden subsidies (such as below market land costs and marketing and construction financing costs) that in the past were not fully recovered from basic housing solutions.

MINVU's housing program for 1990 contemplates the construction of about 19,000 units under this sub-program.

4.3.2.2 Special Housing Program (sometimes called the Public/Private Partnership)

MINVU's Special Housing Program is a variation on the previously described BHP program. It is earmarked for lower-middle income households with similar socioeconomic characteristics who participate in programs administered by organized groups. These organized groups, such as cooperatives, NGOs, labor unions, private industry, and municipalities, have signed contracts with MINVU. This program produces housing of approximately 40 square meters costing up to 290 UF (US\$6,250). In order to participate in this program, MINVU requires a minimum savings of 30 UF, as well as a minimum monthly household income of 6 UF (about US\$120). To offset this cost, MINVU provides a subsidy of up to 80 UF. The balance between subsidy and applicant savings is financed by the Banco del Estado at terms similar to the BHP program.

MINVU plans to contract the production of 15,000 units during 1990 under this sub-program.

4.3.2.3 Progressive Housing Program

Through modification to D.S. No. 62 of 1984, MINVU has recently launched a new "progressive" housing program to serve those households in the lowest income quintile, and especially those families that have been involuntarily forced to "double-up" (the problem of the "allegados").

MINVU envisages a two-phased approach to implementing this new program. The first phase consists of the provision of a serviced plot with a sanitary core including bathroom

²⁶The CAS survey is a national socioeconomic poverty index based on a number of factors such as the lack of visible signs of wealth, conditions of the home, and income of the applicant.

and kitchen. The second phase, which is scheduled to commence two years after occupancy of the first phase, corresponds to the completion of the rest of the dwelling unit—a living/dining room and two bedrooms. Initial unit design will facilitate additional extension and upgrading.

The regional SERVIUs will administer this program through their national registration and savings program. Individuals currently registered in other programs can switch to the progressive program. The selection process will be carried out on the basis of the CAS-2 questionnaire that is a more detailed version of the previous questionnaire. It will permit a more exact quantification of the level of "doubling-up" existing in applicant families.

Similar to other MINVU sub-programs, the progressive housing program requires household savings prior to award of a unit. Applicants must deposit in savings accounts three UF for the first phase and five UF for the second.

The first stage of the progressive housing program is estimated to cost about 120 UF (US\$2,600). The first stage will be financed on the basis of a maximum subsidy of 100 UF, the minimum savings of 3 UF and a credit of 17 UF.

The second phase will cost an additional 70 UF (US\$1,400), and will be financed through a maximum subsidy of 35 UF, 5 UF in applicant savings, and a minimum credit of 30 UF.

MINVU projects the construction of 10,000 solutions via this program vehicle in 1990.

4.3.2.4 Unified Subsidy Program

This program is oriented toward middle income families, who otherwise would not be able to afford the direct purchase of housing on local real estate markets. Three categories of housing costs are available under this sub-program—less than 400 UF, 400-900 UF, and 900-2,000 UF. A range of subsidies is available for each category. Subsidies are awarded in the form of certificates (or vouchers), with the greatest subsidies allocated to the lower priced units (i.e., the maximum subsidy of 150 UF is applicable to a unit costing less than 400 UF). 75 percent of the funds of this sub-program are earmarked to the lowest priced units. Loans on homes benefitting from this subsidy are restricted to (1) 70 percent of the unit's sales price; (2) eight times the applicant's savings; and, (3) a monthly payment not to exceed 25 percent of an applicant's income.

Program beneficiaries purchase units on the open market. Certificates are redeemed at MINVU upon delivery and registration of the house. The balance of the sales price, net of the MINVU subsidy, is covered by applicant savings and a mortgage provided on commercial terms through the housing finance system.

Potential beneficiaries compete for subsidy certificates on a transparent basis. MINVU normally advises the public of successful applications through three yearly notices (called

"llamados" by MINVU). Selection is based on the point system that was previously described. No distinction is made between beneficiaries in Santiago and other regions.

During 1990, MINVU anticipates paying some 24,000 certificates from prior notices, at the same time approving about 30,000 new certificates.

4.3.2.5 Rural Housing Program

This program is a sub-set of the Unified Subsidy Program. It is oriented toward lower income rural families. The maximum value of housing presently permitted by this sub-program is 260 UF (US\$5,290), except in cases where the applicant resides in a rural village or farm collective. In this latter case where basic services can presumably be provided to a new unit, the price of the unit can increase to 400 UF (US\$8,000).

In the former case (unit cost up to 260 UF), the price of the house is totally financed with savings and subsidies. Mortgage credits are not made available, because MINVU is of the opinion that most rural families do not have sufficient savings, nor consistent cash flows, to qualify for and service a loan. Most of the beneficiaries of this program either build their houses by self-help means, or purchase a pre-fabricated dwelling on the private market.

The maximum subsidy authorized for this sub-program is 150 UF. In the case where the cost of the dwelling unit can reach 400 UF, the beneficiary can opt for a mortgage with a subsidy up to a maximum of 280 UF.

Based on MINVU's customary inscription system for the Unified Subsidy Program, prospective beneficiaries for the Rural Housing sub-program are selected from the rolls of applicants on the basis of the point system previously described.

In 1990, MINVU plans to authorize 5,500 new subsidies for this sub-program, and will pay about 6,700 certificates from inscriptions of prior years.

Table 23 summarizes unit price and subsidy characteristics of MINVU's five principal housing sub-programs. The table also provides the percentage distribution of units subsidized by MINVU for the five sub-programs during the period of the previous government (1973-1989).

The subsidy program for 1989 forecast the production of 78,600 units with 77,000 having been achieved. The cost of the subsidy was estimated at UF 9.5 million (US\$172 million), representing somewhat less than 1 percent of the UF 1.2 billion Internal Gross Product (PIB) for 1989.

4.3.2.6 Lease-Purchase Program (Rental Housing Program with Deferred Subsidy)

MINVU has recently floated the idea for a new housing program that is tailored to the particular financial needs of lower and lower-middle income households. This socioeconomic

Table 23. Selected Characteristics of MINVU's Subsidized Housing Program

Sub-Program	Form of Application	Maximum Unit Price (UF)	Maximum Direct Subsidy (UF)	Required Savings (UF)	Distribution of Units Produced, 1983-1989 (%)
1. Basic Housing Program	Individual	215	150	-- ^a	32
2. Special Housing Program	Organized Groups	290	80	30	26
3. Progressive Housing Program (launched 10/90)	Individual or Organized Group	120 ^b	100 ^b	3	n/a
		70 ^c	35 ^c	5	n/a
4. Unified Subsidy Program	Individual or Cooperative	<400	120-150	-- ^a	24
		400-900	100-130	-- ^a	7
		901-2000	80-110	-- ^a	3
5. Rural Housing Program	Individual or Organized Group	260 ^d	90-150	-- ^a	4
		400 ^e	90-280	-- ^a	4

^a Required savings are not specified, but selection is based on amount and length of time saved.

^b Stage 1 construction, including serviced plot plus sanitary core.

^c Stage 2 envisages completion of unit with living/dining room and two bedrooms.

^d Applies to individual applicants.

^e Applies to the application of an organized group whose land can be fully served.

Source: PADCO elaboration of material contained in MINVU, *Memoria 1973-89*.

group often has to save for many years, while living in overcrowded or "doubling-up" conditions, to qualify for a MINVU housing subsidy. Many of these lower income households do not have stable sources of income and, therefore, do not have access to formal channels of credit.

MINVU's proposed leasing program would allow individual households to occupy a dwelling unit on an rental basis while it is saving to purchase it. This program envisages the payment of a subsidy for up to 20 years to a household to assist in accumulating sufficient savings to purchase a house. In the meantime, the beneficiary would occupy the unit while paying a market rent.

This subsidy program would be similar to existing programs for dwellings costing between 200-400 UF (i.e., maximum subsidy of 150 UF). A beneficiary's rental payment plus the MINVU subsidy (both denominated in UF) would be deposited on a monthly basis in

a savings account. These savings would be administrated by an independent agent such as one of the pension funds (AFPs). The administrator would make the full rental payment to the dwelling's owner, and apply the balance plus periodic dividends toward the purchase of the house. The beneficiary would enter into a lease-purchase agreement with the owner of the dwelling. Ownership of the unit would pass to the occupant when the balance in the savings account equals the initial cost of the unit. If the accumulated balance has not reached the original sales price in 20 years, the beneficiary would have to pay off the difference at that time or risk losing the unit. The monthly rent will be established as a percentage of the value of the dwelling unit, but can not exceed 25 percent of the beneficiary's household income.

As a family's shelter needs change over time, this program permits the transfer of the subsidy and the lease-purchase agreement to another unit. The owner of the dwelling unit would have to agree to this transfer. The beneficiary would be permitted to add to or upgrade the unit at his/her own expense if agreed to by the owner. Maintenance costs are borne by the occupant.

Market studies will have to be carried out to gauge the interest of potential investors and beneficiaries for this program. Through this program, a lower income household could gain access to adequate shelter with less savings than normally required by MINVU programs. Also, a beneficiary could move to a new unit, through the transfer of a lease-purchase agreement, at lower costs than currently involved in the sale and purchase of a new house. The obvious advantage to MINVU is that it could serve a much greater number of lower income households for the same level of annual subsidy allocation. In the final analysis, however, the success or failure of the proposed leasing program will depend to a great extent on its financial attractiveness to potential investors.

5 USAID/CHILE AND OTHER DONOR ACTIVITIES

This section highlights the pertinent programmatic activities of USAID/Chile and the principal international donors that have not been dealt with in other sections of this assessment. This section follows similar subject headings to those employed previously: urban development and the environment, decentralization/municipal development, and housing finance.

5.1 Urban Development and the Environment

5.1.1 USAID/Chile Strategy for the Environment and Natural Resources

A.I.D. initiated its Advanced Developing Country (ADC) program in Chile in August 1988. USAID/Chile's approach has emphasized relationships with the private sector, including NGOs, universities, business enterprises and other organizations, rather than government to government projects and the establishment of new institutions. USAID/Chile views itself as a catalyst, seeking to establish linkages between U.S. and Chilean organizations, while leveraging funds and technical assistance from a variety of sources.

The initial thrust of USAID/Chile's program was to support Chile's transition to democracy. Successfully completed this phase, the Mission has turned its attention to supporting various democratic initiatives of the four-year transitional government of President Aylwin. At present, the program concentrates on promoting initiatives which foster democratic processes—voter registration, training/information services for Congressional staff and modernization of the judicial system—and which strengthen the Chilean private sector through a variety of discrete activities. These activities include supporting large industrialists in the provision of technical assistance to smaller businesses, and the introduction of "people-oriented" management courses in local business schools. Through a strategy developed with the World Resources Institute, USAID/Chile has also embarked on a program in environmental and natural resources management.

Beginning in FY89, USAID/Chile "bought into" S&T/FENR's Environmental Planning and Management Project (EPM), which is implemented through a cooperative agreement with the World Resources Institute (WRI) in Washington, DC. USAID/Chile's FY89 and FY90 programs have carried out several important activities. The first activity was a collaborative effort between USAID/Chile and WRI in the formulation of an Environmental and Natural Resources (ENR) strategy for its Chile program. This strategy addresses three fundamental requirements for improving environmental and natural resources management in Chile: (1) the need for environmental policy and effective institutions; (2) the need for more research, analysis and basic information on environmental issues; and, (3) the need for environmental education programs, training and increased public awareness.

Based on its strategic objectives to increase public awareness, USAID/Chile supported the week-long "Tercer Encuentro Científico sobre el Medio Ambiente" in August 1989. This conference brought together Chilean scientific, environmental, NGO and private sector interests to discuss a broad range of environmental issues. As mentioned previously, this conference is credited with making a significant contribution to raising the public's awareness of environmental problems.

To support the dissemination of environmental information, USAID/Chile's FY90 program supported the publication and distribution of the atlas "Environmental Problems of Chile". This atlas contains a thorough identification and ranking of the environmental problems for each of Chile's 13 regions. This study has been disseminated widely in Chile, and has served as a solid foundation for a follow-on study that will prioritize and establish a nationwide system to monitor the country's principal environmental problems.

With Chile's transition to a democratically elected government, USAID/Chile has been supporting the newly created National Environmental Commission (CONAMA) in the development of a detailed action plan to begin to address the country's environmental problems. The formulation of this plan will build directly on the USAID/Chile support for the publication of the atlas and the ongoing prioritization of environmental problems, and on assistance provided to the current CONAMA leadership prior to its taking office in March 1990.

During Fall 1990/Spring 1991, USAID/Chile will support the same team of environmental experts, which prepared the atlas, in the identification and definition of ENR indicators to monitor environmental problems. Based on the quantification of environmental problems provided by the indicators, Chile will be in a better position to begin to plan for the their resolution. In conjunction with USAID/Chile, regional seminars will be held to brief the public on the results of the atlas and prioritization studies. This ongoing exercise to build a consensus with the public on the importance and prioritization of environmental problems will provide a strong basis for formulating an action plan for GOC environmental activities during the next three to four years.

Rapid advances in the public's awareness of environmental problems and the scope of the proposed World Bank, IDB and other donor financial assistance to Chile's environmental agenda has led USAID/Chile to begin to rethink its current ENR strategy. USAID/Chile environmental strategy for FY91/92 will likely evolve in the direction of supporting, within its overall ADC approach, the resolution of those specific environmental problems and questions, of particular interest to the GOC, not addressed by other donors.

5.1.2 World Bank

As mentioned previously, the World Bank is assisting the Santiago Metropolitan Region and Valparaíso/Viña del Mar to address their sanitation problems, as well as deficiencies related to water supply and distribution. The World Bank is currently financing US\$60 million out of a total Santiago water authority (EMOS) investment program of US\$160 million

for the period 1986-1992 (Loan 2651-CH). This program consists of the provision of water supply mains and storage tanks (35 percent of total investment), sewage collectors and interceptors (58 percent) and sewage treatment plants (7 percent) for Santiago. After a lengthy, and to a certain extent ongoing, debate with the World Bank, EMOS selected stabilization ponds as the appropriate technology to resolve the city's wastewater treatment problem. EMOS selected this technology over the more traditional, capital intensive treatment plant for two basic reasons: (1) lower initial cost; and, (2) less skilled labor needed for maintenance. EMOS has identified and acquired a site in western Santiago for the construction of a US\$20 million pilot stabilization pond project. When completed, this project will be able to treat about 2 percent of Santiago's wastewater. While plans for this pilot project move forward, the debate within EMOS and the Special Commission regarding the most cost effective treatment technology for Santiago appears to continue unabated. The World Bank is in the final stage of negotiating a second water and sanitation loan with EMOS. This new loan will assist EMOS in the financing of a multi-year investment program in sewage collection and treatment, and in improving/renewing existing water capacity and in reducing losses at treatment plants and in distribution lines.

The World Bank has just completed funding of a US\$6 million loan (Loan 2652-CH) to ESVAL, the water and sewerage authority for Valparaíso/Viña del Mar, to support its US\$11 million investment program for 1986-1989. The investment program included the construction of water treatment, storage and distribution facilities (85 percent), plus studies and designs for sewerage facilities (15 percent). The World Bank has recently entered into a new US\$100 million water and sanitation loan that will assist ESVAL with its capital investment program to the year 2000. The loan will assist in the financing of 24 kilometers of collectors, the construction of pump stations in Viña del Mar, Concon and Valparaíso, and a treatment plant in the Bustamante tunnel. The water components of the loan consist of the construction of a small treatment plant in Concon and several deep wells. (ESVAL has also recently completed the implementation of a US\$10 million water and sewerage construction project financed by the IDB.)

