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COLOMBIA

STAFF APPRAISAL REPORT

SECOND (CARTAGENA) URBAN DEVELOPMENT PROJECT

April 18, 1979

Urban Projects Department

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CURRENCY EQUIVALENTS

Average Calendar 1978 (estimate)	1979-83 Average
Currency unit = Colombian peso (Col\$)	Col\$
US\$1.00 = Col\$ 39.270	46.20
Col\$ 1.00 = US\$0.0255	0.0216

WEIGHTS AND MEASURES

Metric System

GOVERNMENT OF COLOMBIA

FISCAL YEAR

January 1 to December 31

ABBREVIATIONS AND ACRONYMS

BCH	Banco Central Hipotecario
BP	Banco Popular
CAIP	Integrated Pre-School Care Center
CDV	Centro de Desarrollo Vecinal (Neighborhood Development Center)
CFP	Corporacion Financiera Popular
CORELCA	Corporacion Electrica de la Costa Atlantica
DNP	National Planning Department
DRI	Integrated Rural Development Program
ELECTRIBOL	Electrificadora de Bolivar
EPMC	Empresas Publicas Municipales de Cartagena
EPZ	(Cartagena) Export Processing Zone
ICBF	Institute of Family Welfare
ICCE	Institute of School Construction
ICT	Instituto de Credito Territorial (National Urban Housing Authority)
IDB	Inter-American Development Bank
IGAC	Instituto Geografico "Agustin Codazzi" (National Geographic Institute)
INSFOPAL	Instituto Nacional de Fomento Municipal
IPC	Program of Integration of Services and Community Participation
MAC	Basic Module of Health Care
PAN	National Food and Nutrition Program
PHIZSU	Plan for Integrated Servicing of Substandard Urban Areas
SENA	Servicio Nacional de Aprendizaje (National Training Service)
SIP	Secretaria de Integracion Popular
UPAC	Unit of Constant Purchasing Power
UNDP	United Nations Development Programme
UPE	Employment and Productivity Unit
ZFIC	Zona Franca Industrial y Comercial de Cartagena

COLOMBIA

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This report is based on the findings of an appraisal mission that visited Colombia in April 1978. The mission consisted of Messrs. B. Gouveia, O. Grimes, E. Canessa, G. C. Guarda, R. Wildeman, and Ms. E. Sebastian. Additional field work was undertaken in May 1978 and January 1979. The report was prepared by the mission.

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I. SECTOR BACKGROUND

A. National Urban Strategies

1.01 Colombia is predominantly an urban nation. Over 60 percent of its population now lives in cities, defined as communities of at least 2,500 inhabitants. If present trends continue, this proportion could reach 86 percent by 1990. Unlike many other countries, particularly elsewhere in Latin America and in East Asia, urban growth has not been confined to one or even a few dominant centers. Bogotá in 1970 accounted for 33.5 percent of the population of localities with 10,000 or more people, a much lower figure than for the largest cities of Venezuela (56.1 percent), Argentina (63.7 percent), and Peru (84.2 percent). With thirty cities at or above populations of 50,000, Colombia shows an unusually dispersed pattern of urban growth.

1.02 Depending upon perceptions of how much of this growth should be concentrated in the four largest cities of Bogotá, Medellín, Cali, and Barranquilla, successive administrations have placed varying emphasis on decentralization. The concern of the 1966-70 government with redirecting growth away from Bogotá and decentralizing industry was reversed by the Pastrana administration (1970-74), during which the reduction of disparities in income and service levels among different groups of the population was pursued through the encouragement of urban construction and other sectors with strong growth and employment impacts. Institutional reforms in Colombian financial markets, especially the introduction of savings accounts and certificates denominated in Units of Constant Purchasing Power (UPACs) and hence indexed for inflation, channelled large amounts of resources into urban housing. As a result, the construction sector between 1970 and 1974 grew at a historically high annual rate of 8.9 percent.

1.03 The Lopez administration (1974-78) was also concerned with reducing the concentration of population and economic activity in the largest cities. The National Food and Nutrition Program (PAN) and Integrated Rural Development Program (DRI) assisted by two Bank loans are carrying out programs of basic infrastructure, support services, and technology to increase productivity in rural areas and, as a by-product, make less compelling the urge to migrate to the cities. Incentives for industrial development are being offered to encourage firms to locate in intermediate-sized urban areas. Recently this encouragement appears to have been somewhat more selective, to achieve a closer match between the firms' demand for labor and the skill levels of the local labor force. Together with control of inflation, local employment generation is in fact a major focus of current programs to improve living conditions for the poorest 50% of the population.

Upgrading Programs

1.04 Additional elements of these programs aimed at upgrading the quality of services in intermediate-sized and smaller cities are being carried out by the Secretaría de Integración Popular (SIP) and the Colombian urban housing authority Instituto de Crédito Territorial (ICT). The former supervises the Program of Integration of Services and Community Participation (IPC) being

supported by the Bank's first urban project in Colombia (see Staff Appraisal Report No. 1681a-CO, April 10, 1978), for which a loan of \$24.8 million equivalent was approved by the Executive Directors on April 27, 1978. ICT, following a comprehensive inventory of slum conditions in 69 Colombian cities, ^{1/} has established special lines of credit for public utilities, home improvements, and legalization of tenure which together with provision of community facilities and technical assistance are administered under the Plan for Integrated Servicing of Substandard Urban Areas (PHIZSU).

B. Bank Involvement in Urban Sector

1.05 A number of Bank-assisted projects have had direct impacts on the capacity of national institutions to foster increases in labor productivity and improve living conditions in Colombian cities. Recent water supply and sewerage and industrial finance projects are particularly relevant to the urban sector and this project.

1.06 Thus far the Bank has made two loans amounting to US\$36.1 million to the national water supply and sewerage agency Instituto Nacional de Fomento Municipal (INSFOPAL), to support water supply and sewerage projects in 15 medium-size cities and 30 towns. Cartagena was included in the second of these loans (No. 1072-CO), and is carrying out works to increase water production capacity in the city. A third loan to INSFOPAL, currently under consideration, would improve further the efficiency of production and distribution networks in 23 cities including Cartagena.

1.07 A loan to support the development of an Export Processing Zone (EPZ) in Cartagena was approved by the Executive Directors on June 13, 1978 (Loan No. 1593-CO). This project is expected to have a significant impact on employment generation in the Cartagena metropolitan area and will directly and indirectly benefit the target population of the presently proposed project in the S.E. Zone of Cartagena and the community of Pasacaballos located adjacent to the EPZ. Two other Bank loans are supporting the lending and technical assistance programs of Corporacion Financiera Popular (CFP), the major financial institution in Colombia involved with assisting small-scale industry.

1.08 As mentioned above, a loan for an urban project -- now being executed -- which aims to improve the quality of services to the residents of 27 substandard areas in 23 intermediate size cities was approved by the Executive Directors in April 1978 (Loan No. 1558-CO). The proposed project in Cartagena, which had originally been included among these cities but was subsequently made the focus of a separate project, closely follows the approach to upgrading developed under the first urban project. Because of the unique physical environment, the Cartagena project required more technical studies and designs for civil works than the first project.

^{1/} Inventario de Zonas Subnormales de Vivienda y Proyectos de Desarrollo Progresivo, Instituto de Crédito Territorial, 1972.

C. Development and Planning in the North Bolivar Region

1.09 The Department of Bolivar, whose largest city, capital, and port is Cartagena, lags slightly behind the rest of the country in per capita income but in recent years has experienced an acceleration in growth. Based on a national average of 100, the index of per capita GDP in Bolivar in 1964 was 88, compared with 159 in the Special District of Bogotá, 101 in neighboring Atlántico department, 71 in the interior department of Boyacá, and 52 on the Guajira Peninsula. Primary production (mainly commercial deep sea fishing), trade, tourism, and particularly manufacturing, centered on the refining and petrochemicals complex at Mamonal near Cartagena, have been the most dynamic sectors since that time. Departmental GDP in nominal terms has expanded slightly faster since 1950 than for the nation as a whole (5.7% vs. 5.2%), but from 1970 to 1975 grew at over 8 percent annually.

