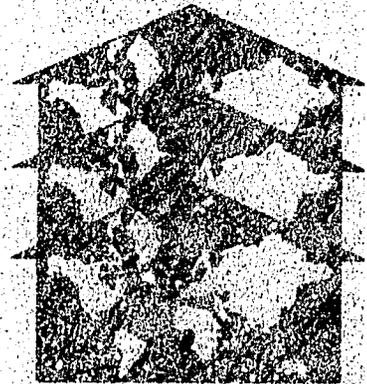


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# COLOMBIA SHELTER SECTOR ASSESSMENT

OCTOBER 1984



OFFICE OF HOUSING  
AND URBAN PROGRAMS  
AGENCY FOR  
INTERNATIONAL DEVELOPMENT

Prepared by

**PADCO**

PLANNING AND DEVELOPMENT  
COLLABORATIVE INTERNATIONAL

PDAAT-269

**COLOMBIA**  
**SHELTER SECTOR ASSESSMENT**

**Prepared for**  
**Office of Housing and Urban Programs**  
**Agency for International Development**  
**Washington, DC**

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**October 1984**

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## **PREFACE**

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This report was prepared by Joseph Arington and Alan Carroll of PADCO and Pedro Lasa, consultant, with assistance from Margarita Sorock, consultant, and Carlos Linares, PADCO.

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## GLOSSARY OF ACRONYMS

<b>BCH</b>	-	<b>Banco Central Hipotecario (Central Mortgage Bank)</b>
<b>CAMACOL</b>	-	<b>Camara Colombiana de la Construccion (Colombian Chamber of Construction)</b>
<b>CAVs</b>	-	<b>Corporaciones de Ahorro y Vivienda (Savings and Housing Associations)</b>
<b>CECA</b>	-	<b>Centro de Estudios Comunitarios Aplicados (Center for Applied Community Studies)</b>
<b>CENAC</b>	-	<b>Centro Nacional de Estudios de la Construccion (National Center for Construction Studies)</b>
<b>CONPES</b>	-	<b>Consejo Nacional de Politica Economica y Social (National Economic and Social Policy Council)</b>
<b>DANE</b>	-	<b>Departamento Administrativo Nacional de Estadistica (National Department of Statistics)</b>
<b>DIGIDEC</b>	-	<b>Direccion General de Integracion y Desarrollo de la Comunidad (General Directorate of Community Development and Integration)</b>
<b>DNP</b>	-	<b>Departamento Nacional de Planeacion (National Planning Department)</b>
<b>ESAP</b>	-	<b>Escuela Superior de Administracion Publica (Superior School of Public Administration)</b>
<b>FEDELONJAS</b>	-	<b>Federacion Colombiana de Lonjas de Propiedad Raiz (Colombian Real Estate Federation)</b>
<b>FFDU</b>	-	<b>Fondo Financiero de Desarrollo Urbano (Finance Fund for Urban Development)</b>
<b>FNA</b>	-	<b>Fondo Nacional de Ahorro (National Savings Fund)</b>
<b>ICAVI</b>	-	<b>Instituto Colombiano de Ahorro y Vivienda (Colombian Savings and Housing Institute)</b>
<b>ICT</b>	-	<b>Instituto de Credito Territorial (Land Credit Institute)</b>
<b>IDB</b>	-	<b>Inter-American Development Bank</b>
<b>INS</b>	-	<b>Instituto Nacional de Salud (National Health Institute)</b>
<b>INSFOPAL</b>	-	<b>Instituto Nacional de Fomento Municipal (National Municipal Development Institute)</b>
<b>SENA</b>	-	<b>Servicio Nacional de Aprendizaje (National Training Service)</b>
<b>TAN</b>	-	<b>Titulos de Ahorro Nacional (National Savings Certificates)</b>
<b>UPAC</b>	-	<b>Unidad de Poder Adquisitivo Constante (Unit of Constant Purchasing Power)</b>

## I. SHELTER SECTOR OVERVIEW AND CONCLUSIONS

### A. THE DEVELOPMENT CONTEXT

#### 1. Demographic Growth and Trends

The Colombian population totaled approximately 27 million in 1983. Population growth, which reached a peak of close to 3.4 percent per year in the 1950s, declined through the 1960s and is estimated at about 1.9 percent for the period of 1973 to 1983. This slowing is expected to continue through the end of the century, with growth falling to about 1.3 percent per year in the 1993-2003 period.

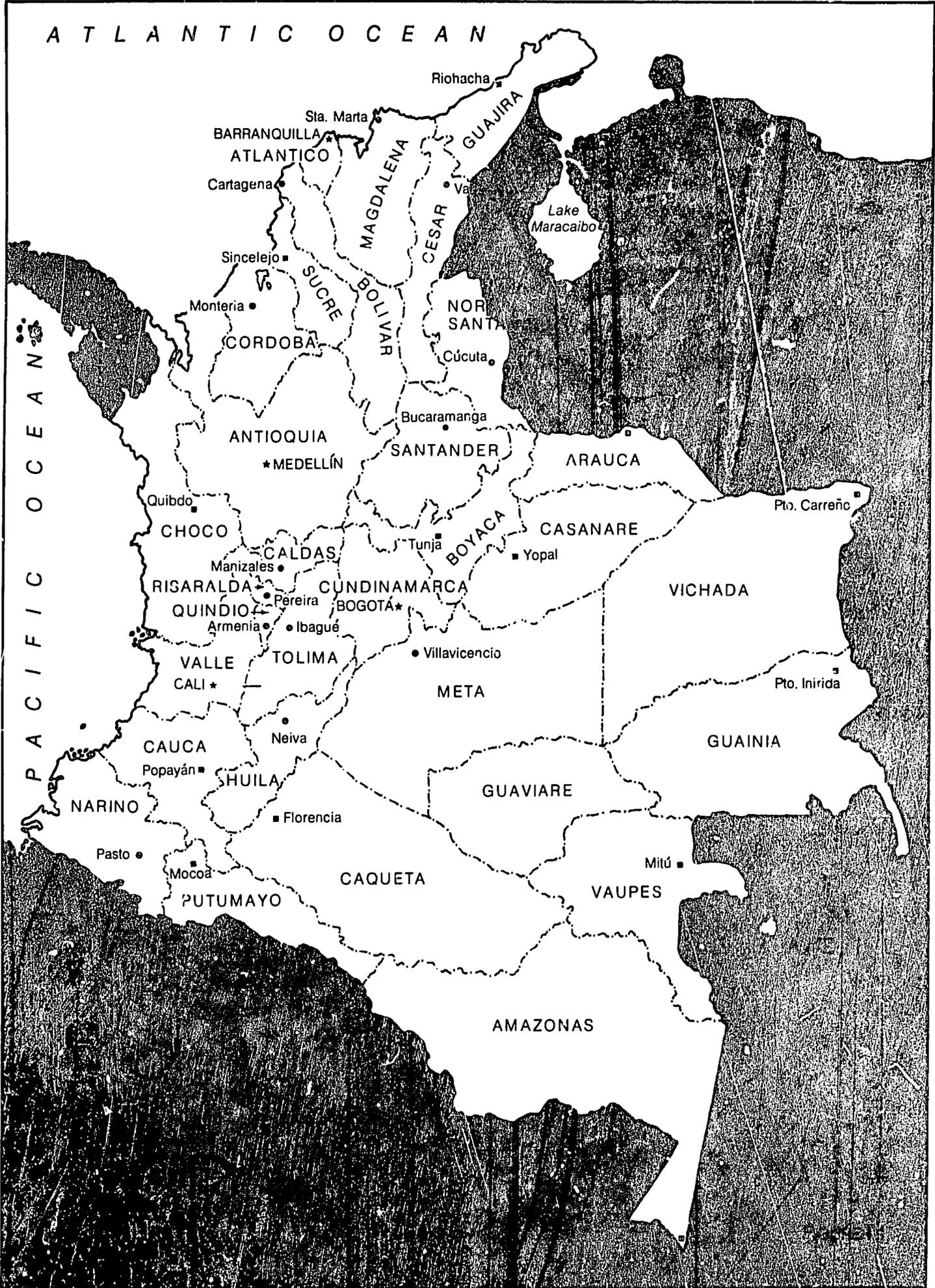
The urban population of Colombia, which reached 13.4 million in 1973, is now estimated at 17.7 million. While the 2.8 percent annual urban growth rate for 1973-1983 represents a significant deceleration from the 1960s and early 1970s, it is still a rapid growth rate and contrasts sharply with the rural population expansion of 0.4 percent per year during the same period. The decline in the urban growth rate has mainly occurred as a result of lower fertility and a higher base size of the cities rather than as a result of a major reduction in the pace of rural-urban migration. While some slowing of migration may have occurred in recent years, this may well be due to the decline of economic activity since 1979.

Bogota, with an estimated 3.9 million residents in 1983, now accounts for about 22 percent of the total urban population. Medellin (2.1 million), Cali (1.35 million) and Barranquilla (1.1 million) together with Bogota now account for an estimated 47 percent of the urban population and 31 percent of the total population (see Figure I.1).

Although population growth has somewhat stabilized at its current rate, the labor force is now absorbing an increasing number of new entrants born during the 1960s and faces a rapidly growing working age population. Urban employment markets are feeling the pressures of greater numbers of job seekers. This pressure will undoubtedly increase since in the near future, the number of new entrants into the workforce will continue to grow. The new urban workers include migrants from rural areas and women, who, in an urban setting, find that they must work outside the home. The economy's employment generating capacity, particularly in the private sector, will continue to be a significant development issue for at least the next decade.

#### 2. Economic Development

Significant improvements in the standard of living of the Colombian people were made during the 1960s and 1970s as a result of the impressive growth of an economy that became more urbanized, industrialized, and diversified. GDP per capita grew by over three percent through the 1960s and 1970s, reaching US \$1,380 in 1981. However, in the last five years, real GDP growth has decelerated sharply from the rate of nearly six percent per annum of previous decades and was estimated at about 1.4 percent in 1982. In addition to the weakening of external demand resulting from the world recession, a variety of significant supply problems emerged. In agriculture, both acreage



and yields declined for many products, and yearly agricultural production was estimated to have declined by about one percent at the end of 1982. The depressed levels of aggregate demand caused industrial activity to stagnate and unutilized capacity to increase, particularly in manufacturing. During the past five years, the construction sector grew at a rate about equal to the GDP average, and the banking sector increased its participation significantly. However, agriculture, industry and commerce, which represent over 50 percent of GDP, grew at rates well below the overall average.

Until about two years ago, the position of foreign exchange reserves (which counted on both formal and informal sources of funds) was relatively good and permitted Colombia to control its debt and external solvency while the Peso remained relatively overvalued with respect to the U.S. dollar. However, over the last two years the situation has changed. Falling exports together with government policies aimed at opening up the economy and decreasing the impact of inflationary pressure caused the emergence of a deficit in the resource balance in 1981. Net foreign reserves declined by about 45 percent between 1981 and 1983.

In their efforts to control inflation, monetary authorities have exercised effective control of the expansion and growth of the money supply. Although inflation began to slow somewhat in 1982, the combination of monetary discipline and the decline in overall productivity has produced a recessive condition which might be characterized as "stagflation". This has affected not only production but also unemployment, which in 1982 began to rise significantly above the historical rate of 9 percent of the labor force. Under the existing situation, the possibilities for economic growth and the acquisition of required production inputs seems quite constrained. Current efforts to control inflation during a period of decreasing global growth will condition the possibilities of monetary expansion.

The basic questions regarding economic recovery are how to finance it and through what mechanisms to channel the required monetary investment. The first and most logical source would be increased exports. However, for basic products, price, which is the determining factor, will continue to exert a negative influence over the short term. The exportation of manufactured products, which are competitive in international markets, will be limited by both exchange rate conditions and current low levels of productivity.

## **B. CURRENT HOUSING SITUATION**

Colombia's housing stock consisted in 1981 of about 4.3 million units, according to DANE. Nearly two-thirds of this stock was in urban areas, the rest in rural. Between 1973 and 1981 the housing stock grew substantially faster than the population in both rural and urban zones. This is reflected in a decrease nationally in the average number of persons per dwelling unit from about 7.4 in 1973 to around 6.1 in 1981.

Average household size has been decreasing significantly also. Between 1972 and 1981 it dropped from approximately 6.1 to 5.4 nationally, reflecting the deceleration of

population growth and the narrowing of the age pyramid. In 1981 average household size in urban areas was about 5.25, in rural areas about 5.75. Based on these figures, the average number of households per dwelling unit was 1.16 for urban and 1.10 for rural.

A large share of housing growth in Colombia occurs through unlicensed construction. A recent analysis by CENAC indicated that between 1973 and 1981 extra-legal construction accounted for about 44 percent of the growth of the housing stock in Colombia's 15 principal cities. The World Bank estimates that in recent years (before 1983), approximately half of annual urban housing construction overall has been unlicensed.

There is a large disparity in quality between urban and rural housing. In 1973 only about 28 percent of rural dwellings had water supply connections, in contrast with 87 percent of urban units. Less than one quarter of all rural dwelling units were built of permanent materials in 1973, while in the same year almost two-thirds of urban units were.

Between 1973 and 1981 the proportion of substandard urban units - those constructed totally or partially of non-permanent materials - stayed about the same, at around 30 to 35 percent. Regarding water supply, the data indicate that between 1973 and 1981 coverage remained about the same in urban areas (around 85 percent) and declined in rural areas (from about 28 to around 20-25 percent).

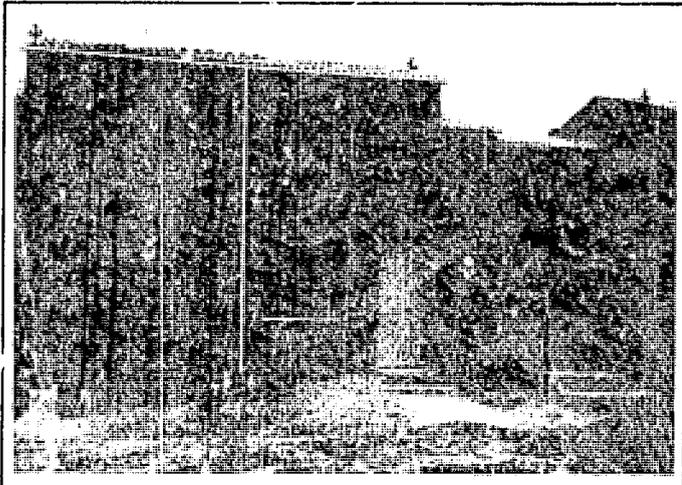
It should be noted that these static figures on housing quality mask a large amount of upgrading that occurs over time. Self-help construction accounts for an important share of this upgrading. In a study of housing improvement in Cartagena, Strassman found that the average dwelling grew from 3.3 to 4.1 rooms between 1973 and 1978. In addition, about 20 percent of owners made improvements to walls, floors, or roofs. Strassman also found that upgrading tended to accelerate rapidly once owners obtained water supply connections.

Approximately 60 percent of households nationally were owner-occupants in 1981. Owners accounted for about 55 percent of urban households and about 69 percent of rural households. Slightly over one-third of urban households were renters. Eight percent of urban households were neither owners nor renters. A high proportion - about one quarter - of rural households occupy housing without paying rent. This helps explain the relatively low fraction of rural household income spent on housing.

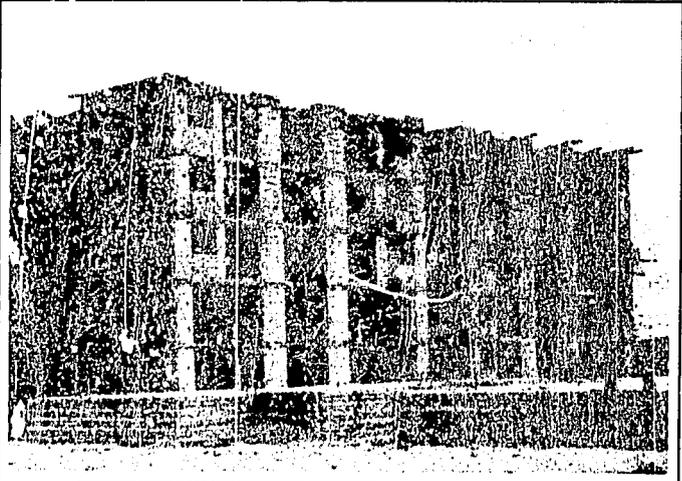
In recent years, Colombian housing institutions have been trying to lower the cost of dwellings by reducing unit size and the degree of finish. However, the norm is still to produce complete units, and prices do not generally fall below Col\$500,000 per unit. Serviced lots with core units and upgrading schemes, which can reach the poorest 40 percent of urban households, are not currently playing a role in Colombia's formal housing market. Some examples of recent BCH and ICT housing projects are shown in Figure I.2.

Figure 1.2

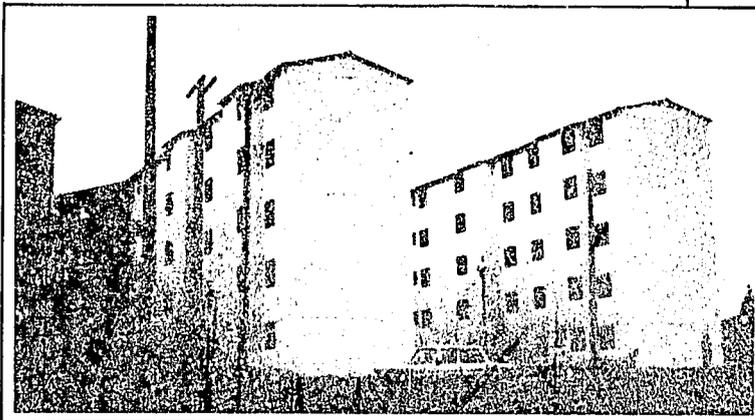
**EXAMPLES OF RECENT HOUSING PROJECTS**



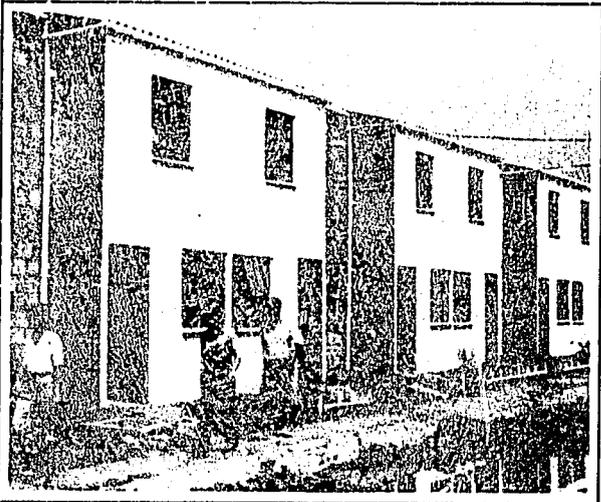
**SAN CARLOS/BCH (Bogota):** Multifamily units of 43 m<sup>2</sup>, construction by "curtain system". Total of 1,400 apartments. Cost per unit, 1,020 UPAC (Col\$807,840 in June 1984).



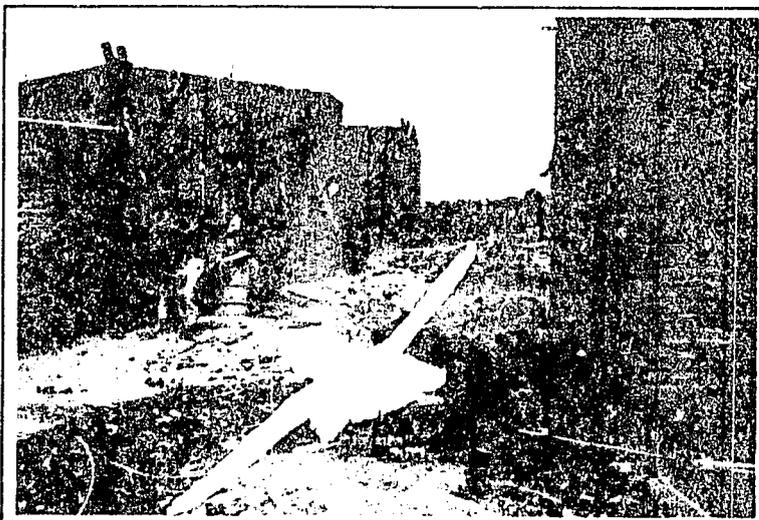
**COMPARTIR SOACHA/BCH and CAVs (Bogota):** Duplex units of 41 m<sup>2</sup> each. Total of 5,272 units. Cost per unit, Col\$510,000 first floor, Col\$480,000 second floor (1984). Traditional construction. Non-profit development by Fundacion Compartir.



**FLORALIA /ICT (Cali):** Duplex units of 54 m<sup>2</sup> each. Total of 2,600 units in the first phase. Cost per unit, Col\$560,000 (1984). Traditional construction.



**MOLINOS/ICT (Bogota):** Multifamily units of 48 m<sup>2</sup> each, traditional construction. Cost per unit, Col\$833,000 (1984). Total apartments of this type. 420; total in the project, 1,500.



**EL VALLADO/BCH (Cali):** Lots with services of 75 m<sup>2</sup>. Houses built through individual contracting, collective contracting, and self-help. Total of 3,400 lots. Average loan size, Col\$600,000 (May 1984).

## C. THE NATIONAL PLAN FOR HOUSING AND URBAN DEVELOPMENT 1983-1986

The shelter sector plays a major role in the government's medium term strategy for restoring long-term growth, expanding employment opportunities for the growing labor force, and improving income distribution and welfare, while avoiding balance of payments problems. Together with increased production and exports in agriculture and selected industries, the expansion of housing construction is viewed as a primary stimulant of future economic growth.

### 1. Basic Goals and Objectives

The National Housing Plan for the period of 1983-1986 contains several key elements which distinguish it from previous sectoral plans. It proposes:

- to dramatically increase the production of new housing, with targets of 400,000 urban and 42,000 rural shelter solutions during the plan period;
- to reactivate the economy by increasing the demand for material inputs, reducing unemployment, and more effectively utilizing installed sectoral capacity; and
- to produce a direct social impact by reducing the accumulated housing deficit, targeting new housing production to lower-income groups, providing massive low-skill employment and income generation opportunities, and by incorporating the "informal" sector into the "formal" sector through self-help housing construction.

### 2. Implementation Strategy

Priority emphasis is given to serving low-income groups, with 63 percent of total production targeted at "basic" units costing less than 1,300 UPACs (about Col\$1 million in 1984 prices or about U.S. \$10,000). Within this framework specific production and price targets have been set for both public and private sector institutions. The implementation strategy recognizes not only new conventional units, but also partial solutions such as serviced land, housing improvements, "second-hand" housing, and (albeit conservatively) the role of informal sector construction.

Finally, in order to increase effective demand and expand the accessibility of lower-income groups to the housing market, a variety of new financial terms and conditions have been designed (including the heralded "Zero Down Payment"). This aspect is particularly relevant for the Corporaciones de Ahorro y Vivienda (CAVs), and the UPAC1 system of the Banco Central Hipotecario (BCH). This, together with the assumption that almost 70 percent of the estimated Col\$515,200 million required for plan implementation will be mobilized in private capital markets, places private or quasi-private institutions at the center of the proposed implementation strategy.

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<sup>1</sup>"Unidad de Poder Adquisitivo Constante", an indexing mechanism developed in the early 1970s to maintain the real value of funds in the housing finance system. One UPAC was worth Col\$798 at the end of June 1984.

Finally, a focus for shelter sector policy has been created through the designation of a Presidential Adviser for Housing, a position which could evolve as a vehicle for the coordination of sectoral investment and shelter policy-making.

### 3. Housing Plan Performance and Prospects

The first year of plan implementation must be considered successful. President Betancur's Plan Bandera produced a record volume of 100,742 housing solutions in 1983, far exceeding the previous high of about 40,000 units (1978). Approximately 61 percent of all units produced fell within the plan's definition of "basic" housing (costing less than 1,300 UPACs).

The UPAC system (BCH and CAVs) captured in 1982-83 a much higher share of savings than ever before, which permitted it to expand housing lending dramatically. This increase in funds to the UPAC system occurred basically at the expense of commercial banks, which at that point were experiencing image problems due to crises in two major banks. The Instituto de Credito Territorial (ICT), which is Colombia's long-standing public housing agency, received a large infusion of public and financial sector resources in 1982-83.

BCH and the CAVs took an important first step towards penetrating the lower-income market with their technical and financial resources. Approximately 21 percent of BCH and CAV production (37,037 units) consisted of solutions costing less than 1,300 UPACs. ICT produced 48,600 units costing less than 1,300 UPACs.

The results were equally significant from the standpoint of employment generation within the sector. Employment in construction increased by 10 percent in relation to 1978 and about 35 percent over 1982 levels.<sup>2</sup> These gains occurred despite the fact that less employment was created for each 1,000 square meters of construction than in previous years. The ability of the housing sector to rapidly incorporate a broad base of finance and production enterprises within a massive construction program without significant distortions of costs also demonstrated the sector's ample response capacity.

Also important were the steps taken to mobilize, develop, and effectively utilize the capacity of low-income groups through mechanisms such as group credit and technical assistance programs for self-help housing construction.

The Housing Plan goal that was not achieved in 1983 was stimulation of the economy. Value added in construction as a percentage of GDP did not increase significantly, and the share of industrial value added in GDP actually declined slightly. In addition, while the total number of square meters of licensed housing construction increased by 25 percent in 1983, sales of building materials hardly increased at all. This was apparently due to the substantial shift toward lower-cost and lower standard dwellings.

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<sup>2</sup>DNP, Boletín de La Planeación, March 1984, p. 12.

Because of this shift, some of the formerly illegal construction<sup>3</sup> may have been replaced by low-cost legal housing in 1983, suggesting that total new construction (legal and illegal) may not have increased as much as the official figures indicate.

Nevertheless, by almost any standards of analysis, 1983 was clearly a historic and banner year for the housing sector in Colombia. However, future prospects for the program must be considered poor. The continuation and conclusion of the Plan Bandera will require channelling massive financial resources to the sector. That requirement seems incompatible with the current economic recession, the critical situation of monetary reserves, and a policy of strict monetary discipline which seeks to avoid any monetary emission which is inorganic or directly inflationary. The conditions which permitted the ample flow of financial resources to the sector (lowered confidence in the commercial banks) no longer exist, and the possibility of an expansion of internal savings is doubtful.

#### D. KEY ISSUES AND POLICY OPTIONS

The National Plan for Housing and Urban Development is based on an integrated conception of the shelter sector in Colombia, in that it sets out two major objectives for the sector: to reactivate the economy and to increase substantially the production of lower-cost housing. Its concrete objectives are specified in terms of the production of 442,000 housing units and their distribution by price levels.

The plan, in its current form, has significantly more strength as a conceptual guideline than as a concrete policy for the shelter sector. No quantifiable relationship has been established between the production targets and the expected economic and social benefits. Moreover, the specified investment requirements do not reflect the scarcity of resources and the corresponding competitiveness which exists within Colombia's internal money market at the present time.

Further efforts to meet the government's housing objectives must take into account that:

- Social and economic forces have already been mobilized and great expectations have been created.
- The scarcity of domestic investment resources requires that policy and program options in the housing sector cannot be divorced from overall economic policy.

These considerations suggest that the continuity and effectiveness of the housing plan will require attention to the following immediate and longer-term issues:

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<sup>3</sup>It is generally accepted that about 45 to 50 percent of urban housing production in recent years has been illegal (unlicensed).

## 1. The Immediate Issue: Financing

If the government wishes to fulfill its original production targets, the necessary resources must be mobilized. At this juncture, internal savings are insufficient given the prevailing allocations among the various sectors competing for funds. The government therefore faces difficult choices:

- a. Additional direct monetary emission for housing. Funds could be channeled through the UPAC System. However, this alternative goes against the current restrictive policy of the Junta Monetaria.
- b. Changing the UPAC system's terms to make it more attractive to savers, thereby allowing it to capture a greater share of the internal savings market. The limitations of this approach are (1) the lag time for response, (2) the need to increase interest rates charged on mortgages and the consequent reduction in affordability of solutions, and (3) the potential for generating overall inflationary pressures (interest rates in the banking system are uncontrolled) and the risk of further economic "stagflation."
- c. Increasing budget allocations for ICT. This alternative implies higher governmental budget deficits. It also implies a greater volume of subsidies for housing because of ICT's below-market interest rates and poor recovery record.
- d. Obtaining resources for housing from the external savings market. Among the problems posed by this alternative is, who bears the foreign exchange risk? A careful review would be required of the level of debt the sector could absorb.
- e. Abandoning the current housing plan targets and settling for more modest ones.

## 2. Medium to Long-Term Issues

### a. Clarification of Institutional Roles

In 1983 ICT proved its capacity to produce massive numbers of housing units. However, given the scarcity of financial resources, it seems legitimate to question whether the costs of producing such solutions--in terms of the large subsidies involved--is justifiable, or if it is necessary to incur such costs in producing large numbers of low-cost solutions.

ICT might best contribute to sectoral objectives by shifting away from finished units and focusing primarily on serviced lots with core units and on supervised upgrading. Such a strategy would produce a significant social impact within the lowest levels of the income distribution. It could also have potential secondary reactivating effects through the opportunities provided for employment in the informal sector as progressive housing development takes place.