5.1.3 European Economic Community

The European Economic Community (EEC) has recently funded a major US\$24 million study, in conjunction with the University of Concepción, for the management of the watersheds of the Bio-Bio River.

5.2 Decentralization/Municipal Development

5.2.1 USAID/Chile

USAID/Chile itself is already working on some projects that support decentralization. For instance, it funds PARTICIPA, a civic education group that is now at work on municipal election awareness in localities throughout the most populated parts of Chile. It has provided some seed money to CORCHILE, an NGO umbrella organization composed of private regional development corporations, so that CORCHILE can develop a proposal for

working with municipalities on local development. CORCHILE would work with IULA (based in Ecuador) and the Institute for Urban Studies at the Catholic University in Santiago to implement the project. The USAID mission has also entered into discussion with the Contraloría to extend a national training program in accounting to the municipal and regional levels.

5.2.2 Inter-American Development Bank (IDB)

The Inter-American Development Bank is a major supporter of regional and local government through its capitalization of the FNDR in March 1990 with a US\$210 million four-year loan (see Section 2.4.2.1). In addition to the capital investment funds, the IDB also has a large technical assistance program to support its capital lending to the FNDR. The purpose of the IDB TA program is to increase the capacity of municipal and regional government to expend the investment funds through an agreement with the Subsecretariat of Regional Development and the Ministry of Planning entitled Institutional Strengthening Plan (Plan de Fortalecimiento Institucional). This US\$2 million technical assistance program is designed to train 2,500 technical project analysts in all regions and all municipalities over the next three years. Training is being provided by the Santiago-based Latin American Institute for Economic and Social Planning (ILPES), which is part of the UN's Economic Commission for Latin America. The project includes a full time advisor for 12 months, a series of training seminars in the regional capitals, and the administration of courses in the field. While the IDB project is aimed at teaching very well-defined methodologies for project development and feasibility analysis, bidding, contracting, and follow-up, it does include US\$350,000 to US\$400,000 for "soft" topics such as community participation in project generation and regional government technical assistance to the municipalities. But the project includes no provision for encouraging strategic investment planning that would take into account the potential synergy among investments and add an inter-municipal perspective.

The IDB currently channels its capital resources into two main activities. The first priority is for infrastructure financing, including a program to deal with the backlog of requests for water, sewerage and electricity connections. The second is funding for the development of sites and services and the construction of "casetas sanitarias" or sanitary core units. These sanitary cores are either attached to existing units—many of them very simple units built in the informal sector—or are free-standing units on titled lots which are made available to low income families who may construct their own living space to the core.

5.2.3 European Economic Community

Several European donors are supporting the public/private partnership approach to regional and municipal development through small-scale projects. Other donors involved in decentralization are contributing on a much smaller scale to geographically targeted projects aimed at establishing a close working relationship between the local public and private sectors. Several European donors are supporting regional development corporations in Concepción, Valparaíso, and Antofagasta. The boards of these corporations, which include public,

private, and community representatives, provide a broad base of support ("concertación"). A small German donor, the Friedrich Ebert Foundation, is supporting a pilot project with the province and municipality of Valparaíso that is designed to stimulate local economic development by providing incubator facilities for small and medium sized enterprises (eg. shared communications equipment, management assistance, and foreign and domestic market information).

5.2.4 The Peace Corps

The Peace Corps plans to return to Chile in the not too distant future. Discussions to date regarding the potential placement of volunteers have focused initially on forestry and microenterprise programs. Later on, volunteers requested by the GOC may include those with education and professional experience in planning, engineering, and architecture to work in municipal and regional government.

5.3 Housing and Housing Finance Sectors

5.3.1 USAID/Chile

USAID currently has one outstanding Housing Guaranty (HG-008) and one under negotiation (HG-009). Both involve loans to COVIP, a network of housing production cooperatives, to provide construction financing for the development of home ownership opportunities to members of cooperatives whose incomes are below the median. Each of these guaranties is in the amount of US\$5 million.

COVIP is representative of the capable and well established private sector groups working in the field of housing development. COVIP typically relies on the availability of subsidy resources from MINVU in order to develop housing affordable to its members. Participants obtain financing in much the same manner as those acquiring other subsidy/loan combinations from MINVU and the Banco del Estado. Demand for housing produced by the cooperatives is considerable and is likely to expand once the cooperatives are permitted to operate in geographic areas beyond those to which they have been restricted. As the COVIP network operates primarily as an organizer of demand, any expansion in their ability to organize and develop housing in new areas is likely to contribute to the level of demand for mortgage financing in the country.

5.3.2 The World Bank

The World Bank's second housing sector project provides a loan of US\$200 million to be disbursed over three years. The project's stated objective is to assist the Government of Chile to increase its stock of housing for low income people, to offer a greater variety of housing types to meet the needs and preferences of low income people, to introduce programs to upgrade existing housing to the benefit of low income households, and to improve mortgage collections and reduce subsidies to improve overall system efficiency. By providing resources to the government for use in its established programs, it is expected to increase

the mobilization of private sector housing finance resources. Innovations or specific efforts directed at financial institutions outside MINVU, however, are not presently clear.

The project is expected to result in the construction of 177,000 new housing units and the improvement or upgrading of 36,000 existing homes. A total of 800,000 people are expected to benefit. Provision of this loan is also expected to reinforce the working relationship between MINVU and the private sector (responsible for all housing construction), to improve the efficiency of this public/private relationship, and to strengthen the program of transparent subsidies provided on an objective basis.

The World Bank program recognizes the overall effectiveness of the established GOC program and seeks to reinforce its methods and objectives rather than introduce programmatic innovations into the sector. Its policy objective of reducing the typical subsidy per unit by about US\$200 will have the two-fold effect of spreading MINVU subsidy resources more widely among the Chilean population and of increasing the demand for affordable long-term mortgage financing.

6 PROPOSED STRATEGIES AND OPPORTUNITIES TO ADDRESS PRIORITY ISSUES AND CONSTRAINTS

Preceding sections of this assessment have dealt with the physical, social and economic context for policy and program formulation; the existing institutional structure for urban development and housing finance; the principal obstacles and constraints facing Chile's shelter and urban sectors; and government's and the bilateral/international donor community's programmatic response to these issues. The present section concludes this assessment by proposing a medium-term strategic approach and concomitant short-term opportunities to expand and deepen A.I.D.'s ongoing commitments and initiatives in Chile's shelter and urban sector.

It is worth mentioning at this juncture that the present section does not attempt to address all issues and constraints facing Chile's shelter and urban sector. Rather, it has narrowed and focused the options and choices for a strategic approach and short-term opportunities on the basis of four criteria:

1. Conformity with USAID/Chile Country Strategy and ADC status;
2. Conformity with available A.I.D. technical assistance and capital resources;
3. Conformity with nascent policy and program initiatives of new Aylwin government;
4. Conformity with lending and TA programs of other bilateral and multilateral donors (i.e., to avoid duplication of proposed activities and interventions).

The Aylwin government has been in office less than one year. During this limited time, however, it has launched a series of program and policy reviews to examine the obstacles and constraints facing the country across the shelter and urban spectrum—urban development, the environment, decentralization/municipal development, and housing finance. While the various policy reviews have been coordinated at the highest level of government, the fact that they have been carried out by separate ministries or newly created commissions has resulted in their progressing at varying rates. In some areas (for example, housing finance), the findings and conclusions of investigative commissions have been known for some time, and implementation of recommendations has begun. In other sub-sectors, the commissions are just organizing (national environmental and natural resources) or preliminary results have just been released (urban development). In still other cases, the legal framework on which further action will be based is still being debated in Congress (decentralization/municipal development). The team is of the opinion that A.I.D.'s own initiatives should not get too far "out in front" of government's own thinking and positions in these four principal areas selected to define Chile's shelter and urban sector. Rather, A.I.D.'s broad programmatic approach to shelter in Chile (say over the next three to four years) should begin by taking immediate advantage of capital investment opportunities in those areas where the

new government's own internal policy agenda has progressed furthest. A.I.D. should move more slowly in less well-defined and mature areas to establish contacts and to assist in defining government's policy agenda.

Based on the above rationale, this section proposes a parallel, two-track strategic approach for A.I.D. to pursue with respect to Chile's shelter and urban sector. The recommended two-track approach consolidates potential initiatives in the sub-areas investigated to date under two broad headings: (1) housing finance; and, (2) municipal development (that includes the topics of decentralization, urban development and the environment). While there is certainly scope for interaction and cross-fertilization between the two tracks of this approach, to a great extent, they can be developed independently since they address different sets of sectoral issues and constraints and involve different institutional arrangements for their implementation.

Of the two, housing finance will be treated first in this section since government's own ideas and policy framework are more advanced in this area, as well as the fact that significant work and discussions on program formulation have already taken place between A.I.D. and government's representative, the Ministry of Housing.

6.1 Strategic Approach and Opportunities in Housing Finance

A recent policy document issued by MINVU describes its housing policy relative to the low income population as one in which the government should primarily play the role of intermediary between those who demand and those who produce (supply) housing. In this regard, GOC actions conform with AID and RHUDO policy that governments should act as "facilitators" rather than "implementors". MINVU has also clearly expressed its concern with the present situation, where the government (through Banco del Estado) is the only active source of mortgage financing for lower income families, and its commitment to securing long-term private sector participation in the financing of home mortgages. To this end, MINVU is ready to explore options such as public/private sector partnerships in which government subsidies, regulatory and administrative assistance, and tax or other market-oriented incentives could generate housing efficiently with private sector financing.

The advanced development of the Chilean financial markets, coupled with a pension system, generates a large volume of long-term domestic financial resources. The availability of domestic resources, in addition to the GOC's commitment to maintain a policy framework conducive to market based approaches, underscores that the new program will have an important effect in permanently transferring to the private sector the business of providing low income housing finance. With its sizable domestic resources, dynamic private capital markets and supportive government policies, Chile would be among the first Latin American countries to responsibly address the shelter requirements of its low income population on the basis of domestic, private sector mechanisms and resources. Such an achievement would have an important demonstration effect in other developing countries.

This ambitious initiative will require committed and sustained support from AID or other donors in order to allow the widest possible initial participation of private financial institutions. Follow-on programs could consider local currency guaranties²⁷ to support future refinancing of securitized low income mortgages in the domestic capital market. Both the transition to private mortgage financing and the effective use of local currency guaranties will provide test-case experiences that could be widely transferable to countries with a major AID presence. The team believes this is an appropriate role for the ADC program in Chile.

Given GOC's strong commitment to the policy agenda contained herein, the feasibility of accomplishing its goals is very high. However, the mobilization of private sector resources (for what is an admittedly difficult social goal) will not be easy without the participation and commitment of Chile's powerful private financial sector.

6.1.1 Proposed Strategic Approach

The Chilean shelter sector has been extensively and appropriately analyzed by public and private institutions. A USAID/Chile funded low-cost housing and informal sector study conducted by COVIP (December 1989), with its findings and recommendations, was instrumental in guiding a broader-based multi-disciplinary advisory commission on housing finance set up by MINVU (September 1990). The commission's report was presented publicly by MINVU at a seminar during September 1990. Its conclusions received the fullest backing of attending public authorities (MINVU, the President of the Central Bank, the respective Superintendents of Banks, of Insurance and Securities and of AFPs, among others) and private sector participants in the housing finance area. The seminar was closed with a very strong pledge of support for its policy agenda by the President of Chile.

Current USAID/Chile opportunities in housing finance also build on the findings of the mission's interim evaluation of the HG-008 program (April 1990) and the proposals of the most recent HG-009 project paper.

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 economy. AID, in a number of areas including housing (one of the areas of most serious pent-up demand), is intent on assisting the new GOC in finding ways to encourage the private sector to apply their resources and skills to develop sustainable, market-based ways of addressing the needs of the poor.

²⁷A local currency guaranty in the context of A.I.D.'s Housing Guaranty (HG) program is an agreement in which a U.S. lender arranges for credit in a local currency, rather than in U.S. dollars. The Foreign Assistance Act of 1961, as Amended (1988), presently permits the issuance of local guaranties provided that the investor is a U.S. citizen; corporation, partnership, or other association under the laws of the United States; and/or a foreign corporation, partnership, or other association wholly owned by one or more such U.S. citizens, corporations, etc.

The latest HG-008 (FY 1988) and HG-009 (FY 1990, in process) were designed to support and consolidate the position of private sector institutions—specifically open housing cooperatives under the umbrella of COVIP—as builders of low income housing in Chile. While IBRD and IDB have each recently signalled the weight that they place on alleviating the low income housing shortage in Chile through two new loans to GOC for US\$200 and US\$70 million (respectively, to support MINVU's housing subsidy and financing programs and to support a large-scale infrastructure upgrading program), AID is alone at this stage in providing direct support to private institutions in the low income housing construction area. HG-008 housing has been affordable to families in the third income decile and HG-009 completed housing and progressive solutions are expected to be affordable, respectively, by families in the second and first income deciles.

Having effectively assisted in the private sector production of low income housing (HG-008 and HG-009), AID's attention can now turn to supporting mechanisms which will enable Chile's private financial sector to participate in the nation-wide provision of mortgages for lower income families (presently the exclusive preserve of the public sector).

The general thrust of our recommended strategic approach is to assist GOC in its sectoral efforts to secure a meaningful, continuing participation by private sector financial and support institutions in meeting the shelter needs of low income families.

Immediate beneficiaries will be lower income families (down to the bottom first decile) left out of current solutions which rely, almost exclusively, on limited government funding. Ultimately, however, the whole housing finance and related sectors are expected to benefit from resulting market expansions.

While MINVU has clearly established a viable program of housing, there are several specific concerns which also must be addressed, in addition to the broader issues outlined in Section 3.3, if efforts are to expand to address the traditional reluctance of financial institutions to deal in low income mortgages. These include the lack of client contact and experience and high administrative costs in addition to the financial issues addressed above. Administrative costs have been reduced over past years, as found by the World Bank in the preparation of its sector report; but further reductions may be warranted. Opportunities for public participation and for active roles by capable NGOs may also be considered to strengthen program operations, the suitability of shelter solutions available, and public support for MINVU program changes in the direction of a greater private sector role.

Thus, our proposed strategic approach would include the following elements:

- 1: Expand the development and effectiveness of grass-roots institutions (PVOs, NGOs, cooperatives, local entrepreneurs, etc) dedicated to **organizing the demand of shelter solutions for lower income families**, so that they may help to bring together (a) those families who do not naturally go to established financial institutions and (b) the financial institutions which are ill prepared to seek out such families as a

potential client base. This approach, by wholesaling production, should also help to reduce mortgage origination and servicing costs.