1.10 Concentrated as it is in capital-intensive manufacturing and other activities using relatively little labor, this growth has not resulted in enough jobs to absorb new entrants into the departmental labor force. Unemployment in areas of Bolivar outside Cartagena, which averaged about 24% at the time of the 1972 census, has encouraged an outflow of department residents toward Cartagena and interior cities such as Medellín. To elaborate a strategy for controlling migration into Cartagena itself and orient the development of the Cartagena region, the department created the North Bolivar Regional Planning and Development Council in August 1977. Assisted by UNDP, the Regional Council has begun preparation of a comprehensive development plan for the region surrounding Cartagena. Although still in the formative stages, the plan is expected to include strategies for provision of basic services, community facilities, and employment in 14 smaller towns surrounding Cartagena, so that they may become viable reception centers for migrants. One such town is Pasacaballos, a community of 5,400 people located adjacent to the proposed Bank-assisted Export Processing Zone (EPZ) south of Cartagena and thus squarely in the path of expansion from EPZ operations. A program of investments to improve the physical and social environment of Pasacaballos has accordingly been drawn up in advance of specific proposals for the 13 other towns, and is included in the proposed project.

D. Urbanization in Cartagena

Introduction

1.11 With a current population estimated at 400,000, Cartagena contains about 40% of the residents of Bolivar department. Founded in 1533, the city has had a long and often tumultuous history as the chief Atlantic transshipment point for the mineral wealth of the Spanish colonial empire. Fortifications surrounding the old city were begun in 1586 and completed two centuries later, having meanwhile been destroyed several times by storms and pirate attacks; today they enhance the city's attractiveness for tourists. From this fortified central core, Cartagena has expanded northward and particularly to the south

and east, where large numbers of squatters -- beneficiaries of the proposed project -- have settled on floodplains adjacent to a tidal lagoon.

Income and Employment

1.12 A high-productivity, capital-intensive refining and manufacturing sector whose output increased by over 200 percent from 1960 to 1975, combined with expansion of facilities to accommodate the tourist industry, have been the main sources of Cartagena's recent growth. The labor force in manufacturing grew at about 6% a year during the 1970s and now accounts for about 35% of the employed population. Private and government services comprised an additional 42% in 1973 and absorbed 61% of the migrants to Cartagena who succeeded in finding work.

1.13 Cartagena's economic advantages in employment over other small towns and rural areas of the North Coast is such that despite this record of growth, problems of labor absorption and poverty remain critical. Like the resident population of Cartagena, migrants tend to be concentrated in younger age groups and to have few marketable skills, resulting in a high dependency ratio and, in turn, an economically active population of only 26.3 percent of the total. Of the 2,600 jobs at the refining, petrochemical, and caustic soda complex at Mamonal, more than three quarters have gone to workers from other major cities recruited for their greater skills and experience. Cartagena residents often end up in low-paying or irregular jobs in the informal sector or among the unemployed.

1.14 This situation should improve somewhat as training and work force upgrading programs are carried out within the project to develop the EPZ south of the Mamonal industrial center near the town of Pasacaballos (see Map 13509R and Staff Appraisal Report No. 1973b-CO, May 24, 1978). Vocational and on-the-job training programs developed by the National Training Service (SENA) will help meet the specific manpower needs of the EPZ. The Cartagena Industrial and Commercial Free Zone (ZFIC), managing entity of the EPZ, will undertake a promotional effort to increase awareness of the skills demanded by firms and of training opportunities in the Cartagena region, including the S.E. Zone.

1.15 For the present, however, Cartagena has taken on even more the appearance of a "city of low-income settlements." According to a 1977 estimate, 46% of Cartagena families had incomes below the Bank relative poverty minimum. Nor has there typically been much scope for labor absorption in informal sector pursuits; artisanal activity occupies only about 4 percent of the population reported as employed. The major alternative to jobs with high skill requirements has been periodic wage employment in the service sector, particularly domestic services, and in construction.

Construction and Housing

1.16 Cartagena's qualitative housing deficit (i.e., the number of sub-standard dwelling units) has probably increased from an estimated 11,900 units in 1964 to 13,500 today. About three quarters of these units are in the S.E.

Zone project area. Perhaps 500 other poor families have settled along the brackish Juan Angola canal, in otherwise lower-middle to middle-income neighborhoods. A few smaller settlements at the city's eastern periphery make up the remaining squatter population.

1.17 Although expanding relatively rapidly in recent years, the construction sector in Cartagena has concentrated primarily on luxury apartments and hotels to accommodate tourism. Private sector construction in 1971 accounted for 60 percent of the amount invested in housing in the city, but only 11 percent of the units constructed. Accordingly, neither middle-income nor low-income housing needs have been met over the past two decades.

1.18 Efforts of the Cartagena branch of ICT (Colombia's urban housing authority) to serve these income ranges have been gradually increasing. Over the past two years ICT/Cartagena has completed or begun construction of about 4,000 units, including 1,350 finished houses in the US\$2,500 to US\$4,000 range, in locations throughout the city. A major middle-class housing and upgraded commercial center is being built in the Chambacú urban renewal area near downtown, where by May 1973 substandard dwellings had been eradicated and 4,000 families relocated. ICT plans to build an additional 5,000 single family and multi-family units at a 49 ha site south of the city acquired from the Club Campestre, many of which will likely be acquired by higher-level workers at the EPZ.

1.19 ICT/Cartagena has also given increased attention to low-income housing, though on a smaller scale thus far. Originally the agency did not consider its mandate as broader than technical and financial assistance in low-cost housing construction. The emphasis at present is more comprehensive, encompassing integrated community development and productivity in closer cooperation with training and social service agencies.

Low-Income Settlements: The S. E. Zone and Pasacaballos

1.20 The S. E. Zone. Taking advantage of the chance to live at a location with excellent access to employment and markets, squatters over several decades have settled about 355 ha. of mud flats along the shore of the Tesca lagoon in southeastern Cartagena (see Map 13509R). Originally, the area could be described as a linear swamp extending 6.5 km in length and about 400 m wide, clearly defined by a sandbar which marks the actual shore of the lagoon. Today its population numbers approximately 80,000 persons, more than half of whom have lived in the area 9 years or longer.

1.21 In money terms, S. E. Zone families live quite cheaply. A monthly income which places a family in the 56th percentile of the S. E. Zone income distribution ranks at the 10th percentile of the national urban distribution. These families nonetheless pay a high price in terms of repercussions from the unhealthy and precarious living conditions they must face. Their dwellings are subject to periodic tidal incursions and lie in the path of storm water runoff from hills immediately behind the area. Floor space in the predominantly two-room dwellings of 20-50 m² averages 5-8 m² per person, less than the U.N. recommended minimum of 10 m² per person.

1.22 Prior to the filling operations begun in 1977, most of the area was below flood level. Since the average depth of the swamp was no more than 20-40 cm, settlers had gradually filled lots through their own labor, by dumping dirt, stones, rice husks, and demolition debris. The mode of settlement has tended to be incremental along the entire area and has evolved in a finger-like pattern, sometimes reaching all the way to the sand bar along the banks of several drainage ditches crossing the area (see photographs). Timber shacks have been erected on the small islands thus formed. Over time, considerable improvements are made to the initial shack, which is often plastered up if not replaced by light masonry structures, with neighboring spaces also filled in.

1.23 However, the level of the areas so consolidated remains too low for efficient runoff of surface water or for installation of utilities. Even during the dry season, trickles of domestic effluents (from kitchen sinks, outhouses, etc.) crisscross the area and often form large pools of stagnant water. During the rainy season, the combined effect of exceptionally high tides in the lagoon and the heavy storm runoff from a vast hinterland makes the majority of dwellings subject to flooding about five months of the year. This situation is aggravated by several outfalls which discharge sewage from nearby residential districts, causing severe pollution of the flood waters.

1.24 Two parallel avenues (Don Pedro de Heredia and Pedro Romero) run the length of the district, carrying heavy traffic flows to and from the city. The perpendicular orientation of the drainage ditches and the avenues have conditioned the general layout of the area, which has conformed fairly closely to a gridiron pattern. Blocks average 100-150 m in length and about 40-60 m in depth and are surrounded by rights-of-way varying in width between 15 and 50 m. A block will typically be subdivided into rectangular lots of an average front of 8 m and a depth of 25 m. Houses sit next to the right-of-way leaving the core of the block open, although clearly subdivided by fences which identify the different backyards. In the more established neighborhoods, front porches and trim are often added to the houses, along with some planting and gardening.