This approach would permit ICT to continue to produce a large number of solutions, but at much lower cost, making it possible to reduce subsidies and avoid excessive absorption of scarce and costly resources available through the internal savings market. It would also permit a reassessment of the medium to long-term capacity of ICT and the progressive upgrading of its internal operations.

Over-diversification of the social targets of BCH and the CAVs carries some risks, principally excessive administrative complexity and potential difficulties with the affordability of solutions. There is a role for the BCH and CAVs in serving low and moderate income groups, but their entry into these markets ought to proceed judiciously so as not to weaken their capacity for future growth. Both institutions should be expected to contribute to the "reactivating" effect of the sector by continuing to target production at the 1,000 to 1,300 UPAC level, as well as the higher-income levels.

The CAVs have substantially proven their operative capacities and their ability to penetrate the moderate income market. Expansion of their contribution in the future will greatly depend on their having access to money markets on a reasonably competitive basis.

As a public institution, BCH is required to carry a heavier social mandate than the CAVs. While it has demonstrated its outstanding capacity and versatility in responding to the housing plan objectives, this has resulted in the creation of various new offices and implementation mechanisms. A careful review of BCH's changing structure and ability to respond efficiently to its new demands seems indicated if BCH is to maintain a high grade of institutional and fiscal health while providing leadership to the sector.

**b. The Construction Sector**

The behavior of prices in the construction sector shows a greater sensitivity to sub-utilization of capacity than to rapid increases in production. This may reflect diseconomies of idleness on the part of construction firms and materials suppliers (i.e., firms raise prices to make up for lack of demand). The highest recent increases in costs occurred between 1979 and 1980 and coincided with a severe drop in building activity.

Three factors, labor, materials, and installed sectoral productive capacity, are relevant to the identification of a "saturation" point in the housing sector and the determination of production levels which might create significant distortions in costs. The first, labor, is readily available in Colombia, with significant pressures to reduce the current 12 percent unemployment rate. Construction materials in sufficient quantity are readily available, and the recent expansion of cement plants together with the sub-utilization of iron and steel installations permit a reasonable level of optimism concerning the availability of material inputs. Although numerical production reached a record 100,742 units in

1983, the total square meters constructed did not significantly surpass those of 1978, when about 40,000 units were built. At the moment, the general approach in the sector is to construct smaller units to reduce costs and increase effective demand. This suggests that the achievement of the housing plan's production targets would not create inordinate demands for materials.

**Private sector construction** entities in Colombia are technically qualified. Modern construction techniques are applied in both traditional and industrialized construction. In constant terms, the value added of the construction sector as a whole remained at almost identical levels between 1982 and 1983 (Col\$20,037 and Col\$20,042 million, respectively in 1975 prices). Since housing investment in real terms grew substantially in 1983, it appears that a drop in the volume of other construction works occurred simultaneously.

The above behavior seems to reflect a characteristic of the construction sector in Colombia. In 1974 and 1978 building construction absorbed 41 percent of total sectoral investment while other works absorbed 59 percent. However, in 1981 and 1982, while other works absorbed 69 percent of investment, building construction accounted for only 31 percent of all sectoral investment. The lack of significant increases in total sectoral investment and the transfer of available resources internally have caused many contractors and construction firms to continually re-focus their activities on one aspect or another, depending on the current situation. The results are inefficiency and higher costs.

A stable and steadily increasing source of housing finance would help ensure that the available installed productive capacity is directed to housing on an efficient and sustained basis.

**c. Housing Needs and Affordability**

New construction to accommodate household growth in urban areas will account for the majority of housing construction needs between 1985 and 2005. The annual need for new units will reach about 208,000 in 1990 and increase moderately to about 300,000 units per year in 2005.

New construction needed for rural areas is about 20 percent of the total national requirement for new housing. When urban and rural needs are combined, the national yearly new dwelling requirement reaches 257,000 in 1990, 298,000 in 1995, 333,000 in 2000, and 373,000 units in 2005. These volumes of construction seem within the capacity of the Colombian housing sector. However, one must also take into account the projected needs for upgrading currently existing substandard units, which would involve about 100,000 units per year over the next two decades.

No recent data on household expenditures for housing are available at the national level. However, figures from a 1972 Survey of Household Incomes and Expenditures conducted by DANE show that expenditures on housing capital (mortgage payments or imputed rent) are much lower than is generally supposed in Colombia.

Even so, when one uses the generally-accepted figure of 30 percent of household income for housing capital plus standard BCH financing terms (but without graduated payment schemes), one finds that the "basic" and "minimal" housing solutions now available in Colombia are not affordable by the majority of the lower-income population. A finished "basic" house of 1,000 UPACs (equal to Col\$674,000 in June 1983) is affordable only by the top 40 percent of the urban income distribution. A "minimal" unit or core house (Col\$360,000 in 1983 prices) is affordable down to the middle quintile, while the second-to-lowest quintile is only able to afford an upgrading loan of Col\$66,400.

Graduated payment systems are widely used by housing institutions in Colombia, but it is difficult to assess their long-term viability. They clearly can improve affordability substantially for middle-income households with salaried workers who can expect annual cost of living increases. Under the above-mentioned expenditure assumptions, graduated payments extend affordability of 1,000 UPAC units to the middle quintile of the urban income distribution. However, graduated payment schemes are not suitable for lower-income households whose members tend not to have steady incomes or job security and cannot anticipate regular income growth.

The fundamental conclusion of this analysis is that the types of housing solutions currently being produced cannot reach the poorest 40 percent of urban households even under the most favorable assumptions. The 1,000 UPAC unit, generally considered to be a "popular" solution, is within reach of only the upper 40 percent of urban households. Serviced lots with core houses and upgrading schemes, which can reach poorer urban households, are not currently playing a major role in Colombia's housing plan and strategy. For the formal sector to continue increasing its participation in meeting housing needs it will be necessary not only to expand and stabilize aggregate financial resources for housing, but also to reduce further the average unit cost in order to produce more units.

**d. Technology Choice and Affordable Shelter**

Neither the improvement of construction technology nor the development of new materials are critical factors in the reduction of unit prices in Colombia except perhaps in relation to potential time savings. However, the scale of projects and the effectiveness and efficiency of their management continue to exert a considerable influence over production costs and final unit prices. The scale of projects depends on a wide variety of factors, the most important of which is the availability of suitable land with access to infrastructure and services. Achieving improvements in administrative and financial management of formal sector enterprises depends significantly on private sector access to a stable source of housing finance.

High urbanization and construction standards continue to hamper the production on a massive scale of solutions which are affordable to lower-income households. Little progress has been made in the development of more affordable standards due to concerns about future maintenance and upgrading costs and generalized biases about "promoting slums". Worldwide experience suggests that such concerns are largely unfounded and that a redefinition of minimum urbanization and housing standards will be necessary if Colombia is to produce massive numbers of solutions which are affordable to the lowest income groups.

The approach taken so far, the production of smaller and smaller finished units by both the public and private sectors (a phenomenon referred to in Colombia as analogous to the headshrinking practices of indigenous tribes) has achieved significant price reductions relative to recent Colombian experience, but it has not succeeded in producing housing affordable to the vast majority of lower-income families.

The informal sector in Colombia continues to produce nearly half of the total annual housing solutions, and it is clear that effective competition with illegal housing will require more innovative approaches. While the government has experimented with potentially relevant solutions such as sites and services, core units, housing improvements, the "Plan Terrazas", and associative self-help, the relative magnitude of such efforts has been minimal thus far. Expansion of these efforts is called for. As mentioned earlier, this involves a clearer definition of the roles of the key public and private sector institutions.

**e. Infrastructure**

It will be impossible to carry out a sustained program to meet housing needs in Colombia without:

- In the short run, a major effort to overcome existing infrastructure deficits;
- In the medium run, substantial financial and management reforms in the infrastructure and services enterprises ("empresas"), especially in the water/sanitation sector.

Large segments of the population--urban and rural--are not reached by adequate public services and infrastructure. The coverage deficits have not declined in recent years. The scarcity of adequately serviced land is a major bottleneck for housing supply and makes it difficult to undertake large-scale housing projects in many cities.

The water supply enterprises are heavily dependent on central government subsidies. Three-quarters of local empresas had budget deficits in 1983, and the overall financial deficit in the sector is growing exponentially. Water supply institutions are unable to recover costs due to inefficiency and inadequate collection, as well as high rates of water loss and waste. FFDU (The Finance Fund for Urban Development) has

provided significant resources for infrastructure development, but only the larger and more prosperous localities are able to borrow from it.

The continuing decline in population growth rates will alleviate somewhat the task of overcoming infrastructure shortages. However, the magnitude of the infrastructure problem should not be underestimated. It will be difficult to find the resources to accelerate infrastructure construction. Because of this, urgent attention must be given to dealing with the financial and institutional problems affecting the infrastructure sector.<sup>4</sup> Ways must be found of delivering services more efficiently, at substantially lower per capita costs. A viable compromise must be reached between greater cost recovery and lower design standards in order to place the sector on a sounder financial footing.

It would be in the interest of the housing sector in Colombia to promote and support much more careful analyses of:

- The extent to which infrastructure will be available to support future housing programs, given current trends and practices; and
- The institutional problems of the various housing-related infrastructure and services sectors.

**f. Rental Housing**

An in-depth assessment of the rental housing market would be desirable. Approximately 37 percent of urban households are renters, yet almost no attention is being paid to the possibility of increasing the supply of rental housing. A recent study by FEDELONJAS reported that rental housing needs are substantial, primarily among lower-income households.<sup>5</sup> World Bank studies indicate that large proportions of urban units built by self-help (40 percent in Bogota and 25 percent in Cali) include rent-paying tenants occupying one or more rooms.<sup>6</sup> Given the importance of rental housing it is strange that it is virtually ignored by policy-makers in Colombia. The World Bank's 1984 Urban Policy report notes:

"... Colombia has a history of several forms of rent control, freezing rents in particular structures or allowing limited adjustments. Although rent control mechanisms recently enacted to have

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<sup>4</sup>In fairness, it should be pointed out that the problems of the water supply sector have been studied extensively, and pilot programs to improve management and finance are beginning under World Bank financing.

<sup>5</sup>FEDELONJAS, La Vivienda Arrendada como Alternativa al Déficit Habitacional, Sept. - Oct. 1982.

<sup>6</sup>World Bank, Urban Policy in Colombia: Selected Issues and Some Directions for Change, Report No. 4916-CO, January 1984, p. 22.

rent reflect a fixed proportion of the declared value of the asset are justified on equity grounds, they are unlikely to work where vacancy rates are low. The poor, in particular, are unlikely to exercise their legal rights under rent control, especially in the informal housing markets. Even among the more probable middle-income beneficiaries of rent control, evasion is likely to be the rule. Though ineffective, the decrees seem to send the wrong signals to the providers of housing for rent: they may in fact reduce the rental housing supply, rather than reducing rents. Unless the overall policy objective is to supply all households with dwelling ownership rights, the gradual relaxation of rent control could improve access to shelter, particularly for low-income households."<sup>7</sup>

### **E. SUMMARY OF HOUSING AGENDA**

Figure I.3, "Agenda for Housing Policies and Programs," summarizes the key points raised in section above.

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<sup>7</sup>World Bank, op. cit., pp. 34-35.

FIGURE 1.3  
AGENDA FOR HOUSING POLICY AND PROGRAMS

ISSUE	RESPONSE
1. Quantitative 1983 objectives of the 1983-88 Housing Plan were met, but scarcity of savings and government budget deficit make similar success unlikely this year or next.	<p>Difficult choices:</p> <ul style="list-style-type: none"> <li>• Direct monetary emission for housing.</li> <li>• Further changes in UPAC terms to enable system to capture a larger share of resources.</li> <li>• Larger public budget allocations for ICT.</li> <li>• Obtaining resources for housing from external savings market.</li> <li>• Reducing housing plan targets.</li> </ul>
2. Despite record-breaking output in 1983, formal sector housing production is well below the level required to meet future housing needs.	<p>All housing institutions should participate in producing innovative (for Colombia) lower-cost solutions including core units, lots with sanitary cores, and sites and services, so that housing investment resources produce larger numbers of units.</p>
3. A majority of the new households that will need shelter in the next 20 years will not be able to afford a 1,000 UPAC unit. The lowest-priced units being produced today are not affordable to the bottom half of the urban income distribution.	<p>ICT should devote itself exclusively to producing lots with core units and sites and services, and to offering upgrading loans, so as to reach households below the median income.</p> <p>Building and urban development codes should be liberalized and the regulatory process streamlined to allow private sector development of the above types of solutions.</p>
4. ICT has demonstrated its capacity to produce massive numbers of units, but it does so at the cost of heavy subsidies paid for with expensive financial market funds.	<p>ICT should adopt stricter cost recovery measures; it should price its units to reflect real costs of production; and it should streamline its internal operations to substantially reduce operating expenses.</p>
5. BCH should play a role in serving low and moderate income groups, but it has little experience with non-traditional housing.	<p>BCH should ensure that its entry into this market proceeds judiciously and that the effort is coordinated throughout the entire organization.</p> <p>BCH should study innovative mechanisms for guaranteeing adequate portfolio recovery from the lower-income client group (including its associative credit mechanism).</p>
6. Fluctuations in financing for housing have caused many contractors and construction firms to continually re-focus their activities, resulting in inefficiencies and higher costs on the supply side.	<p>Creation of a high-level housing planning body with wide representation which would, among other things, act to assure a stable flow of resources to the sector (but which would not implement).</p>
7. Colombian housing institutions lack recent experience in planning and executing innovative low-cost solutions on a mass scale.	<p>Practical measures are needed for:</p> <ul style="list-style-type: none"> <li>• Efficient project planning and design.</li> <li>• Community participation in construction and maintenance.</li> <li>• Techniques for selection of project beneficiaries and housing occupancy.</li> <li>• Effective materials loan programs and technical assistance.</li> <li>• Reliable mechanisms for cost control and recovery.</li> </ul>
8. Urban infrastructure deficits are large and have not declined in recent years. The financial situation of water supply companies is poor and deteriorating. Any attempt to continue the high levels of housing production reached in 1983 would quickly run into a major bottleneck caused by lack of supporting infrastructure.	<p>A major effort to overcome infrastructure deficits in the short run.</p> <p>Substantial financial and management reforms in infrastructure and services enterprises, especially in the water/sanitation sector.</p>

**FIGURE 1.3 (Continued)**  
**AGENDA FOR HOUSING POLICY AND PROGRAMS**

ISSUE	RESPONSE
<p>9. Over one-third of urban households are renters, and large segments of the lower-income population are tenants, yet the potential for increasing the supply of rental housing is virtually ignored in Colombia.</p>	<p>An in depth assessment of the rental housing market.</p> <p>Gradual relaxation of rent controls to encourage an increased supply of rental housing.</p>
<p>10. Public and private assistance to associative self-help housing groups is extremely limited; a small minority of groups is receiving a majority of the assistance.</p>	<p>Investigate and test ways of delivering assistance to associative self-help groups more efficiently.</p> <p>Revitalize BCII's credit guarantee fund for lower-income housing groups.</p> <p>Establish an ICT group credit mechanism.</p>

## II. THE ECONOMIC CONTEXT

### A. ECONOMIC GROWTH

#### 1. The GNP

A full understanding of the circumstances currently affecting the Colombian shelter sector calls for identification of the basic problems in the state of the economy, their evolution, and the guidelines planned for dealing with these problems.

A study of the decade by sector (see Appendix Table A.1) shows the poor behavior of the three basic sectors (agriculture, industry and commerce), the "normal" growth of construction, and the considerable growth in banking. The growth rate of GNP decreases uninterruptedly from 1978, with a tendency toward negative growth this year and last. Of a particularly negative nature is the loss of ground of the three major production activities, that is, agriculture, industry and mining, on which employment and productivity are greatly dependent.

Appendix Table A.2 shows the development of the Colombian economy by sectoral percentage shares. The construction sector shows a relatively normal performance throughout the ten-year period, with shares being similar in the first and last years studied.

#### 2. Variation in Exchange Rates

Historically, due to the different sources of dollars on which the country relied, a considerable amount of foreign currency was maintained on reserve, and this allowed the Colombian peso to carry a high, perhaps even over-valued price.

These conditions have ceased to exist, and with the terms of trade seriously affected, the reserves fell to levels which required a rapid devaluation of currency in 1983. The exchange policy kept the dollar extremely cheap between 1978 and 1982, but this distortion began to lessen in 1983.

The continual decrease in reserves and the conditions which still influence the peso-dollar relationship make it unlikely that a continuation of rapid devaluation can be avoided in the short term.

#### 3. External Sector

The flow of resources from the external sector and the impact of monetary reserves on the expansion of the money market are essential elements of the current state of the economy. Appendix Table A.3 gives data on the balance of international payments. This information shows that:

- The import-export relationship over the past six years goes from positive to negative.

- The revenue-expenditures relationship for services and transfers experiences the same phenomenon, but it is more pronounced, with revenue decreasing 11.4 percent and expenditures increasing 217.6 percent in the period 1978-83.
- Capital revenues, although still positive, have decreased their margin considerably.
- Other revenue-expenditures are likewise entering into a growing deficit.

When the different variables of the external sector are included, the figures on the balance of international payments show the gravity of the situation Colombia faces today, which seriously affects its potential for future development. Table II.1 uses the years 1979, 1981 and 1983 to show the percent change in the weight of the different budget appropriations, as a function of total revenue.

TABLE II.1

## BALANCE OF PAYMENTS IN PERCENTAGES

(Total Income = 100)

	1979	1981	1983
Exports	55.6	47.6	57.3
Imports	(46.9)	(61.8)	(70.4)
Service and Transfer Receipts	26.6	28.2	19.3
Service and Transfer Payments	(15.6)	(27.3)	(43.8)
Other Current Receipts	2.3	5.3	6.7
Other Current Payments	(1.4)	(2.7)	(8.9)
Capital Receipts	13.1	18.0	16.7
Capital Payments	(6.4)	(4.7)	(14.7)
Other Receipts/Payments Net	2.2	0.9	(1.1)
Total Receipts	100.0	100.0	100.0
Total Payments	(70.3)	(96.5)	(138.9)
Difference	29.7	3.5	(38.9)

Source: Banco de la Republica

The combined effect of the decrease in exports and their loss of purchasing power, together with the increase in expenditures for services, has resulted in negative performance. In 1979, imports and expenditures for services and transfers amounted to 65.5 percent of total revenue, while in 1983, the same headings showed 114.2 percent of revenue from the external sector. Thus, the possibilities for economic growth and for acquisition of investments for production are heavily affected, and at the same time the possibilities for a sound monetary expansion without inflation are hampered since monetary reserves fell 45.3 percent between 1981 and 1983. Consequently, the increase in money available from the internal savings market will be slowed down, with a resulting impact on the shelter finance sector.

## B. MONEY MARKET

The two sources of operating funds for the shelter sector are: internal savings, or finance savings, and the government budget, or public savings.

The Banco de la Republica (Bank of the Republic) and the Junta Monetaria (Monetary Board) are the bodies directly involved in the design and maintenance of monetary discipline. In Colombia, the President has the authority to decide the allocation of public as well as private savings to the various economic sectors.

### 1. Internal Savings

The basic components of the money market, based on data published by the Banco de la Republica, are given in Appendix Table A.4. Growth of the money supply is manifestly controlled as a percentage of GNP, with a negative overall trend throughout the period.

On the other hand, quasi-money, which is understood to be the cost liabilities in the financial system which generate credit (thus M1 is excluded), has had a positive expansive movement, maintaining continuous growth between 1979 and 1983.

This growth occurred almost entirely in the 1980-1981 period, with 76 percent of the total increase registered by quasi-money as a percentage of GDP during the period. Both 1980 and 1981 were high inflation years, with 24 and 25 percent respectively, while real GNP, which expanded satisfactorily until 1980, contracted in 1981 and took the economic turn characteristic of "stagflation." Beginning in 1982, tight monetary control again occurred, and at the same time inflation slowed down considerably, falling to 15 percent in 1983, with 9 or 10 percent projected for 1984.

It appears that when monetary discipline is combined with a drop in world productivity, certain recessive tendencies are activated which affect not only production, but employment as well. Taking into account that in the government's plan the housing sector takes on the role of reactivator of production and employment, it is worthwhile to analyze what savings have been attracted by the housing sector for that purpose in the quasi-money market, and to be able to establish whether there has been any essential change in historical trends (Appendix Tables A.5 and A.6).

The principal conclusions to be noted which are inferred from these data on savings are:

- The progressive multiplication of the instruments of attraction which are operated outside the banks and the Corporaciones de Ahorro y Vivienda (Savings and Housing Associations), making the task of attraction more complex and more expensive.
- The sensitivity of the saver to the interest rate. The clearest examples of this are in the change experienced in banking between savings and Time Certificates of Deposit, whose shares go from 32.2 percent to 15.9 percent, and from 9.1 percent to 25.7 percent respectively. Likewise, the lack of attractiveness of BCH bonds results in their drop from 28.1 percent to 2.9 percent.
- The typical nature of the UPAC saver who, on the basis of a reasonable return guaranteed by UPAC, prefers liquidity (UPAC savings) to the interest rate (UPAC Certificate). This significant fact may lead to the conclusion that the Associations have brought in the typical saver, toward whom they are turning and for whom the savings and housing systems originated.

With these points in mind, it is possible to consolidate the percentages for the instruments, and to group them into three areas of institutional operation (Table II.2):

- Banks
- Housing Sector (UPAC-BCH System)
- Other Intermediaries

TABLE II.2

INSTITUTIONAL PARTICIPATION IN TOTAL SAVINGS  
(Percentages)

	Banks	Housing Sector	Other Inter- mediaries	Cédulas BCH	TOTAL
1974	42.3	28.7	0.9	28.7	100.0
1975	43.5	34.1	1.7	20.7	100.0
1976	42.0	32.8	11.5	13.7	100.0
1977	43.4	28.6	17.2	10.8	100.0
1978	43.1	28.4	20.2	8.3	100.0
1979	38.2	34.1	19.9	7.7	100.0
1980	43.2	32.2	19.4	5.2	100.0
1981	46.0	30.1	20.0	3.9	100.0
1982	42.6	33.9	19.7	3.8	100.0
1983	41.6	36.6	18.9	2.9	100.0

Source: Banco de la Republica

In order to properly interpret Table II.2, we must first clarify that BCH Bonds (Cedulas) have been segregated in order to avoid distortions which could be caused by their inclusion in the housing sector.

From the remaining data we can draw a wide range of conclusions about the market, which are summarized below:

- In the traditional banking and housing sectors there have been no changes which could be deemed substantial in market penetration in the past decade. The relative increase in the housing sector is due to a partial transfer of the drop experienced by the Bonds.
- The other financial intermediaries have been the heavy beneficiaries during the period, for the most part recovering the share previously held by the Bonds. Nevertheless, they seem to have reached their share limit at 20 percent of the total.
- The most interesting phenomenon occurs between the banks and the Associations, which transfer funds to each other, depending on the circumstances of competition or margin in the market.
- The banks have better response time, or better mechanisms for maintaining their share of the market, with between 41.6 and 43.5 percent in eight of the ten years.
- The Associations' behavior on a minimum share of 28 percent is more erratic. It will be necessary to find out in time whether this variation is a function of competition and/or of internal weaknesses or strong points.
- In any case, four to six percent of the funds in banks and Associations are subject to rapid transfer from one type of account to another, and this creates short-term imbalances which should be handled with utmost care, under penalty of facing frequent liquidity crises.

There appear to be no notable changes which would point to a substantial strengthening of the housing sector. Nevertheless, for the first time, the sector reported a substantial increase in its share for two consecutive years, 1982-83, but it is mainly at the expense of the banks. Knowing the problems which affected the image of the banks in that two-year period, it is too early to tell whether this is due to a new movement in the sector. However, a large amount of funds flowed to the Associations and the BCH, and this has had considerable impact on housing activity.

Since the creation of the UPAC System, there have been two systems coexisting in Colombia for remunerating financial savings:

- **Traditional System:** Used by banks and other financial intermediaries. In this system, one predetermined rate of interest is paid, depending on the circumstances of the funds attracted and the market situation.

- **UPAC System:** This mechanism, created especially for the shelter sector, is intended to protect long-term operations from the negative effects of inflation; therefore, the UPAC (Unit of Constant Purchasing Power) includes two concepts for remunerating savings and collecting credit:
  - Constant value = Adjustment for inflation
  - Interest rate = Remuneration or cost for use of money.

The rates and conditions for the savings and loan system are determined by government regulation without any discretion on the part of the institutions. On the other hand, commercial banks' terms are not regulated. This double system has made it difficult for the CAVs to adjust to changing market conditions.

In recent months conditions in the savings market were affected by the following circumstances:

- Strong demand for funds, particularly by the government.
- Rapid devaluation of the peso, which made the dollar an attractive currency for saving with a healthy return.
- Scarcity of funds due to the drop in reserves and to the monetary discipline imposed by the Banco de la Republica.
- Large decrease in inflation.

The combined result of these factors "forced" the banks to maintain very high real interest rates, and at the same time the UPAC's income-yielding capacity fell as inflation was reduced. For December 1983, the UPAC 90-day account yielded 23.25 percent, while the commercial bank Certificate of Deposit for the same term drew 38.21 percent.

As will be analyzed later, looking at the trend of the Associations from June 1983 to June 1984, this distortion made UPAC uncompetitive, causing a severe drain of funds from the Associations.

The above-mentioned trend in the institutions, like the current trend in the interest rate, shows that there should be a link between rate-setting in the money market and the remuneration of the UPAC, which would reasonably and automatically allow maintenance of competition and coherence between the respective instruments.

## 2. Government Savings

The condition and soundness of public finances are determining factors for the entire economic cycle. Public finances directly influence shelter activity in two ways:

- **Fiscal Surplus:** It is common for government budgets to include subsidies for housing;

- **Fiscal Deficit:** In cases when the government cannot balance its budget, as is the current situation in Colombia, and if there is a reluctance to increase taxes, the government can confront the deficit by means of an inorganic monetary emission, an action the Junta Monetaria has continually avoided, or by attracting savings, which the government is in effect doing through the sale of TAN (National Savings Certificates), high-yield, high-liquidity papers.

This phenomenon of government entrance into competition for savings is common today in the region, and it implies:

- A reduction in the share of the savings market to the typical intermediaries, such as the Housing Associations and banks.
- Pressure on market interest rates.
- Heavy debate over the appropriateness of maintaining shelter subsidies, which cause a widening of the budget deficit when they are paid for with costly market funds.

A radical change occurred in the government's fiscal situation between 1978 and 1983 (see Appendix Table A.7) due to the differential rate of growth between current revenue, 170 percent, and operating expenditures, 328 percent, as well as debts, 320 percent. The combination of these factors caused the surplus of revenues over operating expenditures in 1983 to be insufficient to cover public debt, much less investment. In 1983 investment dropped in absolute terms by 3.8 percent after steady growth during the previous five years. Last year the government resorted to massive indebtedness to infuse capital funds, primarily through credit (see Appendix Table A.8).

Among the several consequences which can be gleaned from the preceding data, it plainly stands out that in 1983 the country seems to have been unable to obtain external credit, and therefore the government covered its needs with internal credit, which reached 95.2 percent of total credit.

No basic change in the deficit position is foreseen for the short-term, other than a drastic cut in expenditures which would affect other aspects of social equilibrium. The prospect of an increase in savings captured by the financial intermediaries, especially those in housing, is highly doubtful. This means that it is necessary to make a decision on whether it is appropriate to maintain housing subsidies. If the government, aware of the difficult situation confronted by the money market, wants effective housing action, it will be necessary to review the conditions of competition among the specialized financial intermediaries.

### C. CONSTRUCTION SECTOR

Having reviewed the basics of the Colombian economic situation, we now turn to the role of the construction sector in the economy.

### 1. Basic Macroeconomic Relationships

The aforementioned deceleration of the economy in the last two years resulted in negative real per capita GNP growth in 1982 and 1983 (Table II.3). This negative trend does not carry over to the construction sector, which registered positive per capita growth, both as investment and as value added. The positive performance of this sector is reflected in its increasing share of GNP, which in 1983 reached the highest level in the decade after having fallen continuously between 1974 and 1979. While it seems evident that the construction sector is destined to be a dynamic element in the economy, we should ask whether this growth is autonomous or whether it has been aided by the drop in the other sectors, and above all, whether the levels reached can be considered satisfactory.

Among the countries of the world there is a direct relationship between per capita GNP and Valued Added in Construction (VAC) as a percentage of GNP. Although there is debate over who controls this relationship, there is no doubt that it exists. Therefore it may be revealing to place Colombia in the context of the countries in the region with which it shares problems and expectations, and thus to evaluate sectoral performance through comparison.

The 1982 data given in Table II.4 were taken from the most recent annual report of the InterAmerican Development Bank. The countries are listed in order of their per capita GDP. The critical starting point in the analysis is the position Colombia occupies in the context of the Latin American countries: it is the fourth poorest (the bottom three countries are in something of a class by themselves).