2. Enhance the **financial appeal and marketability of mortgage instruments** for loans to lower income families so that they may be readily underwritten and/or purchased by private sector financial institutions and other investors, while at the same time allowing for the introduction of new, innovative mortgage instruments that can smooth out possible disparities between the rate of change in borrowers' income levels and their loan repayment obligations expressed in inflation adjusted UFs.
3. Encourage existing private sector financial institutions to invest in mortgages to lower income families and, should they fail to do so, promote the establishment of new institutions (particularly "mutuarias") willing to specialize in lower income lending. In this regard, the demonstration effect of a **successful mortgage origination operation for lower income families** is considered of vital importance to a broader long range involvement by the private financial community.
4. Provide support for an **active secondary market in lower income mortgages**, to promote prompt, easy, and inexpensive negotiability, as well as in-depth liquidity, to lower income mortgage instruments, thus providing the housing production industry with refinancing alternatives in local capital markets, specifically backing up the operation of market makers providing needed liquidity and negotiability.
5. Provide support for a **home-mortgage payroll deduction scheme** (similar to that existing for pension fund contributions) to ensure prompt collection of lower income loans and to achieve a considerable reduction in servicing costs, while simultaneously overcoming a mortgage lender's traditional (and understandable) reluctance to write small denomination loans.
6. Provide support for a **credit insurance scheme** (in amplification of the existing mortgage insurance coverage) to guarantee the timely and uninterrupted payment of principal and interest quotas on lower income mortgage instruments, with a view to enticing institutional and other investors to build up substantial portfolios of these securities.
7. Support the implementation of **progressive housing and lease-purchase programs** as interim or alternative solutions to the shelter needs of lower income families.
8. Establish conditions to facilitate a more fluid process for acquisition, replacement and sale of low cost housing, to avoid present disincentives to **home ownership mobility** and thus provide for a more efficient use of existing housing stocks.

6.1.2 Opportunities for Capital Assistance

Opportunities for capital assistance may be summarized as follows:

1. The provision of capital resources to promote and sustain the development of new financial mechanisms and private sector institutional involvement in primary and secondary markets for the financing of lower income shelter solutions.
2. Follow-on local currency guaranties to partially support the issuance and successful placement of securitized low income mortgages, in order to generate the domestic refinancing adequate to sustain a private low income mortgage lending industry.

Specifically, capital assistance could be used to support a policy dialogue and programmatic activities in the following three areas:

Mutuarias. Seed capital could be offered on a "tender" basis to mutuarias undertaking lower income lending programs. Preference could be given to those mutuarias promising adequate performance and providing the largest proportion of their own resources. Seed loans could be for an initial 10 year term, with automatic renewals for similar terms upon satisfactory performance. If, as anticipated, the mutuaría would have to "warehouse" its loans for a prudent period of one or two years in order to offer "seasoned" mortgages into the secondary market, on-lending of the seed loans could be rolled over between five and ten times. The mutuaría would retain the servicing of all (or most) mortgages sold into the secondary market and its profits would grow as this portfolio of serviced loans increased.

Insurance. A combination of foreign and domestic private insurers' funds could joint-venture to underwrite the cash-flow risk inherent in the time delay required to collect on the GOC's credit insurance coverage of low income mortgages.

Market Making. Available foreign funds could be joint-ventured with matching funds from private brokers or institutional investors willing to make a market in the enhanced lower income mortgage instruments. It is our understanding that such an activity would be permitted under the Foreign Assistance Act so long as HG resources were not used for primary lending at an earlier phase of program development, and A.I.D. were presented eligible expenditures equivalent to the dollar amount of the loan.

6.2 Strategic Approach and Opportunities in Municipal Development

The picture with respect to government policy initiatives in the area of municipal development is currently much less well-defined in comparison to the housing finance sector. With the return of democracy to Chile, the topic of decentralization has resurfaced in the arena of public debate. There is a broad consensus that decentralization is necessary for Chile's future development. But decentralizing and democratizing the government will achieve nothing unless the authority and resources to promote development and attend to social needs are also transferred.

A municipal reform bill that would allow direct election of mayors is also close to conclusion in the Congress. After passage of this bill, debates on municipal functions and financing will take place around the enabling legislation that will accompany the constitutional reform. Also under debate by the new government, but without any specific legislation or reform as yet being introduced into Congress, is the strengthening of regional government and its relationship to both provinces and municipalities.

Thus the specific nature of decentralization in Chile is not yet completely defined. The current state of flux, nevertheless, presents A.I.D. a timely opportunity to formulate a medium-term strategic approach to defining a policy dialogue with the GOC on the key issues described above. There is also a number of specific short-term opportunities involving technical assistance, training, and studies that USAID/Chile could pursue and support. Capital assistance programs could be considered in two or three years, once the institutional environment has solidified. The following paragraphs provide a broad outline for the proposed medium-term strategic approach, as well as the particulars of short-term opportunities. For the purpose of this discussion, our recommendations in the areas of municipal development/decentralization, urban development and the environment will be structured to support Chile's ongoing municipal development process.

6.2.1 Medium-Term Strategic Approach

The following are the principal elements of the proposed medium-term strategic approach for municipal development:

1. Provide civic education to strengthen local and regional democratic institutions.

After nearly two decades of non-elected municipal governments, civic education for democracy at the municipal level will be important to the success of this re-emerging democracy. This civic education should be aimed not only at organized social and business groups, but also local public officials and staff. The civic education should cover public participation, the role of local government, and the use of public resources. The idea is to make local government a consensus-building tool for local development rather than a tool for party politics. This civic education could also address the need for building public/private partnerships to strengthen the local private sector and foster local economic development. It would be useful to extend this civic education from the municipal level to the regional level, since legislation is already being prepared to strengthen democratic participation at the regional level.

USAID/Chile is already working with two organizations that could offer this civic education: PARTICIPA and CORCHILE. IULA also has recognized experience in this area.

2. Improve financial autonomy of local government without abandoning the fiscal responsibility instituted by the previous government.

This element would address the existing centralized budgeting process as it impedes local initiative and efficiency. Innovative techniques for local resource mobilization and cost recovery would be examined and introduced, where applicable.

3. Support the development of programs and projects at the local level that would stimulate social and economic development.

Policy discussion would support ongoing government initiatives to have capital assistance programs at the level of local government serve as the catalyst for social development (health, education, housing and basic services) and economic development (conservation of the environment and natural resources, job creation, and improvement of local income and productivity).

4. Support the targeting of project activities in those areas of the country that are most economically viable.

Technical and capital assistance would be targeted on those regions and principal secondary cities exhibiting high economic growth potential in the agricultural, mining, fishing or forestry sectors. The Central Valley Regions V, VI, and VII, in addition to the secondary cities of Concepción and Antofagasta, would be prime candidates for the location of pilot development projects.

6.2.2 Short-Term Opportunities

AID's objective in pursuing these short-term opportunities in municipal development would be four-fold: (1) to serve as a catalyst in supporting the ongoing dialogue between Chilean public and private sector organizations on selected local government topics; (2) to establish linkages between appropriate U.S. private sector organizations and Chilean institutions to address specific problems at the local level; (3) to establish itself as a serious player with key Chilean actors and institutions in the municipal development area; and, (4) to define a specific policy agenda in this field that could lead to a capital lending program in two to three years.

6.2.2.1 Decentralization and Municipal Development

1. Provide training to local and regional government staff in strategic investment planning.

The Interamerican Development Bank already has a US\$2 million program of technical training for regional and municipal employees that is in place and will last over the next three to four years (see above). But there is a definite gap in the training being offered that USAID/Chile could address: strategic investment plan-

ning at the local and regional levels. Officials interviewed at all levels of government have cited the importance of, and need for, a strategic planning capability. While the policy dialogue could address the structural obstacles to implementing strategic planning (see above), a training component could address the local capacity constraint. Local NGOs, such as the Sociedad Chilena de Planificación, the Instituto de Estudios Urbanos, or ILPES (UN/ECLA), could provide the training either directly or by subcontracting to a local private firm specialized in strategic investment planning.

2. Finance three to five pilot projects in public/private cooperation for local development.

The Ministry of the Interior is very keen on the idea of pilot projects that would show how a municipal or regional government could become a catalyst for private sector strengthening. These pilot projects would go beyond the civic education described above. They would include training for municipal officials and private sector representatives in the design and implementation of mutually beneficial investments. Technical assistance for project identification, financial packaging, and implementation would be provided. The pilot projects would be located in Chile's most populous regions outside Santiago (Regions V, VI, and VII). High officials in the Ministry of the Interior liked the idea of using a private sector NGO, such as CORCHILE, to implement the pilot projects.²⁸ The AID mission in Chile has already begun to work with CORCHILE in developing a proposal.²⁹

3. Support diagnostic studies of key regions in Chile.

Diagnostic studies of the social, economic, and demographic problems of key regions in Chile would facilitate a strategic public investment planning process for those areas and could provide an information base useful to public/private efforts to promote local development. The Minister of Housing was highly supportive of carrying out such studies for the Central Valley (Regions V and VI) and the Argentinian border region. The Urban Studies Institute at the Catholic University, in conjunction with regional universities, could undertake the studies.

²⁸The only hesitation was voiced by the director of international technical cooperation for the Ministry of Planning. He preferred that development corporations set up by the regional governments to include a broad spectrum of private, public, and community participation be used. There are examples in Antofagasta, Valparaíso, and Concepción. Since CORCHILE has private development corporations in both Valparaíso and Concepción, AID should make an on-site assessment of the institutional milieu in those places as part of any pilot project design with CORCHILE.

²⁹The CORCHILE proposal at present includes IULA as a pass-through entity for administering the funds. It also includes the Urban Studies Institute at the Catholic University for providing necessary technical studies and/or training municipal employees.

4. Support small innovative pilot projects in local and regional government administration.

Local and regional government administrators tend to limit their efforts to routine administrative activities and are reluctant to try new methods or new activities. The Ministry of the Interior's Subsecretariat for Regional Development wants to identify and replicate a series of pilot projects that show that local government can be the catalyst for both social development (health, education and housing) and economic development (use of natural resources, job creation, and improvement of local income and productivity). The Subsecretariat would also like to identify, promote, and replicate initiatives in some new areas for local and regional government: eg. special needs of women and ethnic groups, consumer education, environmental education, problems of border regions, the needs of low income dormitory suburbs, and tourism development. The Subsecretariat would like to identify and support two such innovative projects in each of the 13 regions.

An example of an innovative project comes from Graneros, where the municipality has included a budget item for studies to contract specialists to help the neighborhood groups develop their ideas into solid investment project proposals for urban services. Another example comes from Rancagua, where the regional government (Region VI) has established a civic education course with video tapes using volunteers from the regional teachers' association. The volunteers have trained nearly 2,000 community and neighborhood leaders, mainly women. The Intendente attributes the absence of illegal land take-overs by the *allegados* (migrant families to the city who move in with relatives or friends because of lack of affordable housing) to the training courses that convinced the neighborhood leaders of the value of organizing themselves to buy land for housing. In another example, also from Region VI, the Intendente has developed a pilot project for inter-municipal coordination of urban service provision, entitled "Plan Piloto de Desarrollo Microregional de Grupos Solidarios."

5. Support the development of a decentralized database management system for local and regional government.

The GOC is undertaking a complete overhaul of the national information system of legal, budgetary, financial and socio-economic data, but this will take years to implement. In the mean time there is basic information necessary for effective local and regional government that does not exist, exists only in ad hoc form, or is available only at the central government level. The Subsecretariat proposes an effort to identify the data most needed for local and regional government, direct the flows of information to the local and regional level, train local and regional government staff to better use the information, and create mechanisms to supply information to the community to improve local ability to generate project proposals and participate in local government.

6. Support a training program in local financial administration and accounting.

The Contraloria (Hacienda) agreed that the training course it has developed with Price Waterhouse for high level administrators in the central government would not be adaptable to the local level. Also the Contraloria does not have sufficient staff to send in training teams to the regions. It would be more appropriate for regional offices of the Contraloria in the intendencias to provide local training. Two or three of the largest regional governments already do provide technical assistance to the municipalities in this area. USAID/Chile could help the Contraloria train staff in the other regional offices to offer courses in financial administration and accounting to their municipalities. There are private firms throughout Chile, also, that could provide auditing and accounting instruction.

Capital lending possibilities in the short term are scarce, but opportunities may develop in three to four years. Depending on the direction the current debate on municipal and regional finance takes there could be an opportunity in a few years to finance municipal bonds (or secondary market instruments for municipal bonds); however, at this point the prospects look unlikely. If regional development corporations experience some success, or municipal development corporations are reinstated, they could provide some future opportunities for capital lending.

One immediate option exists for capital assistance through MIDEPLAN's proposed pre-investment fund.

While the GOC is very carefully avoiding getting directly involved in productive activity, it wants to induce private sector investment. Yet the government's investment funds for the regional and municipal levels are restricted to social investments (i.e. helping the poor). The one financial vehicle it has chosen to stimulate private investment is the Fondo de Pre-Inversion (Pre-investment Fund), a decentralized fund that would provide 50 percent of the cost of a pre-feasibility study (to be matched by a private entrepreneur) in areas or activities where the private sector is not developing on its own. Evidently no international donors have yet offered to capitalize this fund.

Through a timely policy dialogue with the GOC and through limited intervention targeted at influential points in the decentralization process, as suggested here, USAID/Chile could play a useful role in supporting Chile's efforts to strengthen the local public and private sectors.

6.2.2.2 Urban Development and the Environment

1. Assist MINVU and Chilean Construction Association to analyze implications and alternatives to continued peripheral expansion of the country's urban areas (one option being proposed is to investigate and formulate alternative strategies, such as urban redevelopment/revitalization via densification, to combat the deterioration of Chile's center cities, including Santiago).

2. Assist MINVU and the regional water and sanitation authorities in the investigation of alternative small-scale, cost effective systems for the supply of potable water and the treatment/disposal of wastewater.
3. Assist in the examination of whether the Santiago/Valparaíso/Viña del Mar conurbation should be treated as a macro-region with respect to industrial location, the installation of infrastructure, and the siting of new shelter schemes.
4. Assist in analyzing the need for and the identification of alternative forms of metropolitan government for Chile's larger urban areas (currently composed of multiple, poorly coordinated municipalities).
5. Assist MINVU in strengthening its urban development capacity and capabilities.

APPENDIX A
DECENTRALIZATION IN CHILE
An Overview

(by Pat Wilson)

Financing

FNDR (Fondo Nacional de Desarrollo Regional): largely financed by a loan from the Inter-American Development Bank, this fund is an important source of investment capital for municipalities and the only source of investment funds for the regional governments (since sectoral ministry funds are not under the control of the regional governments). The funds are limited to social investments—i.e. infrastructure related to housing, education, and health that can be shown to benefit the poor. The Ministry of the Interior (Subsecretaria de Desarrollo Regional) administers the funds.

Fondo Comunal Municipal: This fund pools 40 percent of the revenues collected by the central government for the municipalities (mainly property taxes) and redistributes them to the municipalities on the basis of a formula that favors the poorer municipalities and those in greatest fiscal need. The Ministry of Interior's Subsecretariat of Regional Development audits municipal disbursements of the Fondo Comunal, but the municipalities have discretion over the use of the funds.

FOSIS (Fondo de Solidaridad e Inversión Social): a new fund supported by foreign aid and administered by the Ministry of Planning for assisting small scale community development projects throughout the country.

Structure

Regional government: an administrative arm of the central government.

Intendente: head of the regional government, chosen by President.

CODERE (Consejo Regional de Desarrollo): advisory body representing the various organized sectors of the region. The members are currently chosen by the intendente, but may become elected by the organizations themselves after a regional reform law now under discussion is passed.