1.25 Much of the zone still lacks utilities, which are generally limited to a few standpipes along the main avenues and to provisional electricity distribution lines. Other than the seven principal drainage ditches and the runoff from inner districts, several other minor canals collect the discharge from the area itself. Embankments along these canals are generally inadequate and their courses irregular, often winding through settled residential blocks. Except for the recently completed community service center at La Esperanza in the westernmost sector, existing educational, health, and institutional facilities are insufficient. Some very small-scale industrial establishments, a diffused network of minimal retail establishments and a radio-relay station account for the small share of land in nonresidential use. Recreational areas are totally lacking.

1.26 Like the city as a whole, the S. E. Zone has a low labor force participation rate, since an estimated 60% of residents are less than 20 years

old and fully one-fifth are five years old or less. School-age children 5-14 consequently make up a high proportion (35%) of the population. Employment within the Zone is minimal, though there is good bus access to the city center for those able to afford frequent trips. Compounding these difficulties is the lack of secure land title. According to a 1977 survey conducted by ICT, 78% of owners possessed at most a certificate of occupancy, with the largest group having no written evidence of tenure whatever.

1.27 Pasacaballos. Conditions in Pasacaballos (see Map 13509R) are not significantly different from those of the S. E. Zone. Pasacaballos is a semi-rural community of approximately 5,400 persons situated at the southwest end of the Bay of Cartagena, where the Canal del Dique enters the Bay. The area is exceedingly depressed, characterized by a high degree of poverty, poor access to services, and substandard environmental conditions. Residents are involved chiefly in subsistence fishing and agriculture, augmented by periodic wage employment. In the design of the Baru tourism project, it was recognized that the problems of Pasacaballos (located at the end of the road from Cartagena to Baru) would have to be addressed if balanced economic and social development were to be achieved in the area. Development of the township was therefore included in that project, which has, however, suffered a number of delays. With the imminent development of the EPZ located about half a kilometer from Pasacaballos, the need to plan for the pressures the community will face in the immediate future has become acute.

II. THE PROJECT

A. Project Concept and Setting

2.01 Interest in solutions to the problems created by illegal settlement of the S.E. Zone dates back to the 1965 Pilot Plan for Cartagena prepared by the National Geographic Institute (IGAC), in which the possibility was suggested of reclaiming the area with hydraulic fill from the lagoon. Since then, studies and proposals have been produced by consultants retained by the Municipality, the National Tourism Corporation, ICT, and the National Planning Agency (DNP). One such proposal, an updated master plan for Cartagena carried out in 1974 by consultants, maintained that the fill option was infeasible and existing structures not worth preserving. It proposed eradication of the slum dwellings and relocation of residents in new housing. Other proposals entailed raising the level of houses and streets with quarried fill material or fill from the lagoon, and draining and empoldering the area. These proposals had the advantage of holding demolition of dwellings to a minimum, though their technical feasibility had not been fully established.

2.02 In 1975, the Government agreed on a policy of minimal eradication subject to technical studies to establish the feasibility of on-site upgrading. For project implementation and administrative purposes the S.E. Zone was divided into four sectors: I, II, III, and IV (see Map 13510R), totalling 105, 104, 112, and 34 hectares respectively. A further administrative division roughly follows elevation contours: the conservation area (134 ha)

lies generally above elevation +1.5 m (the previous limit of the city's sanitary boundary) and the rehabilitation area (221 ha) for the most part lies below elevation +1.5 m, with about half of it below +0.5 m. The conservation area has an existing inventory of about 4,000 dwellings, 20% of which are sewerred and 80% supplied with electricity. Much of the rehabilitation area is permanently inundated, and most of the rest is subject to flooding. None of the 6,000 dwellings in this area is served by water or sewerage and only a part -- the neighborhood of Fredonia -- has electricity, albeit of a temporary nature. Collection of solid waste, undertaken by the local water and sewerage authority EPMC, is satisfactory.

2.03 During project preparation it was agreed that some components, particularly those providing levels of service beyond a basic threshold, should be designed as options to the beneficiaries. The components of the overall improvement program were consequently defined as either essential, to be carried out by the executing agency, or optional, to be done by the communities or individual households on a "contract-in" basis. In addition to land filling, essential works include physical environmental improvements such as external drainage canals and utility infrastructure. Optional features include secondary utility networks, individual connections, and loans for housing construction and improvement. Residents would thus be able to contract for most features as their finances permit, incurring charges within their means. The components of the overall program are presently being incorporated into final urbanization plans and zoning and building standards for the area.

2.04 In Pasacaballos, on-site rehabilitation would also be supplemented by integrated programs of training, technical assistance, and job placement. However, unlike the S.E. Zone where the population has been relatively stable, that of Pasacaballos is on the verge of a major increase as the EPZ begins operations. Thus, in addition to installation and renovation of services in currently built-up sections of the community, the emphasis is on extension of services to areas of new settlement. By meeting the most urgent needs for shelter space and services and reinforcing community organizations, Pasacaballos would become more attractive both to its current residents and to arriving migrants.

B. General Definition

2.05 The project would consist of physical upgrading and provision of services and would support social programs to be implemented during the period 1978-1983 in the S. E. Zone of Cartagena and in the community of Pasacaballos. The project would consist of the following:

- (a) land filling in the S.E. Zone project area to raise the level of streets and house lots;
- (b) essential civil engineering works to bring the physical environmental conditions of the areas up to a minimum threshold which the majority of neighborhoods in the

city presently enjoy. These include road improvements in Pasacaballos; construction of street drainage; canalization of main drains to provide external storm water drainage from the hinterland through the S.E. Zone project area to the lagoon; and the installation of utility infrastructure including primary water and electricity networks and primary sewerage networks in the most consolidated areas;

- (c) loans and technical advice to community groups and individuals for the regularization of land tenure; construction of inter-lot drains; paving of sidewalks and pedestrian streets; installation of secondary water and sewerage lines; house connections for water, electricity, and sewerage; dwelling construction and improvement; and purchase of serviced sites for house construction;
- (d) improved social services, including construction of Community Development Centers (CDVs); equipping of existing and new facilities; and a training program for staff to be involved in the provision of education, health, and family and child welfare services. These community facilities would increase productivity and employment through basic skill training related to job opportunities to be created in the EPZ project and the tourism industry. Promotion and technical advice would be provided to private and cooperative small enterprises, to assist them in gaining access to the formal loan market through appropriate financial intermediaries;
- (e) project management and technical assistance to strengthen participating agencies by financing equipment, start-up expenses, and training programs for project staff. Engineering studies would also be undertaken on critical aspects of water supply in the S.E. Zone and sanitation in the project areas and the city as a whole.

C. Detailed Features

Land Filling

2.06 Filling in the S.E. Zone was begun in November of 1977 and is expected to be completed by December 1979. These works, whose estimated cost is Col\$ 156.3 million (US\$3.4 million), will be partly financed by a US\$2.0 million grant from the Inter-American Development Bank (IDB). The area would

be filled up to a level ensuring protection of streets and house lots against flooding. However, since the level depends in part on conditions at the lagoon mouth at la Boquilla, it was agreed to give further attention to this communication channel with the sea. A study of proposals for stabilization works at La Boquilla has consequently been included in the technical assistance component (see para 2.41).

2.07 In the conservation area filling would be limited to the minimum required to grade the streets. In the rehabilitation area filling is being undertaken by ICT using limestone obtained from a quarry some 8 km away. At the northern edge of the filled area near the lagoon shoreline, a reserve 50 m wide for an eventual road would extend the length of the project area. In conjunction with filling operations, six small ditches which carry surface water from within the project area would be piped or channeled.

Street Drainage

2.08 This component would support investments estimated at Col\$174.3 million (US\$3.8 million) in construction of street gutters and curbs in the S.E. Zone, as well as road improvements and minor drainage works in Pasacaballos. ^{1/}

2.09 The streets in the S.E. Zone would serve as unpaved drainage channels for storm water, discharging into the lagoon at an elevation sufficient to protect against flooding (see paras 2.06-2.07). Concrete curbs or gutters and curbs would be provided to all streets in the project area which lack them (i.e., about 30% of the streets in the conservation area and all streets in the rehabilitation area). Discharging into the gutters would be a series of interlot drains, construction of which would be initiated by community effort (see para 2.23).

2.10 In Pasacaballos approximately 3 km of road would be graded and provided with open drains. This work would be concentrated on two primary roads serving the central area of the town. One of these roads, extending about 1.5 km from the Pasacaballos-Baru ferry to the Export Processing Zone (EPZ) and linking the town to the Cartagena/EPZ main road, would be paved. Minor drainage works, principally open ditches, would be constructed along secondary streets as necessary to facilitate drainage of the main roads.