At first glance VAC seems to be correlated with income. Certain comments must, however, be made. Excluding Bolivia from the analysis, since its situation is atypical, the other countries with VAC levels as low as Colombia's are those in Central America: (a) whose situation is unusual, as in the case of El Salvador and Nicaragua, (b) which have recently come out of a serious economic and exchange crisis, such as Costa Rica, or (c) which have a primarily Indian and non-urban peasant population, as is the case in Guatemala and Honduras.

Keeping these variables in mind, it does not seem at all risky to assert that in Colombia the construction sector's share of GNP can be increased and its growth encouraged with no risk of distorting the healthy equilibrium between the different branches or areas of production, since the current share is low, especially if we consider the degree of urban population in the country.

### 2. Sectoral Effects

Despite the growth of investment in construction, it does not seem to have been enough to produce a real impact on economic trends. To better clarify these effects, Table II.5 gives the ratio of Value Added in Construction (VAC) to Value Added in Industry (VAI), in addition to presenting figures on unemployment. Complementing this, investment is broken down into its various components.

TABLE II.3  
POPULATION - PRODUCT - CONSTRUCTION  
(CONSTANT PRICES 1975)

(Millions of Pesos)

	GDP	INVESTMENT		VALUE ADDED IN CONSTRUC- TION (VAC)	POPULA- TION (000)	GNP PER CAPITA	INVESTMENT PER CAPITA		% CI/GNP	% VAC/GNP	% CI/II
		TOTAL	CONST				CONST	VAC			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1974	395,910	54,604	34,197	15,023	23,402.1	16,917.7	1,461.3	642.0	8.6	3.8	52.9
1975	405,108	62,129	31,704	13,535	23,885.7	16,360.3	1,327.3	566.6	7.8	3.3	51.0
1976	424,263	68,039	33,371	14,753	24,366.3	17,411.9	1,369.6	605.5	7.9	3.5	49.0
1977	441,906	68,518	34,966	15,877	24,844.3	17,787.0	1,407.4	639.0	7.9	3.6	51.0
1978	479,335	74,923	35,732	15,471	25,320.0	18,931.1	1,411.2	611.0	7.5	3.2	47.7
1979	505,119	77,775	34,804	15,383	25,793.4	19,583.3	1,349.3	596.4	6.9	3.0	44.7
1980	525,765	88,021	42,225	17,632	26,263.5	20,018.8	1,607.7	671.3	8.0	3.4	48
1981	537,736	93,539	43,500	18,884	26,742.2	20,108.1	1,626.6	706.2	8.1	3.5	46.5
1982	542,757	98,207	46,526	20,037	27,229.6	19,932.6	1,708.6	735.9	8.6	3.7	47.4
1983	547,101	N-D	48,125(1)	20,742	27,720.0	19,736.7	1,736.0(1)	748.3	8.8(1)	3.8	N.D.

<sup>1</sup> Estimate

Note: CI = Construction Investment; II = Total Investment

Sources: DANE, Banco de la Republica, CAMACOL

TABLE II.4

RELATION BETWEEN GNP PER CAPITA AND VALUE ADDED IN CONSTRUCTION  
IN LATIN AMERICA-1982

(Values in Constant 1980 Dollars)

	GNP PER CAPITA	% VAC/GNP
1- Venezuela	2,537	5.5
2- México	1,910	5.5
3- Uruguay	1,850	4.8
4- Panamá	1,759	7.7
5- Argentina	1,665	6.1
6- Brasil	1,542	6.4
7- Chile	1,436	5.1
8- Costa Rica	1,310	3.7
9- Paraguay	1,193	6.2
10- Guatemala	1,110	3.1
11- Perú	1,104	5.5
12- Ecuador	1,043	4.9
13- República Dominicana	955	6.2
14- Nicaragua	935	2.4
15- Colombia	922	3.7
16- Honduras	696	3.7
17- El Salvador	560	3.1
18- Bolivia	486	1.7
Average	1,278	4.75

Source: Inter-American Development Bank

The VAC levels reached, perhaps due to their own slight variation in relation to GNP, seem to have had little influence on the industrial sector or on employment. The profile of the last three years is revealing in that sense, because the increase in VAC did not keep the VAI from dropping or unemployment from rising.

When dealing with a multiplier or reactivation factor, the type of product is important, since the impact of basic housing and self-help construction is not the same as that of traditional housing in the formal production sector. The manner in which housing and other construction share in the structure of sector investment is also critical.

In Table II.5 one can clearly see that building construction has become less important in comparison with other works. This is particularly true of the last three years, as seen below:

	INVESTMENT IN BUILDING CONSTRUCTION	INVESTMENT IN OTHER WORKS
1974	41.0%	59.0%
1980	32.8%	67.2%
1981	31.2%	68.8%
1982	30.6%	69.4%

TABLE II.5

## CONSTRUCTION INDICATORS

(Percentages)

	% VAC/GNP	% VAI/GNP	% VAC/VAI	NATIONAL UNEMPLOY- MENT (%)	COMPOSITION % CONSTRUCTION INVESTMENT		
					HOUSING	OTHER BUILDINGS	OTHER WORKS
1974	3.8	23.5	16.2	10.4	30.2	10.8	59.0
1975	3.3	23.2	14.2	10.6	26.0	7.1	64.9
1976	3.5	23.1	15.2	9.2	28.4	5.7	65.9
1977	3.6	22.5	16.0	8.0	30.3	6.0	63.7
1978	3.2	22.9	14.0	8.4	34.4	6.5	59.1
1979	3.0	23.0	13.0	8.6	31.7	7.3	61.0
1980	3.4	22.4	15.2	9.1	26.8	6.0	67.2
1981	3.5	21.3	16.4	7.1	26.4	4.8	68.8
1982	3.7	20.6	18.0	8.9	25.6	5.0	69.4
1983	3.8	20.4	18.6	12.7	N.D.	N.D.	N.D.

VAC = Value Added in Construction  
VAI = Value Added in Industry

Sources: DANE, Banco de la Republica, CAMACOL

This distortion is not easy to explain. Given the rate of urbanization in the country, there is no doubt that "informal" building construction must be highly significant. The solution does not lie in reducing investment in other works, but rather in increasing investment in building construction. There are no fixed parameters on the share which each subsector should absorb. One study suggests that the following is a "normal" composition for construction investment:<sup>8</sup>

Housing	37%
Other Building Construction	26%
Other Works	37%

Although one can assume that there is a logical explanation for the situation in Colombia, a deeper analysis could be of interest.

### 3. Cost Structure

From the point of view of production and inflationary impact, one of the most serious risks involved in increasing funds to the construction sector is the inelasticity of the cost structure, as a result of which the response is not increased production but rather increased prices.

By comparing known data, we can examine the sector's response to increased activity and the accessibility of families to housing at different cost levels.

The data in Table II.6 indicate first of all that construction costs have increased faster than the price index. Three periods can be distinguished in this evolution:

- 75-77 period: A continued increase in activity without a disproportionate increase in costs.
- 78-80 period: Coinciding with a period of high inflation, construction costs increase more than proportionately, despite the drop in activity.
- 81-83 period: A return to price stability, absorbing noticeable increases in activity, with no substantial cost increase.

This behavior can be seen more clearly in Figure II.1, which shows the relationship between construction activity and costs. Although development in 1983 is satisfactory, some observations are in order in light of the curve:

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<sup>8</sup>Modesto Collados, Infraestructura y Desarrollo Urbano, Cámara Chilena de la Construcción, 1978.

TABLE II.6  
BEHAVIOR OF PRICES

YEAR	BA (M <sup>2</sup> , Thou)	IBA 1975=100	ICC 1975=100	ICP 1975=100	IRCC 1975=100	IRFM 1975=100	IVA
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1974	7,052.7	145.7	85.8	-	-	-	-
1975	4,839.6	100.0	100.0	100.0	100.0	100.0	100.0
1976	5,274.1	106.9	126.4	120.3	105.1	107.1	101.9
1977	6,436.7	133.0	163.0	160.1	101.8	106.1	104.2
1978	7,243.5	149.7	203.7	188.6	108.0	112.3	104.0
1979	6,903.7	142.7	274.0	238.0	115.1	114.2	99.2
1980	5,941.9	122.8	364.5	305.9	119.2	115.9	97.2
1981	6,173.9	127.6	448.3	386.4	116.0	113.5	97.8
1982	5,997.7	123.9	551.0	479.4	115.0	111.0	96.5
1983	7,198.6 <sup>e</sup>	148.7	658.5	559.2	117.7	111.9	95.1

<sup>e</sup> Preliminary Estimate

BA = Building activity

IBA = Index of building activity

ICC = Index of construction costs

ICP = Index of consumer prices

IRCC = Index of real construction costs - ICC/ICP

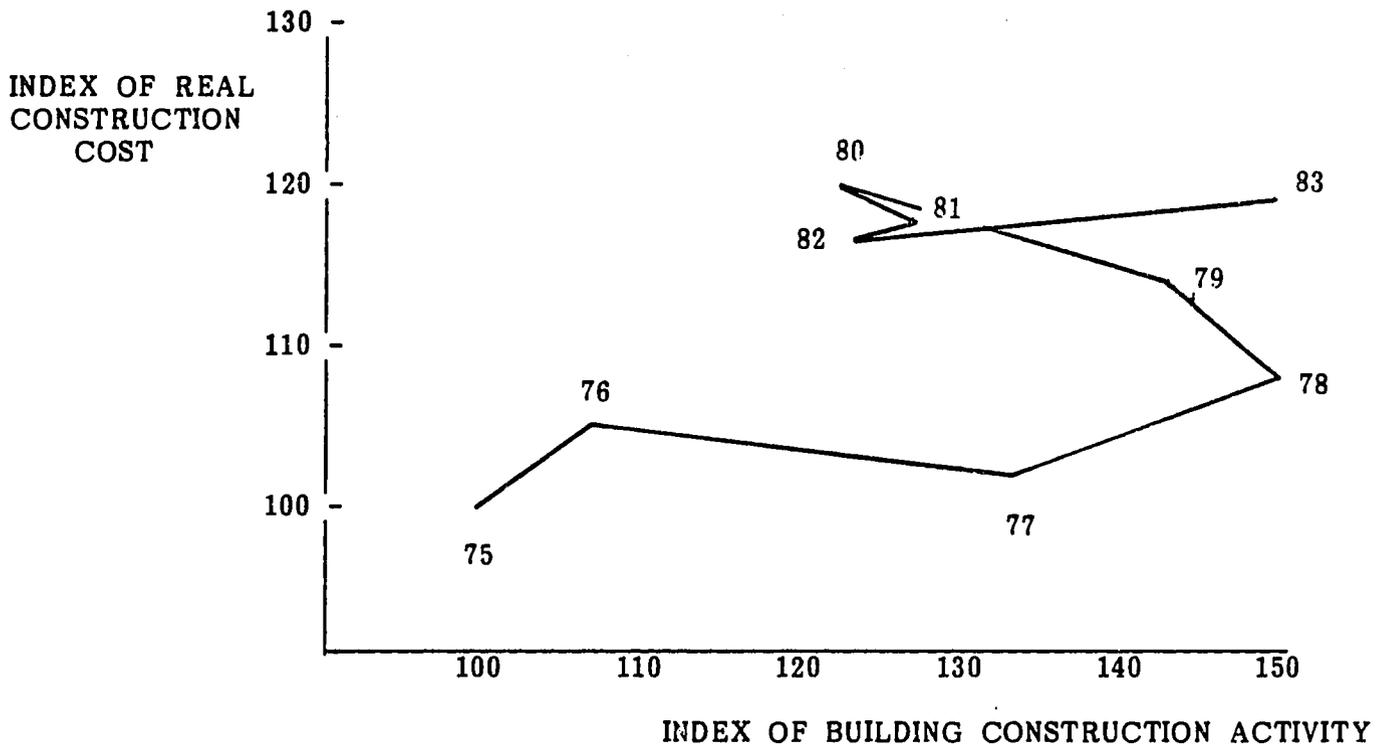
IRFM = Index of real family income, equivalent as an index to real  
GNP per capita (DANE)

IVA = Index of variation in access to housing - (6)/(5) - in the period

Sources: CAMACOL, CENAC

FIGURE II.1

SENSITIVITY CURVE - STRUCTURE OF CONSTRUCTION PRICES



Source: Table II.6

- The cost structure seems more sensitive to underutilization of installed capacity than to rapid increases in production.
- The 1983 level of construction is historically unprecedented; therefore the capacity for additional supply of materials needs to be analyzed.
- The volume and continuity of activity seem to be critical to maintaining adequate cost levels.

Having studied the costs, and going back to the data in Table II.6, we see that there is another highly important element, namely, the evolution of purchasing power for housing on the part of the Colombian family. This index, after having grown steadily through 1980, drops despite the changes in the price level during the past three years.

Keeping in mind the apparent possibilities for sector growth without cost distortions and the need to reactivate income, the government's interest in maintaining and increasing this activity as a priority item seems sound.

Although no one knows exactly how much of the economically active population is employed in construction (it would be interesting to tie in this information to sector productivity) it is estimated that every 1,000 m<sup>2</sup> of construction provides direct employment to about 24 persons (according to CAMACOL). Nevertheless, what we want to point out here is the great impact that additional construction investments have on lower-income families, which are the ones employed in the sector. This is due to the high incidence of wages in total construction investment, as seen in Appendix Table A.9.

#### D. PRINCIPAL CONCLUSIONS

1. In 1983 the country's monetary reserves fell to levels which required a rapid devaluation. A continuation of this trend in the short-term cannot be avoided.
2. The combined effect of the recent drop in exports and the loss of purchasing power, together with an increase in expenditures for services, has resulted in negative economic performance. The possibilities for economic growth and for obtaining investment resources appear to be heavily affected; at the same time, the possibilities for monetary expansion without inflation are hindered by decreased monetary reserves. Therefore, funds available from the internal savings market will grow slowly in the short-term, with a resulting impact on the shelter finance sector.
3. For the first time, the housing sector substantially increased its share of GNP for two years in a row — 1982 and 1983. This increase occurred primarily at the expense of the banks. Considering the problems which affected the image of the banks during those two years, it is too early to tell whether this is due to new movement in the sector. Nevertheless, a considerable availability of funds flowed to the Associations and the BCH.

4. In recent months, conditions in the savings attraction market were affected by the following circumstances: a) strong demand for funds, particularly by the government, b) rapid devaluation, which made the dollar an attractive currency for saving, c) shortage of funds due to the drop in reserves and monetary discipline, and d) a considerable drop in inflation. The combined result "forced" the banks to maintain high interest rates, while the earning power of the UPAC fell, in accordance with reduced inflation. This has caused a severe flight of funds from the Associations.
5. No short-term change is envisioned in the government's budget deficit situation. This makes it necessary to make a decision on whether it is appropriate to maintain housing subsidies.
6. Compared to other countries in the region, Colombia has a very low percentage of value added in construction in relation to its per capita GNP. The level of participation of the construction sector can be increased and its growth can be encouraged without risk of distorting the healthy balance between the different branches of production.

### III. HOUSING POLICIES AND INSTITUTIONAL FRAMEWORK

#### A. HOUSING PLAN 1983-1986

The government of President Belisario Betancur, in its National "Change with Equity" Plan, has declared housing and urban development a key activity ("Bandera") and has established a set of directives to lead the sector in a new direction.

##### 1. Goals and Objectives

- **Physical:** Construction of at least 400,000 urban dwellings and 42,000 rural dwellings during the period, or an annual urban average of 100,000.
- **Sectoral:** To absorb the growth of demand and begin reducing the shelter deficit.
- **Economic:** To reactivate the economy by reducing unemployment and having a positive influence on GNP.
- **Social:** To generate social well-being via employment and multiplier effects; to provide housing to market segments with difficult or no access to formal credit; to balance credit between the different regions of Colombia.

##### 2. Operating Strategies

- **Geographic projection:** The program is distributed so as to prevent concentration in a few areas.

Large cities	292,000 units	73%
Medium-sized cities	64,000 units	16%
Small cities	44,000 units	11%

Bogota is prohibited from absorbing more than 40 percent of private credit.

- **Socioeconomic projection:** The financial intermediaries are obliged to carry out programs for sectors with lower incomes than those traditionally served; the majority of solutions (nearly two-thirds) are to be "basic housing" according to the following breakdown:

Basic Housing	(up to 1,300 UPAC)	252,000 units	63%
Low-cost Housing	(1,301-1,800 UPAC)	100,000 units	25%
Medium-cost Housing	(2,800-5,000 UPAC)	36,000 units	9%
High-cost Housing	(5,000 + UPAC)	12,000 units	3%
Total		400,000 units	100%

The value of the UPAC at the beginning of the program in January 1983 was Col\$620.55, equalling US\$ 8.75 at the average exchange rate for the month. The equivalents on that date in dollars, as a point of reference for the above-mentioned UPAC values, are:

Basic Housing	0	to	US\$ 11,375
Low Housing	US\$ 11,376	to	US\$ 24,500
Medium Housing	US\$ 24,501	to	US\$ 43,750
High Housing	US\$ 43,751	and above	

- **Institutional Structure:** Quantitative housing production goals are set for the different financial intermediaries (Table III.1), according to historical characteristics and performance.
- **Conditions of Affordability:** New conditions have been decreed to make lower-income solutions more affordable. This aspect is particularly relevant for the Savings and Housing Associations and the BCH's UPAC System, which have traditionally worked with a single rate. According to the new legal provisions, the loan structure in the UPAC system will be:

	Financing	Interest	Term
Basic Housing	100%	6%	15 years
Minimum Housing	90%	7.5%	15 years
Medium Housing	80%	7.5%	15 years
High Housing	70%	8 to 11%	15 years
Lots up to 175 UPAC	100%	7.5%	8 years
Lots from 175 to 260	80%	7.5%	8 years

- **Source of Funds:** Based on an initial estimate of Col\$515,200 million needed to successfully carry out the plan, the following sources of funds were estimated:

Budget contributions	8.0%
Recovery of existing portfolio	26.2%
Net UPAC attraction	31.5%
Internal credit	19.3%
Other funds	15.0%

### 3. Complementary Strategies

The Plan called for the following complementary measures:

- Stable financing and reorientation of credit
- Inter-institutional coordination
- Increase in low-cost housing supply
- Self-help construction and "Plan Terrazas"
- Optimum land use
- Urban planning
- Efficiency in providing basic services
- Support for production of inputs and efficient marketing
- Support for technological change and research

#### 4. Accomplishments in 1983

The plan's first year of operation can be called a success, in terms of production of solutions and institutional performance. As can be seen in Table III.2, the goal of 63 percent in "basic" housing was practically reached. Of particular note for this item is ICT, which exceeded its percentage share by a wide margin. The UPAC System, despite being a new sector, achieved a high level of penetration of the "basic" housing market, 21 percent.

Although the overall production goal was reached, there is a distortion in terms of the original institutional goals, inasmuch as while the UPAC system (CAVS + BCH) was to be responsible for 53 percent of the units produced, its participation in 1983 reached only 37 percent of the total; that is, 69 percent of the forecast. On the other hand, ICT delivered 162 percent of its forecast production.

The important point is the source of funds, in one case from the market and in the other from subsidies or captive resources. This underscores the current debate on the capacity of the market to support the government's program. This issue is amplified by an analysis of the credit granted by these institutions according to recent CAMACOL data (Table III.3). In terms of resources channeled into housing, it is the private sector which exceeds its share of the target compared with the public sector.

In order to make a deeper assessment of these two opposite results, we compare credit granted with credit targeted in the Plan for 1983. According to the Plan, production in 1983 would reach 20 percent of the Plan, or 20,000 dwellings and Col\$103,040 million of investment. If we assign these proportionately, we arrive at the figures in Table III.4. In 1983, ICT produced units whose average credit value was far below that projected, while the UPAC system's average unit credit was considerably above the target. But the indisputable fact is that the overall average cost produced was lower than projected. This is why, in evaluating 1983, we should keep in mind the following comments by the Colombian Chamber of Construction:

"As can be seen, whatever the analysis might be, 1983 was the year of urban building in Colombia.

"Nevertheless, there is a need to make some distinctions. In the first place, as CAMACOL had already noted, construction licences in 1983 and for subsequent years must be taken with a certain caution, particularly when compared with the previous years' figures. The fact is that the number of square meters licensed in 1983 do not have the same characteristics as for previous years, since a high percentage of these were for construction of dwellings with a low content of finishing and other construction materials, in order to advance the "zero down-payment" housing program. Thus, the aggregate demand generated by the licenses in this year is lower than may be suggested by a first reading of this indicator. A closer look at wholesale construction materials sales statistics corroborates our statement. With a 25.1 percent growth in area

TABLE III.1

## PLAN TARGETS FOR HOUSING SOLUTIONS 1983-86

HOUSING TYPE	ICT	BCH	CAVS	FNA	OTHERS	Total	%
(Basic)	102,800	29,136	83,582	21,256	15,180	252,004	63
(Low)	29,808	22,974	32,882	8,362	5,970	99,996	25
(Medium)	-	17,879	14,241	3,880	-	36,000	9
(High)	-	1,102	10,898	-	-	12,000	3
Total	132,608	71,141	141,603	33,498	21,150	400,000	100
%	33.15	17.78	35.4	8.37	5.29	100	

Source: National Plan 1983-86

TABLE III.2

## NUMBER OF UNITS BUILT

	No. of Units	%	Less than 1300 UPAC	% a/b
	(a)		(b)	
ICT UPAC System <sup>1</sup>	54,000	54	48,500	90
FNA	37,037	37	7,759	21
Others	7,313	7	4,570	62
Total	2,356	2	713	30
Total	100,742	100	61,642	61

<sup>1</sup> Includes BCH

Source: DNP

TABLE III.3

## CREDIT FOR URBAN HOUSING-1983

	Amount (Millions)	% Actual	% Budgeted	% Difference
	ICT	16,849	18.2	22.7
UPAC System	75,809	81.8	77.3	+4.5
Total	92,658	100.0	100.0	-

Source: CAMACOL

TABLE III.4

## HOUSING AND CREDIT: GOALS AND ACCOMPLISHMENTS OF ICT AND UPAC SYSTEM 1983

	Credit Budgeted (Millions)	Number of Dwellings Budgeted	Credit Actually Disbursed (Millions)	Number of Dwellings Produced	Average Credit Value Budgeted (COL\$)	Average Credit Value Actually Disbursed (COL\$)
ICT	20,560	26,520	16,849	54,00 <sup>n</sup>	775,264	312,019
UPAC System	70,120	42,544	75,809	37,037	1,648,176	2,046,845
Total	90,680	69,064	92,658	91,037	1,312,985	1,017,806

Note: These figures do not represent the entire housing sector.

Source: DNP

constructed, a similar sales volume would be expected; instead, DANE reports real rates of growth in sales of construction materials of less than 1 percent.

"We must also keep in mind that the increase in the supply of legal low-cost housing ... [has probably] discouraged illegal urbanization, which, by definition, does not show up in the statistics. Thus, there is less under-registration in construction today. The result is obvious. Current statistics show greater area constructed than in the past, but this does not necessarily mean that total construction (legal and illegal) has really increased so appreciably."<sup>9</sup>

## B. OPERATION OF THE SHELTER FINANCE SECTOR

The Savings and Housing Associations (CAVs) and the Central Mortgage Bank (BCH) are responsible for 53.2 percent of the Plan. Therefore, we shall analyze these institutions first, and then go on to evaluate the activity of the Land Credit Institute (ICT) and the National Savings Fund (FNA).

<sup>9</sup>CAMACOL, La Política de Vivienda y la Construcción en 1984, April 1984.

## 1. Savings and Housing Associations (CAVs)

### a. Introduction

In 1972 the legal framework was created for organizing a private Savings and Loan system in Colombia, one of the last in Latin America. It was constituted as a financial intermediary with capital stock, and its operation was linked to attraction and investment at constant value. Today, hardly eleven years after its founding, the System has a portfolio of nearly Col\$200 billion (Appendix Table A.10).

This is a truly extraordinary achievement, and one can classify the CAVs as an industry of national scope, in addition to being one of the most important savings and loan systems on the continent. Since it is impossible to do a detailed analysis of each association, we will work hereinafter with consolidated data from the nine associations.

The UPAC, or Unit of Constant Purchasing Power, is the instrument through which credit operations of the Associations are protected against inflation. This makes it possible to maintain adequate levels of returns to depositors. The UPAC is based on two concepts:

- Inflation: Arithmetical average of the consumer price index during the last twelve months.
- Interest: Loans, 6-11 percent; deposits, starting at 5 percent.

### b. Attraction

The sustained growth of the UPAC System, in which savings constitute 73.2 percent of attractions, demonstrates a high degree of financial soundness. In order to evaluate the CAVs' penetration in the market, we will compare banking and the CAVs by ratio of bank savings to UPAC savings (see Appendix Tables A.11 and A.12).

The tables show several interesting trends in market behavior:

- Market sensitivity to the interest rate. The growth of Certificates of Deposit (CDT) during the 1978-1983 period was nearly triple that of savings.
- Market division between the two instruments, with CAVs having a comparative advantage in savings.
- The greatest changes for the CAVs were in their percentage of the CDTs, that is, in the instruments directly linked to the interest rate, showing that rate competition is essential.

The degree of competitiveness between instruments has varied over time, as evidenced by interest rates in effect in Colombia during the last decade (Table II.5).

The position of the UPAC system took a turn for the worse in 1980. The interest rate situation as of December 31, 1983 was:

• UPAC Savings:	17.38%
• Bank Savings:	22.7%
• 90 day UPAC CDT:	23.25%
• 90 day Commercial Bank CDT:	38.21%
• 180 day UPAC CDT:	23.9%

Distortions of such magnitude cannot be maintained without affecting competition. The fact that during 1982 and 1983 the CAVs maintained their level of funds is due to image problems which affected the banks at that time.

The effects of this loss of competitiveness have been reflected in the CAVs' attraction in the last twelve months (Table III.6). If we keep mind that the balances represent current amounts and include adjustment and interest, we can clearly see that the CAVs have stopped growing. Once again the CDTs are the critical factor in the drop. CDTs and savings fell between September and December, and despite a slight recovery, growth was insignificant from March (the first quarter is historically the best of the year) to June.

With the record of events up to May, the Colombian Savings and Housing Institute has estimated a net attraction, in UPAC values for 1984, of Col\$14,439.8 million, or approximately half the 1983 figure. This figure seriously calls into question the execution of the shelter plan.

At this point, the important thing for the UPAC System is no longer the housing plan, but rather guaranteeing that it survives adequately via competition in the market. After persistent pressure before the Monetary Board (Junta Monetaria), approval has been given for a new formula for calculating UPAC value, which links it not only to the price index, but also to current market interest rates.

To understand the new formula, the key points to keep in mind are that in the last two years inflation has gone down, while interest rates have remained usually high. This situation is the result of (1) scarcity of resources and keen competition for funds and (2) the rapid devaluation of the peso relative to the dollar, which has transformed the dollar into an attractive savings instrument. Commercial banks have reacted to these problems by maintaining high interest rates.

The UPAC system, on the other hand, being pegged only to the inflation rate, was stuck with attraction instruments that grew increasingly uncompetitive. The new UPAC formula was designed to close this gap by incorporating an automatic adjustment factor. Until June 30, 1984, the effective rate (R) was based on the following formula:

TABLE III.5

## SELECTED INTEREST RATES

	1974	1975	1976	1977	1978	1979	1980	1981	1982
Bank Savings Accounts	12.3	17.0	19.3	19.3	27.7	19.3	22.7	22.7	22.7
Bank Certificates of Deposit	26.2	25.6	25.6	25.6	24.4	25.6	35.4	37.4	37.5
CAVS Average Effective Rate (UPAC)	26.9	24.9	23.2	22.8	22.6	24.1	25.6	27.4	29.2

Source: BCH

TABLE III.6

CAV DEPOSITS, JUNE 83 TO JUNE 84  
(Millions of Pesos)

	Savings	Cert. Deposit	Ordinary Deposits
June - 83	164,496.5	62,905.7	3,973.6
Sept - 83	181,459.3	70,219.7	4,043.6
Dec - 83	175,259.7	64,573.4	4,748.6
March - 84	208,782.2	61,876.9	5,139.6
June - 84	212,937.0	58,467.5	4,874.3
Change 12 Months (%)	29.4	(7.1)	22.7

Source: ICAVI

$$R = [(1 + MC)(1 + i) - 1]$$

Where:

MC = Monetary correction equal to the arithmetic average of the CPI for employees and workers over the last 12 months.

I = Nominal interest rate.

Given that the nominal interest rates are not in question, the modification is made in the monetary correction factor. The new formula includes an adjustment for the difference between the monetary interest rate and the CPI, as follows:

$$MC = CPI + 0.015 (CDT - CPI)^2$$

Where:

CPI = Calculated as above.

CDT = Rate of return on Certificates of Deposit as set by the Banco de la Republica.