SERPLAC (Secretaria Regional de Planificación): regional office of the Ministry of Planning, provides technical assistance to the intendente and does technical studies of all public investment proposals for the region.

SEREMI (Secretarias Regionales Ministeriales): each ministry has a regional office called SEREMI that is in charge of administering the regional activities of the ministry.

Municipal government: relative autonomy in the use of own revenues (primarily property tax receipts, vehicle licenses, and business licenses), but centrally directed in the administration of education, health, and social programs which are paid for by central government transfers and, in the case of health, by user fees.

Mayor: still chosen by President, but soon to be elected. Most of the current mayors are holdovers from the military government.

CODECO (Consejo de Desarrollo Comunal): Like the CODEREs, an advisory council of representatives from the organized groups (neighborhood, professional, and business) that are chosen by the intendente. They will soon be elected by their membership.

SECPLAC (Secretaria Comunal de Planificación): municipal office that carries out the functions of the Ministry of Planning at the local level—eg. technical studies. Small municipalities may not have a SECPLAC staff and will rely on the regional SERPLAC for assistance.

DESOCOS/DISOCOS: Departments or divisions of community development that implement the social safety net programs assisting the very poor.

National Level

Banco Integral de Proyectos (BIP): The list of all public investment projects approved by the Ministry of Planning on the basis of technical, economic, and social criteria (in keeping with national public policy to benefit the poor). The Ministry of Planning reviews all proposed public investment projects from the sectoral ministries, the regions and the municipalities (except those undertaken by the municipalities with their own resources).

Ministerio de Hacienda (Finance Ministry): As part of a very centralized national budget system, Hacienda determines the total amounts in the annual budget to be allocated to each territorial division and each sector. It also has the power to eliminate specific BIP projects. The final budget is approved by Congress. Within these budget constraints, regional and municipal governments may prioritize the remaining BIP projects in the order to be implemented.

Subsecretaria de Desarrollo Regional y Administrativa: Under the military government this division of the Ministry of the Interior was responsible for closely supervising the regional and municipal governments, including the evaluation and approval of individual investment projects financed by the FNDR and the Fondo Municipal. Under the democratic government, the investment planning process was transferred to the new Ministry of Planning (a strengthened version of the former ODEPLAN). Nevertheless, the Subsecretaria remains the principal central agency in charge of municipal and regional affairs. The Regional Development Division administers and disburses FNDR funds; the Municipal Social Development Division audits municipal expenditures of Fondo Municipal funds.

(There is a third division called Administrative Development, whose directorship was reportedly a political appointment with no particular functions.)

1 INTRODUCTION

Chile's democratic transition presents an opportunity for USAID.

After seventeen years of military dictatorship, Chile is now experiencing a democratic transition. The newly elected government of Chile (GOC) that took office in March, 1990, has just over three more years remaining of a four year transitional term in which to consolidate the democracy and ensure its survival. An advanced developing country,¹ Chile presents a unique opportunity to USAID because this democratic transition is being built upon a market-oriented economy. The GOC is continuing the military government's basic development strategy of leaving productive activity to the private sector and using government to maintain a social safety net for the very poor. Chile's two-fold challenge—and the priority for USAID—is to show that democracy works and that the private sector can play a vital, socially responsible role in the new democracy.

Growing urban problems throughout Chile will test the mettle of the new democracy.

Greater Santiago's five million inhabitants account for nearly 40 percent of the country's population. While Santiago continues to grow, secondary cities of between 100,000 and a million inhabitants grow even faster. Poverty is increasingly an urban problem throughout the country. With it comes a host of new or exacerbated urban problems to solve: lack of housing and infrastructure, environmental degradation, inadequate employment and training opportunities, public health problems, youth unemployment, drug addiction. Whether the elected government can respond effectively to these urban problems will be a crucial test for the new democracy.²

Strengthening local government is a key to the success of the re-emerging democracy.

With the return of democracy to Chile, the issue of decentralization has resurfaced in the arena of public debate. There is a broad consensus that decentralization is necessary for Chile's further development: population must be decentralized in order to use the country's resources more effectively, and government must be decentralized in order to be more

¹A.I.D. uses the designation ADC to indicate an advanced developing country—i.e. a developing country with above average income levels. A.I.D. projects in ADCs are generally focused on specific opportunities consistent with US policy priorities, rather than comprehensive sector programs addressing the gamut of local needs.

²Many public housing officials of the new government measure their success in terms of whether they have been able to avoid "tomas," i.e. spontaneous takeovers of land by the poor for housing. Tomas were outlawed and repressed by the military government.

efficient and responsive. Local capacity of the public sector must be strengthened to address growing social needs. Local capacity of the private sector must be strengthened to provide jobs and reduce migration to larger cities. Popular election of municipal mayors is seen as a step toward strengthening local government, since the elected officials would be more responsive to local voters than the current mayors, who are appointed by the central government. But decentralizing and democratizing the government will achieve nothing unless the authority and resources to promote development and attend to social needs are also transferred. The decentralization debate focuses on how best to strengthen local government.

While the specifics of local government strengthening are still in debate, AID Chile can take advantage of short-term opportunities to contribute.

A municipal reform bill that would allow direct election of mayors is close to conclusion in the Congress. After passage of that bill, debates on municipal functions and financing will take place around the enabling legislation that will accompany the constitutional reform. Also under debate by the current government, but without any specific legislation or reforms being introduced to Congress yet, is the strengthening of regional government and its relationship to both provinces and municipalities. Thus the specific nature of decentralization in Chile is not yet totally defined. This current state of flux, nevertheless, presents USAID/Chile a timely opportunity to enter into a policy dialogue with the GCC on key issues. There are also a number of specific short-term projects involving technical assistance, training, and studies that USAID/Chile could support. Capital investment programs could be considered in two or three years, once the institutional environment has solidified.

2 DECENTRALIZATION UNDER THE MILITARY GOVERNMENT

The military government strengthened local and regional administration.

The military government that was in power from 1973 to 1990 took some major steps in decentralizing the central government. It created a regional level presence for the central government by creating thirteen regions, each with regional offices of the central government ministries and a regional administrator (intendente) named by the President. It harnessed the municipality, whose mayors were also named by the President, as the implementing arm for some important central government functions—basic education, primary health care, and social programs for the very poor. It also strengthened local administrative and technical capabilities to a level seldom found in Latin America.

The military government nevertheless maintained strong central control.

The military government used this regional and municipal administrative network as a mechanism, not just for top-down control of the populace, but also for implementing national policy aimed at decentralization, privatization, and social investment for the very poor. To this end the military government created a sizeable fund (with international assistance) for

regional and local social infrastructure projects, called the Fondo Nacional De Desarrollo Regional (FNDR). The military government also created a redistributive mechanism for municipal revenues (Fondo Comunal Municipal). Both of these funds were aimed at social investments to help the very poor and territorially decentralize public investment. But the military government did not relinquish central control. It maintained tight administrative, financial, and political control over the regional intendencias and municipalities. While the municipalities were given discretion over expenditures of their own resources, the central government maintained control over the amounts of those resources.

3 CURRENT INSTITUTIONAL FRAMEWORK AND PROPOSED CHANGES

3.1 Regional Government

Regional government is an administrative unit of the central government.

The regional government is an arm of the central government—not an autonomous unit representing the region itself. Each of the 13 regions (12 regions plus Metropolitan Santiago) is headed by an intendente named by the President. All were replaced by the new President this year. The intendente is considered the representative of the President in the region and has the status and confidence nearly equal to that of a cabinet minister.

Regional governments carry out investment planning on a project-by-project basis.

The law assigns regional government the task of preparing and approving the investment budget for its region. With a minimum of 15 employees, the regional office of the Planning Ministry, called SERPLAC, is designated to carry out the planning and budgeting functions. SERPLAC applies rigorous methodologies to evaluate all public investment projects proposed for the region (other than those carried out by municipalities with their own discretionary funds). SERPLAC reviews projects for technical and financial feasibility, as well as conformance with national policy (primarily, whether or not the project benefits the very poor). It also checks proposed projects for compatibility with the regional development plan and the national development plan. SERPLAC enters acceptable projects into the Banco Integral de Proyectos (Project Bank), the list of approved public investment expenditures.

Strategic investment planning is rarely done.

SERPLAC is also assigned by law the task of regional development planning—i.e. developing an investment strategy that would serve as a framework for investment decisions by the sectoral ministries and promote the integrated development of the region (see policy dialogue issues, below). In practice, few regions formulate more than perfunctory regional

development plans, and investment projects are analyzed and approved on a project-by-project basis without considering their role in a larger strategy.

Regional governments have little control over central ministry investment decisions.

One reason why few regions develop strategic investment plans is their lack of control over central ministry investment decisions in the region. Regional government by law is supposed to coordinate central ministry activities at the regional level. Each central ministry has a regional office, called the Secretaria Regional Ministerial (SEREMI), with limited operational autonomy. The SEREMI serves a dual role as technical advisors to the Intendente and supervising agency for the regional activities of its respective central ministry. While the Intendente is supposed to coordinate the sectoral investments of the various central ministries under the guidance of a regional development plan, in practice the SEREMI follows primarily the central ministry orders, especially with respect to investment priorities.

The only investment capital that regional governments have some control over comes from the FNDR (National Fund for Regional Development).

The military government established the centrally-controlled FNDR with government funds for the purpose of promoting decentralized infrastructure investments that benefit the very poor—eg. housing and community infrastructure, health, and education facilities. Since 1985 the FNDR has been financed almost exclusively with loan money from the Inter-American Development Bank. Days before the new government took office the IDB signed a four year contract for US\$210 million in loans to continue the fund. Strict eligibility rules govern the use of all but 25 percent of the fund which is left up to local discretion. The 75 percent that does not come under local discretion is centrally administered by the Subsecretariat for Regional Development of the Ministry of the Interior in Santiago. The regional governments do have the ability to prioritize projects for implementation once they have been approved by the Ministry of Planning (SERPLAC) and included in the regional budget set by Hacienda and approved by Congress.

National policy seems to be holding sway over regional political pressure in the allocation of public investment money.

While the regional subsecretariat of the Ministry of the Interior has a formula for allocating FNDR funds, the current government has allowed exceptions to the formula. As a result, the Subsecretariat quickly became the object of regional political pressure by members of Congress. Most regional government officials interviewed, however, recognized the need for national policy criteria to supersede regional interests in allocating the funds. The GOC hopes to reinstate a hard and fast formula in the upcoming legislation concerning regional government, in order to avoid politicization of the FNDR.

The GOC is now developing legislation that would strengthen regional government, possibly by creating regional development corporations.

Since municipal reform legislation is about to emerge from Congress, the administration has begun to formulate follow-up legislation that would strengthen regional government. While it is difficult to gain support within the government for strengthening regional control over central ministry budgets, there is a strong current within the administration to strengthen regional government by creating public or mixed regional development corporations. These corporations, governed by a board representing the spectrum of organized groups in the region, would undertake not only social investment in the region, but also productive investment—i.e. public investment intended to stimulate private investment. Corporation activities could include a range of projects from flood control infrastructure or other natural hazard mitigation, to revolving loan funds and technology transfer for business development. Regional governments are currently prohibited from such activity not only by law, but also by IDB guidelines for the FNDR. (Legal changes would have to be accompanied by a renegotiation of the IDB loan terms.) The regional development corporations would devise an investment strategy that would guide their investments and inform the private sector of future directions. Another proposal to strengthen the regional governments would allow the SERPLAC, the regional offices of the Planning Ministry, to authorize the entry of proposed projects into the national project bank (BIP) without approval from Santiago.

The legislation may also propose expanding and decentralizing the FNDR and creating a new fund to underwrite private sector pre-investment studies.

The proposal would not only expand the number of eligible uses, but also the amount of FNDR funds by bringing national contributions to the fund up to the legally mandated 5 percent of the total national investment budget. Under this proposal, much of the administration of the FNDR would be decentralized to the regional governments. The FNDR would be accompanied by a regionally administered pre-investment fund that would pay for about half the cost of a pre-investment feasibility study.

With all these proposed changes, the GOC remains steadfast to the principle that the public sector's role is not to replace or compete with the private sector, but to strengthen it.

The government officials interviewed were all very careful to stipulate that these proposals would aim only at stimulating private investment in places or activities where the private sector had little information about opportunities. For example, the regional development corporation would become a partner of private enterprise only in the poorest or most distant regions where private sector investment was weak. Similarly, the pre-investment fund would assist feasibility studies only for places or activities in which there was no existing private sector experience or interest to draw upon.

The new legislation may also propose democratizing the regional governments to some degree.

One area of likely reform for regional government now being discussed by the administration is to democratize the regional development councils (CODERE). The CODERE are presided over by the intendente and composed of the region's provincial governors, one member of each branch of the armed forces and Carabineros, and representatives of the organized private sector of the region (eg. regional NGOs and commercial associations) chosen by the intendente. While the councils are supposed to advise the intendente on budget decisions, in practice the councils are not very functional under the new government. The most likely proposal to emerge from the administration's commission dealing with regional government reform is to have a council of representatives from the entire range of organized groups in the region that would be elected directly by their members. Like the proposed municipal social and economic council (see below), this elected body may be simply advisory. Some members of the commission are also advocating an additional body of directly elected representatives akin to a regional parliament that would be more than just an advisory group.

3.2 Provincial Governments

Provincial governments will probably continue to play a minimal role, even in the area of municipal coordination and support.

The military government minimized the role of the provincial governments when it introduced regional governments in 1974. The provincial level still exists but is largely devoid of any but ceremonial functions. There have been some proposals for the provincial governments to coordinate and assist municipal governments in areas where the municipalities are small and poor. The most likely proposal from the commission, however, is for the regional government to provide technical support to the municipalities and coordinate public investments among them.

3.3 Municipal Governments

The municipalities have not been able to exercise all the new functions the military government authorized to them.

The municipal reforms of the military government left the municipalities with a long list of legally authorized functions, some exclusive and some shared with the ministries. In practice the functions exercised are limited largely to transit and public transportation, garbage collection, parks and public space maintenance, street lighting, community development, sports and recreation, basic health care and elementary education. Financial, administrative, technical, and even legal constraints prevent the municipalities from carrying out many of their functions. Basic health care oversight has been particularly slow in being transferred to the municipalities and in most places is still in the hands of the Ministry of Health. Primary education is often put into the hands of a semi-autonomous municipal corporation.

Municipalities are by law responsible for urban land use planning and regulation. In practice, however, the function is undertaken by the Ministry of Housing.

Investment project planning is relatively strong at the municipal level, even though most public officials see the need for improved capacity.

Each municipality above 30,000 residents has a municipal office of planning and coordination, called SECPLAC. It is answerable to the mayor, but advised by the regional SERPLAC. Its main role is to perform the technical studies and evaluations supporting proposed municipal investments. SECPLAC personnel tend to be well trained by MIDEPLAN in project preparation and evaluation. Municipalities that do not have a capable SECPLAC will often get technical assistance from SERPLAC on project evaluation.

Municipal development planning is rarely carried out.

SECPLAC is also charged with preparing a municipal development plan. Because of the emphasis of the national budget system on project-by-project analysis, the lack of municipal control over sectoral investments by the central ministries, and the lack of strategic vision among municipal leaders and staff in formulating project proposals, this task is largely a pro forma activity—little more than a project wish list. While SECPLAC personnel may be well trained in project preparation and evaluation, they are not trained in strategic development planning.

Another strong point of the municipalities is in the administration of poverty assistance.