External Drainage

2.11 Under this component six drainage ditches that traverse the S.E. Zone, conveying surface water from Cartagena's southeastern hinterland to the lagoon, would be replaced by reinforced concrete canals (see Map 13509R). A seventh watercourse, the Cano Chaplundum at the eastern end of the project

^{1/} Cost estimates in this chapter differ from those given in Table 3.1 in that they are inclusive of design, supervision, and contingencies.

area, which carries much higher flows, would be contained by levees. These works, whose estimated cost is Col\$244.4 million (US\$5.3 million), are being designed for the predicted 10-year flood calculated from the available rainfall data for the years 1970-1975. With filling underway, it is highly desirable that storm water runoff be canalized to protect against erosion of the fill and consequent siltation of the ditches. Contracts for the first four of these canals, which lie in the area that is currently being filled, have already been let by the government in an endeavor to have them completed before the advent of the 1978 wet season. The contracts for these four canals have been let in accordance with procedures acceptable to the Bank, and retroactive financing is recommended (see para 3.11).

Utility Infrastructure

2.12 This component covers water trunk mains and primary water, sewerage, and electricity distribution at a total estimated cost of Col\$243 million (US\$5.3 million). Design of the water distribution system will update the recommendations of the 1974 Water Master Plan for the city by extending coverage to the whole of the project area. Design and installation will accord with the minimum norms of ICT and with the standards of the Empresas Publicas Municipales de Cartagena (EPMC). The sewerage system is being designed to comply generally with the standards of the Instituto Nacional de Fomento Municipal (INSFOPAL), with modifications approved by EPMC to suit local conditions. The electricity networks are being designed in accordance with the minimum norms of ICT and in consultation with and subject to the approval of Electrificadora de Bolivar (ELECTRIBOL), the departmental electricity distribution authority.

2.13 Off-Site Water Trunk Mains. In order to supply the S.E. Zone project area with water, it is necessary to lay a trunk main system, which in addition to serving the project area will also supply other parts of the city. This consists of 1 km of pipeline leading from the storage tanks near the El Bosque treatment plant northward to the Avenida Don Pedro de Heredia, where it would branch westward into a main leading to storage tanks beyond the project area, and eastward for a length of approximately 4.8 km (Map 13510R). The first section of the trunk main, i.e., from the El Bosque plant to the point where the main would branch out to serve the S.E. Zone, plus the 4.8 km eastward extension, would be included in the present project and would cost Col\$ 55.7 million (US\$1.2 million). The remaining westward extension would be financed out of the proposed third Bank loan to INSFOPAL or by the national Government.

2.14 To determine the appropriate diameter of the eastward main, an engineering study has been commissioned. This study, which is proposed for retroactive financing, has been included under the technical assistance component (see para 2.38).

2.15 Pasacaballos residents are already served by a water distribution network, but the water supplied is untreated and considered a health hazard.

The Pasacaballos portion of this subcomponent would bring treated water to the town through construction of a 1-km length of main linking the Pasacaballos distribution network to a trunk main being extended from Cartagena to the EPZ under the Bank-assisted Export Processing Zone Project. Since the pressure in the main at the EPZ will be too low to supply the town adequately, provision has also been made for the installation of a pump and construction of an overhead tank. The estimated cost of these works is Col\$ 11.5 million (US\$250,000).

2.16 Primary Water Mains. In the S.E. Zone primary water distribution mains would be provided to the part of the conservation area that is not yet served (approximately 35%), and to the whole of the rehabilitation area. Secondary mains and domestic connections would be laid by community and individual effort (see para 2.23). Primary mains already serving Pasacaballos would be renovated and extended to a number of unserved areas. The total cost of this subcomponent is estimated at Col\$ 58.3 million (US\$1.3 million).

2.17 Primary Sewerage. Main sewage pipes would be installed in that part of the conservation area of the S.E. Zone that is not yet served (approximately 80%), at an estimated cost of Col\$ 41.1 million (US\$890,000). These pipes would discharge into sumps from which the sewage would be pumped into five existing sewage collectors which in turn discharge into the lagoon. Secondary (feeder) sewers and domestic connections would be completed by community action and individuals. No waterborne sewage disposal system would be provided in the S.E. Zone rehabilitation area or Pasacaballos during the life of the project. Instead, a program of intermediate sanitary facilities (primarily pit latrines) would be implemented (see para 2.25).

2.18 For some time the Municipality of Cartagena has been contemplating the construction of sewage oxidation ponds to treat the sewage discharged into the lagoon from much of the rest of the city as well as from the S.E. Zone. The Municipality's present proposals, based on a design made in 1975, call for five oxidation ponds near the shores of the lagoon. These designs were reviewed in February 1978 by a Bank preparation mission which concluded that further studies are required to determine the optimum type, location, and construction materials of the sewage treatment facilities. Provision has accordingly been made in the technical assistance component for these studies and for the final engineering design (see para 2.40).

2.19 Electricity Networks. Electricity distribution networks would be provided to those parts of both the conservation and rehabilitation areas of the S.E. Zone not already served (i.e. 20% of the conservation area and virtually the entire rehabilitation area). In Pasacaballos the electricity distribution network would be extended to serve the entire township. Street-lighting lamps and transformers would be installed on concrete posts, which would support the high tension and low tension networks. The total estimated cost of this subcomponent is Col\$ 87.9 million (US\$1.8 million).

ICT Loans

2.20 Under ICT's PHIZSU program, established in 1976, families in designated substandard areas of Colombian cities may obtain credit for

regularization of tenure, public services, neighborhood improvements, and housing improvements. Within the proposed project, supervised credits for these purposes would be made available under PHIZSU loan procedures. The criteria and operating procedures for these loans as proposed by ICT are generally sound and provide an adequate basis upon which to develop the program (see also para 4.12). They will be monitored closely and will be subject to periodic review by the Bank and ICT. It is estimated that on the basis of affordability and effective demand, at least 5,600 families would avail themselves of one or more loans for the following purposes: (a) regularization of land tenure; (b) public services and neighborhood improvements; (c) housing improvements; and (d) serviced sites and relocation.

2.21 Regularization of Land Tenure. A major aspect of ICT programs for the progressive development of marginal settlements is the provision of secure tenure for land and dwellings. This component estimated to cost Col\$ 12.1 million (US\$260,000) would meet the technical and administrative costs of land tenure surveys connected with regularization of tenure, as well as legal fees for the transfer of title to residents. To qualify, households in the S.E. Zone and Pasacaballos must have lived in the area two years or longer and be able to repay the credits, which bear interest of 12% plus 2% for insurance with repayment terms of up to 15 years (see also para 4.12). As collateral, ICT would be granted a lien on the property. Titles would be processed at an average cost in 1978 prices varying from about US\$21 to US\$49, depending on the extent to which initial surveying and property demarcation has already been done or will be undertaken as part of civil engineering works. Some properties with uncertain tenure status would be regularized as households acquire title financed in a package with housing improvement credits.

2.22 Public Services and Neighborhood Improvements. Extension of secondary public utility distribution networks, domestic connections, and construction of certain neighborhood improvements would be undertaken by community groups utilizing PHIZSU loans to families and on-site technical advice and supervision from ICT for this purpose. Domestic connections would be made by families singly or in small groups, contracting out part or all of the work. Families would be encouraged to connect to water and sewerage networks as rapidly as their preferences and finances permit. Like other ICT loan categories, loans for these purposes would, in addition to the normal monitoring, be reviewed at the halfway point of disbursements (see para 4.19).

2.23 Works to be financed under this component, whose total cost is estimated at Col\$ 297.9 million (US\$6.5 million), include (i) construction of interlot drains at the back of house lots draining rear yards; (ii) paving of sidewalks and pedestrian streets; (iii) secondary water distribution and connections; (iv) secondary sewerage and connections; and (v) electricity connections.

- (i) Interlot Drains: A series of interlot drains, consisting of concrete slab channels with grading of the adjacent earth fill as necessary, would be constructed in the S.E. Zone. These drains would discharge into the street gutters (para 2.09).

Based on anticipated effective demand, provision has been made in the estimates for 30% of the blocks in the conservation area and 60% in the rehabilitation area to be drained in this manner.