Taking as a base some parameters close to the current situation, one gets the following figures:

$$I = 7.5\%$$

$$CPI = 15.0\%$$

$$CDT = 30.0\%$$

The effective UPAC rate under the old system would be:

$$R = [(1 + 0.15)(1 + 0.075) - 1] = 24\%$$

While the effective rate under the new formula would be:

$$R = [(1 + 0.18)(1 + 0.075) - 1] = 27\%$$

The new formula makes the UPAC more competitive with the BCR interest rate. It will permit the CAVs to maintain a reasonable growth in deposits in line with historical trends but not to capture a large amount of new resources. The policy of the Banco Central de Reserva appears to be the maintenance of stability in the market shares of the various financial intermediaries with no more than around two percentage points of play between the commercial banking system and UPAC under normal conditions.

#### c. Investment

The regulations governing CAVs dictate that they should direct their available funds exclusively to the following activities:

- Up to 97 percent for housing.

- At least 3 percent for production of construction and prefabricated housing materials, research and technology, working capital in materials distribution centers (centrales de acopio), etc.

The UPAC System has thus maintained a close relationship between attraction and portfolio, as indicated in Appendix Table A.13, and it has been primarily responsible for the country's investment in housing, as shown in Appendix Table A.14. The UPAC System maintained its majority share of total housing investment through 1983.

We analyzed above the problems of competition which have now been significantly addressed. Crises in the Savings and Housing systems occur when reproductive capacity in portfolio collection is lost. Since the UPAC index is based on the CPI, it is important to examine the parity maintained over time between the two indices (Table III.7). The trend shown in Table III.7 indicates a clear, indiscriminate subsidy to the mortgage debtor and a loss in the reproductive capacity of the portfolio.

TABLE III.7

## EVOLUTION OF VALUE: UPAC AND ICP

September 72=100

	(A) UPAC Value	(B) ICP	A/B
1972 (September)	100.49	100.49	100.0
1974 December	151.59	161.75	93.7
1975 December	181.40	191.16	94.9
1976 December	213.39	240.66	88.7
1977 December	251.80	307.30	81.9
1978 December	292.67	364.73	80.2
1979 December	347.54	467.06	74.4
1980 December	415.31	585.32	71.0
1981 December	502.53	738.42	68.1
1982 December	609.73	916.58	66.5
1983 (June)	674.29	1016.57	66.3

Source: Journal Desarrollo y Sociedad.

Note: ICP = Index of Consumer Prices

d. **Financial Structure**

The average balances of the past four years (Appendix Table A.15) indicate the structure and weight of the different asset and liability components. The outstanding feature is the balanced growth which has been maintained between the key items. To illustrate this, three basic ratios are given in Table III.8.

The gradual decline in the ratio of productive assets to total assets stands out as a negative factor, diminishing the earning power of the system.

To integrate this trend with earning power, Appendix Table A.16 shows what has happened to net income. The growth in income for the period 1980-83, 165.6 percent and 183.8 percent, exceeded CPI growth, which was 130.2 percent in the same time period. Perhaps the most important observations are:

- The improvement in financial performance due mainly to the high rate of growth in interest.
- The change in proportion of monetary correction, inasmuch as for the first time in 1983 it is greater for deposits than credits.
- Reasonable control of operating expenditures.

TABLE III.8

CAV BALANCES  
(Millions of Current Pesos)

	1980	1981	1982	1983
<b>1: Average Total Assets (ATA)/Average Productive Assets (APA).</b>				
ATA -	66,978.0	99,983.1	143,122.8	196,603.1
APA -	62,561.9	93,324.1	133,219.3	182,369.9
% APA/ATA	93.4	93.3	93.1	92.8
<b>2: Average Productive Assets (APA)/Average Deposits (AD).</b>				
APA -	62,561.9	93,324.1	133,219.3	182,369.9
AD -	59,925.0	90,318.4	126,623.6	172,223.6
% AD/APA	95.8	96.8	95.0	94.4
<b>3: Average Deposits (AD)/Capital and Reserves (CR).</b>				
AD -	59,925.0	90,318.4	126,623.6	172,223.6
CR -	3,022.7	4,603.3	6,743.4	8,469.5
% CR/AD	5.0	5.1	5.3	4.9

Source: ICAVI

The coherence and absence of erratic behavior in both balance sheets and income statements shows the maturity and proper technical management under which the CAVs are operating today. Nevertheless, the achievement of internal income goals and external housing production goals is not solely a function of management, but also of access to the money market with sufficient competitive potential and sufficient funds.

## 2. Central Mortgage Bank (BCH)

### a. Introduction

In analyzing the BCH it is necessary to keep in mind its special characteristics:

- The BCH is more than a bank or financial intermediary, strictly speaking. It also carries out shelter policy activities of a promotional and experimental nature.
- Its activity covers, in addition to shelter in the traditional sense, urban development (through the FFDU), urban renewal, and upgrading of deteriorated areas.
- The BCH is a synthesis of the different stages of shelter financing in Colombia. It maintains a large variety of attraction and investment instruments besides those corresponding to the UPAC System.
- It is a public institution with close to 3,000 staff members. It has a complex organizational chart and is a dependency of the Ministry of Finance and Public Credit.

### b. Attraction Instruments

The BCH operates its market attraction via mortgage bonds and the UPAC System. It also handles Constant Value Bonds and the Finance Fund for Urban Development (Appendix Table A.17). The UPAC clearly stands out as the mechanism best suited to the market.

Perhaps the most outstanding performers outside the UPAC are the "Investment Bonds." The ones recently issued are making possible a dynamic market in used housing and are establishing a basis for a secondary mortgage market.

The drop in attraction described above for the CAVs was duplicated exactly for the BCH, which in the first half of 1984 was affected by a serious liquidity crisis. The projection for 1984 is for BCH to complete the financing of obligations acquired in 1983, but without starting new activities until the market trend changes. This will no doubt affect the goals of the housing plan.

**c. Investment**

The diversity in attraction is duplicated in investment. The BCH has formed a diversified portfolio which performed as shown in Appendix Table A.18.

BCH is attempting to respond to the increasingly organized self-help housing groups. The Office of Special Programs was created specifically to address the needs of this segment of the market. While BCH has a role to play in the lower-cost housing market, it must keep in mind certain risks, which basically boil down to two:

- **Departmental Multiplication**

A traditional organizational structure like the BCH's tends to delay the absorption of new activities. This leads to the creation of new special departments, and gradually the organizational chart becomes more complicated, affecting the institution's efficiency.

- **New Mortgage Clients**

Venturing into massive credit management for low-income sectors makes it necessary to create a mechanism for portfolio recovery. Flexibility is needed in adjusting to the special requirements of this new clientele.

**d. Financial Structure**

A review of the BCH balance sheets (which appear in Appendix Table A.19) indicates a stable structure where the portfolio and assets grow practically at the same rate. The most outstanding item, due to its growth, is the FFDU. However, the total growth for the period 1980-83 is less than that of the CAVs, 140 percent compared to 193.5 percent:

Average Total Assets (current millions)	1980	1981	1982	1983
A-CAVS	66,978	99,988	143,123	196,603
B-BCH	42,147	54,220	72,553	101,136
% B/A	62.9	54.2	50.7	51.4

The most dynamic item among liabilities is the UPAC, whose growth is almost double the average and which is undisputedly the operational basis of the BCH. This indicates an interesting internal dynamic, since its rate of growth considerably exceeds that of the CAVs. Capital and reserves, as a percentage of total assets, drop between 1980 and 1983. The possible implications of this drop merit closer analysis.

Three macro indicators are evaluated below (in current millions):

## Average Total Assets (ATM)/Average Productive Assets (APM)

	1980	1981	1982	1983
ATM	42,145.6	54,220.1	72,555.3	101,135.9
APM	36,626.3	47,958.7	63,959.0	89,229.4
% APM/ATM	86.9	88.5	88.2	88.2

The percentage is more than four points lower than that of the CAVs. This aspect which makes the structure more costly is one of the explanations for the lower overall rate of growth. The difference of four points is attributable to the item "other assets", which for the BCH is twice that of the CAVs. This is particularly worrisome because "other assets" includes the portfolio in arrears (whose exact value is unknown).

## Average Productive Assets (APM)/Average Deposits (AD)

	1980	1981	1982	1983
APM	36,626.8	47,958.7	63,959.0	89,229.4
AD	36,610.1	47,583.5	64,805.1	90,008.4
% AD/APM	100.0	99.2	101.3	100.9

Consistent with the above figures, the capacity to turn debt into credit is lower in the BCH, and here the difference with the CAVs is even greater.

## Average Deposits (AD)/Capital and Reserves (CR)

	1980	1981	1982	1983
AD	36,610.1	47,583.5	64,805.1	90,008.4
CR	1,623.3	1,892.2	2,420.0	3,326.3
% CR/AD	4.4	4.0	3.7	3.7

Own resources relative to deposits have been historically lower than for the CAVs. The important point is that while for the latter the ratio remains constant over the period, for BCH it declines.

The origins of these levels of performance are shown more precisely in the income statement in Appendix Table A.20. The different rate of growth in earnings and finance charges leads to a decrease in profit. The margin is higher than that of the CAVs, because BCH can mix funds with different costs. However, general expenditures have gone from a position where they could be absorbed in the 1980-1981 profit, to one where they require other income to cover them (1982 and 1983), despite

the control which has been maintained over them. All of this results in a 70 percent decrease in profit.

The complexity and nature of the BCH obviously entails a greater bureaucratic obligation than the CAVs, but the trends shown by the balance sheet and income statement seem to indicate how necessary it is to review and support the areas of productivity control, in order to keep this institution on a highly sound level.

### 3. Land Credit Institute (ICT)

#### a. Introduction

The objective of the ICT — "social" shelter action — has been clear, but its sources of financing have not been as clear. One of the long-standing tasks of the government has therefore been to provide funds to the ICT, since it has neither attracted funds from the market nor generally invested at market rates.

ICT is a dependency of the Ministry of Economic Development, and the Minister heads its Board of Directors. It has about 2,800 staff members who make up a production-oriented organizational char.

#### b. Source of Funds

Outside the government's budget appropriations, ICT's funds have come from the following instruments:

- **"Popular" Housing Bonds (16 percent, 10 year term):**  
Purchased by life insurance and life reinsurance companies and capitalization institutions.
- **"Popular" Housing Bonds (18 percent, 10 year term):**  
Purchased by general insurance and general reinsurance companies.
- **"Popular" Housing Bonds (20 percent, 4 years):**  
The Savings and Housing Associations, commercial banks, and the Banco Popular invest part of their cash reserves in this type of bond.
- **Housing and Savings Bonds (12 percent Class B, 15 year term):**  
The funds for this type of bond are regulated by Decree 1994 of 1972 and Decree 894 of 1981. The first requires Banco Popular to maintain in bonds 19.5 percent of its cash reserves and savings accounts. The second requires commercial banks to keep 3.5 percent of their cash reserves on their deposits.
- **Investments by Point of Cash Reserves**  
By determination of the Monetary Board, commercial banks can invest 1 percent of the amount of deposits in current accounts with 30-day demand, in form E notes.

- **Transactions with the National Savings Fund**

The ICT and the FNA have signed mutual agreements by which the FNA assigns funds to the Institute, either for specific plans or for general financing of dwellings built by the ICT.

**c. Investment**

The ICT has maintained considerable investment activity and, although historically it has taken part in a very wide range of solutions, it is currently centered around lower-cost solutions. For these it has established the conditions appearing in Appendix Table A.21.

Operationally, the ICT invests its credits at a fixed rate of interest, without using the constant value system. In the past ten years, ICT's investment in housing has grown (Table III.9). ICT has also been successful in limiting the price of its units, though average price has been somewhat erratic over the years.

The levels of investment are noticeably lower than the CAVs and BCH, but it is inappropriate to compare them, since the funds for the former must be obtained in the market.

TABLE III.9

ICT - INVESTMENT IN PROGRAMS  
(Current Prices)

Year	Investment (millions)	No. of Solutions	Average Cost	Average Cost In UPAC*
1973	1,131.6	25,206	44,894	398.3
1974	1,502.9	20,648	72,757	529.5
1975	1,969.5	24,160	81,519	491.3
1976	2,076.0	25,085	82,759	385.1
1977	2,892.9	30,983	93,351	403.0
1978	3,945.4	28,705	137,446	503.0
1979	3,374.3	17,504	192,773	605.5
1980	3,839.9	26,415	145,368	383.6
1981	7,608.4	21,958	346,498	754.1
1982	7,068.9	26,890	262,882	475.9
1983	20,506.0	54,400	379,756	563.2

\* To have a point of reference in constant value, the UPAC value of June 30 each year is applied.

Source: ICT

One of the most critical aspects of the majority of public housing institutes, which operate on subsidies, is the large number of defaults they have, not so much due to failure to pay, but to inefficient collection. Although the full series of data on the status of defaults has not been obtained, we shall use the 1979-1981 data as a guide (Appendix Table A.22). More than 50 percent of the ICT portfolio is in some degree of arrears, and almost 15 percent is in serious default. This is a critical problem, and it should be confronted directly, otherwise the action of the Institute may be hard to justify.

**d. Financial Structure**

Given the fact that it would not be suitable to comparatively apply the indices used for the CAVs and the BCH, we shall examine other aspects, such as the budget support received during the last five years:

YEAR	Government Contributions (millions)	Cumulative (millions)
1979	1,159.9	1,159.9
1980	2,193.2	3,353.1
1981	2,050.6	5,403.7
1982	4,701.2	10,104.9
1983	4,177.4	14,282.3

Considering that ICT has been receiving contributions for more than forty years, a glance at the net worth clearly shows the process of decapitalization.

Since there is no income statement available based on a cash accounting system, we will try to visualize the performance via Appendix Table A.23, Income/Expenditures. Since both financial returns and recovery of capital are included in income, we cannot evaluate losses. The size of ICT's operating expenditures, 33 percent of all income, can entail nearly 60 percent of financial returns. It is not hazardous to assert that losses are permanent and the operating costs inadmissible, proportionately four to five times those of a Corporation and three to four times those of the BCH. This is with no requirement to attract funds in the market, no complex handling of hundreds of thousands of accounts, and little efficiency in collection.

In the past two years, ICT has tended to overestimate its means, which may indicate a planning problem. The income/expenditure data require no greater explanation to show an institution which continuously lives on outside resources and completely lacks internal reproductive capacity.

**e. Comments**

It should be repeated that the ICT's strong point is its capacity to produce low-cost solutions on a massive scale. However, based on an analysis of the institution's operational and internal financial situation, one may legitimately question whether the cost of producing these solutions

is justifiable, or if it is necessary to incur such costs to produce the solutions.

The ICT has fully committed itself to the execution of the government's plan for 1984, in the hope that it will be provided with funds according to the following budget:

#### 1984 ICT BUDGET

<b>Income</b>	
Receipts	10,555.2 million
National Budget Appropriation	5,226.4 million
Financial Resources	17,369.1 million
<b>TOTAL</b>	<b>33,150.7 million</b>

There is uncertainty regarding all three inputs. First, receipts seem high according to historical trends. Second, considering the fiscal deficit, the proposed government contribution seems excessive, and we must assume that ICT would use resources recovered via high-cost financial savings (TAN). Third, if it is assumed that financial resources are to come from new appropriations to the intermediaries (banks, CAVs, insurance companies), it will be difficult to obtain them due to the general liquidity crisis. Nevertheless, if resources were obtained and the goals achieved, the cost to others would be greater than the achievement.

#### 4. National Savings Fund (FNA)

##### a. Introduction

The National Savings Fund is an adjunct organization of the Ministry of Economic Development but has its own budget and administrative autonomy. Among its objectives are:

- To make timely contributions to the unemployment/pension fund for government employees.
- To protect this fund from monetary depreciation.
- To encourage national saving and channel it to non-inflationary financing of projects of special importance for socio-economic development.

##### b. Source of Funds

Aside from the increasingly high yield from good investment management, the source of funds is contributions to an unemployment/pension fund for government workers, consisting of 1/12 of monthly wages, which goes into an account in the name of each worker. Thus, the FNA manages an obligatory and growing savings fund, the development of which is shown in Table III.10.

**c. Investments**

The most important activity of FNA is awarding housing to its members. Determination of interest rates and terms is done autonomously by FNA. Depending on their amounts, credits carry interest rates of 14 to 24 percent.

FNA extended more than 40,000 credits between 1970 and 1983. The majority of them were granted between 1978 and 1983, as shown in Table III.11.

FNA does not carry out construction directly, but rather opens projects to public bidding every four months. FNA determines the maximum cost and number of units to supply per city according to surveys of needs among members. Perhaps one of its weakest points is its portfolio management, since FNA only has offices in Bogota and does not operate on payroll deductions.

**d. Financial Structure**

The two most common problems in institutions of this kind are:

- High operating expenditures due to large budgets.
- Decapitalization, due to low-yield investments.

Neither of these two problems appears to have affected FNA, as seen in the income/expenditure figures shown in Appendix Table A.24. The following points are to be noted:

- Control of expenditures: They are staying at a reasonable level and have dropped proportionately during 1980-83.
- Level of income: Investment management makes it possible to pay for unemployment and pension benefits out of profits, which indicates an excellent capitalization factor.
- Decrease in the proportion of unemployment/pension contributions payments: The share of contributions in relation to income has progressively decreased, guaranteeing adequate coverage.

In summary, FNA is a highly specialized institution with effective management. Nevertheless, the Institute cannot extend itself beyond these available funds, because its structure and regulations do not allow it to attract other savings or become indebted by mixing funds from another source or of another kind. With the existence of a constant value system in the country and considering that FNA's ultimate purpose is to protect and maintain long-term resources, it may be appropriate for FNA to consider incorporating the UPAC mechanism.

TABLE III.10

FNA INVESTMENT 1978-83  
(Millions of current Pesos)

Year	Investment	Payments in Bonuses ("CESANTIAS")	%
1978	909.3	463.4	51.0
1979	1,746.5	495.5	28.4
1980	1,788.4	745.4	41.7
1981	2,512.8	906.0	36.1
1982	2,905.0	1,101.2	37.9
1983	3,543.8	1,741.4	49.1
TOTAL	13,405.8	5,451.9	40.7

Source: FNA

TABLE III.11

FNA LOANS MADE-78/83  
(Millions of Current Pesos)

Year	Number	Value
1978	3,613	1,218.0
1979	3,811	1,486.0
1980	4,255	2,635.0
1981	5,500	3,795.0
1982	5,082	5,552.0
1983	8,139	8,210.0
TOTAL	30,400	23,006.0

Source: FNA

### C. INTERINSTITUTIONAL COORDINATION

Among the complementary measures included in the 1983-86 housing plan was improved interinstitutional coordination. Recommendations range from reactivation of the "Savings and Housing Board" to creation of a Ministry of Housing and Urban Development.

The most frequently-mentioned problems are:

- Institutional dispersion.
- Legal and regulatory inefficiency.
- Lack of coherence between sectoral policy and the existing instruments for carrying it out.
- Lack of appropriate presence of the sector in the government's decision-making mechanisms.

#### 1. Institutional Dispersion

In Colombia there are numerous institutions involved in housing and urban development, but they can be grouped as follows:

##### a. Financial Activity

- Housing: 95 percent of financing is concentrated in four entities: UPAC System, BCH, ICT and FNA. Their roles are relatively clear, and they operate independently.
- Urban Development: Basically, five institutions are involved here: DNP, INSFOPAL, BCH/Commercial Banks, Municipalities, and Public Service Enterprises. The problem is not really institutional dispersion; it involves improving local capacity and participation (see Chapter V).

##### b. Production Activity

The production of housing and other works is coordinated by CAMACOL and Construyamos. These two trade organizations represent the entire sector, and their capabilities seem adequate.

##### c. Support Activity

The housing and urban development sector relies on extensive technical and research support from universities and specialized centers. Coordination of this support is not critical for the economy.

Institutional dispersion does not seem to be a critical problem for the housing sector.

#### 2. Regulatory and Legal Dispersion

This is a real problem, and it is magnified by the variety of institutions which participate in project approval. The problem must be confronted as part of an overall improvement in public administration.

### **3. Lack of Coherence Between Policies and Instruments**

This situation weighs heavily on the future of the 1983-1986 housing plan today and is the main difficulty to be resolved.

in 1983 ICT demonstrated its capacity to mass-produce shelter units. However, given limited financial resources, it seems legitimate to question whether the costs of producing such solutions are justifiable — in terms of the large subsidies involved — or if it is necessary to incur such costs to produce low-cost solutions on a large scale.

ICT could make a greater contribution to achieving the sector's objectives by changing its focus to production of serviced lots with core units and supervised upgrading. This strategy would produce a significant impact for the lowest income sectors. It could also have secondary "reactivating" effects through employment opportunities generated in the informal sector as housing development takes place.

This focus would allow ICT to continue producing large numbers of shelter solutions but at a lower cost, making it possible to reduce subsidies and avoid excessive absorption of the scarce and costly resources available in the internal savings market. It would also permit a reassessment of ICT's medium- and long-term capacity and the progressive upgrading of its internal operations.

The over-diversification of the social objectives of BCH and the CAVs involves some risks, principally an excessive administrative complexity and potential difficulties with making solutions affordable to the lowest income sectors. BCH and the CAVs have an important role to play in serving moderate and low-income groups; nevertheless, entry of these institutions to those markets should be cautious, so that their capacity for future growth will be preserved. Both institutions should be expected to contribute to the "reactivating" effect in the sector by continuing to focus their production at the 1,000 to 1,300 UPAC level as well as on the higher levels.

The CAVs have substantially proven their operating capacity and their ability to penetrate the moderate income market. The expansion of their contribution in the future will depend on their access to the money market on a competitive basis.

As a public institution BCH is required to bear a wider social mandate than the CAVs. Although it has demonstrated exemplary capability and great versatility in responding to the objectives of the Housing Plan, this has resulted in the creation of new offices and mechanisms for implementation. It seems appropriate to review the changing structure of the BCH and its ability to respond efficiently to new demands, if it is to maintain a high degree of institutional and fiscal health and at the same time provide leadership in the sector.

#### 4. Lack of Adequate Voice

In Colombia it may appear that the housing sector has a prominent voice at the highest decision-making levels, since it has been given priority. However, there are complaints about the lack of instruments to carry out an adequate housing program. This apparent discrepancy suggests a need to clarify what type of sectoral representation may really be needed.

The production of housing requires the direct involvement of a wide range of sectors (financial, monetary, infrastructure, transport, etc.). Success in meeting housing needs depends on coordinated participation of all of them. This complexity has led, in some countries, to the elevation of the housing sector's political status through the creation of Housing Ministries, which have not been notably effective in promoting better coordination. Another approach has been simply to reduce sectoral programming to guaranteeing a reasonable flow of financial resources to the housing sector, with the objective of making production more efficient.

The current situation in Colombia appears to call for the following types of measures:

- A more stable flow of funds to the sector, which can be controlled by law;
- A conception of sectoral coordination that goes beyond a typical bureaucratic solution (i.e. creation of a Housing Ministry) and seeks rather to include housing in the highest-level planning and programming processes of the government, thereby assuring that every related sectoral institution meshes its activities with housing.

To make these ideas work, what is needed is a high-level organism with wide representation (public and private) which would be simultaneously a catalyst and a "watchdog" for the sector but which would not be identified as simply another element of the bureaucratic mechanism.

#### D. PRINCIPAL CONCLUSIONS

1. The first year of the Housing Plan may be termed a success with regard to producing solutions and institutional performance. The organizations in the UPAC System (CAVs and BCH) did not reach their production goals, but ICT exceeded its forecast by a wide margin. The average price of solutions produced by the UPAC System was above the target, while the average price of ICT solutions was considerably lower than planned. However, the source of funds should be taken into consideration: market funds in the first instance and captive or subsidy funds in the second.
2. It has been estimated that the net savings attraction of the CAVs for 1984 will be half that of 1983. This figure puts the execution of the shelter plan into serious doubt. In order to guarantee minimally adequate survival of the UPAC System via market competition, a new formula for computation of the

UPAC value has been approved. However, this formula will not enable the UPAC System to capture a significantly larger share of the savings market than in the past.

3. The drop in savings attraction experienced by the CAVs is being duplicated for BCH, which in the first half of 1984 was affected by a serious liquidity crisis. The projection for 1984 is to conclude the financing of the obligations acquired in 1983 but without starting new activities.
4. ICT's strong point is its capacity to produce low-cost solutions on a massive scale. However, ICT has some problems in its financial structure, particularly the fact that it lives continually on outside resources and completely lacks internal reproductive capacity. Its operating costs seem too high, and its portfolio has serious default problems. Given the government deficit and the general liquidity crisis, it seems unlikely that the ICT will obtain the expected resources in 1984.
5. ICT could make a greater contribution to achieving the sector's objectives by changing its focus to production of serviced lots with core units and supervised upgrading. This strategy would produce a significant impact for the lowest-income sectors. It could also have secondary "reactivating" effects through employment opportunities generated in the informal sector as housing development takes place.
6. BCH and the CAVs have an important role to play in serving moderate and low-income groups; nevertheless, entry of these institutions to those markets should be cautious, so that their capacity for future growth will be preserved. Both institutions should be expected to contribute to the "reactivating" effect in the sector by continuing to focus their production at the 1,000 to 1,300 UPAC level as well as on the higher levels.
7. The problem of regulatory and legal dispersion in the shelter sector is magnified by the variety of institutions which participate in project approval. It is a real problem which must be confronted as part of an overall improvement in public administration.

## IV. HOUSING NEEDS AND AFFORDABILITY

This chapter presents: 1) forecasts of the number of dwelling units needed to provide all Colombian households with minimally adequate housing by the year 2005, 2) an analysis of the degree to which various types of housing solutions are affordable to different income groups and 3) estimates of the costs of meeting basic housing needs.

### A. METHODOLOGY

The housing needs and affordability analysis was carried out using a "Housing Needs Assessment Model" developed for AID.<sup>10</sup> This model, which operates on a micro computer, uses data on macroeconomic trends, population trends, household incomes, the housing stock, and housing costs to estimate future housing needs. These needs are:

1. Accommodating future population growth;
2. Replacing adequate units that become obsolete;
3. Upgrading substandard units;
4. Replacing non-upgradable substandard units with acceptable ones; and
5. Reducing overcrowding.

The model estimates housing needs and the costs of meeting them over a 20-year forecast period for both the urban and rural populations. For Colombia we have assumed a housing program under which all households will be living in adequate units by the year 2005. An important corollary to this is the assumption that investments in infrastructure to support housing (major water, sanitation, electricity, drainage, and street projects) will be made in a timely manner. As Chapter V of this report suggests, this assumption is idealistic.

### B. EXISTING HOUSING STOCK

Colombia's total housing stock consisted in 1981 of about 4.3 million units, according to DANE. Nearly two-thirds of this stock was in urban areas, the rest in rural. Between 1973 and 1981 the housing stock grew substantially faster than the population in both rural and urban zones (Table IV.1). This is reflected in a decrease nationally in the average number of persons per dwelling unit from about 7.4 in 1973 to around 6.1 in 1981.

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<sup>10</sup>See Robert R. Nathan Associates and Urban Institute, Preparing a National Housing Needs Assessment, AID Office of Housing and Urban Programs, March 1984; and (same authors), AID Housing Needs Assessment Model: User's Manual, AID Office of Housing and Urban Programs, June 1984.

Table IV.1

Growth of Housing Stock 1973-81  
(Millions of Dwelling Units\*)

	1973	1981	Annual Housing Growth Rate	Annual Population Growth Rate
	Total Nation	3.072	4.277	4.2
Urban	1.821	2.764	5.4	2.8
Rural	1.251	1.513	2.4	0.4

\*Occupied units ("viviendas ocupadas").

Source: DANE, 1973 Census and 1981 "Encuesta Nacional de Alimentacion, Nutricion, y Vivienda".

Table IV.2

HOUSING QUALITY INDICATORS 1964-73

	% Permanent Units*		% Units with Water	
	64	73	64	73
Urban	70.5	64.3	65.8	86.8
Rural	25.9	23.0	13.3	27.6

\*Refers to units with permanent material for floor, walls, and roof.

Source: DANE, 1964 and 1973 Censuses.

Average household size has been decreasing significantly also. Between 1972 and 1981 it dropped from approximately 6.1 to 5.4 nationally. In 1981 average household size in urban areas was about 5.25, in rural areas about 5.75. Based on these figures, the average number of households per dwelling unit in 1981 was 1.16 for urban areas, 1.10 for rural.

A large share of housing growth in Colombia occurs through unlicensed construction. A recent analysis by CENAC indicated that between 1973 and 1981, extra-legal construction accounted for about 44 percent of the growth of the housing stock in Colombia's 15 principal cities.<sup>11</sup> The World Bank estimates that in recent years (before 1983) approximately half of annual urban housing construction overall has been unlicensed.<sup>12</sup>

There are no recent data at the national level on the quality of the housing stock. The only complete source of this kind of information for the whole country and by urban and rural areas is the 1973 Census. Table IV.2 presents data on durability of materials and water supply. The most striking point made by these figures is the enormous disparity between urban and rural housing. In 1973 only about 28 percent of rural dwellings had water supply connections, in contrast to 87 percent of urban units. Less than one quarter of all rural dwelling units were built of permanent materials in 1973, while in the same year almost two-thirds of urban units were.