Under the military government Chilean municipalities became highly efficient in the administration of poverty assistance. Municipal social development departments (called either DESOCO or DISOCO) were required by the military government to track the extremely poor target population and provide poverty assistance such as rent subsidies, food programs, and employment programs with central government funds. DESOCO became the vehicle for detecting local needs and channeling community participation non-politically. Current proposals are to provide the municipalities with more democratic channels of demand expression—see below.

The current government has kept privatized municipal service delivery.

The current government has continued the previous government's example of privatizing municipal service delivery, although not all municipalities have followed through. Because of central government restrictions on municipal staff sizes, the municipalities have a direct incentive to contract services from the private sector. These contracted services include garbage collection and disposal, street maintenance and repair, transportation (including municipal vehicles), and construction. There are extremely detailed bidding procedures enforced by Contraloria for this contracting.

The use of municipal corporations for service delivery is currently under debate.

Some of the largest municipalities provide services through municipal corporations, defined as not-for-profit private organizations. While originally intended by the military government to be a mechanism for education and health service delivery, municipal corporations have operated child care, student food programs and other municipal services (eg. cemeteries) not subsidized by the central government. Afraid that the municipalities were creating corporations as a way of avoiding direct hire limitations on municipal personnel, the Contraloria prohibited the creation of new municipal corporations in 1988. There is currently a debate on whether or not to expand the use of municipal corporations. The administration's proposed municipal reform bill actually includes authorization of municipal enterprises for public service delivery on a partial cost recovery basis (recovery of operating costs, not investment costs). Yet the administration is not as actively defending this aspect of the bill as much as others (see below).

New regional enterprises deliver water and wastewater services to the municipalities.

Until 1990 water and wastewater systems were built and operated by totally public enterprises reporting to the Ministry of Public Works. The new government turned them into regional water companies with 51 percent government ownership, 49 percent private. The conversion was made all at once keeping largely the same employees and physical plant. CORFO, the Corporación de Fomento, an arm of the Ministry of Economics, now has administrative oversight of the water companies rather than the Ministry of Public Works. While the rapid conversion has caused some procedural problems, the new enterprises seem to be functioning. The regional water companies subordinate their investment decisions to the requests of the Ministry of Housing, but simply take under advisement requests from the municipalities for changes in, or additions to, their investment plans.³

³For Santiago and Valparaiso, the change from a 100 percent public enterprise for building and operating the water systems to the mixed enterprise has simply meant a change in administrative oversight from the Ministry of Public Works to CORFO. In the regions the change has been more complicated. Although the offices have the same personnel, new operating procedures have not been well defined, turning day-to-day administrative activities into uncharted expeditions. Nevertheless, in one region (VI) the regional water company was reportedly doing well financially.

The infrastructure investments of the regional water companies require coordination with the Housing Ministry, the municipalities, and the regional government. This coordination is partly structured and partly negotiated. According to the manager of planning in the Santiago metropolitan water company, the Ministry of Housing has the final word in cases of conflict, since the Housing Ministry must coordinate a number of infrastructure providers (electricity, roads, etc.). The Santiago water company consults the municipal land use plans when developing its investment plan for the year and the water company must inform the municipalities of its final investment plans. Nevertheless, the municipality can only request changes or additions to the water company's investment plan.

The Santiago water company has largely ignored the regional level government—i.e. the Intendencia that is supposed to coordinate all the sectoral actions for Greater Santiago. The Intendencia has named special commissions to deal with particular problems that cut across municipal boundaries, but the Santiago water

Chilean municipalities have a very narrow revenue base and little legal capacity to raise revenue themselves.

The major sources of municipal revenue are controlled by the central government:

1. **Property taxes.** The central government assesses property values, sets property tax rates, collects property tax payments, and returns 40 percent of the receipts to the municipality of origin. The rest goes into a redistributive fund called the Fondo Común Municipal to assist the poorer municipalities.
2. **Vehicle and Business Permits.** The central government likewise establishes rate structures for the other principal source of municipal revenue: vehicle and business permits. Payments of these fees are made directly to the municipal authorities, but enforcement remains largely a central government function.
3. **Municipal Fund (Fondo Común Municipal).** This fund is financed by the 60 percent of property taxes collected from each municipality that is retained by the central government. The central government provides no additional funds, but rather redistributes the revenues among municipalities. The fund is a principal source of discretionary income for the majority of municipalities (mainly those under 20,000 inhabitants). Because the municipal sources of revenue highly favor the richest municipalities—those with the most business activity, the greatest vehicle use, and highest property values—the municipal fund is very critical for compensating the poorer municipalities. The funds are allocated by formula based on population, poverty, and fiscal need.
4. **Central Government Transfers** for basic education and primary health care. Central government transfers to pay for these designated functions are based on services rendered; i.e. the municipalities that provide the greatest services (eg. number of pupil days taught) receive the greatest transfers. These transfers are consistently insufficient to cover total costs, so that the municipality must use some of its own discretionary funds from property taxes, vehicle and business permits, and municipal fund returns to fill the gap.

company has chosen not to participate. This attitude toward the Intendencia as a political body incapable of coordinating the sectors at the regional level may underlie the recent call for a metropolitan government for Santiago (El Mercurio, November 22, 1990).

The Santiago water company reports a problem with Hacienda's budget allocations, which leave the enterprise paying interest on a large World Bank loan without being able to invest it. Thus the interest payments accrue but the infrastructure which would generate the income to offset the interest payments is not built yet. The manager of planning offered no solution to the problem, however, because she realized that Hacienda's motive for putting a lid on the company's investments—viz., to control inflation by carefully designating spending ceilings for each public entity—was sound. She also seemed quite accepting of the Ministry of Planning's social criteria for evaluating investment projects, under which a number of her financially optimal projects have been rejected or modified.

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5. **FOSIS** (Social Investment Fund: Fondo de Solidaridad e Inversión Social). A new fund started by the current government using primarily foreign aid, it is administered by the Ministry of Planning (MIDEPLAN's only capital fund). Designed to address extreme poverty at the grassroots level, the fund provides loans to micro-entrepreneurs and operating funds for grassroots groups that address low income youth needs, drug problems, pregnancy, and residential crowding (allegados). FOSIS may also be used for other social needs such as health and education that are covered by other funds as well. Community groups, NGOs, and municipalities apply to the regional SERPLAC for these participatory self-help projects.⁴
6. **FNDR** (National Fund for Regional Development). Aimed at capital investment benefitting the very poor in construction and repair of community schools, health centers, residential infrastructure, and cultural facilities, about 85 percent of the grants made by the fund are to municipalities, with the remainder going to the regional governments.⁵

The GOC points to some good reasons for keeping the revenue generating capacity of the municipalities minimal.

Before 1973 Chilean municipalities had a dismal record of fiscal responsibility. During the Allende government municipalities ran annual deficits equal to about half of their total budgets and about 3 percent of GNP (World Bank data). Hacienda officials are reluctant to allow sources of inflationary debt that lie outside their control. They are also concerned that municipal revenue generating capacity would bias business location decisions in favor of suboptimal locations because of local tax considerations. In keeping with a strict interpretation of the concept of the unitary state, the current government seems predisposed to maintain the military government's tight control over municipal resources. Thus it is not likely that the new government will allow municipalities any greater autonomy over local tax rates, the right to new revenue sources, or the power to borrow funds. Moreover, lack of investment capacity might prevent the municipalities from taking advantage of such fiscal powers, at least in the short run. Evidence to this effect is the fact that they are spending only 90 percent of their FNDR funds.

Mayoral elections may begin as early as July 1991.

The military government's municipal reform put the authority to choose mayors in the hands of the regional councils (CODERE), except for the 15 largest municipalities, whose mayors were chosen directly by General Pinochet. Most of the military government appointees remain as mayors, since President Aylwin is allowed to replace only those that resign. One reason for the current government's efforts to establish municipal elections as

⁴A few observers commented that the new fund was created to give the Minister of Planning a chance to play porkbarrel politics.

⁵The grants to the municipalities tend to be smaller than the grants to the regional governments.

quickly as possible is to be able to gain control of more municipalities, especially while the new government's popularity is strong. To avoid turning municipal elections into a popular vote of confidence on the national government, however, the current administration has agreed to support phased municipal elections, in which only a few municipalities at a time would hold elections. With the municipal reform bill nearing Congressional approval (it has already been approved by the lower chamber), municipal elections could begin as early as July 1991.

The municipal development councils (CODECO) would become more democratic, but purely advisory, under the new Municipal Reform.

The municipal development councils (CODECO), like the regional development councils, represent the organized population in the locality. The representatives of local neighborhood, business, and professional organizations are currently chosen by the regional council from a list of nominees submitted by the organizations. Designed by the military government to eliminate party politics and grass roots control from the municipal government, the CODECO are considered weak rubber stamps of the mayor's priorities. The municipal reform legislation about to emerge from Congress would allow each eligible group to directly elect its own representative. Neighborhood groups would get half of the council seats, and labor groups would be added to professional and business groups in the other half. While it would become more democratic, it would lose its decision-making power and become merely an advisory body to the mayor. The new entity would be renamed the Municipal Economic and Social Council (Consejo Económico y Social Comunal). Currently under discussion is whether or not to strengthen neighborhood organizations through a neighborhood fund (Fondo Vecinal) to be initiated with central government funds, but continued with membership fees from participating organizations. Nevertheless, there appears to be a consensus that the organized local population should gain a direct voice in municipal government only in an advisory capacity.

The administration's proposal would add a new council to the municipality that would be directly elected and have some decision-making power.

The administration's municipal reform bill also proposes a Council composed of representatives chosen by direct popular election. This municipal council (consejo municipal) would take over the decision making power currently exercised (in theory) by the CODECO: eg. approval of the municipal budget and individual municipal investment projects. The administration does not seem to be defending this aspect of the bill as actively as it is defending the CODECO reform. The administration's bill would also grant the municipalities the right to promote private sector economic development and create municipal corporations for public service delivery.

4 INTERNATIONAL DONORS SUPPORTING THE DECENTRALIZATION PROCESS IN CHILE

The IDB has a large technical assistance program to support its capital lending to the FNDR.

The Inter-American Development Bank is a major supporter of regional and local government through its capitalization of the FNDR in March with a US\$210 million four-year loan (see above). In addition to the capital investment funds, the IDB is trying to increase the capacity of municipal and regional government to expend the investment funds through an agreement with the Subsecretariat of Regional Development and the Ministry of Planning entitled Institutional Strengthening Plan (Plan de Fortalecimiento Institucional). This US\$2 million technical assistance program is designed to train 2500 technical project analysts in all regions and all municipalities over the next three years. Training is being provided by the Santiago-based Latin American Institute for Economic and Social Planning (ILPES), which is part of the UN's Economic Commission for Latin America. The project includes a full time advisor for 12 months, a series of training seminars in the regional capitals,⁶ and the administration of courses in the field. While the IDB project is aimed at teaching very well-defined methodologies for project development and feasibility analysis, bidding, contracting, and follow-up, it does include US\$350,000 to US\$400,000 for "soft" topics such as community participation in project generation and regional government technical assistance to the municipalities. But the project includes no provision for encouraging strategic investment planning that would take into account the potential synergy among investments and add an inter-municipal perspective.

Several European donors are supporting the public/private partnership approach to regional and municipal development through small-scale projects.

Other donors involved in decentralization are contributing on a much smaller scale to geographically targeted projects aimed at establishing a close working relationship between the local public and private sectors. Several European donors are supporting regional development corporations in Concepción, Valparaíso, and Antofagasta. The boards of these corporations, which include public, private, and community representatives, provide a broad base of support ("concertación"). A small German donor, the Friedrich Ebert Foundation, is supporting a pilot project with the province and municipality of Valparaíso that is designed to stimulate local economic development by providing incubator facilities for small and medium sized enterprises (eg. shared communications equipment, management assistance, and foreign and domestic market information).

⁶The author attended the training seminar for the Santiago metropolitan region in November 1990.

AID itself is already working on some decentralization projects in Chile.

The AID mission in Chile is already working on some projects that support decentralization. For instance, it funds PARTICIPA, a civic education group that is now at work on municipal election awareness in localities throughout the most populated parts of Chile. It has provided some seed money to CORCHILE, an NGO umbrella organization composed of private regional development corporations, so that CORCHILE can develop a proposal for working with municipalities on local development. CORCHILE would work with IULA (based in Ecuador) and the Institute for Urban Studies at the Catholic University in Santiago to implement the project. The AID mission has also entered into discussion with the Contraloria to extend a national training program in accounting to the municipal and regional levels.

The Peace Corps may return to Chile within the next five years.

The US Peace Corps may place volunteers with training in planning, engineering, and architecture to work in municipal and regional governments.

5 KEY ISSUES FOR A DECENTRALIZATION POLICY DIALOGUE

A policy dialogue with the GOC could address the principal remaining obstacles to decentralization in Chile.

The government of Chile (GOC) is in a good position to pursue decentralization. Public investment policy makes territorial decentralization a priority; moreover, this policy shows up in the actual territorial allocation of public investment, which favors the poorer regions. Most public officials interviewed from the municipal and regional levels accept the national criteria for allocating public investment and realize that their own territorial interest must take second place to larger national policy concerns. Nevertheless, there are several obstacles to decentralization that USAID/Chile could address in a policy dialogue with the GOC.

The primary obstacle is the highly centralized control of local government resources.

The government is trying to democratize local government without losing central control. Employing a rigid interpretation of the concept of the unitary state, the government is reluctant to give much financial or decision-making autonomy to either the municipal or regional governments. Hacienda retains firm budgetary control, not only over the central sectoral ministries, but also over the regional and municipal governments. Thus the first issue for a policy dialogue on decentralization between USAID/Chile and the GOC would be how to improve the financial autonomy of local government without abandoning the concept of the unitary state. This issue would include discussion of the centralized budget process as it impedes local initiative and efficiency. It would also introduce ideas of cost recovery (including investment costs) and development bond financing. USAID/Chile should keep in mind, however, that such ideas may be interpreted as treading on the deeply in-

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grained principal of the unitary state and a consensus that federalism would not work in Chile.

Another obstacle is the lack of strategic investment planning at the regional and local levels.

Strategic investment planning is a process of goal-oriented action planning (not unrealistic comprehensive plan making) designed to facilitate investment decisions by taking into account the interaction among proposed investments. In the case of regional and municipal strategic planning the territorial interactions of proposed investments would be taken into account. The result would not only turn public investment wish lists into strategic packages, but also indicate to private investors what directions the region's or municipality's development can be expected to take. A major impediment to decentralized strategic investment planning is the inability of regional and municipal government to coordinate sectoral investments of the central ministries in their territory. Sectoral investments represent about 85 percent of public investment in the regions. With FNDR funds, which the central ministries do not control, the careful project-by-project scrutiny of proposed projects required by the national investment system impedes strategic investment planning.⁷ Finally, with those funds over which the municipalities have total discretion, the lack of a strategic planning custom or capability at the local level becomes the bottleneck. Thus the second issue for a policy dialogue on decentralization between AID and the GOC would be the introduction of strategic investment planning at the regional and municipal levels.

The final obstacle is the lack of cooperation and communication between the private and public sectors at the local and regional levels.