- (ii) Sidewalks and Pedestrian Streets: Construction of sidewalks and of walkways along pedestrian streets in the S.E. Zone would be carried out by community groups. In the conservation area it is estimated that effective demand exists for sidewalks to be built along all streets being provided with gutters and curbs (i.e., 30% of the total; see para 2.09). Plans for the rehabilitation area provide for vehicular streets, main pedestrian streets which can also accommodate emergency vehicles, and secondary (exclusive) pedestrian streets. Based on the estimated effective demand, it is planned that about 40% of both vehicular and pedestrian streets would be provided with concrete sidewalks and walkways respectively.
- (iii) Secondary Water Distribution and Connections: The primary water distribution mains that would be provided to the 35% of the S.E. Zone conservation area not already served would be supplemented by a secondary distribution network and domestic connections. Secondary distribution mains and domestic connections would be provided up to an expected coverage of 35% in the S.E. Zone rehabilitation area and 40% in Pasacaballos.
- (iv) Secondary Sewerage and Connections: It is expected that secondary sewers and domestic connections would be provided in the part of the S.E. Zone conservation area not yet served (see also para 2.17). Provision for intermediate sanitary facilities in the S.E. Zone rehabilitation area and Pasacaballos has been included in ICT loans for housing improvements (para 2.25).
- (v) Electricity Connections: It is expected that domestic connections would be installed in the 20% of the S.E. Zone conservation area not already served, and that connections in the S.E. Zone rehabilitation area and Pasacaballos would be installed to meet the estimated effective demand amounting to about 80% and 90% coverage respectively.

2.24 Housing Improvements. In addition to loans for regularization of tenure and public services and neighborhood improvements, ICT supervised credits would also be made available to families for home improvement purposes. Based on estimated effective demand, it is believed that 2,000 households in the project areas would obtain loans in amounts ranging from about US\$350 to US\$1,000 equivalent.

2.25 This component of Col\$ 59.1 million (US\$1.3 million) is designed to assist eligible families in the target areas by providing small construction loans for improvements to their dwellings, as well as for the installation of sanitary facilities. Most of the improvements would be done by the householders or by semi-skilled artisans in the informal construction sector. Technical advice would be supplied to families desiring it, and loans would be closely supervised. Technical advice and social promotion would also accompany loans for the installation of intermediate sanitation facilities in the S.E. Zone rehabilitation area and Pasacaballos. This program would build upon and improve current knowledge and practice, and would include an evaluation of lined, wet-type pit latrines which have proved effective in use. To the extent necessary, loans of this type would be given priority over those for housing improvements. Research to establish guidelines and design standards has already begun, and would be supported by a study for which funds have been included in the technical assistance component (see paras 2.17 and 2.39).

2.26 Sites and Relocation. This component, whose estimated cost is Col\$ 133.6 million (US\$2.9 million), would finance the provision of 715 infill lots in the S.E. Zone rehabilitation area and 750 in Pasacaballos to accommodate new families. In addition, construction loans would be provided to families that would have to be resettled within the S.E. Zone as a result of the proposed project improvements. No contractor-built core units would be provided under any of these options except at the initiative of purchasers, many of whom are expected to hire small-scale local contractors for dwelling construction.

2.27 All 715 infill lots in the S.E. Zone rehabilitation area and 300 of the 750 lots in Pasacaballos would be standard serviced lots of 72 m² with individual water, sanitation, and electricity connections. Average costs including design and physical contingencies would be Col\$ 48,164 (US\$1,226) in the S.E. Zone and Col\$ 34,476 to Col\$ 44,890 (US\$878-\$1,143) in Pasacaballos for infill and newly urbanized locations respectively. The remaining 450 lots in Pasacaballos would have access to nearby primary water and electricity networks. Infill and newly urbanized lots of this type would also be 72 m² in size and cost Col\$ 25,180 (US\$641) and Col\$ 35,594 (US\$906) respectively.

2.28 Resettlement of families within the S.E. Zone project area would involve a total of about 730 dwellings, half presently outside the project area nearer the lagoon and the other half on sites for future streets and community facilities within the project area. Relocated families, who would be given a basic lot of an average size of 70-80 m², would be provided with a loan averaging about US\$685 for construction of a dwelling. Affected

dwellings represent about 7% of the existing S.E. Zone housing stock, the minimum resettlement believed consistent with the orderly growth of the area. It falls within the range of resettlement in Bank-assisted upgrading projects in other countries.

Community Facilities

2.29 Community Development Centers (CDVs) would be constructed and equipped to provide physical facilities in an integrated complex for the delivery of education, health, vocational training, family and child welfare, and employment and productivity promotion services. Local staff to provide these services would also be trained under a national program designed in conjunction with the first Bank urban project. The CDVs would serve as the chief coordination center of the project at the local level. Where facilities already exist, their use would be maximized before new ones are constructed.

2.30 Five CDVs are planned for the project areas at an estimated total cost, including an imputed cost for land, of Col\$ 226.7 million (US\$4.9 million). Each CDV will provide approximately 20,000 persons in the S.E. Zone and about 10,000 in Pasacaballos with the following range of services:

- (a) a 5-classroom primary school catering for 400 students in two shifts. This school would also be used for adult education and literacy programs. As part of the project, existing schools in the area would be renovated or extended where feasible to meet the demand not satisfied by the school in the CDV;
- (b) an urban health center, supporting four health care modules (MACs) and capable of serving up to 30,000 persons. Each health center would have a physician and a dentist in attendance and would be staffed by 16 health promoters ("promotoras") in addition to four auxiliaries in the field and four at the center;
- (c) a family and child welfare center (CAIP) that would provide preschool day care, nutrition, population, and family welfare advisory and education programs for the residents of the area. The CAIP would also serve as a resource center for a decentralized program of day-care services provided in private homes or small subcenters by mothers;
- (d) an employment and productivity unit (UPE) which would aim to improve the skills of workers and the managerial competence of small entrepreneurs in the area. This unit would also promote new small enterprises and channel feasible projects to the formal financial agencies. Provisions in the first Bank-assisted urban project in Colombia (Loan No. 1558-CO) for small enterprises to gain access to CFP

credit would be used in Cartagena, which would become eligible for such programs on an equal basis with the other cities of that project. Training and technical assistance would be provided by the National Training Service (SENA). Services offered by the UPE unit would be coordinated by a full-time small enterprise promoter; and

- (e) common facilities for local administrative offices, community meeting rooms, a community library and a sports area, all of which would serve the other facilities in the complex.

2.31 Designs for these programs would follow national standards which were appraised and agreed to under the first urban project. The CDVs would be constructed and equipped by ICT and transferred to the agencies who will be responsible for delivery of the services. As a result of the project, the participating agencies would need to increase their staffs in the project areas by 92 persons in education, 150 in health and 50 in family and child welfare. Training of new staff would be carried out under the project. The agencies should have little difficulty in meeting these modest increases. Agreements with the participating agencies on implementation and staffing responsibilities would be conditions of loan effectiveness (see para 4.02).

Project Management

2.32 The project would strengthen the implementation capacity of participating agencies, develop a monitoring capability within ICT/Cartagena, and conduct an ongoing evaluation of project activities. A total of Col\$ 52.4 million (about US\$1.1 million) would support the establishment of a project management team and monitoring and evaluation system, as well as expenses of the CDVs during the first four years of operation.

2.33 The project management structure within ICT/Cartagena would consist of a technical director, a director of social services, and a director of evaluation, with the necessary supporting staff. This team would coordinate and supervise both the technical and the social action aspects of the project. A system for monitoring and evaluating the project would also be established, with support for staffing, research to be carried out by consultants, and publication of the results of the evaluation exercises. Operating expenses of the CDVs would consist of salaries plus materials, equipment, and related expenses for the following local field staff for each CDV: (a) a coordinator of CDV operations; (b) a small enterprises promoter; (c) two promoters for the community action public services program; and (d) a social worker.

Technical assistance

2.34 Under this component, whose estimated cost is Col\$ 31.5 million (US\$680,000), technical assistance for cadastral improvements and municipal fiscal planning would be provided and studies carried out on water supply and sanitation in the project area and its environs.

2.35 Cadastral Improvements and Municipal Fiscal Planning. The property tax in Cartagena accounts for about 20% of revenues from local sources, but could play a greater role if assessment procedures and tax administration were improved. Even when updated, assessments of Cartagena properties are believed to fall short of the full market value required by statute. Intervals between reassessments have averaged 4-6 years in the recent past rather than the stipulated two years. During these intervals it has not proved possible to transfer to the cadastre updated information from sales records and owner declarations of value for income tax purposes. Lacking recognized boundaries and clear title, most properties in the project areas have remained outside the cadastral rolls.