Coverage of water supply improved between 1964 and 1973 in both urban and rural areas. In relative terms, water supply improved faster in rural areas. The quality of construction, on the other hand, declined in both zones during the period.

The 1973 data on construction quality for urban areas are consistent with findings of a 1981-82 housing inventory carried out by DANE in 51 principal cities. For this inventory, dwellings were classified into one of six "strata" according to a mix of criteria (especially type of construction and services). Around 31 percent of the units fell into the two lowest categories ("bajo-bajo" and "bajo"), which comprise those units constructed partially or completely of non-permanent materials.<sup>13</sup> This suggests that for urban areas the proportion of substandard housing structures stayed about the same from 1973 to 1981.

Some indication of more recent trends in water supply coverage is available from DANE's 1981 National Survey of Food, Nutrition, and Housing (Encuesta Nacional de Alimentación, Nutrición, y Vivienda). This survey found that 89 percent of urban households and 16 percent of rural households lived in units with water connections.<sup>14</sup>

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<sup>11</sup>Oscar Gomez Villa, "La Política de Vivienda y La Reactivación Económica", in Controversia Sobre el Plan de Vivienda Sin Cuota Inicial, edited by Fabio Giraldo Isaza, Bogotá: CAMACOL, 1983, pp. 165-178.

<sup>12</sup>World Bank, Urban Policy in Colombia: Selected Issues and Some Directions for Change, Report No. 4916-CO, January 1984, p. 20.

<sup>13</sup>DANE, Colombia Estadística 1983, p. 332.

<sup>14</sup>DANE, Colombia Estadística 1983, p. 468.

Since these figures refer to households, not dwelling units, they overstate the proportion of units with water connections. The reason is that there is a correlation between dwellings with more than one household and dwellings without water. Taking this into account, it appears that from 1973 to 1981 the coverage of water supply remained about the same in urban areas and declined in rural areas.<sup>15</sup>

It should be noted that these static figures on housing quality mask a large amount of upgrading that occurs over time. Self-help construction accounts for an important share of this upgrading. In a study of housing improvement in Cartagena, Strassman found that the average dwelling grew from 3.3 to 4.1 rooms between 1973 and 1978. In addition, about 20 percent of owners made improvements to walls, floors, or roofs. Strassman also found that upgrading tended to accelerate rapidly once owners obtained water supply connections.<sup>16</sup>

Approximately 60 percent of households nationally were owner-occupants in 1981. Owners accounted for about 55 percent of urban households and about 69 percent of rural households (see Table IV.3). Slightly over one third of urban households were renters. Eight percent of urban households were neither owners nor renters. One of the most interesting figures in Table IV.3 is the high proportion—about one quarter—of rural households that occupy housing without paying rent. This helps explain the relatively low fraction of rural household income spent on housing (see below). In the period 1973–1981, the proportion of owners rose slightly in both urban and rural areas. The proportion of renters correspondingly declined, and the proportion of other tenancy types stayed about the same.

TABLE IV.3

## HOUSING TENANCY DISTRIBUTION 1973–1981

(Percent of Households)

	Urban		Rural	
	1973	1981	1973	1981
Owners	49.9	54.8	63.4	69.0
Renters	42.9	36.7	12.8	6.1
Usufruct*	5.4	7.8	21.6	24.3
Occupiers**	1.8	0.6	2.2	0.5

\*Households who have occupancy rights but do not pay rent.

\*\*Households whose occupancy rights are uncertain ("ocupantes de hecho").

Sources: DANE, 1973 Census and 1981 Encuesta Nacional de Alimentación, Nutrición, y Vivienda.

<sup>15</sup>Estimates of 1983 water supply coverage by INSFOPAL, based on its own data and information from DNP, suggest either that the above coverage figures are too high or that coverage has declined significantly since 1981. See Chapter V.

<sup>16</sup>W. Paul Strassman, The Transformation of Urban Housing, Baltimore: Johns Hopkins University Press, 1982, pp. 103–132.

## C. HOUSING NEEDS 1985-2005

### 1. Data and Assumptions

Our forecasts of housing needs are based on two main types of data: 1) demographic projections and 2) data on the current housing stock and assumptions about the 20-year housing program.

The population projections used here are based on forecasts made by the National Planning Department (see Table V.1). We have adjusted these figures to correspond to five-year increments beginning in 1985. These data, for urban and rural areas, appear in Appendix Table A.25.

We have also assumed a continuing decline in average household size. Based on the figures cited in Section B above, we have estimated 1985 average household sizes of 5.0 for urban areas and 5.5 for rural areas. Taking into account DNP's projections of Colombia's age structure,<sup>17</sup> our housing needs forecasts assume a gradual decline in average household size to 4.2 in urban areas and 4.7 in rural areas by the year 2005 (see Appendix Table A.26).

To estimate the base year (1985) national housing stock, we applied the above figures for 1985 average household size plus an assumption of 1.1 households per dwelling to the base year population. This yielded a 1985 housing stock of 4,981 million, divided between 3,396 million urban and 1,585 million rural. These figures represent a total 1981-85 housing stock growth rate of about 3.9 percent per year, compared to 4.2 percent for 1973-81.

The housing needs model requires a breakdown of the housing stock into permanent, upgradable, and non-upgradable units. To estimate the number of non-upgradable units in urban areas, we relied on DANE's 1981-82 housing inventory of 51 cities (see Section B above). According to this source, about six percent of the urban housing stock falls into the lowest of six housing quality strata ("bajo-bajo"). We have taken this percentage as the proportion of non-upgradable units in urban areas. For rural areas we have assumed that 20 percent of the stock is non-upgradable, based on 1973 Census findings that about 26 percent of the rural stock is composed of non-permanent materials for all three major structural elements (roof, walls, and floor). For our estimates of the proportion of permanent housing, we have used the 1973 Census figures in Table IV.2 for both urban and rural areas. Base year housing stock data used in our calculations appear in Table IV.4.

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<sup>17</sup>Departamento Nacional de Planeación, Dinámica Demográfica y Proyecciones de Población del País, Los Territorios Nacionales, el Distrito Especial de Bogotá, Departamentos, y las 30 Principales Ciudades: Aspectos Metodológicos y Principales Resultados, Unidad de Desarrollo Social, División de Población, Sept. 1982, pp. 53-56.

TABLE IV.4  
HOUSING STOCK 1985

	Units (000)		Percentage	
	Urban	Rural	Urban	Rural
Permanent	2,173	345	64	23
Upgradable	1,019	903	30	57
Non-upgradable	204	317	6	20
Total	3,396	1,585	100	100

Source: PADCO analysis.

The remaining assumptions have to do with rates of housing stock replacement and upgrading. We have used two percent per year as the rate of replacement of the existing permanent housing stock. This is a generally accepted figure internationally (there are no Colombian data on stock replacement). We have also assumed that, between 1986 and 2005, 100 percent of base year non-upgradable units are replaced and 100 percent of base year upgradable units are upgraded. These two construction programs are spread out evenly over the 20-year period (i.e., at a rate of five percent annually). Finally, we have defined the elimination of overcrowding as providing all households in the base year population with a separate unit. This is consistent with the way the Housing Needs Assessment Model allocates future housing. It is also consistent with the prevailing mode of thinking about housing deficits in Colombia.<sup>18</sup> Construction to eliminate overcrowding is also assumed to occur evenly over the period.

It should be noted that our calculations assume that all new households acquire units of "acceptable" quality. We have not included additional upgrading of these new units in our housing needs estimates.

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<sup>18</sup>Whether or not one household per unit is a standard to be adopted is debatable. As the World Bank points out, "Shared housing, whether at lower or higher incomes, is a useful mechanism for rationing expenditures on housing when household heads are young, incomes are limited, family size is small, and residential and job mobility are high." A 1978 study of Bogota showed that 90 percent of lower-income households had at one time lived in one or two rooms and that most had shared plumbing with another household. See World Bank, op. cit., p. 21.

## 2. Projected Needs

Table IV.5 presents the number of units needed per year to fulfill the housing program described above. Note that the figures in Table IV.5 are annual numbers of units. They are not cumulative totals. In other words, Table IV.5 presents "snapshots" of housing needs at five-year intervals.

The Housing Needs Assessment Model allocates one unit to each new future household.<sup>19</sup> Table IV.5 shows that, despite decreasing urban population growth rates, the number of new urban households increases steadily throughout the forecast period. This is due to the projected decline in average household size. The same phenomenon affects rural household formation. In fact, if not for decreasing average household size, the number of new households in rural areas in 1990 would be about one-quarter of the number forecast in Table IV.5. By 2005, if average household size remained constant, the number of new rural households would dwindle to less than 2,000 per year (compared with 19,000 in Table IV.5). These results indicate the sensitivity of housing needs estimates to assumptions about average household size.

For urban areas, new construction to accommodate household growth accounts for the majority of new construction needs over the 20-year period. However, the importance of this component declines from almost two-thirds of new construction in 1990 to a little over half in 2005. In rural areas, the provision of units for new households accounts for a little over one third of new construction in 1990 and goes down to about one quarter in 2005.

Upgrading accounts for a modest share of total construction needs in urban areas. Because we have assumed a constant volume of upgrading throughout the 20-year period, upgrading as a proportion of total construction falls from about 20 percent in 1990 to about 15 percent in 2005.

In rural areas, however, upgrading accounts for almost half of all housing needs in 1990 and about 37 percent in 2005.

Meeting the need for new housing construction in urban areas would require building about 208,000 units in 1990. The volume would have to increase moderately, reaching about 300,000 per year in 2005. In 1983, the "formal sector" of the Colombian housing industry produced a little over 100,000 urban housing units.<sup>20</sup>

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<sup>19</sup>As currently designed, the model cannot allocate more than one new household per unit.

<sup>20</sup>CAMACOL, La Política de Vivienda y la Construcción en 1984, April 1984, p. 32.

TABLE IV.5

## HOUSING STOCK AND REPLACEMENT 1990-2005

(Thousands of Units)

	1990	1995	2000	2005
<b>Urban Areas</b>				
New Households Per Year	138	148	151	159
Replacement of Permanent Units (2% per year)	43	65	88	111
Replacement of Non-Upgradable Units*	10	10	10	10
Construction to Relieve Overcrowding**	17	17	17	17
Subtotal: New Construction per Year	208	240	266	297
Annual Upgrading***	51	51	51	51
Total Construction Per Year (New Units plus Upgrading)	259	291	317	348
Total Urban Housing Stock	4,170	4,995	5,837	6,716
<b>Rural Areas</b>				
New Households per Year	18	18	19	19
Replacement of Permanent Units (2% per year)	7	16	25	33
Replacement of Non-Upgradable Units*	16	16	16	16
Construction to Relieve Overcrowding**	8	8	8	8
Subtotal: New Construction per Year	49	58	67	76
Annual Upgrading***	45	45	45	45
Total Construction per Year (New Units plus Upgrading)	94	103	112	121
Total Rural Housing Stock	1,713	1,843	1,976	2,111
<b>Total Country</b>				
New Construction per Year	257	298	333	373
Annual Upgrading	96	96	96	96
Total Construction per Year	353	394	429	469
Total Housing Stock	5,883	6,838	7,813	8,827

\* Assumes that all non-upgradable units in base year (1985) housing stock are replaced by 2005.

\*\* Assumes that all households sharing units in base year (1985) are allocated a unit by 2005.

\*\*\*Upgrading of all base year (1985) upgradable units is spread out evenly over the 1986-2000 period.

Source: PADCO Analysis

New construction needed in rural areas is about 20 percent of the total national requirement for new housing. Adding together urban and rural needs from Table IV.5 yields a national yearly new dwelling unit requirement of 257,000 in 1990, 298,000 in 1995, 333,000 in 2000, and 373,000 in 2005. These volumes of new construction seem to be within the capacity of the Colombian housing sector (see Chapters II and III). However, one must also take into account the projected needs for upgrading of base year substandard units. This involves a total of nearly 100,000 units per year (urban and rural). While upgrading does not place the same demand, per unit, on the housing supply system as does new construction, it does represent a substantial additional requirement.

The estimates of new construction needs in Table IV.5 should be regarded as liberal. First, they are based on allocating a new unit to each new household. If one assumes that some amount of shared housing will continue to exist, then the needs will be lower. Second, the estimates assume significant declines in average household size. Slower rates of new household formation, perhaps due to economic pressures, may also reduce the needs for new dwelling units.

On the other hand, the projected upgrading needs are conservative. As noted above, they take into account only the upgrading of base year (1985) substandard housing which is upgradable. The estimates do not include potential needs for "progressive" upgrading of post-1985 units. If the example of Cartagena is a guide, 20 percent of all units may be upgraded in a five-year period. 21

#### D. HOUSING AFFORDABILITY AND COSTS

Having reviewed estimates of Colombia's housing needs over the next twenty years, we now turn to an analysis of 1) the capacity of Colombian households to afford different types of dwellings and 2) the costs of meeting the housing needs outlined above.

##### 1. Data

The main ingredients needed for a housing affordability analysis are household income data and dwelling unit costs, including financing terms. We compare the capital value of the unit that households can afford—based on households' monthly expenditures for housing net of recurrent costs—with the design costs of three different types of units. All income and cost figures in this chapter are in 1983 constant values.

We began by estimating average annual household income for the urban and rural populations. These figures were derived from Banco de la Republica data on total personal income. Our base year (1985) estimates in 1983 Pesos

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21Strasman, op.cit.

are Col\$604,761 for urban households and Col\$248,468 for rural households. The urban annual household income figure is consistent with other estimates.<sup>22</sup>

The Housing Needs Assessment Model projects average household income based on national GDP growth for the urban and rural sectors. Using recent estimates and projections of GDP growth made by the World Bank, we calculated 1985 GDP (at 1983 prices) at Col\$3,197,876 million. For estimates of future GDP growth, we used unofficial figures provided by World Bank staff. These were: 3.5 percent per year in 1986-1990 and 4.0 percent in 1991-2005. These should be viewed as "middle of the road" projections.

To determine whether construction costs will escalate faster than general inflation, we reviewed past price indexes. We found that over the 1975-1983 period the overall DANE indexes for consumer prices and housing prices were relatively close. Our analysis, therefore, assumes that over the next 20 years future housing price inflation will occur at the same rate as general inflation (see Appendix Table A.27).

The analysis calculates housing affordability for each quintile of the income distribution. Our income distribution data are taken from a 1974 survey carried out by Selowsky.<sup>23</sup> This survey provides percentages of income by decile for both urban and rural households. Selowsky's figures are consistent with 1978 estimates by Urrutia.<sup>24</sup> However, there is some reason to believe that Selowsky's and Urrutia's estimates understate the degree of inequality in Colombia's national income distribution. Other analysts have calculated somewhat more unequal distributions.<sup>25</sup> The differences among estimates revolve around the degree of coverage of the surveys and the amount of underreporting of income at various income levels. We have used the Selowsky data in order to give the "benefit of the doubt" to slightly higher income shares in the two lowest quintiles (see Table IV.6).

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<sup>22</sup>See, for example, Rakesh Mohan, An Anatomy of the Distribution of Urban Income: A Tale of Two Cities in Colombia, World Bank, Development Research Department, August 1982, p. 33. Mohan cites a 1978 average household income estimate for Bogota, derived from a reliable household survey of that year, of Col\$13,405 per month. Adjusted for inflation and GDP growth, this figure is close to our estimate.

<sup>23</sup>Marcelo Selowsky, Who Benefits from Government Expenditures? A Case Study of Colombia, Fairlawn, N.J.: Oxford University Press, 1979.

<sup>24</sup>Miguel Urrutia, Winners and Losers in Colombia's Recent Growth Experience, Bogota: Fedesarrollo, 1981. [Cited in World Bank, Colombia: Economic Development and Policy Under Changing Conditions, Report No. 4444-CO, August 5, 1983, Vol. II, p. 8.]

<sup>25</sup>For example, R. Albert Berry and Ronald Soligo, eds. Economic Policy and Income Distribution in Colombia, Boulder, CO: Westview Press, 1980, p.5.

TABLE IV.6  
HOUSEHOLD INCOME SHARES BY QUINTILE  
(Percentages)

Quintile	Selowsky <sup>1</sup>		Berry-Soligo <sup>2</sup>	
	Urban	Rural	Urban	Rural
1	5	8	3	5
2	9	13	7	10
3	12	18	11	15
4	20	21	18	21
5	54	40	61	49

<sup>1</sup> Marcelo Selowsky, Who Benefits From Government Expenditures? A Case Study of Colombia, Fairlawn, N.J.: Oxford University Press, 1979.

<sup>2</sup> R. Albert Berry and Ronald Soligo, Eds., Economic Policy and Income Distribution in Colombia, Boulder, CO: Westview Press, 1980 [figures based on Selowsky data and adjusted - see Table 1.1, p.5].

The studies cited above disagree as to whether the Colombian income distribution has been improving or worsening in recent decades. We have assumed that it has stayed the same since the mid-1970s and that it will remain about the same over the next 20 years. This is a fairly important assumption that should be kept in mind while interpreting our affordability analysis.

There are no recent data on household expenditures for housing at the national level. We therefore relied on a 1972 Survey of Household Incomes and Expenditures conducted by DANE. We adjusted the figures from this survey to correspond to income quintiles, and the results appear in Table IV.7. The first thing that is immediately striking about these housing expenditure figures is the large difference between urban and rural areas. Rural households devote around half the fraction of their incomes to gross housing expenditures as urban households. This is explained by a combination of substantially lower rural income levels and the high proportion of rural households who occupy housing as usufructuaries (paying no rent--see Section B above). The second interesting point made by the numbers in Table IV.7 is that expenditures on housing capital (mortgage payments, imputed rent, or actual rent)--net of recurrent expenditures--are quite low. Urban households on average spend about 16 percent of their incomes on housing capital, and

rural households spend around five to seven percent.<sup>26</sup> This contrasts with the "rule of thumb" used by BCH and other organizations that households spend around 30 percent of income on mortgage payments. Rent control is one of the principal explanations for the low proportion of housing capital expenditures among urban households. About 37 percent of urban households are renters.

The fact that actual housing expenditures on average are low reflects the accumulated housing market experience in past years, but it does not mean that the 30 percent rule of thumb is excessive. The recent experience of BCH and ICT suggests that it is an acceptable proportion for new housing programs.

The Housing Needs Assessment Model is designed to analyze households' capacity to pay for three types of units with different costs. We have selected the following units for this exercise (all costs in 1983 values):

- **Level 3**  
A finished "basic" house of 1,000 UPACs (equal to Col\$674,000 in June 1983).
- **Level 2**  
A "minimal" unit or core house of Col\$360,000. This figure is based on average loan values in El Vallado, a BCH project in Cali. It consists of Col\$160,000 for a serviced plot of 75m<sup>2</sup>, which was roughly the average amount borrowed in El Vallado for land and infrastructure, plus Col\$200,000 for construction of a core unit.
- **Level 1**  
An upgrading loan of Col\$66,400. To this must be added the value of the average existing unit to be upgraded, which we estimate at Col\$153,500. The upgrading cost refers to infrastructure upgrading only and is derived from average loan figures for El Poblado, a BCH upgrading project, also in Cali. The existing unit value is derived from Strassman's estimate (Strassman, op. cit.) of the value of "minimal" housing in Cartagena, around Col\$60,000 in 1978 Pesos (we have used Col\$50,000, updated to 1983 value). The total Level 1 value is Col\$220,000.

The Level 1 value could also be taken as the cost of a sites and services plot with a sanitary core structure.

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<sup>26</sup>These low housing expenditure figures are consistent with evidence from more recent studies of individual cities. Strassman's 1978 survey in Cartagena found that the average share of monthly income devoted to housing was 18 percent for renters and nine percent for mortgage-holding owners (Strassman, op. cit., pp. 45-55). The World Bank's 1978 studies of Bogota and Cali, for which household surveys were carried out, found that housing expenditures averaged 22 percent of income in Bogota and 16 percent in Cali (Gregory K. Ingram et. al., The City Study: Summary of Results and Policy Implications, The World Bank, November 1982, p.7).

TABLE IV.7

## HOUSEHOLD EXPENDITURES ON HOUSING, 1972

Income Distribution Quintiles	Percentage of Monthly Income Spent on Housing <sup>1</sup>		Percentage of Monthly Housing Expenditure Devoted to Recurrent Expenses <sup>2</sup>		Net Percentage of Monthly Income Spent on Housing Capital	
	Urban	Rural	Urban	Rural	Urban	Rural
1 (lowest)	25	14	34	46	16.5	7.5
2	23	12	31	44	16	7
3	22	11	27	44	16	6
4	21	9	24	44	16	5
5 (highest)	20	8	19	40	16	5

1 Includes imputed rent for owners, services and fuel, and household cleaning supplies. Does not include property taxes.

2 Includes services, fuel, and cleaning supplies. Does not include property taxes.

Source: PADCO analysis based on DANE, Ingresos y Gastos de los Hogares en Colombia, 1972.

The above housing unit costs apply to urban areas. To estimate costs for rural areas, we assumed that the same types of solutions would be provided. Construction costs are taken to be the same as in urban areas, but rural land prices are assumed to be half of urban land prices. Existing upgradable rural units, however, are assumed to have half the value of urban "minimal" units. The resulting values for rural areas are: Level 3, Col\$624,000; Level 2, Col\$326,000; and Level 1, Col\$143,000.

Whether or not these values actually correspond to "real" costs is not of fundamental importance here. The critical point is that the three levels of housing cost serve as benchmarks for the affordability analysis. In other words, the issue of concern is not whether \$360,000 is a realistic figure for a core house; it is what proportion of Colombian households can afford a dwelling costing that amount.

For the calculation of the capital value that households can afford, based on a monthly mortgage payment, we have assumed the following terms:

- 25 percent interest rate. This is based on current BCH interest rates and unofficial World Bank estimates of future inflation (17 percent per annum in 1986-90; 15 percent thereafter).
- 15 year term, which is the current maximum for BCH.
- No down payment, which assumes a continuation of the government's current policy for "popular" and low-income housing.

These terms apply to all three of the above types of units.

## 2. Housing Affordability

Table IV.8 presents affordable capital costs and monthly payments for 1985. The figures are broken down by urban and rural households and, within each of these, by income quintile. The table indicates how affordable values change depending on the assumptions one makes about the proportion of household income spent on housing. The first column gives affordable values based on the percentages of income households are actually spending on housing (from Table IV.7). These figures are based on capital expenditures for housing of around 16 percent of income for urban households and five to seven percent for rural households.

The second column of Table IV.8 contains affordable values based on the assumption that gross housing expenditures comprise 30 percent of urban household income and 20 percent of rural household income. Percentages of recurrent costs from Table IV.7 remain the same. The effective fractions of household income for housing capital are, for urban areas, 20 percent in the lowest quintile to 24 percent in the highest, and, for rural areas, 11 percent for all quintiles except the highest, which is 12.

TABLE IV.8

1985 AVERAGE AFFORDABLE CAPITAL COSTS AND MONTHLY PAYMENTS  
(1983 Col\$)

## URBAN HOUSEHOLDS

	Based on Actual Housing Expenditures <sup>1</sup>	Assuming 30% of Income for Gross Housing Expenditures	Assuming 30 of Income for Housing Capital Expenditures
<b>Average Affordable Capital Cost<sup>2</sup></b>			
Income Quintiles 1	97,350	116,820	177,010
2	168,540	219,840	318,610
3	227,420	310,110	424,810
4	376,670	538,100	708,020
5	1,032,320	1,540,440	1,911,660
<b>Average Affordable Monthly Payment<sup>2</sup></b>			
Income Quintiles 1	2,080	2,490	3,780
2	3,600	4,690	6,800
3	4,860	6,620	9,070
4	8,040	11,490	15,120
5	22,040	33,070	40,820

## RURAL HOUSEHOLDS

	Based on Actual Housing Expenditures <sup>1</sup>	Assuming 20% of Income for Gross Housing Expenditures	Assuming 20 of Income for Housing Capital Expenditures
<b>Average Affordable Capital Cost<sup>2</sup></b>			
Income Quintiles 1	29,320	41,890	77,580
2	42,360	70,590	126,060
3	53,760	97,750	174,550
4	51,320	14,040	203,640
5	93,090	32,730	387,880
<b>Average Affordable Monthly Payment<sup>2</sup></b>			
Income Quintiles 1	630	890	1,660
2	900	1,151	2,690
3	1,150	2,090	3,730
4	1,100	2,440	4,350
5	1,199	4,970	8,280

<sup>1</sup> See Table IV.7

<sup>2</sup> Based on 25 percent interest, 15 year term, and zero down payment.

Source: PACCO Analysis

For urban households, this change has the effect of raising affordable capital costs and monthly payments by 20 to 30 percent in the lower income quintiles and 40 to 50 percent in the upper quintiles. For rural households the effect is stronger. Affordable values rise by 40 percent in the lowest quintile, by 70 to 80 percent in the next two quintiles, and by 120 to 150 percent in the top two quintiles.

The affordable values in the third column of Table IV.8 are calculated assuming a flat 30 percent of income devoted to housing capital for urban households and 20 percent for rural households. This assumption corresponds to the affordability norms generally used by housing institutions in Colombia. The effects of this assumption are quite dramatic. Affordable values for urban households increase by 80 to 90 percent over those based on actual expenditures. For rural households, affordable values roughly triple for the three lower income quintiles and quadruple for the two upper ones.

The heart of the affordability analysis appears in Tables IV.9 and IV.10. Here we present the housing design levels which are within the capacity to pay of each income quintile. The results are presented for each of the three expenditure "scenarios" outlined above.

In Table IV.9 it is evident that the 1,000 UPAC unit (Level 3) is affordable only to urban households in the top 20 percent of the income distribution, given actual percentages of income spent on housing. Assuming that urban households devote 30 percent of their incomes to housing capital expenditures, however, the 1,000 UPAC unit becomes affordable to the top 40 percent of the urban income distribution.

Table IV.9 also shows that, using actual housing expenditure percentages, the bottom 40 percent of the urban income distribution cannot afford even a Col\$220,000 upgrading loan/sites and services plot (Level 1). Households in the middle income quintile can afford only a Level 1 unit. However, using the 30 percent capital expenditure assumption, the second-to-lowest quintile is able to afford a Level 1 unit through 1995 and a Level 2 unit in 2000 and 2005 (because of real income growth). The middle quintile is able to move up to a Level 2 unit.

Rural household affordability is summarized in Table IV.10. The picture is quite bleak with respect to the design levels used in this analysis. None of the units are affordable to any rural households given actual percentages of income devoted to housing. Assuming 20 percent of income for gross housing expenditures (instead of the prevailing 8 to 14), Level 1 units become affordable only to the top 20 percent of households. Affordability improves somewhat if, in addition, recurrent costs are omitted so that the full 20 percent of rural household income goes for housing capital. Under this last scenario, Level 2 units are affordable to the top quintile and Level 1 units are accessible down to the middle income range.

TABLE IV.9  
AFFORDABILITY OF HOUSING DESIGN LEVELS  
URBAN HOUSEHOLDS

	Housing Design Levels Affordable Per Year <sup>1</sup>				
	1985	1990	1995	2000	2005
<b>Based on Actual Housing Expenditures <sup>2</sup></b>					
Income Quintiles 1					
2					
3	1	1	1	1	1
4	2	2	2	2	2
5	3	3	3	3	3
<b>Assuming 30% of Income for Gross Housing Expenditures</b>					
Income Quintiles 1					
2		1	1	1	1
3	1	1	1	1	2
4	2	2	2	2	3
5	3	3	3	3	3
<b>Assuming 30% of Income for Housing Capital Expenditures</b>					
Income Quintiles 1					1
2	1	1	1	2	2
3	2	2	2	2	2
4	3	3	3	3	3
5	3	3	3	3	3

1 Level 3 = Private sector unit of 1,000 UPACs - Col \$674,000 (1983 value).  
 Level 2 = Serviced plot with core unit costing Col \$360,000 (1983 value).  
 Level 1 = Upgrading loan plus value of existing minimal unit or serviced plot with sanitary core costing Col \$220,000 (1983 value).

See Section D.1 of this chapter for additional information.

<sup>2</sup> See Table IV.7

Source: PADCO analysis

TABLE IV.10  
AFFORDABILITY OF HOUSING DESIGN LEVELS  
RURAL HOUSEHOLDS

	Housing Design Levels Affordable Per Year <sup>1</sup>								
	1985	1990	1995	2000	2005				
<b>Based on Actual Housing Expenditures<sup>2</sup></b>									
Income Quintiles 1	NO DESIGN LEVELS AFFORDABLE								
2									
3									
4									
5									
<b>Assuming 20% of Income for Gross Housing Expenditures</b>									
Income Quintiles 1									
2									
3									
4						1			
5						1	1	1	2
<b>Assuming 20% of Income for Housing Capital Expenditures</b>									
Income Quintiles 1									
2						1	1	1	1
3						1	1	1	1
4						1	1	1	1
5						2	2	2	2

<sup>1</sup> Level 3 = Private sector unit of 1,000 UPACs (adjusted for rural area) - Col \$624,000 (1983 value).

Level 2 = Serviced plot with core unit costing Col \$326,000 (1983 value).

Level 1 = Upgrading loan plus value of existing minimal unit; total cost - Col \$143,000 (1983 value).