In spite of central government policies to create a good business climate, there is much distrust between the private business sector and the public sector at the local level. If decentralization is to become an economic reality, municipal and regional government officials need to learn to work with local businesses and investors; and civic consciousness needs to be fostered among regional business groups. Thus the third major issue for a policy dialogue on decentralization with the GOC would be building a public/private partnership in the regions. The creation of local elected representative councils that would bring the private and public sectors together at the same table would be an important step. The Municipal Social and Economic Council proposed in the administration's municipal reform bill would create such a vehicle, and a similar structure is being discussed for the regional level.

⁷One of the legacies of the military government is a carefully structured system of control over local and regional public investments that ensures efficiency and conformance to national policy. The Ministry of Planning checks all proposed investment projects for technical quality, financial feasibility, cost effectiveness, and social rate of return (i.e. to what extent a project benefits the poor). This careful project-by-project scrutiny of proposed public investments, however, impedes strategic investment planning.

Even with these fora in place, there would be a need to help translate the dialogue into successful public/private projects that could serve as a model to emulate.⁸

6 OPTIONS FOR AID/CHILE

Provide civic education to strengthen local and regional democratic institutions.

After nearly two decades of non-elected municipal governments, civic education for democracy at the municipal level will be important to the success of this re-emerging democracy. This civic education should be aimed not only at organized social and business groups, but also local public officials and staff. The civic education should cover public participation, the role of local government, and the use of public resources. The idea is to make local government a consensus-building tool for local development rather than a tool for party politics. This civic education could also address the need for building public/private partnerships to strengthen the local private sector and foster local economic development. It would be useful to extend this civic education from the municipal level to the regional level, since legislation is already being prepared to strengthen democratic participation at the regional level.

AID is already working with two organizations that could offer this civic education: PARTICIPA and CORCHILE. IULA also has recognized experience in this area.

Provide training to local and regional government staff in strategic investment planning.

The Interamerican Development Bank already has a US\$2 million program of technical training for regional and municipal employees that is in place and will last over the next three to four years (see above). But there is a definite gap in the training being offered that AID could address: strategic investment planning at the local and regional levels. Officials interviewed at all levels of government have cited the importance of, and need for, a strategic planning capability. While the policy dialogue could address the structural obstacles to implementing strategic planning (see above), a training component could address the local capacity constraint. Local NGOs, such as the Sociedad Chilena de Planificación, the Instituto de Estudios Urbanos, or ILPES (UN/ECLA), could provide the training either directly or by subcontracting to a local private firm specialized in strategic investment planning.

⁸The A.I.D. mission should keep in mind that when current government officials speak of the private sector, they are referring not only to private business, but also to the non-profit sector of NGOs and cooperatives. This third sector showed itself to be a very productive force in the regions during the military government. It is still quite active, especially in low income housing provision.

Finance three to five pilot projects in public/private cooperation for local development.

The Ministry of the Interior is very keen on the idea of pilot projects that would show how a municipal or regional government could become a catalyst for private sector strengthening. These pilot projects would go beyond the civic education described above. They would include training for municipal officials and private sector representatives in the design and implementation of mutually beneficial investments. Technical assistance for project identification, financial packaging, and implementation would be provided. The pilot projects would be located in Chile's most populous regions outside Santiago (Regions V, VI, and VII). High officials in the Ministry of the Interior liked the idea of using a private sector NGO, such as CORCHILE, to implement the pilot projects.⁹ The AID mission in Chile has already begun to work with CORCHILE in developing a proposal.¹⁰

Support diagnostic studies of key regions in Chile.

Diagnostic studies of the social, economic, and demographic problems of key regions in Chile would facilitate a strategic public investment planning process for those areas and could provide an information base useful to public/private efforts to promote local development. The Minister of Housing was highly supportive of carrying out such studies for the Central Valley (Regions V and VI) and the Argentinian border region. The Urban Studies Institute at the Catholic University, in conjunction with regional universities, could undertake the studies.

Provide seed money for the government's proposed pre-investment fund.

While the GOC is very carefully avoiding getting directly involved in productive activity, it wants to induce private sector investment. Yet the government's investment funds for the regional and municipal levels are restricted to social investments (i.e. helping the poor). The one financial vehicle it has chosen to stimulate private investment is the Fondo de Pre-Inversion (Pre-investment Fund), a decentralized fund that would provide 50 percent of the cost of a pre-feasibility study (to be matched by a private entrepreneur) in areas or activities where the private sector is not developing on its own. Evidently no international donors have yet offered to capitalize this fund.

⁹The only hesitation was voiced by the director of international technical cooperation for the Ministry of Planning. He preferred that development corporations set up by the regional governments to include a broad spectrum of private, public, and community participation be used. There are examples in Antofagasta, Valparaiso, and Concepción. Since CORCHILE has private development corporations in both Valparaiso and Concepción, A.I.D. should make an on-site assessment of the institutional milieu in those places as part of any pilot project design with CORCHILE.

¹⁰The CORCHILE proposal at present includes IULA as a pass-through entity for administering the funds. It also includes the Urban Studies Institute at the Catholic University for providing necessary technical studies and/or training municipal employees.

Capital lending possibilities in the short term are scarce, but opportunities may develop in three to four years.

Depending on the direction the current debate on municipal and regional finance takes there could be an opportunity in a few years to finance municipal bonds (or secondary market instruments for municipal bonds); however, at this point the prospects look unlikely. If regional development corporations experience some success, or municipal development corporations are reinstated, they could provide some future opportunities for capital lending.

Support small innovative pilot projects in local and regional government administration.

Local and regional government administrators tend to limit their efforts to routine administrative activities and are reluctant to try new methods or new activities. The Subsecretariat wants to identify and replicate a series of pilot projects that show that local government can be the catalyst for both social development (health, education and housing) and economic development (use of natural resources, job creation, and improvement of local income and productivity). The Subsecretariat would also like to identify, promote, and replicate initiatives in some new areas for local and regional government: eg. special needs of women and ethnic groups, consumer education, environmental education, problems of border regions, the needs of low income dormitory suburbs, and tourism development. The Subsecretariat would like to identify and support two such innovative projects in each of the 13 regions.

An example of an innovative project comes from Graneros, where the municipality has included a budget item for studies to contract specialists to help the neighborhood groups develop their ideas into solid investment project proposals for urban services. Another example comes from Rancagua, where the regional government (Region VI) has established a civic education course with video tapes using volunteers from the regional teachers' association. The volunteers have trained nearly 2,000 community and neighborhood leaders, mainly women. The Intendente attributes the absence of illegal land take-overs by the allegados (migrant families to the city who move in with relatives or friends because of lack of affordable housing) to the training courses that convinced the neighborhood leaders of the value of organizing themselves to buy land for housing. In another example, also from Region VI, the Intendente has developed a pilot project for inter-municipal coordination of urban service provision, entitled "Plan Piloto de Desarrollo Microregional de Grupos Solidarios."

Support the development of a decentralized database management system for local and regional government.

The GOC is undertaking a complete overhaul of the national information system of legal, budgetary, financial and socio-economic data, but this will take years to implement. In the mean time there is basic information necessary for effective local and regional government that does not exist, exists only in ad hoc form, or is available only at the central

government level. The Subsecretariat proposes an effort to identify the data most needed for local and regional government, direct the flows of information to the local and regional level, train local and regional government staff to better use the information, and create mechanisms to supply information to the community to improve local ability to generate project proposals and participate in local government.

Support a training program in local financial administration and accounting.

The Contraloria agreed that the training course it has developed with Price Waterhouse for high level administrators in the central government would not be adaptable to the local level. Also the Contraloria does not have sufficient staff to send in training teams to the regions. It would be more appropriate for regional offices of the Contraloria in the intendencias to provide local training. Two or three of the largest regional governments already do provide technical assistance to the municipalities in this area. USAID/Chile could help the Contraloria train staff in the other regional offices to offer courses in financial administration and accounting to their municipalities. There are private firms throughout Chile, also, that could provide auditing and accounting instruction.

Through a timely policy dialogue with the GOC and through limited intervention targeted at influential points in the decentralization process, as suggested here, USAID/Chile could play a useful role in supporting Chile's efforts to strengthen the local public and private sectors.

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APPENDIX B

CHILE ENVIRONMENTAL OVERVIEW: Issues and Opportunities

(by Lee Baker and Jeanine Kleimo)

1 INTRODUCTION

Chile's Constitution of 1980 establishes the right of every Chilean to live in a pollution free environment. It is only the last 18 months, however, that has witnessed increased public awareness of the meaning of that right regarding the relationship between environmental quality, public health and the long-term sustainability of recent economic growth.

The increased public awareness in the environment is due in no small part to a week-long conference that took place in August 1989. This conference was sponsored by a Chilean environmental NGO, the Center for Environmental Investigation and Planning (CIPMA) and supported by USAID/Chile. It brought together Chilean scientists, environmentalists, NGOs and private sector interests to discuss the relationship between environmental, technology and economic development. The ample coverage of this event in the local media reinforced an already growing public awareness of the need to balance prior governments' commitment to economic growth with protection of the environment and natural resource management.

Following this conference during the latter half of 1989, the public debate on environmental issues gained momentum as the country headed into the final months preceding the first democratic elections in over 15 years. Following its victory in the general elections of December 1989 and inauguration in March 1990, the Aylwin government faced a series of hard decisions regarding environmental pollution and natural resource management. While Chile's situation regarding environmental degradation was certainly not the worst in Latin America, the new government is confronted with a series of environmental problems that rang from pervasive air pollution in Santiago, lack of sewage treatment in all urban areas, industrial pollution, mining contamination, desertification in the northern regions of the country, soil erosion and the overuse of pesticides in the agriculture sector, deforestation and watershed degradation, the over-exploitation of marine resources, and the need for the effective management of national parks and protected areas. While the lack of enforcement by prior governments of existing environmental laws and regulations can be partially attributed to budgetary constraints, the newly-elected Aylwin government inherited a legacy of general disregard for the environment that included the lack of comprehensive environmental policies, limited and poorly enforced environmental legislation and regulations, and a weak information base and institutional structure for effective environmental and natural resource (ENR) management.

But the Aylwin government had prepared well in the months prior to assuming power to accept this challenge. The new, democratic government moved quickly to organize its response to the myriad environmental ills facing the country.

While this paper will essentially focus on the environmental problems of Chile's urban sector, it begins by briefly tracing the global problem agenda faced by the incoming Aylwin government in ENR management. Other recent studies have extensively investigated this theme.¹ This paper will not duplicate or rehash previous efforts of this genre. Rather, it begins by presenting an overview of cross-sectoral environmental issues (Section 2). The next section follows with a discussion and analysis of the effects of urbanization on Chile's environment (Section 3). The following section addresses the new government's and the international donor community's response to ENR issues, specifically with respect to Chile's urban areas (Section 4). The penultimate section presents USAID/Chile's country strategy for addressing ENR issues (Section 5). Finally, the last section identifies specific short-term opportunities that could serve as the entree for AID's Office of Housing and Urban Programs and USAID/Chile to establish a policy dialogue and framework for future capital lending with Chile's urban development sector.

2 CROSS SECTORAL ISSUES - ENVIRONMENTAL AND NATURAL RESOURCES

On the basis of previous studies that provide a wealth of current data on various forms of environmental pollution, the new government faced a number of hard choices with respect to the environment, particularly in terms of the degradation of natural resources and pollution of the atmosphere. The current situation was the result of various decades of implicit and explicit short-term policies and programs whose objective was to benefit the country's economic development, without taking into consideration their social and environmental costs. Furthermore, in addition to a lack of policies linking economic development, social equity and the sound management and conservation of natural resources, there was no overall legal or regulatory framework in place to combat this deteriorating environmental situation.

The legal mandate for environmental protection in Chile dates from the Constitution of 1980. The 1980 Constitution establishes the right of every Chilean to live in an environment free of contamination. It was not the purpose of this all-encompassing document, however, to provide a regulatory framework within which to implement this constitutional mandate. It also does not identify the institutional responsibilities for environmental and natural resource management. To fill these voids, government created an Environmental Legislative Commission (COLMA) in 1985 whose purpose was to draft an overall regulatory law for the

¹See Walter Arensberg, et.al., "Environmental and Natural Resources Strategy in Chile," paper prepared for USAID/Chile, Center for International Development and Environment, World Resources Institute, Washington, DC, November 1989, for an excellent treatment of this subject.

environment. The President of COLMA introduced a first draft of this regulatory law into the Chilean Congress in June 1986; with a final version of the same law submitted in August 1990. More than four years elapsed while Congress debated these various revisions. However, the controversial nature of the proposed bill, due primarily to concerns that it would undermine the sustainability of Chile's recent economic growth, resulted in its failure to be adopted during the tenure of the previous government.

With the exception of the National Ecological Commission (CNE), there was historically no single national institution responsible for environmental and natural resource management. Numerous environmental functions and responsibilities were distributed among many different ministries and government agencies. These functions and responsibilities were generally poorly coordinated, while the sectoral institutions were characterized by a lack of qualified staff and sufficient financial resources. In the final analysis, CNE functioned more as an environmental monitor of public sector agencies, rather than as the strong coordinating and advisory body that was required.

Examples abound of the effects on the environment of this lack of an appropriate policy and regulatory framework. For example, recent implicit policies of government's fisheries sector, which favored the management and conservation of coastal resources, were introduced at the same time that the formal fishing industry was experiencing dramatic increases in the capacity of its catch. Installed capacity has reached a point that far exceeds the sustainable production levels of these ecosystems. The potential for a decline in the fish population due to over-exploitation could lead to a serious loss of human, financial and natural resources.

Another typical example of the lack of coherence in environmental policies involves the forestry sector. Its recent rapid development has been based to a great extent on certain government subsidy and development policies that have resulted in a dramatic increase in exotic forest plantations. In addition to environmental concerns, almost no planning has gone into the management and investigation of native forest resources. The lack of global forestry policies in the past signifies that the country is now not prepared to ensure the integration of natural forest resources into national development.

Perhaps the greatest negative impact on the country's environment is due to the lack of explicit and coherent land management and soil conservation policies. Chilean professionals believe that future national development will be adversely affected by the high rate of erosion, declining soil fertility, desertification and flooding caused by conflicting urbanization policies, poor pasture management practices, improperly planned and located land subdivisions, and credit and technical assistance programs directed toward the agricultural sector.²

²The European Economic Community (EEC) has recently funded a major US \$24 million study, in conjunction with the University of Concepción, for the management of the watersheds of the Bio-Bio River.

Another critical area that the new government had to confront is the lack of accessible sources of information for public and private decision-making on ENR issues. The previously-cited Arensberg report notes that while there is no absence of excellent data on specific environmental issues in Chile, no clearinghouse or integrated ENR database exists that could be routinely accessed by planners and decision-makers. Arensberg goes on to add that, while some monitoring of resource conditions and trends occurs in such fields as fishing and forestry, the published information is often fragmented and not linked to broader development planning processes. This theme of the need for policies and programs to develop environmental data and indicators will be addressed below in terms of USAID/Chile's environmental strategy with the GOC. The new government was faced with the challenge of developing and collecting environmental data and indicators that can be linked to developmental planning as a means to determine the sustainability of different types of economic activities.

3 URBANIZATION AND THE ENVIRONMENT

Chile is one of the most highly urbanized countries in Latin America. Its urban population equalled about 84 percent of total population by mid-1990. Chile experienced its fastest urban growth during the 1950s and 1960s. Since then, urban growth has been declining. Today rural-urban migration is negligible, with natural population growth at a relatively low annual rate of 1.7 percent.