2.36 This subcomponent, which is estimated to cost Col\$ 9.2 million (US\$198,000), will support the purchase of urgently needed surveying equipment and vehicles under a five-year program of cadastral improvements to which the National Geographic Institute (IGAC) will contribute technical and administrative staff. During 1979, IGAC would survey and establish assessments for about 12,000 properties in the project areas. At the same time, assessments on the remaining properties in the city would begin to be brought up to date and changes in value arising from improvements recorded. All municipal properties including those in the S.E. Zone project area would be placed on the same footing by 1982, prior to the citywide revaluation scheduled for 1983. This program would be supervised by ICT under an agreement to be entered into between ICT and IGAC covering the activities to be carried out by IGAC within the agreed time frame and the resources to be provided by IGAC and ICT through the project. The conclusion of the ICT/IGAC agreement would be a condition of effectiveness.

2.37 In addition to the cadastral improvements program, a study of municipal finance and planning in Cartagena would be undertaken to provide the basis for more effective fiscal planning. The study would (a) assess the performance of the tax system and recommend improvements in coverage, collection, and administration; and (b) establish criteria for determining appropriate means of financing city activities and of preparing and updating capital budgets. The estimated cost of the study is Col \$1.7 million (US\$37,500) based on 20 expert months of local consultants' time.

2.38 Water Trunk Main Study. This study will refine estimates in the 1974 Water Master Plan of the appropriate diameter of the trunk main serving the S.E. Zone (para 2.14) in the light of likely future demand from both within and beyond the project area. The study is being carried out and will include the preparation of final engineering designs and contract documents. Its estimated cost is Col \$654,000 (US\$16,400), based on 10 expert months of local consultants' time.

2.39 Intermediate Sanitation Study. Another study would examine the applicability of intermediate sanitation measures in those areas in which waterborne sewerage systems will not be installed in the near future. The study will compare the features of solutions such as dry and wet pit latrines, aqua privies, and septic tanks; identify the best practical designs for

preferred solutions; and carry out field tests and monitor the performance of such solutions. The estimated cost of the study is Col\$ 990,000 (US\$21,500), which is based on 12 expert months of local consultants' time over a two-year period.

2.40 Sewage Treatment Study. A third study, whose timetable is not specifically related to execution of the project, would deal with the treatment of sewage now discharged directly into the lagoon from a large part of the city. Taking account of recent proposals for the construction of sewage oxidation ponds (para 2.18) and of an ongoing study of pollution of Cartagena Bay and environs undertaken by the Bolivar Departmental government, the study would assess more broadly the feasibility of alternative treatment systems, carry out field trials, and prepare engineering designs and contract documents for the recommended solution. The estimated cost of the study is Col\$ 9.9 million (US\$215,000), of which US\$75,000 would be for expatriate consultants and the remainder is based on 65 expert months of local consultants' time.

2.41 Study of Proposals for Works at La Boquilla. Provision has also been made for a study estimated to cost Col\$8.9 million (US\$195,000) to establish what modifications, if any, to designs for stabilization works of the Ministry of Public Works are required to ensure stable flows through the connecting channel and thereby to regulate more systematically the water levels in the lagoon and provide protection against flooding of the newly filled areas. The study would be supervised by ICT and is expected to be completed within 18 months.

III. COST ESTIMATES AND FINANCIAL ARRANGEMENTS

A. Cost Estimates

3.01 The total cost of the project is estimated at Col\$ 1,631 million (US\$35.3 million), of which US\$9.9 million, or approximately 28%, represents the foreign exchange component. Base cost estimates are expressed in prices as of mid-1978. With the exception of four of the external drainage canals, estimated costs of which were obtained from contractors' bids, costs of civil engineering works were estimated on the basis of consultants' feasibility studies and preliminary designs. Estimates of ICT loans were based on consultants' feasibility studies related to anticipated effective demand. Base costs of community facilities and project management were obtained from participating agencies or updated from detailed specifications prepared for the first Colombia urban project (Loan No. 1558-CO). A physical contingency of 15% was allowed on the land filling component and off-site water trunk mains subcomponent. Because detailed engineering was generally not available at the time of appraisal, however, a physical contingency of 20% of base cost estimates was allowed on all other items except land for community facilities and ICT loans for regularization of land tenure and housing improvements. A total price contingency of 42% was included for expected price inflation of

18%, 16%, and 14% during 1978-80 and 12% thereafter (Programs Department estimates) on all local and foreign cost items except land, including physical contingencies. Cost estimates are given in Table 3.1 below.

B. Financing Plan

3.02 A Bank loan of US\$13.5 million equivalent is proposed, which would finance the foreign exchange requirements of the project and US\$3.6 million in local costs. The Bank would thus finance 38% of total project costs, compared with 40% for the first urban project in Colombia (Loan No. 1558-CO). The loan would be made to the Republic of Colombia and would be for a term of 17 years, including 4 years of grace, at the prevailing standard Bank interest rate. The Borrower would make the peso equivalent of the loan available to the implementing agencies. Transfers of this type are in line with government policy to strengthen the capacity of participating institutions to implement and finance similar projects in the future.

3.03 The remainder of the financing plan includes contributions of US\$10.3 million equivalent from the national government and US\$0.5 million equivalent from the municipal government, which in total would cover 31% of the project investment requirements. An additional US\$8.1 million (23% of total investment requirements) would be provided from the internal resources of ICT, and US\$0.9 million (3%) from the internal resources of the utility enterprises EPMC and ELECTRIBOL. A contribution of US\$2.0 million (5%) from the Inter-American Development Bank (IDB) would be expended on land filling. Thus, the Colombian government, its subdivisions and agencies would provide 57% of the financing required. The financial commitments of each source would be assured through agreements which would be conditions of loan effectiveness.

3.04 Within the utility infrastructure component, 80% of the estimated cost of the off-site water trunk mains plus 100% of the estimated cost of the primary water and sewerage networks would be made available by the Government to INSFOPAL. INSFOPAL would, in turn, make the same funds available to ICT as required to construct the trunk mains and water and sewerage networks. The remaining 20% of the cost of the trunk mains would be made available to ICT by EPMC from its internal resources. Upon completion, the water and sewerage networks would be transferred by ICT to EPMC for operation and maintenance. ICT would not receive payment for these assets, but EPMC would, in line with the procedures adopted for the first urban project, recognize a debt towards INSFOPAL equivalent to 40% of the construction costs of both the trunk mains and distribution networks, repayable in pesos at 18% interest over 17 years including 4 years of grace. The remaining 40% of the trunk mains and 60% of the distribution networks would be treated by EPMC as an equity contribution from INSFOPAL. The Government would treat 60% of the cost of electricity distribution networks as an equity contribution to ELECTRIBOL. The remaining 40% would be financed from ELECTRIBOL's own resources.

Table 3.1

COLOMBIA

Second (Cartagena) Urban Development Project

Project Cost Estimates

	Col\$ millions			US\$ millions			% Foreign Exchange
	Local	Foreign	Total	Local	Foreign	Total	
A. <u>Land Filling</u>	55	56	111	1.2	1.2	2.4	50
B. <u>Street Drainage</u>	62	34	96	1.3	0.7	2.0	35
C. <u>External Drainage</u>	110	60	170	2.4	1.3	3.7	35
D. <u>Utility Infrastructure</u>							
Off-Site Water Trunk Mains	18	12	30	0.4	0.2	0.6	40
Primary Water Mains	18	12	30	0.4	0.2	0.6	40
Primary Sewerage	12	8	20	0.2	0.2	0.4	40
Electricity Networks	26	17	43	0.5	0.4	0.9	40
Subtotal D	74	49	123	1.5	1.0	2.5	40
E. <u>ICT Loans</u>							
Regularization of Land Tenure	6	1	7	0.2	-	0.2	15
Public Services and							
Neighborhood Improvements	130	11	141	2.8	0.3	3.1	8
Housing Improvements	33	3	36	0.7	0.1	0.8	8
Sites and Relocation	59	5	64	1.3	0.1	1.4	8
Subtotal E	228	20	248	5.0	0.5	5.5	8
F. <u>Community Facilities</u>							
Land	20	n.a.	20	0.4	n.a.	0.4	0
Construction	43	23	66	0.9	0.5	1.4	35
Equipment	13	7	20	0.3	0.2	0.5	35
Training	8	5	13	0.2	0.1	0.3	35
Subtotal F	84	35	119	1.8	0.8	2.6	29
G. <u>Project Management</u>	22	5	27	0.5	0.1	0.6	20
H. <u>Technical Assistance</u>	15	4	19	0.3	0.1	0.4	20
I. <u>Design and Supervision</u>	46	12	58	1.1	0.2	1.3	20
Base Costs (Subtotal A-I)	696	275	971	15.1	5.9	21.0	28
Physical Contingencies	125	49	174	2.7	1.1	3.8	28
Price Contingencies	350	136	486	7.6	2.9	10.5	28
TOTAL PROJECT COST	1,171	460	1,631	25.4	9.9	35.3	28