See Section D.1 of this chapter for additional information.

<sup>2</sup> See Table IV.7

Source: PADCO analysis

Not reflected in the analysis so far is the widespread use of graduated payment systems by BCH and ICT. BCH offers six different graduated payment schemes in its Popular Housing program, and ICT offers three. These systems improve affordability by offering lower monthly payments in the initial years than under a conventional level payment mortgage. Monthly payments increase over time, the assumption being that the mortgage holder's income will increase at a commensurate or faster rate. The graduated payment systems used by BCH and ICT allow households to afford loans from 30 to 100 percent larger than through a level payment system. Monthly payments grow at constant or variable rates, ranging from as much as 18 to as little as 3 percent annually (in some schemes they grow and then shrink).

It is difficult to assess the effects of graduated payment systems on housing affordability in Colombia. On the one hand, they clearly do improve affordability substantially for middle-income households with salaried workers who can expect annual cost-of-living increases. On the other hand, they are not suitable for lower-income households whose members tend not to have steady incomes or job security and which cannot anticipate regular income growth. In general, the probable impact of graduated payments is:

- **Urban areas**  
Under the highest expenditure assumptions, extend affordability of 1,000 UPAC units (Level 3) to the middle quintile of the urban income distribution. Under more modest expenditure assumptions, extend affordability of Level 2 units (core houses) to the middle quintile of urban households;
- **Rural areas**  
Under the highest expenditure assumptions, extend affordability of Level 2 units to the top 40 percent of households. Under lesser expenditure assumptions, make Level 1 units affordable to the top 20 percent.

The fundamental conclusion of this analysis is that the types of housing solutions currently available in Colombia (Levels 2 and 3) are not reaching the poorest 40 percent of urban households even under the most favorable assumptions. The 1,000 UPAC unit, generally considered to be a "popular" solution, is within the reach of only the upper 40 percent of urban households. Level 1 units are potentially affordable down to the next-to-lowest quintile, but this type of solution is not currently offered in Colombia.

For rural households, the results suggest that a completely different approach to housing must be adopted from that used in urban areas. In order to make housing affordable to rural households, construction and infrastructure standards must be drastically lowered to bring down costs.

### 3. Costs of Meeting Housing Needs

The final step in this analysis is to estimate the cost of meeting the housing needs outlined in Table IV.5. Total housing investment is based on providing each household with a minimally adequate Level 1, 2, or 3 unit.<sup>27</sup> The Housing Needs Assessment Model calculates two components of total housing investment:

- The aggregate amount households can afford to pay for the design level units allocated to them;
- The gap between total household investment, based on ability to pay, and the total value of units allocated. This is considered the "subsidy" component.

All households unable to afford a Level 3 unit (1,000 UPACs)—more or less the equivalent of minimal private sector housing—are identified as belonging to a "target group" for public housing policy. The target group may be thought of as eligible for a range of publicly-supported housing programs and/or as potential beneficiaries of new policies to increase the affordability of private housing.

Table IV.11 presents the number of new households in the target group and requiring subsidies in each of four forecast years. Throughout the projection period, 100 percent of rural households are in the target group, since none can afford a Level 3 unit. Between 50 and 60 percent of rural households will require a subsidy to obtain a minimal dwelling unit.

Around 70 percent of urban households are unable to afford a 1,000 UPAC unit over the next 20 years. Through 1995, about 41 percent of urban households require subsidies. In later years, real income growth permits the portion needing subsidies to drop to 23 percent by 2000 and 18 percent by 2005.

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<sup>27</sup>The Housing Needs Assessment Model employs a number of assumptions to allocate units to households as a basis for estimating housing investment costs. The first is that new households and households occupying units scheduled for replacement due to obsolescence are distributed evenly among income quintiles. Second, the Model identifies a "target group" of households unable to afford Level 3 housing (more or less minimal private sector housing). These households may be considered 1) candidates for a range of publicly supported housing programs and/or 2) potential beneficiaries of new housing policies to increase private housing affordability. Units in the base year housing stock that are overcrowded or not built of permanent materials are assumed to be evenly distributed among the income quintiles making up the "target group". Third, the Model allocates Level 1 and 2 units evenly among income quintiles in the target group. Thus some households able to afford a Level 2 unit are assigned a Level 1. Also, some households unable to afford either solution are assigned a Level 1 or Level 2 unit. Finally, all households not in the target group are assigned a Level 3 unit.

TABLE IV.11  
 NUMBER OF NEW HOUSEHOLDS  
 AND PORTION IN PUBLIC POLICY TARGET GROUP  
 (Thousands of Households)

	These figures assume maximum household expenditures on housing capital: 30% of income in urban areas, 20% of income in rural areas			
	1990	1995	2000	2005
<b>National</b>				
Total new households	353.2	394.1	429.1	468.9
Number in target group <sup>1</sup>	280.7	308.9	333.5	361.1
(Percent of total)	(79.5)	(78.4)	(77.7)	(77.0)
Number needing subsidy	164.6	175.6	136.4	133.0
(Percent of total)	(46.6)	(44.5)	(31.8)	(28.4)
<b>Urban</b>				
Total new households	259.3	291.3	317.0	347.6
Number in target group <sup>1</sup>	186.8	206.0	221.4	239.8
(Percent of total)	(72.0)	(70.7)	(69.8)	(69.0)
Number needing subsidy	107.6	120.4	73.8	63.0
(Percent of total)	(41.5)	(41.3)	(23.3)	(18.1)
<b>Rural</b>				
Total new households	93.9	102.8	112.1	121.3
Number in target group <sup>1</sup>	93.9	102.8	112.1	121.3
(Percent of total)	(100.0)	(100.0)	(100.0)	(100.0)
Number needing subsidy	57.0	55.2	62.6	70.0
(Percent of total)	(60.7)	(53.7)	(55.8)	(57.7)

<sup>1</sup>The target group consists of households that cannot afford a Level 3 unit (1,000 UPACs). These households may be considered 1) candidates for a range of publicly-supported housing programs and/or 2) beneficiaries of new housing policies to increase private housing affordability.

Source: PADCO analysis

Total investment requirements for meeting minimum urban and rural housing needs appear in Table IV.12. Total national investment is about Col\$167.7 billion in 1990 and increases at an average annual rate of around 3.4 percent up to about Col\$276.8 billion in 2005 (1983 prices). Investment in urban housing consistently comprises about 89 percent of the national total throughout the projection period.

The figures in Table IV.12 are "optimistic" estimates in that they assume maximum housing expenditures by households (30 percent of income for housing capital in urban areas, 20 percent in rural areas). This means that in Table IV.12 the household expenditure estimates are high and subsidy estimates are low.

In both urban and rural areas the target group requires a subsidy to make up the shortfall between what target households can afford to pay and the design cost of the Level 1 and 2 units they are allocated. Because of rising real incomes, subsidy requirements decline steadily over time in absolute terms and as percentages of target group investment needs. In 1990 subsidies account for about 20 percent of urban and 38 percent of rural target group investment needs. In 2005, these proportions drop to about 12 percent and 24 percent respectively.

In 1983 the total investment in urban licensed ("formal sector") housing in Colombia was about Col\$104.6 billion.<sup>28</sup> Approximately Col\$38.1 billion of this (36.5 percent) was public sector investment (ICT, BCH, and FNA). The rest, about Col\$66.5 billion, was private sector investment through the CAVs. As the figures below indicate, actual 1983 private sector (CAV) investment in licensed urban housing amounted to about 69 percent of the 1990 non-target group investment requirement in urban areas. Actual 1983 public sector licensed housing investment was about 73 percent of the 1990 target group investment requirement. If non-licensed construction is added to the 1983 "formal" housing investment figures below, it appears that total 1983 housing investment (legal plus extra-legal) is comparable to the annual investment required to meet future housing needs.

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<sup>28</sup>CAMACOL, op.cit., p. 29. This investment was distributed as follows: CAV, 63.5%; ICT, 19.6%; BCH, 9.0%; FNA, 7.9%.

	Col\$ (millions-1983)
A. Non-target group investment required for urban areas in 1990	96,557
B. Actual urban licensed private (CAV) housing investment in 1983 B/A (%) = 68.8	66,459
C. Target group investment required (including subsidies) in 1990	52,284
D. Actual urban licensed public sector housing investment in 1983 D/C (%) = 72.9	38,141

This does not necessarily mean that it will be easy for Colombia to meet future housing needs as estimated in this analysis. In the first place, 1983 was a record year in terms of housing investment and output (see Chapters I, II, and III). The insufficiency of internal savings and the economic recession will make it difficult to continue the pace established in 1983. On the other hand, the 1983 performance suggests that obtaining sufficient resources to meet housing needs is not impossible.

Second, the above figures do not take into account rural housing. At the moment the government is paying relatively little attention to rural housing needs. While the rural population is hardly growing, its housing needs are great. An additional Col\$19 billion per year would be needed in 1990 to provide for rural housing.

Third, and most important, while the amount invested in 1983 was high, the output produced by that investment (approximately 100,000 units) represents about one half of the production needed to meet urban housing needs for 1990 (208,000 units; see Table IV.5). Average formal sector unit cost produced remains high (around Col\$1 million). The point here is that for the formal sector to continue increasing its participation in meeting housing needs it will be necessary not only to expand and stabilize aggregate financial resources for housing, but also to reduce further the average unit cost in order to produce larger numbers of more affordable units. Although the Colombian housing institutions have made a good start in this direction, more needs to be done by both the UPAC system and ICT.

TABLE IV.12

## INVESTMENT REQUIRED TO MEET MINIMUM HOUSING NEEDS

(Millions of 1983 Col\$)

	These figures assume maximum household expenditures on housing capital: 30% of income in urban areas, 20% of income in rural areas			
	1990	1995	2000	2005
<b>National</b>				
Non-Target Group Investment <sup>1</sup>	96,557	120,089	144,788	177,600
Target Group Investment <sup>2</sup>	53,608	63,536	73,333	84,000
Subsidy Required for Target Group	17,551	17,466	16,227	15,186
Total Housing Investment	67,716	201,091	234,348	276,786
<b>Urban</b>				
Non-Target Group Investment <sup>1</sup>	96,557	120,089	144,788	177,600
Target Group Investment <sup>2</sup>	41,828	49,020	55,669	62,710
Subsidy Required for Target Group	10,456	10,186	9,085	8,649
Total Housing Investment	148,841	179,295	209,542	248,959
<b>Rural</b>				
Non-Target Group Investment <sup>1</sup>	--	--	--	--
Target Group Investment <sup>2</sup>	11,780	14,516	17,664	21,290
Subsidy Required for Target Group	7,095	7,280	7,142	6,537
Total Housing Investment	18,875	21,796	24,806	27,827

<sup>1</sup> Investment by households that can afford Level 3 units. Non-target group investment includes investment beyond the cost of a Level 3 unit by households who can afford more than this cost.

<sup>2</sup> See Table II.11 for definition of target group. Target group investment is investment by households up to the design level they have been allocated. Does not include investments beyond this level by target group households who can afford more than the design cost.

Source: PADCO analysis

## E. PRINCIPAL CONCLUSIONS

1. Declining average household size will be one of the principal determinants of new housing needs over the next 20 years.
2. While the proportions of dwelling units that are substandard and covered by water supply seem to have remained constant in the last decade, the static figures on housing quality mask a large amount of upgrading that occurs over time.
3. For urban areas, new construction to accommodate household growth accounts for the majority of new construction needs over the next 20 years. The total annual requirement for new units in urban areas is about 208,000 in 1990 and increases moderately to about 300,000 in 2005.
4. New construction needed in rural areas is about 20 percent of the total national requirement for new housing. Adding together rural and urban needs yields a total yearly new dwelling unit requirement of 257,000 in 1990, 298,000 in 1995, 333,000 in 2000, and 373,000 in 2005. These volumes of new construction seem to be within the capacity of the Colombian housing sector.
5. Projected needs for upgrading must also be taken into account. This involves a total of nearly 100,000 units per year (split about evenly between urban and rural). While upgrading does not place the same demand, per unit, on the housing supply system as does new construction, it does represent a substantial additional requirement.
6. The types of housing solutions currently available in Colombia are not affordable to the poorest 40 percent of the population even under the most favorable assumptions. A 1,000 UPAC unit, generally regarded as a "popular" solution, is within the reach of only the upper 40 percent of urban households. A Col\$360,000 "minimal" unit or core house is affordable down to the middle quintile but impossible for the bottom 40 percent of the urban population.
7. For rural households, the affordability picture is quite bleak with respect to the design levels currently available. A completely different approach is needed in rural housing in order to make housing affordable. Construction and infrastructure standards must be drastically lowered to bring down costs.
8. The major Colombian housing institutions offer graduated payment systems, which are designed to improve affordability. Graduated payments can be quite effective for middle-income households with salaried workers who can expect cost-of-living increases. They are not suitable, however, for lower-income households whose members tend not to have steady incomes or job security and cannot anticipate regular income growth.
9. The total investment requirement for meeting minimum urban and rural housing needs is estimated to be about Col\$167.7 billion in 1990 (1983

prices). This cost increases to about Col\$276.8 billion in 2005. This may be compared with the actual 1983 investment in urban licensed ("formal sector") housing of about Col\$104.6 billion. Taking into account that this figure omits all unlicensed construction, it seems that the investment levels needed to meet future housing needs may be comparable to 1983 housing investment levels (legal plus illegal).

10. While the amount invested in 1983 was high, the formal sector produced only about half the units needed to meet urban housing needs in 1990. For the formal sector to continue increasing its participation in meeting housing needs it will be necessary to reduce further the average unit cost in order to produce greater numbers of more affordable units. This means a stronger emphasis on lots with sanitary cores, sites and services, and upgrading.

#### F. NOTE ON HOUSEHOLD INCOME ESTIMATES

The most recent reliable estimates of household income for Colombia come from the World Bank's 1978 "City Study" of Bogota and Cali. Subsequent household surveys carried out by DANE in various cities substantially underreport income levels. In addition, there is a total absence of recent household income data for the rural population.

To estimate average household income for this analysis, we began with an estimate of aggregate national personal income for 1980 from the Banco de la Republica. This figure was projected forward to 1985 (in 1983 prices) using a 1980-83 inflation factor and 1980-85 GDP growth factor derived from official data and unofficial World Bank estimates. We then divided the 1985 total personal income figure by an estimate of 1985 total population (see Table A.25). This yielded 1985 personal income per capita. To transform this figure into household income, we multiplied it by the estimated 1985 national average household size (5.16). The final step was to break this down into separate urban and rural household income estimates. The only reliable index available of the urban-rural income differential came from the 1972 DANE Income and Expenditure Survey. We derived an index from the data in this source and applied it to the overall household income figure. This yielded the 1985 urban and rural household income averages used in our housing needs and affordability analysis.

New, more direct estimates of household income could come from the planned 1985 Census and from future household surveys. In both cases, however, the income questions would need to be improved to obtain more valid and reliable data.

## V. URBAN DEVELOPMENT

### A. URBAN GROWTH

Colombia became a predominantly urban country in the mid-1960s. In recent decades the urban population has been growing rapidly, while the rural population has grown very little. In 1983, two thirds of Colombia's population, about 17.7 million people, lived in urban areas (see Table V.1).

While urban growth remains high--the 1973-83 annual rate was 2.6 percent--both urban and rural population growth rates have been declining significantly. The general population growth rate was below two percent per year in the last decade, down from 2.6 percent in the 1964-73 intercensal period. The slowing of national population growth is projected to continue over the next two decades. DNP estimates that the urban population will grow at about 2.6 percent per year over the next 10 years, then slow to a rate of about 1.8 percent through 2003. The rural population is reaching a virtual zero growth rate. Colombia should be almost three-quarters urban by the turn of the century.

Table V.2 presents population data for Colombia's 30 largest cities. These cities currently represent 75 percent of the nation's urban population. Together, they grew at an average annual rate of 3.5 percent in 1973-83, much faster than the urban population as a whole. The four largest cities--Bogota, Medellin, Cali, and Barranquilla--are a distinct group, all of them having over one million inhabitants. These four cities accounted for 47.4 percent of the total 1983 urban population and have been producing about two-thirds of national value added in industry.<sup>29</sup>

The future urban population distribution is not expected to change significantly. The four largest cities will increase their share of urban population to about 50 percent by 2003. Regionally, the urban population will continue to be concentrated in the departments with the highest relative economic development levels: Antioquia, Atlantico, Valle, and the Bogota Special District. These four areas had about 57 percent of the urban population in 1983 and are projected to have about 60 percent in 2003.

### B. URBAN PLANNING AND MANAGEMENT

The National Planning Department (Departamento Nacional de Planeacion, DNP) is the pivotal urban planning and management agency in Colombia. Unlike most planning agencies, DNP has the authority to formulate an integral public investment plan and budget based on its review of sectoral investment proposals. DNP serves as the technical secretariat to the National Economic and Social Policy Council (Consejo

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<sup>29</sup>World Bank, Urban Policy in Colombia: Selected Issues and Some Directions for Change, Report No. 4916-CO, January 1984, p.5.

TABLE V.1

COLOMBIA: URBAN AND RURAL POPULATION 1964-2003  
(Population in Thousands; Growth in Average Percent Per Year)

YEAR	National		Urban <sup>1</sup>		Rural		Percent Urban
	Population	Growth	Population	Growth	Population	Growth	
1964 (Census)	17,905	2.6	9,328	4.1	8,576	0.7	52.1
1973 (Census)	22,572	1.9	13,430	2.8	9,142	0.4	59.5
1983 (Estimate)	27,239	1.8	17,712	2.6	9,527	0.2	65.0
1993 (Projected)	32,614	1.3	22,841	1.8	9,773	0.1	70.0
2003 (Projected)	37,228		27,313		9,915		73.4

<sup>1</sup> "Urban" is defined as the population living in municipal centers ("cabeceras municipales").

Source: DNP and World Bank

TABLE V.2

POPULATIONS OF THE 30 LARGEST CITIES AND AGGLOMERATIONS  
(Thousands)

	1951	1964	1973	Average Annual	1983	Average Annual	1993	2003
				Growth Rate 1964-73		(Estimado)		
Bogota, D.E.	660	1,661	2,838	6.1	3,900	3.2	5,200	6,300
Medellin, Valle de Aburra	395	943	1,459	5.0	2,071	3.6	2,765	3,495
Cali, Yumboc	246	663	987	5.1	1,352	3.2	1,816	1,976
Barranquilla, Soledad	296	531	761	4.1	1,074	3.5	1,455	1,806
Bucaramanga	107	225	363	5.5	504	3.3	653	804
Cartagena	111	218	308	3.9	415	3.0	532	653
Pereira, Santa Rosa, Dos Quebradas	90	179	256	4.0	345	3.0	437	534
Cucuta	70	147	231	5.2	343	4.0	457	559
Ibague	54	125	200	5.4	288	3.7	370	442
Manizales, Villamaría	92	196	214	1.0	231	0.8	243	250
Armenia, Calarca	75	155	181	1.7	193	0.6	209	216
Pasto	49	83	128	4.9	189	4.0	261	343
Valledupar	9	44	96	9.0	181	6.5	305	464
Palmira	54	106	142	3.3	179	2.3	214	245
Villavicencio	17	45	86	7.5	158	6.3	251	363
Buenaventura	36	70	109	5.0	156	3.6	209	267
Monteria	24	70	103	4.4	138	3.0	168	191
Neiva	33	76	108	4.0	134	2.2	159	183
Tulua	29	57	86	4.7	127	4.0	171	218
Barrancabermeja	25	60	91	4.7	123	3.1	153	182
Santa Marta	37	89	109	2.3	123	1.2	144	157
Sincedejo	22	44	81	7.0	122	4.2	156	164
Popayan	32	58	77	3.2	99	2.5	121	143
Cartago	31	56	72	2.8	89	2.1	105	121
Buga	32	66	75	1.4	84	1.1	92	100
Girardot	36	67	61	-1.0	83	3.1	107	130
Sogamoso, Nobaa	14	35	53	4.7	75	3.5	99	119
Tunja	23	40	54	3.4	71	2.8	89	107
Richacha	6	12	22	7.0	40	6.2	65	96
Quibdo	9	20	29	4.2	39	3.0	51	63
TOTAL	2,711	6,117	9,380	4.9	13,205	3.5	17,348	21,241

Source: DNP and World Bank

Nacional de Política Económica y Social, CONPES), the executive branch's highest decision-making body. DNP plays a major role in determining annual budgetary targets for sectors, evaluating sectoral plans, and preparing the final budget for presentation to Congress. The Department also takes the lead in preparing the national government's four-year economic plans.

DNP also has extensive technical assistance and research responsibilities. Its various divisions work with agencies at the central, departmental, and municipal levels in the preparation of plans, studies, and manuals.

DNP's Regional and Urban Development Unit is responsible for the housing sector. The operation of this Unit reflects the way DNP works generally. The Unit maintains linkages with central agencies and "decentralized" (semi-autonomous) public enterprises (empresas), at each level of government (central, departmental, and municipal). At the national level, the Urban and Regional Development Unit maintains links with BCH and ICT on housing matters and with the planning offices of each ministry and national utility agency. At the regional and local levels, the Unit coordinates directly with departmental and municipal planning offices, regional branches of the central ministries and empresas, and regional development corporations.

There is practically no participation by departmental or municipal governments in the overall budget planning process, despite their heavy reliance on central revenue transfers and the tremendous influence of central programming on local development. DNP started just this year to implement a mechanism for bringing regional offices of central government agencies into the budget planning process. Under this system, Departmental Planning Offices are responsible for pulling together 1985 investment plans based on consultations with local representatives of central agencies.<sup>30</sup>

As in many other countries, local government in Colombia has little authority, weak finances, and limited administrative and technical capacity. The exceptions to this are the largest cities, especially Bogota, Medellin, and Cali, whose governmental and financial systems are stronger than those of many departments. Sections C and D below discuss the main issues related to local government planning and management.

In recent years the problem of regulatory "bottlenecks" has been recognized as an important urban management issue in Colombia, particularly with respect to the housing sector. The Housing Policy section of the 1983-86 National Development Plan makes reference to this twice. First, the Plan remarks on "the enormous harm that has been caused by the process for granting subdivision and construction permits", which can take up to 30 months. The permitting delays, says the Plan, have raised housing costs and encouraged illegal construction. Second, the Plan recognizes a need to simplify the "procedures, requirements, and specifications" of a multitude of agencies, including public works departments, planning offices, public utility

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<sup>30</sup>DNP, Participación Regional en la Programación de la Inversión Pública Nacional, Unidad de Desarrollo Regional y Urbano, January 1984.

enterprises, municipal and national cadaster offices, and the Superintendencia Bancaria (which regulates subdivisions).<sup>31</sup>

The interconnectedness of regulations creates major difficulties. For example, public utility companies will not provide service connections unless the property has a clear title. Obtaining legal title requires considerable documentation and, as the World Bank points out, "can founder on such technicalities as the failure of previous owners to pay back taxes".<sup>32</sup>

While much has been said and written about the need to reform urban development regulations, so far there is little sign of significant efforts in this direction.

### C. NATIONAL URBAN POLICY

With the advent of the Betancur government, the focus of urban policy in Colombia has shifted away from spatial distribution per se and toward institutional issues. Specifically, the current administration's major stated concern in this area is strengthening the authority and capacity of local government. The 1983-86 National Development Plan's Housing Policy section contains several references to this objective, though it doesn't say how it will be accomplished. So far, the principal step in this direction has been passage of Law 14 of 1983, designed to reform local public finance (see Section D below).

The Betancur administration has identified three geographical areas in which it wishes to undertake special development efforts. One is the "frontier", which comprises most of the local jurisdictions bordering on Venezuela, Brazil, and Ecuador. In December 1983 the government issued two decrees which form the "Special Statute for the Frontier Zones". A new Secretariat for Frontier Affairs was set up in the Office of the President. The border areas were singled out for attention because of the collapse of commerce with neighboring countries, on which the zones have depended. The government has put together a traditional package of measures intended to promote development in the frontier areas:

- A special public investment program based on a directive that at least 10 percent of all public agencies' investment must go to the frontier;
- Special credit programs for frontier localities;
- Tax breaks for private investment in the frontier;
- Intensification of existing government social programs in the area.

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<sup>31</sup>DNP, "Politica de Vivienda" in Cambio con Equidad, Plan de Desarrollo 1983-1986, p. 122 and 129.

<sup>32</sup>World Bank, op. cit., p. 68.

The other two zones which are being given priority are the Atlantic and Pacific Coasts. The 1983-86 plan includes investment programs for each of these areas. The Regional Development Plan for the Pacific Coast contains a Col\$25 billion investment program and is institutionally structured around DNP, with execution by four existing Regional Development Corporations. The Atlantic Coast Plan is more ambitious, setting out a Col\$356 billion investment program and involving a multitude of institutions at all levels of government<sup>33</sup>.

While laudable insofar as they rise above individual departmental concerns and, especially in the case of the Frontier, address understandable problems, these three plans suffer by being disconnected from budgetary and institutional realities. For example, the investment programs in both regions are simply proposals. There is no guarantee that the resources called for in the plans will actually be made available. More importantly, though, it is not clear whether or not the investment levels were determined on the basis of realistic estimates of the costs of accomplishing the stated economic development objectives. Moreover, there is no indication of how the investment programs relate to national budget priorities. Are the resources to be dedicated to the three regions being taken away from other programs? What national or local objectives must be sacrificed in order to boost development in these three areas?

One further spatially-oriented policy of the current government deserves mention. The government has placed a limit on the proportion of private housing investment to be made in Bogota. According to Decree 2928 of October 1983, the Savings and Loan Corporations may place no more than 40 percent of their housing credit in Bogota as of June 30, 1984. Loans of less than 1,300 UPACs are excluded from the 40 percent limit. In the absence of data on past CAV investment by location, we are unable to judge the potential impact of this regulation. Previous governments, it should be noted, have also taken similar measures, with unclear results.

#### D. MUNICIPAL DEVELOPMENT

As noted above, while the 1983-86 Plan emphasizes strengthening local government, few concrete measures have been taken in this direction. No new training or technical assistance programs for municipal or departmental government have been initiated in the past two years. There does exist a joint DNP-ESAP local government training program dating from 1982. In that year DNP also published some manuals designed to help municipalities prepare legally-mandated "integrated development plans".

In fairness, however, it should be pointed out that at the very beginning of its administration, the Betancur government attempted to introduce significant reforms in municipal and departmental finance. At the end of 1982 and in early 1983 the

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<sup>33</sup>DNP, "Planes Regionales de Desarrollo: Costa Atlantica y Costa Pacifica", in Boletin de la Planeacion, No.1, January 1984, pp. 33-38.

government issued a total of 15 decrees intended to increase the revenue-raising capacity of local governments and dedicate a larger share of central government transfers to the poorer localities. The effort was short-lived, however. The Supreme Court declared all but two of the decrees invalid.

The municipal government share of public sector revenues remained constant throughout the 1970s at about 20-25 percent. However, the proportion of municipal current income coming from local taxes fell between the late 1960s and late 1970s from one third to one fifth. Much of this decline was due to central government tax and tariff policies which made municipal revenue collection more difficult. Smaller municipalities compensated by relying more on central government transfers, larger ones by increasing collections of non-tax revenue. In 1978, municipal governments overall obtained nearly 60 percent of their revenues from non-tax sources, mainly in the form of income to the municipal "decentralized" enterprises (public service and utility companies).<sup>34</sup>

Law 14, passed in July of 1983, was designed to increase tax revenues of local governments by: 1) increasing departmental and municipal capacity and authority in the area of tax administration; and, 2) reforming local taxes to improve their yields. The law deals with all significant local taxes including property, industry and commerce, vehicles, cigarettes, advertisements and billboards, gasoline, and tobacco.

The main problem with Law 14 is that while it does improve local government revenue generation, it does not address the redistribution of central government transfers to the poorer localities. Among other things, it was found that changing the allocation of the main source of transfers, the "situado fiscal" (a fixed portion of central government revenues that are distributed to localities for education and health) could not be done without a constitutional amendment. As a result, Law 14 has been criticized for benefitting the richer municipalities and departments--which are in a position to take maximum advantage of the reforms and tend to have the administrative capacity to do so--without helping the poorer localities.

It remains to be seen what effect Law 14 will have on municipal finance and development. Its reforms, however imperfect, need to be accompanied by intensified efforts to improve the planning and management capacity of local government agencies and personnel.

## E. INFRASTRUCTURE

For this report, we were not able to carry out an in-depth analysis of infrastructure as it relates to housing. The discussion that follows focuses on the water and sewer subsector and on BCH's Finance Fund for Urban Development (Fondo Financiero de Desarrollo Urbano, FFDU). This preliminary review suggests that a much more careful analysis of infrastructure provision and institutions should be carried out to obtain a realistic assessment of:

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<sup>34</sup>World Bank, op. cit. pp. 99-125.

- The extent to which infrastructure will be available to support future housing programs;
- How to overcome the serious financial and institutional problems affecting the infrastructure sector.