The country's most severe urban pollution problems are concentrated in the Santiago/Valparaíso/Viña del Mar conurbation. With an estimated population of 4.9 million in 1990, the greater Santiago region itself accounts for about 46 percent of urban population and 39 percent of the population of the entire country. Furthermore, 70 percent of country's total urban population is concentrated in the three largest cities of Santiago, Valparaíso/Viña del Mar and Concepción. While Santiago's growth rate has been declining since the early 1970s, it continues to have the highest concentration of environmental problems of Chile's urban areas.

A quick review of statistics related to Santiago's water and sanitation sector do not provide the full picture with respect to existing environmental problems. Chile's water supply and sewerage coverage levels are the second highest in Latin America. In 1985, about 95 percent of the urban and 68 percent of the concentrated rural population had access to potable water through house connections. For the same year, 75 percent of the urban population had sewerage connections or septic tanks. Slow population growth, the importance given to sector investments during the 1970s and 1980s, and the relative efficiency of sector institutions explains these high service levels.

Although these figures indicate that Chile is relatively well off with respect to the coverage of water and sewerage services, the past growth of the Santiago/Valparaíso/Viña del Mar conurbation has generated a series of serious environmental problems. The two environmental problems most typically cited by the public in the Santiago/Valparaíso/Viña del

Mar region are air pollution and the discharge of untreated sewerage into natural water courses. A third environmental issue that has received some attention of late in the local media, and that will be addressed in greater detail in this paper, is the negative impact on the quality of life of poorly conceived urban growth and land management strategies.

3.1 Air Pollution

With respect to atmospheric contamination, the Santiago Metropolitan Region is severely constrained by its geographic location and particular climatic conditions. Its location, which is surrounded by mountains on three sides, is unfavorable for the dispersion and diffusion of air pollutants. Additionally, the low velocity and lack of prevailing winds, the common occurrence of thermal inversions during the winter months of May through September, and the limited rainfall have created a situation whereby relatively low emission levels of gases and suspended particles have produced high levels of air contamination. Although most severe in the Santiago Metropolitan Region, the problem of air pollution can be found in the rest of the country's central valley.

Air pollution in Santiago is worse than one would expect given its level of emissions. Many industrialized cities of the developed world, whose emission levels are higher than Santiago's due to greater economic activity, have better environmental quality than Santiago. In other words, Santiago's geographic and climatic conditions combine to produce local problems that might not be as serious in other countries.

The city's air pollution problem is caused by a combination of vehicular exhausts, dust particles that rise from unpaved streets, and industrial point sources. Over the past decade, these principal sources of air pollution have increased significantly.

This increase is due to several factors. The number of registered buses in Santiago doubled between 1980 and 1988 (from 6,000 to 12,000). In the last three years, the number of registered automobiles in the Metropolitan Region increased by 30 percent, reaching 450,000 in December 1989.

The consumption of electrical energy, which is a good indicator of industrial activity, is growing at an annual rate of eight percent. The consumption of gasoline is also growing at an annual rate of about 10 percent. These factors indicate that in the absence of public sector initiatives to introduce new technologies to reduce the proliferation of pollutants, Santiago's continued demographic and economic growth will tend to aggravate already serious environmental conditions.³

³Discussions are currently under way between the governments of Argentina and Chile to authorize the construction by a private consortium of a natural gas pipeline between Neuquen and Chile's central valley. Natural gas would provide a cleaner burning alternative for many of the existing oil-powered industrial, and possibly vehicular, users of the Santiago Metropolitan Region.

**Table B-1. Sources of Average Annual Emissions by Contaminant, Santiago
(in percent)**

Source	Contaminant					
	Carbon Monoxide	Nitrogen Oxides	Sulfur Oxides	Ozone	Suspended Particles	Respirable Particles
Residential	9	2	5	23	5	2
Industrial	10	8	82	29	17	6
Vehicles (gas)	79	59	9	44	2	6
Vehicles (diesel)	2	31	4	4	4	71
Soil Particles	--	--	--	--	72	15
TOTAL	100	100	100	100	100	100

Source: IRM/Cade Idepe, 1989.

Santiago's air pollution problem is caused by two principal elements—gases and suspended particles. **Table B-1** summarizes the main sources of gas and particle contaminants of Santiago's air. The principal gas pollutants are carbon monoxide, nitrogen oxides, sulfur oxides and ozone. It is interesting to note that gasoline-powered vehicles are the principal source of gas contaminants such as carbon monoxide, nitrogen oxides and ozone. On the other hand, residential and industrial polluters are the primary source of ozone contamination. Finally, blowing soil is the primary source of suspended particles, while diesel-powered vehicles (mainly the city's privately-owned bus fleet) are the major source of those particles that find their way into the human respiratory system. The small size of diesel engine emissions (less than 10 microns) is responsible for this occurrence. Since other gases attach themselves to the diesel emissions, this type of suspended particle exhibits toxicity levels very much higher than the natural dust particle alone.

According to the information available from the MACAM monitoring system (see below) and Santiago's Metropolitan Environmental Health Service (SSMA), the urban area of Santiago regularly exceeds the established norms for environmental quality with respect to carbon monoxide between the months of May and September. Likewise, ozone levels are exceeded during the months from December to March; and those for suspended particles between the months of May and September. For this latter pollutant, it is only in the last two years that local monitoring devices have been set up to monitor this contaminant. Since that time, however, the established annual norms have been amply exceeded. The norms for sulfur and nitrogen oxides are exceeded only on a few occasions during the year. However, these gases must be closely monitored, particularly nitrogen oxide, since, in combination with volatile organic compounds, they are an intermediate step in the formation of ozone.

3.2 Contamination of Water Courses

The contamination of water courses in the Santiago/Valparaíso/Viña del Mar region is also a critical environmental issue. Although 90 percent of the Santiago Metropolitan Region has access to water and sewerage service connections, all waste water is currently discharged untreated into the city's natural water courses, primarily the Mapocho River and the Zañon de la Aguada. The untreated water from these water courses is used to irrigate fruits and vegetables on land located at the city's periphery. This has placed the health of Santiago's population at risk. Statistics show a high incidence of gastroenteric diseases such as typhoid fever, hepatitis, amoebic dysentery and others. The figures for these diseases for Santiago are higher than for other cities of the same size and a similar coverage of water and sanitation facilities. Local health officials fear the possibility of an epidemic if the city continues to discharge untreated sewage into its primary water courses.

The situation in Valparaíso/Viña del Mar has also reached crisis proportions. This urban area currently discharges untreated sewage into open channels or directly into the sea. This local situation is aggravated by river-borne industrial wastes and sewage from the cities of the Central Valley, including Santiago. The environment, particularly in coastal areas, has deteriorated to such an extent that only a few of the beaches found in the vicinity of Valparaíso/Viña del Mar will be open to the public during the summer months of 1990/1991.

3.3 Urban Development and the Environment

In recent years, the GOC, through its Ministry of Housing (MINVU), has focused its attention on the production of housing in response to the overwhelming deficit and public demand for adequate accommodation. Many within its ranks currently recognize the corresponding lack of emphasis given to urbanization and to the overall improvement of the urban or "built" environment as it relates to a betterment in the quality of life. Some of these urban development issues have a clear relationship to the environment and may stimulate ideas concerning environmental activities which could themselves contribute to a more desirable urban atmosphere.

In the push to build housing, large tracts of similar, relatively low density housing units have been developed in unbroken blankets covering the urban landscape. These schemes are often linked by only minimal threads of streets and water and sewer lines. This is particularly the case in the expanding suburbs of Santiago.

There are several aspects of this approach to housing development which have ramifications for the environment. First, initial developments have been constructed with roads, perhaps adequate for the traffic it generates, but not for the increasing flow of traffic coming from each marginal development beyond that for which the initial road was built. In the Santiago Metro area, many such roads provide the only access to the central city for thousands of lower income residents who must work there, and whose transportation is limited to highly-polluting "collective" buses. In addition, many roads are not paved, and the

dust produced by the increasing level of traffic has become a significant contributor to the particulate content of the air which urban residents must breathe.

Second, the density and physical planning of many large suburban housing areas is not adequate to permit the proper absorption or drainage of periodic rainwater. During rainy periods, water does not have anywhere to go, causing spot flooding of roads and, later, muddy roads and walkways which make travel difficult. Many residential areas lack stormwater drainage systems, and extensive residential development only aggravates the problem.

Third, residents of many new developments, particularly those in the sprawling suburbs of Santiago, have access to few public facilities. While schools and medical clinics are provided in requisite numbers—now under the direction of the corresponding municipalities—many low income communities lack sports fields, playgrounds, community centers, small restaurants, commercial centers, and other cultural and recreational facilities. While it may seem that such facilities are less essential to life than is the case with safe and secure housing, sanitation, and basic transportation, we must consider their impact on the daily life and development of a community and its people.

Without places for play, sports, and recreation, youth have few constructive outlets for their spare time. Supportive relationships are not built, opportunities for exercise and companionship are limited, and frustration and delinquent activities may result. Similarly, adults do not have places to gather informally and socially, to seek supplemental employment or pursue other economically productive efforts close to home, or to resolve community conflicts and plan for improvements. For example, the lack of community centers of a minimal nature has been implied as a contributing factor in women's lack of information in poor neighborhoods about their rights and opportunities for themselves and their children, and in the incidence of domestic violence. It is certainly difficult to organize communities to undertake improvement activities without a place for people to gather.

The alternative to low-density suburban development has its limitations, however. There is interest inside and outside MINVU in better use of the existing stock of urbanized land, particularly in the central city areas where transportation and convenience are important to many. Earthquake-related construction standards limit the number of stories which can be built in addition to the high cost of including elevators in structures with more than three or four levels of housing units. For these reasons, townhouse-type design is the most intensive or efficient able to be used; but this is a limited solution to the spread of housing in the ever-enlarging urban perimeter.

Much has been written in Chile about the economies of scale of providing urban services, health, and education in communities of larger population and higher density. However, any excess or potential savings in public resources has not, apparently, been made available for reinvestment in the same communities which were so efficiently produced. For example, garbage collection, which has been within the domain of the private sector (on contract to the municipality) in most places for some time, is said to be inefficient in some

densely-populated "poblaciones" and areas of public housing. Many have too few garbage trucks, for example, to keep up with what is thrown away by growing residential areas, leading to renewed health risks.

Traditionally, in Chile and elsewhere, urban settlements arise around good agricultural land which attracted the first settlers. Urban expansion, therefore, often takes place in prime agricultural land, leaving less and less productive land to produce food for an increasing population. This balance between the capacity of the land to provide for urban growth and agricultural production is another of the several issues for which policy direction is needed if the objective of environmental preservation is to be considered in Chile's development.

4 GOC RESPONSE TO ENVIRONMENTAL PROBLEMS

This section will address primarily the response of the new democratically elected government to the environmental problems facing the country. However, environmental programs initiated by the previous regime, particularly in the areas of air pollution monitoring and water and sanitation will also be discussed and analyzed.

Chile's new government has been in office less than one year. In that short time, however, it has moved quickly to organize its response to the myriad environmental problems affecting the country. Almost immediately upon assuming power, the new government put into place its plans for the creation of two institutions to coordinate and advise the country's public sector entities on environmental and natural resource matters: (1) the Special Commission for the Decontamination of the Metropolitan Region (Special Commission), with responsibility for greater Santiago; and, (2) the National Environmental Commission (CONAMA), with responsibility for the rest of the country.

4.1 National Environmental Commission

Government created the National Commission by Supreme Decree No. 240 on June 5, 1990. The new law was gazetted in the official government newspaper on September 8, 1990. CONAMA was conceived of as a high-level inter-ministerial body charged with studying, analyzing, evaluating and making recommendations to the executive branch of government on all matters related to environmental protection and natural resources management in the country. Its overall mandate is to facilitate coordination, communication, and strengthening of the public sector on environmental matters. This mandate applies across ministries and vertically down to regional and provincial authorities and local organizations.

Structurally, CONAMA carries out its mandate with the direct support of the President and through a three-tier organizational structure. The policy-making body of CONAMA is a Committee of Ministers, consisting of seven key ministries. It is responsible for approving the Commission's global policy directions regarding environmental initiatives. This body is chaired by the Minister of Bienes Nacionales.

The second-tier Operations Committee includes representatives from the seven ministries on the Ministerial Committee. In addition, it consists of all other ministries of the cabinet, plus the Secretary General of the Presidency, the National Energy Commission (CNE), and the Development Corporation (CORFO). This Committee serves as the technical advisory body to the sectoral ministries on all matters related to the evaluation of all studies and proposals submitted to it by the Technical and Administrative Secretariat (see below) or the ministerial representatives.

The Technical and Administrative Secretariat, located in the Ministry of Bienes Nacionales, has responsibility for carrying out CONAMA's daily activities. The Secretariat is headed by an Executive Secretary, who is appointed directly by the President. The Executive Secretary also chairs the Operations Committee. CONAMA's law calls for the creation of Regional and Provincial Commissions that will be presided over by the Regional Intendentes and Governors, respectively. These decentralized commissions will facilitate regional, provincial and local collaboration and participatory linkages to the National Commission.

The primary technical functions of the Secretariat are to study and formulate proposals and projects for approval by the Committee of Ministers. At the same time, the Secretariat should submit to the Operations Committee for its review and comment all matters related to the environment. Specifically, the Secretariat has the following functions: (1) propose mechanisms for better coordination, consultation and information sharing across ministries, and for evaluating results; (2) propose priority legislative and administrative reform in the environmental area; (3) prepare programs in environmental education and dissemination; (4) prepare action and investment programs; (5) propose to the Ministry of the Interior programs for the decentralized environmental commissions; (6) establish technical ties with international organizations working in the environmental field.

CONAMA, through its Technical Secretariat, has initiated a number of activities in the six months since its creation. It has assisted in the organization of environmental commissions in seven of the country's 13 regions, and in the designation and formation of sectoral environmental units in the Ministries of Public Works, Mining, Bienes Nacionales and Planning. The Secretariat is currently working with the Ministries of Agriculture, Housing and Health in the process of organizing their environmental units.

The Secretariat has also been actively involved in educational and dissemination programs related to the environment. It has sponsored, with financial assistance from USAID/Chile, the publication of the atlas "Environmental Problems of Chile". This atlas was prepared by three well known environmental analysts from the Institute of Urban Studies at Chile's Catholic University, in conjunction with more than 400 public and private sector representatives from the 13 regions. The publication classifies and ranks the environmental problems facing the country according to their importance and the possibility of successfully intervening in their resolution. This is the first time that a cataloguing of environmental problems had taken place in Chile.

On the basis of the information gleaned from the preparation of the atlas of environmental problems and employing the same local team, the Secretariat has embarked on a second phase of analysis and discussion. This phase entails characterizing the magnitude of the most pressing regional environmental problems. It also involves establishing quantifiable indicators in order to be able to measure and monitor their existence and possible amelioration. With the availability of quantifiable information, the Secretariat will prioritize the country's environmental and national resource problems on a regional basis and will prepare an action plan with specific proposals to begin to address these problems. USAID/Chile will continue to support the Commission with this phase through the sponsorship of a series of regional seminars whose purpose is to disseminate the project's findings and conclusions to date. Through these seminars, the Secretariat and the involved professionals will continue to raise the public's awareness of the serious environment problems facing the country, and at the same time to achieve a consensus on what public/private actions are required to begin to address them.