COLOMBIA

Second (Cartagena) Urban Development Project

Financing Plan
(amounts in Col\$ million)

	Total Cost	Sources of Financing													
		IBRD		IDB		National Government		Local Government		ICT		EPMC		ELECTRIBOL	
		Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Land Filling	156.3	28.8	18	84.3	54					43.2	28				
Street Drainage	174.3	69.7	40			104.6	60								
External Drainage	244.4	97.8	40			146.6	60								
Utility Infrastructure															
Off-Site Water Trunk Mains	55.7	22.3	40			22.3	40				11.1	20			
Primary Water Mains	58.3	23.3	40			35.0	60								
Primary Sewerage	41.1	16.4	40			24.7	60								
Electricity Networks	87.9	35.2	40			17.6	20						35.1	40	
ICT Loans															
Regularization of Land Tenure	12.1	4.8	40							7.3	60				
Public Services and Neighborhood Improvements	297.9	119.2	40							178.7	60				
Housing Improvements	59.1	23.6	40							35.5	60				
Sites and Relocation	133.6	53.4	40							80.2	60				
Community Facilities	226.7	90.7	40			109.5	48	26.5	12						
Project Management	52.4	21.0	40							31.4	60				
Technical Assistance	31.5	12.6	40			18.9	60								
Total Project Cost	1,631.3	618.8	38	84.3	5	479.2	29	26.5	2	376.3	23	11.1	1	35.1	2
US\$ Equivalent	35.3	13.5	38	2.0	5	10.3	29	0.5	2	8.1	23	0.2	1	0.7	2

C. Procurement

3.05 Civil works contracts up to a limit of US\$750,000 equivalent would be awarded through local competitive bidding open also to foreign contractors, using procurement procedures acceptable to the Bank. Because of the large number of competent local contractors, it is expected that all such contracts will be won by local bidders. Contracts for civil works above US\$750,000 equivalent would be awarded through international competitive bidding in accordance with Bank guidelines.

3.06 To ensure efficient provision of services as bidding documents for works in each sector of the S.E. Zone and for Pasacaballos become available, contracts for the drainage canals and other civil works are expected to be let separately. In an endeavor to have the works completed before the 1978 wet season, contracts of about US\$500,000 each for the first four external drainage canals were awarded under local procedures acceptable to the Bank. Contracts for land filling awarded to date have gone to the lowest bidders under local procedures acceptable to the Bank.

3.07 Construction of the CDVs (average cost US\$500,000) would be carried out by ICT directly hiring and supervising small private contractors, as is being done in the current Bank-financed urban development project in Colombia. Contracts would be awarded on the basis of local competitive bidding or local shopping in which at least three contractors are invited to bid for each contract. For the ICT loans, materials would be procured by local competitive bidding or local shopping, the ICT regional manager being authorized to award contracts directly up to a value of Col\$ 500,000 (about US\$12,500 in 1978 prices) without inviting bids. With these arrangements, local procurement is expected to occur in a manner satisfactory to the Bank.

3.08 Contracts for the supply of equipment and materials in excess of US\$150,000 would be awarded through international competitive bidding in accordance with Bank guidelines. Contracts of under US\$150,000 up to a total amount of US\$2 million would be awarded on the basis of local competitive bidding procedures acceptable to the Bank. For bid evaluation purposes, under international competitive bidding, a margin of 15% or the value of the applicable customs duties, whichever is lower, would be allowed for materials and equipment manufactured in Colombia. As is customary, water meters would be procured through international competitive bidding.

3.09 Prior Bank review and approval of bidding documents for all civil works contracts of US\$750,000 equivalent and above and for equipment contracts of at least US\$150,000 equivalent would be required for contracts under the project.

D. Disbursement

3.10 Disbursements under the proposed loan would be fully documented except for loans disbursed by ICT for regularization of land tenure, housing

improvements, public services and neighborhood improvements, and serviced sites and relocation. Disbursements for these loans would be made against a certified statement of expenditures against amounts disbursed, and the documentation for expenditures associated with such disbursements would not be submitted to the Bank, but would be retained by ICT for review by Bank project supervision missions. No disbursements would be made against expenditures on land filling incurred prior to loan signing. The proceeds of the loan would finance the following items:

- (a) 40% of total expenditure for land filling (net of the IDB contribution), civil engineering works, utility infrastructure, and community facilities (except land);
- (b) 40% of loans disbursed by ICT for regularization of land tenure, housing improvements, public services and neighborhood improvements, and serviced sites and relocation;
- (c) 40% of total expenditure for project management and technical assistance.

Completion of filling to the satisfaction of the Bank in each sector of the S.E. Zone has been established as a condition of disbursement for works undertaken in that sector.

3.11 Retroactive Financing. Retroactive financing in an amount not exceeding US\$1.18 million equivalent is recommended for expenditure incurred from April 22, 1978 in (a) construction of the four external drainage canals for which contracts have been awarded (para 2.11); (b) equipment and materials for the first CDV; and (c) execution of the water trunk main study (para 2.38). Contracts for the external drainage canals have been awarded to the lowest bidders under ICT's normal procurement procedures.

3.12 The schedule of estimated disbursements is shown below:

<u>Quarter Ending</u>	<u>IBRD disbursements each quarter (US\$ million)</u>	<u>Cumulative IBRD disbursements, end of quarter (US\$ million)</u>	<u>% Cumulative disbursements</u>
September 30, 1979	0.9	0.9	7
December 31, 1979	0.3	1.2	9
March 31, 1980	0.8	2.0	15
June 30, 1980	1.0	3.0	22
September 30, 1980	0.9	3.9	29
December 31, 1980	0.9	4.8	36
March 31, 1981	0.9	5.7	42
June 30, 1981	0.8	6.5	48
September 30, 1981	0.8	7.3	54
December 31, 1981	0.8	8.1	60
March 31, 1982	0.8	8.9	66
June 30, 1982	0.7	9.6	71
September 30, 1982	0.7	10.3	76
December 31, 1982	0.6	10.9	81
March 31, 1983	0.6	11.5	85
June 30, 1983	0.5	12.0	89
September 30, 1983	0.5	12.5	93
December 31, 1983	0.4	12.9	96
March 31, 1984	0.3	13.2	98
June 30, 1984	<u>0.3</u>	13.5	100
	13.5		

IV. MANAGEMENT AND IMPLEMENTATION

A. Project Management

4.01 The principal agency concerned with low-cost urban housing in Colombia, the Instituto de Credito Territorial (ICT) through its regional office in Cartagena, would be responsible for carrying out the project. Public utility distribution networks would be contracted for and supervised by ICT in coordination with EPMC and ELECTRIBOL, particularly with regard to technical specifications. ICT would also coordinate the project-related

education, health, and family welfare activities of the Ministries of Education and Health, the National Training Service (SENA), the Institute of School Construction (ICCE), and the Institute of Family Welfare (ICBF), as well as the cadastral improvements program to be carried out by IGAC. These ministries and agencies have had experience with similar programs and all but IGAC are involved in the first urban development project (Loan No. 1558-CO) which has comparable objectives and operating procedures. Agency responsibilities for project implementation are listed in the following table.

<u>Component</u>	<u>Participating Agencies</u>
Street Drainage	Instituto de Credito Territorial (ICT)
Water supply and sewerage	Empresas Publicas Municipales de Cartagena (EPMC)
Electricity	Electrificadora de Bolivar (ELECTRIBOL)
Construction of Community Development Centers (CDVs)	ICT
Education	Ministry of Education; Institute of School Construction (ICCE)
Health	Ministry of Health
Family and Child Welfare	Institute of Family Welfare (ICBF)
Vocational Training and Small Enterprises Development	National Training Service (SENA)
Cadastral Improvements	National Geographic Institute (IGAC)

4.02 ICT would enter into agreements with the various participating ministries and agencies covering the respective obligations of ICT and the agencies. These agreements, drafts of which were available at negotiations, would be on terms and conditions satisfactory to the Bank and would be conditions of loan effectiveness. Participating agencies would have responsibility for the implementation of their respective components, and each would provide the necessary personnel for staffing the facilities being constructed under the project. Assurances were obtained during loan negotiations that the participating agencies would assume responsibility for, adequately staff, and operate the facilities under their control during the life of the project.