The continuing decline in population growth rates will help make it easier to overcome existing infrastructure deficits. However, as some of the data below indicate, the magnitude of the immediate problems should not be underestimated. Water and sanitation deficits are serious, and it will be difficult to find the resources needed to deal with them. For the medium to long run, there are real questions to be faced about the financial viability of infrastructure institutions. Also, as population growth slows, the emphasis will shift from construction of new networks to maintenance and upgrading of existing ones. This will require greater managerial capacity and better information systems.

### 1. Coverage

According to a recent analysis by INSFOPAL (National Institute for Municipal Development), the central agency that finances and supervises local water systems, about 71 percent of the urban population currently has access to piped water. About 61 percent is covered by sewer systems.<sup>35</sup> This coverage estimate for water is lower than that obtained in DANE's 1981 National Survey of Food, Nutrition, and Housing (89 percent of urban households). While it is not possible for us to judge which estimate is more accurate, it is safe to say that water supply coverage in urban areas has not improved in the past three years and probably has declined.

Rural water supply coverage was approximately 14 percent of the population in 1978 and climbed to 17 percent in 1981, according to studies by DNP. While water supply coverage in rural areas is generally low, it is much better in rural settlements ("poblacion nucleada"), where it was 44 percent in 1981, than among dispersed rural people ("poblacion dispersa"), for whom it was 6 percent.

These coverage figures do not tell the whole story. While around two-thirds of the national population has access to piped water, only 29 percent have water of guaranteed quality. Another 36 percent have piped water with incomplete or nonexistent treatment. The rest obtain water from venders, wells, rivers, and other sources of uncertain quality.<sup>36</sup>

Water supply coverage also varies greatly by locality. Among municipalities served by local water companies (empresas) affiliated with INSFOPAL, population coverage averages only 54 percent (Bogota, Cali, and Medellin, which

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<sup>35</sup>INSFOPAL, Situacion y Proyeccion Financiera del Instituto Nacional de Fomento Municipal y Sus Empresas, May 1984, Table 1.

<sup>36</sup>INSFOPAL, op. cit., p. i.

have their own independent water companies, are excluded here). However, coverage ranges from less than 25 percent in the Departments of Arauca, Caqueta, Bolivar, Huila, Risaralda, Meta, and La Guajira to over 85 percent in the Departments of Cundinamarca, Valle, and Santander.<sup>37</sup>

Electricity reached 87 percent of urban dwellings and 15 percent of rural dwellings in 1973, according to the Census. DANE's 1981 Food, Nutrition, and Housing Survey found that 96.5 percent of urban and 15 percent of rural households lived in dwellings with electricity. However, the apparent improvement in urban electricity coverage actually represents a large expansion of illegal or shared use and a drop in legal coverage. According to DNP's Energy Division, official electrification covered only 75 percent of the 1981 urban population.

## 2. Infrastructure Institutions

### INSFOPAL

The National Municipal Development Institute (Instituto Nacional de Fomento Municipal) is responsible for financing local water supply and sewerage systems in cities of over 2,500 people. INSFOPAL also finances solid waste projects, slaughterhouses, and markets. In addition to providing financing, the Institute prepares plans and studies, provides technical assistance to local agencies, and sets design standards for infrastructure.

INSFOPAL, which is part of the Ministry of Health, operates through local water supply agencies--Empresas de Obras Sanitarias (EMPOS) and Sociedades de Acueductos y Alcantarillados (ACUAS). These organizations, which exist at the departmental and municipal levels, are independently managed but financially and technically dependant on INSFOPAL. Through them INSFOPAL is responsible for water supply to about seven million people (41 percent of the urban population).

INSFOPAL is heavily dependent on central government subsidies for its operating expenses and debt service. In 1981-82 treasury transfers were needed to cover 75 percent of operating costs and 70 percent of debt service. Three-quarters of INSFOPAL's current assets consist of loans to Empresas which are in arrears. A recent analysis by the Institute's Planning Office indicates that current investment levels will meet only a small fraction of basic water supply needs in localities under INSFOPAL's jurisdiction.<sup>38</sup>

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<sup>37</sup>INSFOPAL, op. cit., Table 2.

<sup>38</sup>INSFOPAL, op. cit., pp. 5-9

### **Local Water Enterprises**

The "Empresas" are responsible for operating and maintaining water supply and sewer systems in departments and municipalities. The financial situation of the Empresas as a whole is poor and deteriorating. Out of a total of 40 Empresas, 31 had current account deficits in 1983. In that year alone the deficit totalled Col\$613 million, compared with an accumulated deficit prior to that of Col\$751. The annual Empresa deficit is expected to grow to Col\$736 million in 1984 and Col\$884 million in 1985, making the accumulated deficit up to that time Col\$2,984 million. The main reasons for these problems are the Empresas' inability to recover costs due to inefficiency and inadequate collection as well as high rates of water loss and waste. This year, INSFOPAL initiated a program under World Bank financing to improve the management and operational capacity of the Empresas. Called FOREC (Programa de Fortalecimiento de los Organismos Ejecutores), the program aims to develop new financial, operational, and administrative systems and to test them in selected Empresas.

### **Autonomous Local Water Enterprises**

A number of the larger cities have their own water supply agencies not affiliated with INSFOPAL. These include Bogota, Cali, and Medellin. In the case of Bogota's water Empresa, debt service as a percentage of total expenditure has been growing faster than investment. The current account deficit has also been growing, reaching an accumulated total of Col\$1,686 million in 1983. In recent years investment has been financed mainly through credit rather than internal resources. In addition, new credit is being used to refinance older credit, often at harder terms.

### **INS and Regional Corporations**

The National Health Institute (Instituto Nacional de Salud, INS), under the Ministry of Health, is responsible for water supply in rural areas. It works through local offices at the departmental and municipal levels. The various Regional Corporations also carry out special water supply projects and manage area-wide water resources. The Corporations are multipurpose agencies supervised by DNP.

### **FFDU**

The Finance Fund for Urban Development (Fondo Financiero de Desarrollo Urbano, FFDU) is a unit of BCH. FFDU has the authority to finance a wide range of infrastructure works: water, sewer, streets, solid waste systems, parks, markets, slaughterhouses, transport terminals, small-scale electric distribution networks (tied to other works), telephone networks in small and medium sized cities, and in some cases natural gas distribution systems. FFDU borrowers may include departments, municipalities, local utility enterprises, regional corporations, or other local public organisms. The Fund lends through financial intermediaries which may be commercial banks or finance corporations.

In principle, FFDU-financed projects must be part of Integral Urban Development Plans; however, many municipalities lack the ability to prepare such plans. FFDU tries to give preferential treatment to small and medium

sized cities in allocating its resources, but this is difficult. The local entities that borrow from FFDU must be capable of assuming debt, presenting technically and financially viable proposals, implementing projects, and operating the new systems. As a result FFDU operations have been concentrated in the more prosperous departments and cities where the highest levels of local technical and financial capacity exist. In 1983 FFDU initiated a program to provide assistance to local agencies in preparing project proposals for FFDU financing.

Seventy percent of FFDU's lending to date has been for water, sewer, and streets. As of May 1984 FFDU had a portfolio of 88 loans totalling Col\$18 billion. Sixty-two of these loans--comprising 233 separate projects--were in execution. FFDU's principal sources of funds are Constant Value Bonds (Bonos de Valor Constante), emitted by the Social Security Institute, and the national treasury, which last year granted FFDU a major credit for "economic reactivation". Other sources of funds include external credits from the Interamerican Development Bank and the Kreditanstalt fur Wiederaufbau.

In essence, the effectiveness of FFDU is limited by local government management and financial capacity, especially that of the public service enterprises. FFDU could play a greater role in urban development by helping localities to improve their handling of public finances and to upgrade technical skills.

The potential for FFDU involvement in financing infrastructure upgrading should be explored. We are aware of a special project in which FFDU is involved to upgrade water and sewer systems in Bogota. Apparently, financing is offered through contracts (convenios) with local groups to carry out infrastructure upgrading by means of self-help. There should be an effort to document this experience and identify mechanisms for similar efforts.

## F. PRINCIPAL CONCLUSIONS

1. In recent years the problem of regulatory bottlenecks has been recognized as an important urban management issue in Colombia, especially with respect to the housing sector. The 1983-86 National Plan makes reference to the need to streamline urban development regulations to encourage more private investment in new housing and to promote upgrading through more agile titling procedures. However, there have been few concrete efforts in this direction.
2. The current administration's major stated urban policy concern has been strengthening the authority and capacity of local government. So far the principal step in this direction has been passage of Law 14 of 1983, which was intended to increase tax revenues of local governments. Public finance reforms need to be accompanied by intensified efforts to improve the planning and management capacity of local government agencies and personnel.

3. Existing deficits in urban infrastructure are large and have not declined in recent years. The financial situation of INSFOPAL, its affiliated Empresas, and the other autonomous local water agencies is poor and deteriorating. Thus it is likely that any attempt to continue the higher volumes of housing production reached in 1983 would very quickly run into a major bottleneck caused by lack of supporting urban infrastructure. A more careful review of infrastructure provision and institutions is needed to obtain a realistic assessment of:
  - The extent to which infrastructure will be available to support future housing programs;
  - How to overcome the serious financial and institutional problems affecting the infrastructure sector.

## VI. HOUSING TECHNOLOGY ISSUES

### A. COMPONENTS OF SHELTER COST

Shelter costs can be divided into the following components: direct costs, made up of land acquisition, urbanization works, and housing construction, and indirect costs, consisting of supervision, financial charges, and administrative charges. These, together with institutional policies on subsidies and financing terms, determine the final prices of housing units.

According to information from various projects surveyed in the field and data from studies by CENAC and other institutions, in Colombia land represents approximately six percent of total production costs, urbanization works (site preparation and infrastructure) represent close to 25 percent, unit construction is about 55 percent, and the remaining 14 percent is allocated to indirect costs.

Within this general framework there are wide variations between public and private developers, small and large-scale builders, and between ICT and the UPAC system institutions. A simplistic approach to cost reduction - such as one that focuses only on the technological aspects - will not have a significant impact. A 1979 study by CENAC raises the question of whether reductions in building costs benefit developers more than buyers.<sup>39</sup> The answer is not clear. Reductions in unit size and specifications do help reduce costs, but in the late 1970s unit sales prices increased significantly faster than construction costs in Bogota and Medellin.

There is recognition in Colombia of the effects of urbanization and housing construction standards on costs and the difficulties they pose for planning, designing and building projects affordable to lower-income families. A number of studies in Colombia argue in favor of "more realistic" standards, since the present standards have been "imported" from more developed countries and are viewed as not suitable for Colombia's reality.<sup>40</sup> In Bogota, a set of "minimum norms" development regulations was enacted in the late 1970s. These were intended to facilitate private sector development of low-cost sites and services projects. However, few minimum norms projects have been realized, partly because it is difficult to obtain the necessary approvals and permits for them. The minimum norms are widely viewed as inappropriate and as leading to higher maintenance and upgrading costs.

A greater effort at redefinition of minimum urbanization and housing standards seems necessary in order to effectively implement more affordable solutions such as sites and services and upgrading schemes on a larger scale.

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<sup>39</sup>CENAC, Costos de Edificación, CEN 54-79, Bogota, Mayo de 1979. P. 36-37.

<sup>40</sup>For example, see Consultecnicos S.A., Estudio de Normas Mínimas de Urbanización, Servicios Públicos y Servicios Comunitarios; la. Parte: Normas Físicas y Aspectos Generales, Informe Básico y Completo, ICT. Bogota, 1971.

Another widely recognized constraint in efficient shelter production is the complexity of the legal and administrative procedures required to obtain permits and licenses for urbanization and construction. This problem is reflected in higher production costs which are paid by the users of formal shelter (private and public). In this regard a recent World Bank report says, "A key supply constraint in increased shelter production is the issue of building permits and their social usefulness in regulating construction in neighborhoods housing the poorer half of the population. Land subdivision and construction activities usually require permission from municipal authorities, which are meant to approve plans, charging fees and licenses to subdivide and build. In the absence of the appropriate licenses, public utility corporations may not be able to provide house connections...No purpose seems to have been served by encouraging evasion of regulations that cannot be enforced."<sup>41</sup>

The Colombian government has recognized these facts. The 1983-86 Development Plan proposes changes in policy in the urban sector which would simplify urban administrative procedures, especially those involving subdivisions and construction permits. So far, however, little concrete action has been taken.

#### **B. FORMAL SECTOR SHELTER PRODUCTION AND THE SELF-HELP CONSTRUCCION PROCESS**

It is an admirable fact that Colombia's formal sector shelter industry has put an enormous effort into researching and testing many different aspects of the physical shelter production process. There are numerous publications available on technical matters that range from the most sophisticated industrialized process (locally produced as well as imported), to the rationalization of vernacular/traditional materials and technologies. These research efforts have been oriented mainly to the search for reductions in construction costs through technical means. The historical tendency in Colombia has been to seek cost-saving through capital intensive techniques that would generate economies of scale; yet, it is recognized that the massive production of "low-cost housing units" has not had an impact on reaching the lowest-income sectors of the population. It is through the informal sector or self-help ("auto-construccion") process that the majority of these families are meeting their needs for shelter (See Chapters I and IV of this report).

The key point to be made is that while self-help is now recognized in Colombia as a legitimate approach to shelter construction, the "progressive" or "incremental" development aspect is not. The product of self-help construction is still viewed in the traditional way - a finished unit to be built entirely of "quality" materials in as short a time as possible - with the only difference being that the owner and his family provide a good part of the labor. With progressive development, which is widely practiced in Colombia, the owner builds his house incrementally according to his own resource availability. This has obvious cost-reduction effects from the owner's standpoint. The important thing is that progressive development is of most benefit to

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<sup>41</sup>World Bank, Urban Policy in Colombia: Selected Issues and Some Directions for Change, Report No. 4916-CO, January 1984, P. 67.

lower-income households that do not have salaried workers and whose incomes are not secure. Assistance for progressive development by Colombian housing institutions means officially accepting the existence and legitimacy of unfinished units, something that is difficult in Colombia. However, some steps have been taken in this direction, notably BCH's "Plan Terrazas" a special credit program for those wanting to add second or third floors onto their houses.

### C. THE EXPERIENCE OF CALI: KEY ISSUES AND OPPORTUNITIES

In response to its new mandate to address the shelter problems of lower-income families, BCH prepared in 1982 a document, "Esquema Para una Célula de Desarrollo Urbano en Asentamientos Populares"<sup>42</sup>, which constituted the base for implementation of a new housing policy and set off a search for a pilot application in one of the major cities.

Cali was the first city chosen for the pilot project due mainly to the existence of an appropriate institutional framework. The general objective of this project was the coordinated execution of a community development program through the provision of services and the construction of basic housing units for lower income families.

What is particularly significant about this project is the fact that an "Inter-Institutional Agreement" was reached whereby a coordinating body and an administrative structure were created involving representatives of the various agencies connected with the project. The Agreement was designed to focus attention on the project, avoiding institutional obstacles and overlappings, and allowing unified action among central, municipal and private agencies.

The roles and responsibilities of the institutions under the Agreement are as follows:

- BCH: Allocates individual loans for the construction and consolidation of housing units; provides credit for the purchase of materials; and promotes savings.
- Fundacion Carvajal: Operates a construction materials distribution center ("Centro de Acopio"), in coordination with the loan and credit allocations of BCH, with the objective of offering materials at lower costs; and coordinates community development efforts.
- INVICALI (Municipal Urban Development Agency): Provides the land and the basic infrastructure services needed for the program according to guidelines of the Municipal Planning Department; provides for legal tenure and technical assistance to the participants of the projects; and administers the selection of participants and housing occupancy.
- SENA (National Training Service): Provides technical assistance and training in self-help construction and supervises the construction process.

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<sup>42</sup>"Framework for an Urban Development Module in Lower-Income Settlements".

Two projects are currently in progress under the agreement; El Poblado, an upgrading project, and El Vallado, a new unit construction project.

El Poblado is an already established neighborhood of about 2,000 lots. Average lot size is around 76 square meters. The inter-institutional project provides credit for purchase of the lots from INVICALI (which owns the land) and for dwelling unit construction or upgrading. As of May 1984 422 loans had been authorized, with an average loan value of Col\$340,292.

El Vallado is a new housing development which is referred to inaccurately by BCH as a sites and services project, but which is actually a project of lots with mandatory construction of relatively high-standard units. Owners may choose to build through self-help, individual contracting, associative contracting, or some combination of these. The total number of units is about 3,400, with an average lot size of 92 square meters. As of May 1984 1,290 loans had been authorized, with an average loan value of Col \$603,716.

The following seem to be the main issues arising from the Cali experience to date:

- The "Acuerdo" is important as an example of a means for focusing the attention and the efforts of national institutions on the local level and on the shelter problems of low-income families;
- The institutions involved in the Acuerdo have gained valuable experience in planning, coordinating, and implementing new approaches to the housing problem;
- Some of the key elements of the projects seem to offer significant breakthroughs from traditional approaches to the shelter sector. These include the credit program for construction materials; the technical assistance on construction methods; the operation of the construction materials distribution center; and the communal organization and participation programs.
- Even though the objectives were to reach lower-income families, data on average loan amounts and observation of the types of units being built in both projects suggest that they are actually reaching lower-middle to middle income families. The unit and infrastructure standards for both projects are traditional (e.g. extensive use of masonry and individual water and sewer connections).

#### **D. PRINCIPAL CONCLUSIONS**

1. Even though direct construction represents the highest percentage of total cost in shelter production, efficiencies in both indirect and direct costs are needed in order to achieve real cost reductions.
2. Any cost reduction achieved in the building process may not be considered a cost-saving solution if this reduction is not reflected in the final unit price and in the final monthly payments to the user.

3. The selection of appropriate urbanization and construction standards must be tied to affordability criteria from the very beginning of the planning process. Appropriate standards are a key element to consider in cost reduction.
4. The formal sector of the shelter industry has researched and experimented with various means to achieve reductions in construction costs through technological innovation, with some measure of success. However, these efforts have not led to the development of units affordable to the lowest 40 percent of the urban income distribution. The bulk of the low-income population meets its housing needs through self-help and progressive development, usually outside the regulatory framework.
5. Since self-help and progressive development are so widespread in Colombia, the formal sector should incorporate aspects of these approaches in order to reach lower-income groups. BCH's "Plan Terrazas" is an example of this.
6. The institutional experience being gained through the "Acuerdo Inter-Institutional" in Cali in coordination, planning and implementation of upgrading and sites and services components is laying a good foundation for future innovation in lower-cost shelter programs and delivery mechanisms.
7. Better access to housing for lower-income groups will require more than quantitative production targets. Also needed will be practical measures for efficient project planning and design; community participation in construction and maintenance of housing and infrastructure; improved techniques for the selection of project beneficiaries and housing occupancy; effective materials loan programs and technical assistance; reliable mechanisms for cost control and recovery; and monitoring and evaluation programs.

## VII. SELF-HELP HOUSING ASSOCIATIONS

### A. CURRENT SITUATION

Self-help housing associations have existed in Colombia for a long time. In the last two years, however, the associative self-help housing "movement" has received an unprecedented level of official recognition. The 1983-86 National Development Plan includes several paragraphs supporting the strengthening of self-help housing groups through technical assistance and credit. In 1983 a national organization of self-help housing associations ("Construyamos") was officially sanctioned. In addition, the government declared 1984 as "The Year of Self-Help Housing". Finally, the Presidential Adviser for Housing has made numerous speeches and public statements praising the contributions of grass-roots housing associations.

There are no solid data on the extent of the associative housing movement, but indications are that it is large. Based on information from its affiliated groups and community leaders, Construyamos says it has identified at least 600 self-help housing associations. DIGIDEC, the government agency that coordinates assistance to community groups, conducted a partial survey in late 1982 that uncovered 224 groups. The most often-heard figure on the number of units produced by associative self-help groups is 50 to 60 thousand per year. Groups vary widely in size, from as small as 15 to as large as 1,000 or more members.

Housing associations are found in urban and rural areas. The urban groups tend to be larger, better organized, and more affluent. The groups are usually organized as associations, cooperatives, neighborhood councils ("juntas comunales"), labor unions, or employees of a particular organization. The majority of housing associations receive no help from governmental agencies, despite recent outreach efforts.

Because of the management requirements of establishing and operating a housing association, most self-help groups rely on assistance from non-profit organizations or other voluntary services. These provide assistance with mobilizing savings of group members, identifying and obtaining land, preparing site plans and housing designs, obtaining permits, and applying for credit. There are a few organizations in Colombia that specialize in assisting self-help housing associations, but they are small. In Medellin and Cali several foundations have been established to aid housing groups. Among government agencies, the most active have been:

- DIGIDEC, a unit of the Ministry of Government, which is the principal link to the "movement". DIGIDEC works through a network of locally-based community development workers who are part of the Ministry's Community Action ("Accion Comunal") program. These workers coordinate assistance to grass-roots groups, including housing associations. DIGIDEC also manages a small line of credit which, in conjunction with other grant funds the agency has administered, financed about 30,000 associative self-help housing units between 1979 and 1981.

- SENA, the National Training Service (Servicio Nacional de Aprendizaje), has provided community level technical assistance for self-help housing in urban and rural areas.

The principal source of financing for most self-help housing associations is the savings of group members. The better-organized groups require members to contribute regularly to a group savings account. Often these funds are used to purchase a tract of land. In some cases systems are organized under which families are paid for their labor. These earnings are deposited in accounts which later may serve as collateral for loans. To supplement funds raised through savings, many groups receive donations of materials, land, or equipment.

One of the keys to maintaining group cohesion is pooling financial resources. This helps promote group "spirit" and enables members to have much greater financial leverage. Until recently, Colombian housing finance institutions did not provide credit to groups. In late 1983 BCH approved a new "associative credit" mechanism designed especially for self-help groups. The Bank recognized that lending to associations can be advantageous in lowering risk. The associative credit system makes the group, not the individual, responsible to the lender. BCH favors the establishment by each association of a fund, financed through surcharges on each member's payments, to guarantee the payments of members who fall behind. BCH's associative credit may be used for new construction, upgrading, sites and services, or other housing-related undertakings.

BCH has also been promoting the establishment of building materials distribution centers ("Centros de Acopio") to serve self-help housing groups. The typical individual self-help builder is at a financial disadvantage because he buys small quantities of materials at retail, not wholesale prices. The "Centros de Acopio" are designed to "eliminate the middleman" and take advantage of economies of scale in purchasing. The difficulty is finding suitable forms of managing such centers. The few successful examples are run by non-profit foundations.

The recently-founded national organization of self-help housing groups, Construyamos, is designed to serve as a link between associations and the government agencies and private entities that can help them. Construyamos also aims to coordinate the exchange of information between local groups. At the moment, Construyamos is supporting itself with a \$200,000 grant from the Canadian government. In the future Construyamos will need to find more stable sources of support. Among the ideas being considered is for Construyamos to distribute building materials at cost to housing groups, keeping a small fee to help cover its operating costs.

## B. ISSUES

It appears that self-help housing associations are making a significant contribution to meeting housing needs in Colombia. The increasing attention of government and private agencies to self-help groups will help to realize some of the still untapped potential of the "movement". As long as self-help housing associations retain their grass-roots character, this potential will be limited primarily by the scarcity of group leadership and management skills.

Appreciation of the value of housing associations must be accompanied by a recognition of their special character. Self-help groups are not a panacea for the housing problems of lower-income families. It is extremely difficult to establish and manage a housing association, and many groups fail. When groups succeed, they often owe their success to particular benefactors who have provided organizational or material assistance. Financing remains a major problem, especially for groups composed of non-salaried workers. The relatively low associative self-help housing costs cited by Construyamos and others may not be realistic or widely applicable. These costs usually do not include the full costs of labor (by self-help), land and materials (often donated), administration (absorbed by the promoting organization), or technical assistance (provided by government agencies or non-profit organizations).

This suggests an important point: since self-help housing groups need a great deal of managerial and technical support, public and private sector programs to assist them must become more efficient. The fact is that there are many more groups clamoring for help than existing organizations can possibly attend. For example, in the six months prior to May of this year BCH's Special Programs Office received financing proposals from 134 housing associations. The 111 which specified the number and types of units to be built have proposed a total of 37,500 units with an average cost of around 1,300 UPACs. BCH has not yet processed any of these applications. Other agencies are also under pressure. DIGIDEC and SENA are able to respond to only a portion of the demand for their administrative and technical assistance services.

It would be useful to undertake a study to identify mechanisms for delivering assistance to self-help housing groups more efficiently. The current mode of providing assistance to groups is extremely costly. The successful groups have benefitted from large amounts of help from engineers, architects, social workers, and others. This assistance can run to as much as 15 person-months per year per group.<sup>43</sup> The result of this pattern is that a few groups receive the bulk of the help, while most groups receive none.

Another area that needs deeper investigation is the impact of housing-related laws and regulations on self-help groups. There are indications that some regulations make it difficult for groups to obtain housing. We are aware of a few circumstances that may be typical in this regard. For example, one of the groups assisted by CECA, Los Comuneros in Bogota, had to wait three years after purchasing its land to get the required construction permits. The group began constructing the infrastructure without legal approval and entirely with its own resources. Another example is the requirement of CORVISOL, a successful self-help housing organization in Medellin, that applicants submit either a letter from their employer certifying their position and salary or, if self-employed, three commercial letters of reference. While such requirements are understandable, they cannot be met by most lower-income families whose members work in "informal" jobs. The anecdotal evidence on legal and regulatory difficulties needs to be supplemented by some more in-depth analysis.

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<sup>43</sup>Estimate based on the experience of self-help housing groups.

CECA, a Bogota-based organization that assists

The associative self-help housing movement might also benefit from the establishment of guarantee systems such as the one described above, but on a larger scale. In 1978 BCH authorized a Guarantee Fund for credit to lower-income groups, but only a very limited amount of resources was put in to get it started. The system was based on a five percent surcharge on each monthly payment. It may be worth considering the revitalization of this Fund. The President's Housing Adviser has also suggested the possibility of CAVs acting as fiduciaries for management of housing groups' savings funds.

The 1983-86 National Plan names ICT as the principal credit-granting institution for self-help housing associations, based on ICT's long experience with low-cost housing and more affordable financing terms. However, ICT has not developed a group credit mechanism. Considering ICT's advantages in the field of lower-income housing, it would be appropriate for the Institute to create programs directed toward the associative housing sector.

### C. PRINCIPAL CONCLUSIONS

1. Self-help housing associations are making a significant contribution to meeting housing needs. The potential of self-help groups will be limited mainly by the scarcity of grass-roots leadership and management skills.
2. Associative self-help is not a panacea for the housing problems of lower-income families. Many groups fail, and those that succeed need good organizational skill, a strong financial base, and "group spirit".
3. Public and private sector programs to assist self-help housing groups need to become more efficient. At the moment, only a small minority of groups are receiving the majority of the assistance, a situation which is highly inequitable.
4. Housing associations could be helped significantly by removing some of the regulatory impediments they face. Regulations involving construction permitting and eligibility for credit are at least two of the areas that should be investigated further.
5. BCH should consider revitalizing its credit Guarantee Fund for lower-income housing groups.
6. ICT should consider establishing a group credit mechanism as well as other outreach programs for self-help housing groups.

**APPENDIX TABLES**

TABLE A.1

GROSS NATIONAL PRODUCT AND VALUE ADDED BY SECTOR  
(Millions of Constant 1975 Pesos)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	% Change 74-83
Total GNP	395,910	405,108	424,263	441,906	479,335	505,119	525,765	537,736	542,757	547,101	38.2
Agriculture	91,477	96,766	99,720	102,979	111,336	116,730	119,314	123,135	120,816	124,082	35.6
Industry	92,936	94,086	98,210	99,625	109,559	116,264	117,672	114,556	112,062	111,600	20.1
Commerce	52,634	53,767	56,445	58,377	62,809	65,159	66,681	67,789	69,240	67,113	27.5
Construction	15,023	13,535	14,753	15,877	15,471	15,383	17,632	18,884	20,037	20,742	38.0
Mining	6,881	6,937	6,794	5,946	5,559	5,624	6,681	7,020	7,292	7,958	15.6
Banking and other											
Finance	25,948	27,532	28,306	30,183	32,954	34,558	37,911	41,350	42,865	42,611	64.2
Various*	102,099	104,156	110,600	118,535	127,690	136,123	142,242	146,381	150,443	155,377	29.4
Import Fees and Taxes	8,912	8,329	9,435	10,384	13,957	15,278	17,632	18,621	20,002	17,618	97.7
% Annual Change	-	2.3	4.7	4.2	8.5	5.4	4.1	2.3	0.93	0.80	-

\*Electricity, gas, and water; transport and communications; housing rents; personal services; government services.