The principal medium-term objective of the Technical Secretariat is to formulate and to propose to the Committee of Ministers a national environmental policy and the necessary legal and institutional framework within which to implement it. As a first step in what is envisaged to be a one- to two-year process, the Secretariat has constituted a working group to prepare an inventory of all laws and regulations related to environmental matters. It is estimated that there exist over 2,000 laws and regulations governing the environment and natural resources management. Many of these laws are contradictory or simply out of date. This inventory, including the identification of obvious gaps in existing environmental laws, will serve as the point of departure for the preparation of a new legal framework that will guide the sectoral ministries in the subsequent revision of specific legislation dealing with the environment.

In addition to the ongoing assistance of USAID/Chile, the Secretariat is preparing proposals requesting technical and financial assistance to meet these medium-term objectives from other bilateral and international donor institutions. Discussions have advanced furthest on a joint World Bank/GTZ US\$20 million project to support the strengthening of institutional capacity for those government entities with responsibility for environment and natural resource management. This project consists of two interrelated and reinforcing components.

The first component would support the development of inter-sectoral policies, and the corresponding legal and institutional framework. This component would be the project's centerpiece. It would support CONAMA's mandate that seeks to provide an overall national environmental policy and legal framework to guide inter-sectoral and sectoral policies, to strengthen the public sector's environmental decision-making and management capacity, and finally, to enhance public awareness of the environmental issues and the relationship between the environment, sound economic development, and quality of life.

The second component would support the development of the policy, legal and institutional framework for environmental action in three key sectors—forestry, fishery, and industry and mining.

In order to carry out this intensive program, the staffing of the Technical Secretariat must be strengthened. The Secretariat is staffed by a very small group of highly motivated and committed professionals. Additional staff is sorely needed, however, if the Secretariat is to have the capability to begin to address broader environmental issues of a systemic nature, rather than simply to play a day-to-day role as a crisis manager.

4.2 Special Commission for the Decontamination of the Metropolitan Region

Given the scale and severity of environmental problems in greater Santiago, the newly elected government established a parallel inter-ministerial coordinating commission for the Metropolitan Region. This commission is similar in structure to the National Environmental Commission (CONAMA). The Special Commission for the Decontamination of the Metropolitan Region (Special Commission) was created by government decree on April 18, 1990. Its creation and organization, in fact, predates CONAMA's by several months.

Like CONAMA, the Special Commission is a three-tier coordinating body whose principal function is to formulate plans and programs for the alleviation of Santiago's environmental problems. The Special Commission consists of the same three types of committees as CONAMA—Committee of Ministers, Operating Committee, and a Technical and Administrative Secretariat. It is located institutionally in the General Secretariat of the Presidency. Its reporting and approval chain of command runs vertically to the President of the Republic.

The Operating Committee has the responsibility for overseeing the implementation of environmental plans and programs previously approved by the Committee of Ministers. This Operating Committee is comprised of the Intendente of the Metropolitan Region, the Alcalde of Santiago, regional secretaries for the Ministries of Transport, Housing and Public Works, the director of the Metropolitan Environmental Health Service (SSMA), the director general of the Metropolitan Water and Sanitation Authority (EMOS), the National Energy Commission and the Executive Secretary of CONAMA.

The Technical and Administrative Secretariat is the executing arm of the Special Commission. It advises the Operating Committee on technical matters, and is responsible for formulating and implementing plans and programs.

Following an intense period of inter-ministerial discussions and collaboration, the Special Commission launched its program for the alleviation of environmental problems in the Metropolitan Region only two weeks after its creation. The Special Commission identified four principal problem areas that form the basis for its program—air pollution, contamination of water courses from untreated sewage, noise pollution, and the disposal of solid waste.

The Special Commission's global program includes a policy statement that will guide its programmatic activities, as well as master and immediate action plans. The prime objective of the Special Commission, as manifested through its policy statement, is to recover and

sustain a quality of life for the Metropolitan Region that is considered satisfactory and sufficiently healthy for its citizenry. The master plan presents short-, medium- and long-term actions to carry out the objectives of the program's principal policies. It proposes a series of immediate elements to initiate the plan's application. Finally, the Special Commission's global program includes measures that would be immediately instituted in the event of an environmental, particularly air pollution, emergency in Santiago. The Special Commission has been most active to date in addressing the city's problems of air pollution. The alleviation of air pollution problems forms the basis for the 1990 immediate action plan.

The rapid start-up of the Special Commission's activities can be traced to a series of thorough and systematic studies carried out since 1978 on Santiago's environment. These studies were financed and executed by a variety of central government, university and municipal/regional entities. The Inter-American Development Bank has contributed US\$2.5 million toward the partial financing of these studies. The studies have included the monitoring of air quality, the identification of sources of emissions, the examination of epidemiological problems, the monitoring of industrial wastes, the measurement of noise levels, the development of a meteorological model for testing the effects of alternative pollution control strategies, and the review of air quality standards and institutional mechanisms for managing air quality control programs. When taken together, these studies and projects provide a wealth of information on which the Special Commission will base specific actions to address Santiago's air pollution problems.

As noted, much analytical work regarding Santiago's air pollution problems has already been carried out. The Special Commission is of the opinion, however, that the regulatory framework that will provide the rules and incentives necessary to comply with air quality norms and standards is still not complete. It believes that the economic and technical regulations that will define the "rules of the game" for those sectors that will have to effect the measures and investments must be in place prior to the initiation of capital investments. The Special Commission's recent discussions with the Inter-American Development Bank have, therefore, centered on a potential two-phase lending program. The first phase would entail a final series of studies and pilot programs (US\$4.5 million) aimed at ensuring that future capital investments would be targeted in a cost effective manner. The Special Commission has proposed the following studies/pilot programs to the IDB:

- Provide incentives for the development of entrepreneurial capacity in the private transport sector;
- Define norms and standards for mobile emission sources (gas and diesel vehicles), and develop public sector capacity to evaluate, control and certify emission levels from this source, as well as to correct and maintain mechanical problems associated with gas and diesel engine emissions;
- Develop the public sector's capacity to control emissions from point sources;
- Define ways of measuring the emission of suspended particles from paved and unpaved roads and make recommendations for its control;
- Develop policies to control the discharge of industrial wastes;

- Define policies for the medium- and long-term management of the collection and disposal of solid waste from residential and industrial sources (including toxic wastes);
- Develop programs to evaluate the effects of air pollution on public health.

The results of these series of studies and pilot programs should be available by late 1991. At that time, a recent proposal prepared by the Special Commission calls for an IDB line of credit to support the financing of five distinct capital projects to address Santiago's environmental problems. The capital program is for an amount of US\$148 million. Of this total, the IDB would finance US\$66 million, while Chile's public and private sectors would finance US\$37 million and US\$45 million, respectively. The five capital elements of the program are as follows:

- Replacement and/or rebuilding of 5,000 diesel engines from Santiago's private bus fleet;
- Strengthening and upgrading of the inspection/repair capacity of the garages that provide maintenance to the city's cars and buses;
- Acquisition and retrofitting of catalytic convertors on the city's old and new taxis;
- Assistance in the purchase of equipment to reduce emissions from point industrial sources;
- Paving of 750 kilometers of streets in the city's marginal neighborhoods.

The Special Commission is also working closely with the Metropolitan Region's Water and Sanitation Authority (EMOS) in coordinating the debate over the long-standing practice of discharging untreated sewage into the region's water courses. During the previous government, both Santiago and Valparaíso/Viña del Mar received support from the World Bank to assist in addressing this sanitation problem, as well as deficiencies related to water supply and distribution.⁴ The World Bank is currently financing US\$60 million out of a total EMOS investment program of US\$160 million for the period 1986-1992 (Loan 2651-CH). This program consists of the provision of water supply mains and storage tanks (35 percent of total investment), sewage collectors and interceptors (58 percent) and sewage treatment plants (7 percent) for Santiago. After a lengthy, and to a certain extent ongoing, debate with the World Bank, EMOS selected stabilization ponds as the appropriate technology to resolve the city's wastewater treatment problem. EMOS selected this technology over the more

⁴The World Bank has just completed funding of a US\$6 million loan (Loan 2652-CH) to ESVAL, the water and sewerage authority for Valparaíso/Viña del Mar, to support its US\$11 million investment program for 1986-1989. The investment program included the construction of water treatment, storage and distribution facilities (85 percent), plus studies and designs for sewerage facilities (15 percent). The World Bank has recently entered into a new US\$100 million water and sanitation loan that will assist ESVAL with its capital investment program to the year 2000. The loan will assist in the financing of 24 kilometers of collectors, the construction of pump stations in Viña del Mar, Concon and Valparaíso, and a treatment plant in the Bustamante tunnel. The water components of the loan consist of the construction of a small treatment plant in Concon and several deep wells. ESVAL has also recently completed the implementation of a US\$10 million water and sewerage construction project financed by the IDB.

traditional, capital intensive treatment plant for two basic reasons: (1) lower initial cost; and, (2) less skilled labor needed for maintenance. EMOS has identified and acquired a site in western Santiago for the construction of a US\$20 million pilot stabilization pond project. When completed, this project will be able to treat about two percent of Santiago's wastewater. While plans for this pilot project move forward, the debate within EMOS and the Special Commission regarding the most cost effective treatment technology for Santiago appears to continue unabated. The World Bank is in the final stage of negotiating a second water and sanitation loan with EMOS. This new loan will assist EMOS in the financing of a multi-year investment program in sewage collection and treatment, and in improving/renewing existing water capacity and in reducing losses at treatment plants and in distribution lines.

5 USAID/CHILE STRATEGY FOR THE ENVIRONMENT AND NATURAL RESOURCES

A.I.D. initiated its Advanced Developing Country (ADC) program in Chile in August 1988. USAID/Chile's approach has emphasized relationships with the private sector, including NGOs, universities, business enterprises and other organizations, rather than government to government projects and the establishment of new institutions. USAID/Chile views itself as a catalyst, seeking to establish linkages between U.S. and Chilean organizations, while leveraging funds and technical assistance from a variety of sources.

The initial thrust of USAID/Chile's program was to support Chile's transition to democracy. Successfully completed this phase, the Mission has turned its attention to supporting various democratic initiatives of the four-year transitional government of President Aylwin. At present, the program concentrates on promoting initiatives which foster democratic processes—voter registration, training/information services for Congressional staff and modernization of the judicial system—and which strengthen the Chilean private sector through a variety of discrete activities. These activities include supporting large industrialists in the provision of technical assistance to smaller businesses, and the introduction of "people-oriented" management courses in local business schools. Through a strategy developed with the World Resources Institute, USAID/Chile has also embarked on a program in environmental and natural resources management.

Beginning in FY89, USAID/Chile "bought into" S&T/FENR's Environmental Planning and Management Project (EPM), which is implemented through a cooperative agreement with the World Resources Institute (WRI) in Washington, DC. USAID/Chile's FY89 and FY90 programs have carried out several important activities. The first activity was a collaborative effort between USAID/Chile and WRI in the formulation of an Environmental and Natural Resources (ENR) strategy for its Chile program. This strategy addresses three fundamental requirements for improving environmental and natural resources management in Chile: (1) the need for environmental policy and effective institutions; (2) the need for

more research, analysis and basic information on environmental issues; and, (3) the need for environmental education programs, training and increased public awareness.

Based on its strategic objectives to increase public awareness, USAID/Chile supported the week-long "Tercer Encuentro Científico sobre el Medio Ambiente" in August 1989. This conference brought together Chilean scientific, environmental, NGO and private sector interests to discuss a broad range of environmental issues. As mentioned previously, this conference is credited with making a significant contribution to raising the public's awareness of environmental problems.

To support the dissemination of environmental information, USAID/Chile's FY90 program supported the publication and distribution of the atlas "Environmental Problems of Chile". This atlas contains a thorough identification and ranking of the environmental problems for each of Chile's 13 regions. This study has been disseminated widely in Chile, and has served as a solid foundation for a follow-on study that will prioritize and establish a nationwide system to monitor the country's principal environmental problems.

With Chile's transition to a democratically elected government, USAID/Chile has been supporting the newly created National Environmental Commission (CONAMA) in the development of a detailed action plan to begin to address the country's environmental problems. The formulation of this plan will build directly on the USAID/Chile support for the publication of the atlas and the ongoing prioritization of environmental problems, and on assistance provided to the current CONAMA leadership prior to its taking office in March 1990.

During Fall 1990/Spring 1991, USAID/Chile will support the same team of environmental experts, which prepared the atlas, in the identification and definition of ENR indicators to monitor environmental problems. Based on the quantification of environmental problems provided by the indicators, Chile will be in a better position to begin to plan for their resolution. In conjunction with USAID/Chile, regional seminars will be held to brief the public on the results of the atlas and prioritization studies. This ongoing exercise to build a consensus with the public on the importance and prioritization of environmental problems will provide a strong basis for formulating an action plan for GOC environmental activities during the next three to four years.

Rapid advances in the public's awareness of environmental problems and the scope of the proposed World Bank, IDB and other donor financial assistance to Chile's environmental agenda has led USAID/Chile to begin to rethink its current ENR strategy. USAID/Chile environmental strategy for FY91/92 will likely evolve in the direction of supporting, within its overall ADC approach, the resolution of those specific environmental problems and questions, of particular interest to the GOC, not addressed by other donors.

6 ADDITIONAL URBAN DEVELOPMENT-RELATED ENVIRONMENTAL OPPORTUNITIES FOR AID

This section introduces several short-term opportunities in which USAID/Chile could leverage limited available funds to contribute to ongoing public/private sector debate in the urban development/environmental arena. From the universe of possible choices, the short-list of opportunities presented in this section was selected on the basis of the following three criteria:

1. Conformity with USAID/Chile Country Strategy and ADC status;
2. Conformity with available A.I.D. technical assistance and capital resources;
3. Conformity with incipient policies and programs of new Aylwin government;
4. Conformity with lending and TA programs of other bilateral and multilateral donors (i.e., to avoid duplication and activities and interventions).

USAID/Chile's objective in pursuing these short-term opportunities would be four-fold: (1) to serve as a catalyst in supporting the ongoing dialogue between Chilean public and private sector organizations on selected environmental topics; (2) to establish linkages between appropriate U.S. private sector organizations and Chilean institutions to address specific environmental problems; (3) to establish itself as a serious player with key Chilean actors and institutions in the urban development/environmental area; and, (4) to define a specific policy agenda in this field that could lead to a capital lending program in two to three years.

Based on the above criteria, USAID/Chile's decision to participate in one or more of the following activities could serve as the entree to Chile's urban development/environmental sector.

1. Assist MINVU and Chilean Construction Association to analyze implications and alternatives to continued peripheral expansion of the country's urban areas. One option being proposed is the renovation and densification of the downtown areas.
2. Assist MINVU and the regional water and sanitation authorities in the investigation of alternative small-scale, cost effective systems for the supply of potable water and the treatment/disposal of wastewater.
3. Assist in the examination of whether the Santiago/Valparaíso/Viña del Mar conurbation should be treated as a macro-region with respect to industrial location, the installation of infrastructure, and the siting of new shelter schemes.

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4. Assist in analyzing the need for and the identification of alternative forms of metropolitan government for Chile's larger urban areas (currently composed of multiple, poorly coordinated municipalities).
5. Assist MINVU in strengthening its urban development capacity and capabilities.

APPENDIX C

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