Source: DANE and Banco de la Republica

TABLE A.2

SECTORAL SHARES OF GNP (PERCENT)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
TOTAL GNP	100	100	100	100	100	100	100	100	100	100
Agriculture	23.1	23.9	23.5	23.3	23.2	23.1	22.7	22.9	22.3	22.7
Industry	23.5	23.2	23.1	22.5	22.9	23.0	22.4	21.3	20.6	20.4
Commerce	13.3	13.5	13.3	13.2	13.1	12.9	12.7	12.6	12.8	12.3
Construction	3.8	3.3	3.5	3.6	3.2	3.1	3.3	3.5	3.7	3.8
Mining	1.7	1.7	1.6	1.4	1.2	1.1	1.3	1.3	1.3	1.5
Banking and other										
Finance	6.6	6.8	6.7	6.8	6.9	6.8	7.2	7.7	7.9	7.8
Various*	25.8	25.5	26.1	26.8	26.6	26.9	27.	27.2	27.7	28.3
Import Fees and Taxes	2.2	2.1	2.2	2.4	2.9	3.1	3.4	3.5	3.7	3.2

Source: Table A.1

TABLE A.3  
BALANCE OF PAYMENTS  
(Millions of Current Dollars)

(Millions of Dollars)	1978	1979	1980	1981	1982	1983	% Change 78-83
Exports	2,569	3,043.8	3,394.2	2,925.5	2,731.6	2,529.9	(1.5)
Imports	(2,093.2)	(2,557.7)	(3,503.9)	(3,797.0)	(3,313.6)	(3,105.9)	48.4
Income from Services and Transfers	960.2	1,452.6	1,864.2	1,734.5	1,316.6	850.9	(11.4)
Payments for Services and Transfers	(607.9)	(852.7)	(1,307.2)	(1,675.1)	(1,934.0)	(1,931.0)	217.6
Other Current Income	69.5	126.2	395.5	325.6	347.7	296.5	326.6
Other Current Payments	(77.3)	(77.7)	(107.5)	(168.3)	(375.4)	(394.2)	410.0
Capital Income	894.3	716.7	805.4	1,109.1	914.1	734.5	(17.9)
Capital Payments	(1,057.6)	(349.3)	(286.0)	(291.7)	(404.2)	(650.6)	(38.0)
Other Net Income/Payments	--	118.4	52.1	50.5	(23.1)	(46.9)	(139.6)
Total Income	4,493.0	5,457.7	6,511.4	6,145.2	5,310.0	4,411.8	(1.8)
Total Payments	(3,836.0)	(3,837.4)	(5,204.6)	(5,932.1)	(6,050.3)	(6,128.6)	59.8
Difference	657.0	1,620.3	1,306.8	213.1	(740.3)	(1,716.8)	(361.3)
Total Net Reserves	2,481.8	4,105.9	5,416.0	5,630.2	4,890.8	3,078.5	--

Source: Banco de la Republica

TABLE A.4  
EVOLUTION OF INTERNAL SAVINGS  
Billions in Current Pesos

YEAR	(1) M1 Money	(2) Quasi- Money	(3) Total	(4) Total 1978=100	(5) Total/CPI 1978=100	(6) Total % GNP	(7) % 2/3	(8) % 2/1	(9) % 1/GNP	(10) % 2/GNP
1978	134.9	122.7	257.6	100.0	100.0	28.4	47.6	91.0	14.8	13.6
1979	167.6	155.9	323.5	125.6	97.5	27.2	48.2	93.0	14.1	13.1
1980	214.3	258.6	472.9	183.6	113.2	30.0	54.7	120.7	13.6	16.4
1981	259.7	406.8	666.5	258.7	126.3	33.6	61.0	156.6	13.1	20.5
1982	325.7	508.1	833.8	323.7	127.3	33.9	60.9	156.0	13.2	20.7
1983	408.9	667.9	1,076.8	418.0	141.0	36.6	62.0	163.3	13.9	22.7
% Change 78-83	203.1	444.3	318.0	318.0	41.0	18.3	30.3	79.5	6.0	66.9

Source: Banco de la Republica

TABLE A.5  
DEPOSITS OF THE FINANCE SYSTEM THAT GENERATE CREDIT  
(Millions of Current Pesos)

	Banks		UPAC SYSTEM			BCH. CEDULAS	FINANCE CDs	CORPS. Bonos	Titulos		Total
	Savings	CDs <sup>1</sup>	Savings	UPAC Savings	UPAC CD				Agro/ Indus- riales	Commercial Finance Companies	
1974	9,623	2,649	-	5,216	3,104	8,136	228	N.D.	-	-	28,956
1975	12,288	5,240	-	8,313	5,391	8,345	654	N.D.	-	-	40,231
1976	16,917	9,108	876	12,009	7,464	8,514	4000	N.D.	-	3,115	62,003
1977	24,178	12,790	1,795	15,871	6,742	9,202	8,771	N.D.	-	5,797	85,146
1978	36,653	16,230	5,305	20,924	8,727	10,239	15,645	1,547	-	7,470	122,740
1979	46,037	13,576	3,009	37,226	12,968	11,929	13,315	3,783	4,273	9,743	155,859
1980	58,385	53,327	2,699	58,614	21,929	13,493	19,453	7,021	4,958	18,774	258,653
1981	72,725	114,291	3,161	84,044	35,004	15,735	26,360	12,725	6,207	36,553	406,805
1982	84,278	132,143	2,977	123,022	46,250	19,300	28,862	15,968	10,605	44,722	508,127
1983	106,033	171,699	4,749	175,230	64,565	19,489	39,579	20,072	10,373	56,147	667,936
% Change 74-83	1,001.9	6,381.6	442.0	3,259.5	1,980.0	139.5	17,259.0	1,197.5	142.7	1,702.0	2,206.7

<sup>1</sup> CDS: Certificates of Deposit

Source: Banco de la Republica

TABLE A.6

SHARES OF FINANCE SYSTEM DEPOSITS THAT GENERATE CREDIT  
(Percentages)

	BANKS		UPAC SYSTEM				BCH. CEDULAS	FINANCE CORPS.		"TITULOS AGRO/IND"	COMMERCIAL FIN. COS.	Total
	Savings	CDs	Savings	UPAC Savings	UPAC CD	CDs		Bonds				
1974	33.2	9.1	-	18.0	10.7	28.1	0.9	N.D.	-	-	100.0	
1975	30.5	13.0	-	20.7	13.4	20.7	1.7	N.D.	-	-	100.0	
1976	27.3	14.7	1.4	19.4	12.0	13.7	6.5	N.D.	-	5.0	100.0	
1977	28.4	15.0	2.1	18.6	7.9	10.8	10.3	N.D.	-	6.9	100.0	
1978	29.9	13.2	4.3	17.0	7.1	8.3	12.7	1.3	-	6.2	100.0	
1979	29.5	8.7	1.9	23.9	8.3	7.7	8.5	2.4	2.7	6.3	100.0	
1980	22.6	20.6	1.0	22.7	8.5	5.2	7.5	2.7	1.9	7.3	100.0	
1981	17.9	28.1	0.8	20.7	8.6	3.9	6.5	3.0	1.5	9.0	100.0	
1982	16.6	26.0	0.6	24.2	9.1	3.8	5.7	3.1	2.1	8.8	100.0	
1983	15.9	25.7	0.7	26.2	9.7	2.9	5.9	3.0	1.6	8.4	100.0	

Source: Table A.5

TABLE A.7

NATIONAL GOVERNMENT  
FISCAL SITUATION  
(Millions of Current Pesos)

	1978	1979	1980	1981	1982	1983	% Change 78-83
Current Income	104,948	117,053	168,247	221,792	279,955	283,519	170.1
Operating Expenditures	(57,554)	(86,009)	(109,031)	(153,803)	(197,834)	(246,544)	328.4
Result	47,394	31,044	59,216	67,989	82,121	36,975	(22.0)
Debt Service	(10,876)	(15,960)	(20,645)	(28,159)	(37,691)	(45,569)	319.0
Capital Income	15,703	41,870	29,753	40,676	37,593	75,412	380.2
Investment Expenditures	(32,713)	(49,542)	(65,441)	(81,900)	(95,955)	(92,340)	182.3
Final Balance	19,508	7,412	2,883	(1,394)	(13,932)	(25,522)	(231.0)

Source: Banco de la Republica

TABLE A.8

## CENTRAL GOVERNMENT-CREDIT SOURCES

(Millions of Current Pesos)

	1978		1979		1980		1981		1982		1983	
	Value	%										
Internal Credit	4,765	44.6	5,360	20.3	200	0.9	3,947	12.2	15,310	42.7	56,479	95.2
External Credit	5,929	55.4	21,007	79.7	21,189	99.1	28,496	87.8	20,517	57.3	2,826	4.8
A-Total	10,694	100.0	26,367	100.0	21,389	100.0	32,443	100.0	35,827	100.0	59,305	100.0
B-Capital Income	15,703	-	41,870	-	29,753	-	40,676	-	37,593	-	75,412	-
% A/B	68.1	-	63.0	-	71.9	-	79.8	-	95.3	-	78.6	-

Source: Banco de la Republica

TABLE A.9  
 PERCENTAGE OF WAGES IN VALUE ADDED BY SECTOR  
 (Current Prices)

	Construc- tion	Industry	Commerce	Mining	Agriculture
1974	59.07	30.61	22.09	27.02	28.76
1975	66.43	31.37	21.25	26.68	29.87
1976	55.82	30.24	22.07	26.77	29.89
1977	53.24	29.86	22.24	28.05	32.09
1978	55.08	33.23	22.09	28.27	37.87
1979	54.45	35.17	23.66	29.04	40.33
1980	57.30	33.26	23.95	23.86	43.50
1981	56.92	36.32	24.92	24.55	43.85
1982	57.88	37.81	26.14	23.75	42.76
1983	N.D.	N.D.	N.D.	N.D.	N.D.
Average	58.31	33.76	22.73	27.18	34.47
Average Const = 100	100.0	57.9	39.0	47.7	59.1

Source: CAMACOL

TABLE A.10  
SITUATION OF THE SAVINGS AND HOUSING CORPORATIONS - 1983  
(Millions of Current Pesos)

Corporation	Total Assets	Number <sup>1</sup> of Offices	Number of Employees	Total Savings	Total Accounts	Total Portfolio
Ahorramas	16,996	34	505	11,441	80,216	16,724
Colmena	25,224	64	795	23,513	419,454	20,684
Colpatría	18,098	46	620	16,136	132,978	12,550
Conavi	29,740	53	822	24,772	253,385	25,749
Concasa	24,023	56	689	20,886	122,707	20,769
Corpavi	23,785	50	619	22,097	102,587	19,364
Davivienda	41,029	75	1,009	37,472	413,416	35,129
Gran Ahorrar	31,122	67	926	27,320	361,324	24,861
Las Villas	16,363	45	548	13,306	102,386	14,428
<b>TOTAL</b>	<b>226,381</b>	<b>490</b>	<b>6,533</b>	<b>196,942</b>	<b>1,989,554</b>	<b>190,259</b>
<b>Total US\$ Millions</b>	<b>2,550.2</b>	<b>-</b>	<b>-</b>	<b>2,218.6</b>	<b>-</b>	<b>2,143.3</b>

<sup>1</sup>To March 1984

Source: Instituto Colombiano de Ahorro y Vivienda

TABLE A.11  
RESOURCES CAPTURED BY CAVS/BANKING SYSTEM  
(Millions of Current Pesos)

	(1) Bank Savings	(2) CAV Savings	% 2/1	(3) Bank CDS	(4) CAV CDs	% 4/3	(5) Total Banks	(6) Total CAVs	% 6/5
1978	36,653	27,757	62.1	16,230	6,064	37.4	52,883	28,821	54.5
1979	46,037	33,763	73.3	13,576	10,763	79.3	59,613	44,526	74.7
1980	58,385	51,590	88.4	53,327	18,777	35.2	111,712	70,368	63.0
1981	72,725	73,658	101.3	114,291	29,388	25.7	187,016	103,046	55.1
1982	84,278	102,721	121.9	132,143	38,018	28.8	216,421	140,739	65.0
1983	106,033	144,946	136.7	171,699	48,510	28.3	277,732	193,456	69.7
% Change 78-83	189.3	536.9	120.1	957.9	700.0	(24.3)	425.2	571.2	27.9

Source: ICAVI and Banco de la Republica

TABLE A.12  
RESOURCES CAPTURED BY CAVS AND BANKS AS PERCENTAGES  
(Millions of Current Pesos)

	(1) Savings	(2) CDT	(3) Total	% 1/3	% 2/3	% CAVS/TOTAL
1978	59,410	22,294	81,704	72.7	27.3	35.3
1979	79,800	24,339	104,139	76.6	23.4	42.8
1980	109,975	72,104	182,080	60.4	39.6	33.6
1981	146,383	143,679	290,062	50.5	49.5	35.5
1982	186,999	170,162	357,160	52.4	47.6	39.4
1983	250,979	220,209	471,188	53.3	46.7	41.1
% Change 78-83	322.4	887.7	476.7	(26.7)	71.0	16.4

Source: ICAVI and Banco de la Republica

TABLE A.13  
UPAC SYSTEM  
RELATION BETWEEN CUMULATIVE DEPOSITS AND LOANS  
(Millions of Current Pesos)

YEAR	(A)	(B)	(C)		
	Cumulative Resources Captured <sup>1</sup>	Net Cumulative Resources Captured <sup>2</sup>	Cumulative Loans	% B/C	% C/A
1974	8,324.4	6,409.5	9,988.6	77.0	120.0
1975	13,539.8	9,449.2	13,752.8	69.8	101.6
1976	19,832.0	12,726.4	18,381.1	64.2	92.7
1977	24,106.8	12,624.1	27,415.5	52.4	113.7
1978	34,920.9	17,954.8	43,341.0	51.4	124.1
1979	53,018.5	27,823.8	57,615.0	52.5	108.7
1980	83,233.9	43,971.3	79,644.0	52.8	95.7
1981	122,208.3	62,068.1	111,853.0	50.8	91.5
1982	171,758.2	83,174.1	146,379.0	48.4	85.2
1983	244,581.7	109,268.9	212,838.3	44.7	87.0

<sup>1</sup> Includes BCH UPAC.

<sup>2</sup> Reflects the result of deducting the monetary correction.

Source: CAMACOL

TABLE A.14  
PERCENTAGE DISTRIBUTION OF HOUSING INVESTMENT

	ICT	BCH	CAV	OTHERS
1974	17.2	25.3	54.5	3.0
1975	26.0	19.9	56.7	4.0
1976	27.2	14.7	57.9	7.0
1977	20.3	23.3	61.3	7.6
1978	18.1	24.6	65.2	7.9
1979	15.9	24.0	67.7	8.8
1980	11.6	25.9	66.8	9.1
1981	11.3	18.2	62.0	8.5

Source: BCH

TABLE A.15  
CAVS-FINANCIAL BALANCE  
(Millions of Current Pesos)

Average Assets	1980	1981	1982	1983	% Change 80-83	% 80	% 81	% 82	% 83
Available	784	558 <sup>e</sup>	516 <sup>e</sup>	1,200	53.0	1.2	0.6	0.4	0.6
Investments	6,138	10,369	16,331	19,223	213.2	9.2	10.4	11.4	9.8
Short-term Loans	16,692	27,635	39,829	52,742	215.0	24.9	27.6	27.8	26.8
Long-term Loans	39,732	55,319	77,059	110,406	177.9	59.3	55.3	53.8	56.2
Fixed Assets	1,102	1,726	2,815	4,237	284.5	1.6	1.7	2.0	2.1
Other Assets	2,530	4,381	6,572	8,796	244.7	3.8	4.4	4.6	4.5
<b>TOTAL</b>	<b>66,978</b>	<b>99,988</b>	<b>143,123</b>	<b>196,603</b>	<b>193.5</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Average Liabilities</b>									
Savings Deposits	42,677	62,624	88,189	123,833	190.2	63.7	62.6	61.6	63.0
CDT	14,770	24,083	33,703	43,264	193.0	22.1	24.1	23.6	22.0
FAVI Loans & Deposits	2,260	2,952	4,289	3,454	52.9	3.4	2.9	3.0	1.8
Deposits btwn CAVs	218	660	441	1,672	665.1	0.3	0.7	0.3	0.9
Other Liabilities	4,030	5,066	9,756	15,910	294.8	6.0	5.1	6.8	8.1
<b>SUB TOTAL A</b>	<b>63,955</b>	<b>95,385</b>	<b>136,379</b>	<b>188,134</b>	<b>194.2</b>	<b>9.5</b>	<b>95.4</b>	<b>95.3</b>	<b>95.7</b>
Capital and Surplus	1,817	3,008	4,702	5,920	225.9	2.7	3.0	3.3	3.0
Reserves	1,206	1,595	2,042	2,549	111.4	1.8	1.6	1.4	1.3
<b>SUB TOTAL B</b>	<b>3,023</b>	<b>4,603</b>	<b>6,743</b>	<b>8,469</b>	<b>180.2</b>	<b>4.5</b>	<b>4.6</b>	<b>4.7</b>	<b>4.3</b>
<b>TOTAL</b>	<b>66,978</b>	<b>99,988</b>	<b>143,123</b>	<b>196,603</b>	<b>193.5</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

<sup>e</sup>Estimate

Source: ICAVI

TABLE A.16

CAVS - FINANCIAL BALANCES  
RESULTS

(Millions of Current Pesos)

	1980	1981	1982	1983	% Change 80-83	% 1980	% 1981	% 1982	% 1983
Total Products	10,484	15,539	20,776	27,849	165.6	100.0	160.0	100.0	100.0
Income from Monetary Correction (+)	6,648	10,188	13,691	16,648	150.4	64.4	65.5	65.9	59.8
Interest and Earned Income (+)	3,643	5,155	6,816	10,694	193.6	34.7	33.2	32.8	38.4
Expenditures for Correction (-)	(6,592)	(10,142)	(13,602)	(17,665)	(168.0)	(62.9)	(65.3)	(65.5)	(63.4)
Interest Paid (-)	(1,899)	(3,248)	(3,461)	(4,614)	(143.0)	(18.1)	(20.9)	(16.7)	(16.6)
Financial Result	1,799	1,953	3,444	5,063	181.4	17.1	12.5	16.5	18.2
General and Operating Costs (-)	(1,187)	(1,430)	(2,774)	(3,407)	(187.1)	(11.3)	(9.2)	(13.4)	(12.2)
Other Income (+)	194	196	269	507	162.0	1.8	1.3	1.3	1.8
Other Expenditures (-)	(422)	(196)	(108)	(1,074)	(154.7)	(4.0)	(1.3)	(0.5)	(3.9)
Result	384	522	832	1,088	183.8	3.6	3.3	3.9	3.9

Source: ICAVI

TABLE A.17

BCH RESOURCE PORTFOLIO  
(Millions of Current Pesos)

	Mortgage "Cedulas"	Capital "Cedulas"	UPAC	BVC <sup>1</sup>	FFDU <sup>2</sup>	Total	% 1	% 2	% 3	% 4	% 5	% 6
	(1)	(2)	(3)	(4)	(5)	(6)						
1974	8,136	1,057	1,731	1,891	-	12,847	63.3	8.3	13.6	14.8	-	100.0
1975	8,345	1,219	2,373	2,738	910	15,585	53.6	7.8	15.2	17.6	5.8	100.0
1976	8,514	1,034	3,957	3,669	956	18,130	47.0	5.7	21.8	20.2	5.3	100.0
1977	9,228	1,046	3,913	4,957	2,122	21,266	43.4	4.9	18.4	23.3	10.0	100.0
1978	10,239	1,143	6,804	6,498	2,018	26,702	38.3	4.3	25.5	24.3	7.6	100.0
1979	10,717	1,317	8,493	8,983	2,354	31,864	33.6	4.1	26.7	28.2	7.4	100.0
1980	11,356	2,331	12,866	12,107	2,671	41,331	27.5	5.6	31.1	29.3	6.5	100.0
1981	12,166	3,570	19,162	16,029	2,085	53,612	22.6	6.6	35.6	29.8	5.4	100.0
1982	14,064	5,235	31,019	21,626	3,720	75,664	18.6	6.9	41.0	28.6	4.9	100.0
1983	15,754	3,735	48,126	27,629	8,503	103,747	15.2	3.6	46.4	26.6	6.2	100.0
% Change 74-83	93.6	253.4	2,680.2	1,361.1	834.4	7,076.0						

<sup>1</sup> Bonos de Valor Constante (Constant Value Bonds)

<sup>2</sup> Fondo Financiero de Desarrollo Urbano

Source: BCH

TABLE A.18

BCH PORTFOLIO OF LOAN PLACEMENTS  
(Millions of Current Pesos)

	Tradi- tional	%	UPAC	%	Capitali- zation	%	BVC	%	FFDU	%	TOTAL
1974	9,707	77.4	1,846	14.7	270	2.2	713	5.7	-	-	12,536
1975	9,703	76.1	2,229	16.1	396	2.9	675	4.9	836	6.0	13,841
1976	9,467	65.5	3,091	21.4	230	1.6	581	4.0	1,089	7.5	14,458
1977	9,752	58.8	4,877	29.4	196	1.2	523	3.2	1,225	7.4	16,573
1978	10,532	50.1	8,100	39.2	222	1.1	441	2.1	1,541	7.5	20,656
1979	10,258	42.2	10,238	42.2	385	1.6	1,792	7.4	1,611	6.6	24,344
1980	13,463	39.9	15,310	45.4	635	1.9	2,334	6.9	2,006	5.9	33,748
1981	18,495	41.9	19,499	44.2	680	1.5	2,853	6.5	2,626	5.9	44,147
1982	23,627	43.8	24,127	43.8	220	0.3	3,725	6.8	3,423	6.2	55,122
1983	28,136	31.3	47,159	52.5	93	0.1	6,330	7.1	8,039	9.0	89,759

TABLE A.19

BCH - FINANCIAL BALANCES  
(Millions of Current Pesos)

Average Assets	1980	1981	1982	1983	% Change 80-83	% 1980	% 1981	% 1982	% 1983
Available	652	617	825	859	31.7	1.5	1.1	1.1	0.8
Investments	7,581	9,012	14,325	16,575	118.6	18.0	16.6	19.7	16.4
Housing Portfolio	27,237	36,631	46,610	66,923	145.7	64.6	67.6	64.2	66.2
FFDU Portfolio	1,808	2,316	3,024	5,731	216.9	4.3	4.3	4.2	5.7
Fixed Assets	796	1,004	1,261	1,060	33.1	1.9	1.9	1.7	1.0
Other Assets	4,070	4,641	6,509	9,988	145.4	9.7	8.5	9.1	9.9
<b>TOTAL</b>	<b>42,146</b>	<b>54,220</b>	<b>72,553</b>	<b>101,136</b>	<b>140.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Average Liabilities</b>									
UPAC	10,692	16,027	25,090	39,572	270.1	25.4	29.6	34.6	39.1
Mortgage Cedulas & Others	12,861	14,711	17,517	19,394	50.8	30.5	27.1	24.1	19.2
BVC	10,545	14,068	18,828	24,628	133.6	25.0	25.9	26.0	24.4
FFDU	2,513	2,778	3,369	6,414	155.3	6.0	5.1	4.6	6.3
Other Liabilities	3,912	4,744	5,328	7,801	99.4	9.3	8.8	7.4	7.7
<b>Sub Total 1</b>	<b>40,532</b>	<b>52,328</b>	<b>70,133</b>	<b>97,810</b>	<b>141.4</b>	<b>96.2</b>	<b>96.5</b>	<b>96.7</b>	<b>96.7</b>
Capital and Surplus	484	553	888	1,725	256.7	1.1	1.0	1.2	1.7
Reserves	1,140	1,339	1,532	1,601	40.5	2.7	2.5	2.1	1.6
<b>Sub Total 2</b>	<b>1,623</b>	<b>1,892</b>	<b>2,420</b>	<b>3,326</b>	<b>140.9</b>	<b>3.8</b>	<b>3.5</b>	<b>3.3</b>	<b>3.3</b>
<b>TOTAL</b>	<b>42,146</b>	<b>54,220</b>	<b>72,553</b>	<b>101,136</b>	<b>140.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: BCH

TABLE A.20

BCH - FINANCIAL RESULTS  
(Millions of Current Pesos)

	1980	1981	1982	1983	% Change 80-83	%1980	%1981	%1982	%1983
	Total Income	6,932	9,666	12,895	18,057	160.5	100.0	100.0	100.0
Financial Return	6,739	9,319	12,536	17,262	156.2	97.2	96.4	97.2	95.6
Finance Costs	(4,866)	(7,211)	(9,901)	(14,046)	188.7	(70.2)	(74.6)	(76.8)	(77.8)
Financial Result	1,873	2,108	2,635	3,216	71.7	27.0	21.8	20.4	17.8
General Expenditures	(1,406)	(2,044)	(2,538)	(3,509)	149.6	(20.3)	(21.1)	(19.7)	(19.0)
Commissions & Other Income	193	347	359	795	311.9	2.8	36.0	2.6	4.4
Other Expenditures	-	-	-	-	-	-	-	-	-
Result	660	411	456	502	(23.9)	9.5	4.3	3.5	2.8

Source: BCH

TABLE A.21

## ICT FINANCE TERMS 1984

PROGRAM	VALUE OF SOLUTION		Annual Interest Rate	Rate for Insurance	Annual % Increase in Monthly Payment	Term
	From	To				
Lot with Services		123,500	18	2	15	10 to 15 years
Upgrading		240,000	18	2	15	10 to 15 years
Self-help Construc- tion	50,000	240,000	18	2	15	10 to 15 years
Minimum Solution		338,940	18	2	15	10 to 15 years
Basic Solution	338,941	564,900	21	2	15	10 to 15 years
Popular Solution	564,901	982,183	24	2	15	10 to 15 years
Popular Solution	982,164	1,242,780	24	2	15	10 to 15 years

Source: ICT

TABLE A.22

## ICT - STATUS OF PORTFOLIO

	1978	%	1979	%	1980	%	1981	%
Total Loans	164,405	100.0	161,057	100.0	162,700	100.0	169,983	100.0
Total Loans in Arrears	77,947	47.9	80,189	49.7	81,673	50.2	88,398	52.0
- Up to 3 months	N.D.	X	55,130	34.2	N.D.	X	63,605	37.4
- 4 to 8 months	N.D.	X	16,969	10.5	N.D.	X	13,564	8.0
- More than 8 months	N.D.	X	8,090	5.0	N.D.	X	11,229	6.6

Source: ICT

TABLE A.23

## ICT INCOME/EXPENDITURES

(Millions of Current Pesos)

	1980	1981	1982	1983
Income	30,425.0	4,116.8	4,302.4	5,036.0
Operating Expenses	(801.0)	(1,041.0)	(1,237.1)	(1,661.9)
Debt Service	(1,238.6)	(2,542.3)	(1,795.5)	(3,245.6)
Result	1,002.9	533.5	1,269.8	128.5
Gov't Contributions	1,223.4	1,712.6	4,701.2	4,177.4
Internal Credit	1,082.0	1,847.2	2,718.0	14,165.2
Availability	3,308.3	4,083.3	8,689.0	18,471.1
Investment	(3,374.3)	(3,840.0)	(9,248.7)	(20,506.8)
Surplus/Deficit	(66.0)	253.0	(569.7)	(2035.7)

Source: ICT

TABLE A.24

FNA  
INCOME/EXPENDITURE TREND  
(Millions of Current Pesos)

	1980	1981	1982	1983	% Change				
					80-83	80%	81%	82%	83%
Loan Revenues	1,313,267	1,928,155	2,854,779	4,181,780	218.5	100.0	100.0	100.0	100.0
Operating Costs	(165,578)	(209,174)	(264,249)	(425,569)	157.0	(12.6)	(10.8)	(9.3)	(9.3)
Payment of "Cesantias"	(745,412)	(906,010)	(1,101,164)	(1,741,400)	133.6	(56.8)	(47.0)	(38.6)	(41.6)
Result	412,277	812,971	1,489,366	2,015,209	388.8	31.4	42.2	52.2	48.2
Portfolio Recovery	994,379	1,869,239	2,345,200	2,819,848	183.6	75.7	96.9	82.1	67.4
"Cesantias" Contributed	1,788,382	2,905,323	2,905,323	4,003,213	123.8	136.2	130.3	101.8	95.7
Available for Investment	3,195,038	5,195,036	6,739,889	8,838,270	176.6	243.3	269.4	236.1	211.3

TABLE A.25

## URBAN AND RURAL POPULATION GROWTH 1985-2005

(Thousands)

	1985	1990	1995	2000	2005
Urban	18,681	21,239	23,762	26,056	28,208
Rural	9,584	9,709	9,806	9,880	9,929

Source: PADCO adaptation of DNP projections.

TABLE A.26

## AVERAGE HOUSEHOLD SIZE 1985-2005

	1985	1990	1995	2000	2005
Urban	5.0	4.8	4.6	4.4	4.2
Rural	5.5	5.3	5.1	4.9	4.7

Source: PADCO analysis

TABLE A.27

## PRICE INCREASES FOR CONSUMER GOODS, CONSTRUCTION, AND HOUSING

(Annual Percentages)

	Consumer Prices	Construction	Housing	
			(1)	(2)
1975	23.6	27.3	16.5	15.9
76	19.9	14.4	19.5	19.3
77	34.7	20.3	21.6	21.9
78	16.7	31.1	19.9	21.6
79	24.9	33.6	22.4	25.4
80	27.2	26.3	21.4	27.8
81	28.1	22.1	25.6	31.5
82	24.6	22.9	23.8	23.5
% change 1975-82	591	582	470	533

(1) Empleados, (2) Obreros

Source: DANE