Executing Agency--ICT

4.03 The national urban housing authority Instituto de Credito Territorial (ICT), a semi-autonomous decentralized agency responsible to the

Ministry of Economic Development, has broad responsibilities for urbanizing land, constructing housing, and offering credit and social and technical services to its program beneficiaries. Established in 1939 to provide loans for improvement of the living conditions of the agricultural labor force, ICT's focus was altered in 1942 to include urban housing. By 1956 the agency was concentrating solely on urban development and moderate-income housing. ICT has had a great deal of experience with conventional housing programs, but has had less success in tailoring these programs to the needs of the lowest-income groups. Particularly within the past five years, however, ICT has attempted to address the housing problems of these groups through construction of "social interest" housing and more recently through the PHIZSU program of upgrading in substandard areas of intermediate-sized and smaller cities.

4.04 The Banco Central Hipotecario (BCH), a government mortgage bank, serves customers in the urban middle- and upper-income brackets and, like ICT, also participates in direct construction. Low-cost homes are built under ICT self-help and direct construction schemes.

4.05 ICT is governed by a six-person board appointed by the President of the Republic. The National Planning Department (DNP) may participate in Board meetings and can veto resolutions approved by the Board. This has had a positive impact and led to a broadening of ICT's financing under major national loan programs to which the municipalities have access. In addition to its central office in Bogotá, there are 24 regional offices located in departments and territories throughout Colombia to facilitate administrative procedures, loan recovery operations, and project implementation. Activities are organized into four functional areas--technical, construction, finance, and administration--which report to the general manager through the offices of Organization Control and Planning. This organization structure is depicted in Annex 1.

4.06 The central office has traditionally been responsible for policy formulation, project design, and construction procedures. However, in the current decentralized approach, regional branches are encouraged to develop more autonomous programming and project development consistent with goals and priorities established by the central office. As a result, each Department in the country now has an ICT office as well as a local advisory board comprised of representatives of public and private interest groups. Due in part to some loss in communication between the central and regional offices, but mainly because of the loss of leverage the central office can exert, results of this decentralization effort have thus far been mixed.

4.07 The ICT regional office in Cartagena is responsible for ICT operations in the Department of Bolivar. The office is organized in a manner similar to that of the head office in Bogotá (see Annex 1), with divisions headed by subdirectors dealing with technical, financial, construction, and administrative matters. Special units have also been set up to coordinate all aspects of specific projects. The first of these was set up in 1976 to manage the middle-income housing and commercial development of Chambacú near the old city (see paragraph 1.18). These units are not self-contained but draw upon the specialized services and expertise of functional divisions.

Their main purpose is to perform a coordinating role in complex projects, to promote the aims of the project within ICT, and to develop an expertise in certain specialized aspects of development.

Management Structure of the Project

4.08 ICT has established a project management unit in its Cartagena office to coordinate the implementation of all aspects of this project. The unit will be integrated into the structure of the office and will draw upon the various functional divisions for financial, legal, loan processing, and personnel services. The unit will have its own expertise in technical management, contract supervision, social development, and monitoring and evaluation. A Project Manager and a Director of Social Programs have been appointed to the unit. Extension field staff and a monitoring and evaluation officer would also be appointed under the project as agreed at negotiations. In the appraisal mission's view, these arrangements would provide satisfactory coordination and administration of the project. Assurances were obtained at negotiations that the project management unit will be maintained during the life of the project.

B. Project Implementation

Implementation Schedule

4.09 The Bank project would be implemented as shown in Annex 2. In the S.E. Zone, construction of four of the external drainage canals has already begun. Laying of street gutters and curbs, interlot drains, and water distribution mains would be undertaken first in the conservation area, to allow time for settlement of the fill in the rehabilitation area. Care will be required in the coordination and phasing of various implementation activities, especially the public utilities in relation to each other and to street improvements. The staff to be hired under the Project Management component would assist in this process.

Implementation Procedures

4.10 Civil Works. The design, bidding, and construction of all civil works will be the responsibility of ICT/Cartagena through the project management unit. Following standard practice, designs and cost estimates for the water and sewerage networks would be subject to the final approval of EPMC, which would take over and operate the completed works. The electrical installations would similarly be subject to the approval of ELECTRIBOL. In the design and construction of drainage and roads, close liaison with the municipality is being maintained. The design and construction of the community facilities will be carried out in consultation with the various participating agencies. Consultants have been retained for all engineering designs, and contract supervision would also be carried out by consultants retained by ICT and under the overall direction of the project unit. These procedures should ensure satisfactory execution of civil works components.

4.11 Equipment. Equipment lists for all facilities have been drawn up with the participating agencies. ICT would procure equipment in consultation with and on behalf of the other participating agencies, and turn over completed operational facilities to each agency.

4.12 ICT Loans. Loans for regularization of land tenure, housing improvements, and public services and neighborhood improvements would be administered through ICT's PHIZSU loan procedures as set forth in Acuerdo 4 (1977) and supervised by ICT field staff. Loans bear interest at the rate of 12% plus 2% for insurance. Amortization is on a monthly schedule under which repayments increase at 5% per annum over the life of the loan. These programs will be promoted by specially trained field staff operating out of the CDVs in close collaboration with other CDV staff. Loans will be processed at the Cartagena office of ICT using its normal criteria, which were reviewed by the appraisal mission and found to be acceptable. Any change in lending criteria or terms would be subject to consultation and agreement between ICT and the Bank.

4.13 While home improvement subprojects would be carried out at the initiative of residents, somewhat different procedures following current practice would be adopted for subprojects relating to public services and neighborhood improvements. The availability of credit and technical assistance for the construction of local improvements would be publicized and promotion with community groups carried out by the field promoters. When at least 80% of the resident beneficiaries of an improvement project area agree to and commit themselves to the program, specific subprojects are prepared. Community members are encouraged to undertake works of high priority, such as water and sanitation, prior to activities such as dwelling expansion. The subproject is costed and its conformance with existing development plans verified.

4.14 The Community Action Committee (Junta de Accion Comunal) then solicits the support of community members on the basis of proposed costs and benefits. In addition to promotion, Community Action Committees are organized and trained to take on responsibility for the organization and mobilization of self-help contributions from residents, as well as for maintaining progress of the works, monitoring costs and payments, and supervising use of the works upon completion. Costs are allocated to those who request the service on the basis of per front foot charges. All participating households sign a commitment letter to ICT undertaking to accept their portion of the costs and to repay through a mortgage to ICT, pledging their land or dwellings as collateral.

4.15 Upon receipt of this commitment, the works are carried out either by ICT through contractors, if the residents so desire, or by the community under the direction of the Community Action Committee. Beneficiaries may make a labor contribution of up to 40% of the cost of the works. When the works are completed, definitive costs are determined and amortization of the debt is started two months after completion.

4.16 Loans for housing improvements and lot purchase would be implemented by ICT, which has had long experience with this type of program. Loans for lot purchase and for construction of new houses on these and other infill lots in the project areas will be processed by ICT using criteria and procedures acceptable to the Bank. Any change in these criteria or procedures would be made only after consultation and agreement between ICT and the Bank.

4.17 Training. Job training and basic skills improvement would be undertaken through SENA's urban mobile program along the lines of the first urban project. Technical assistance would be provided to individuals and small enterprises in preparing projects in management and marketing and gaining access to credit. Training of staff for the facilities would be carried out by the respective agencies under agreements between ICT and each agency. These agreements would cover such aspects as training, staffing, and operation of the facilities.

Supervision

4.18 For a city the size of Cartagena, this project is relatively large. Accordingly, while local agencies have the technical and administrative capacity to carry out the project, the appraisal mission concluded that adequate Bank manpower allocated to supervision was necessary during project execution. An estimated 30 man-weeks of Bank staff and consultant time is required for the first year of the project, reducing to 25 man-weeks for the second year and 20 man-weeks for the third and fourth years. To the extent feasible, supervision would be undertaken in parallel with supervision of the first urban project and with preparation of future projects.

Monitoring and Evaluation

4.19 To ensure that information essential to project execution is provided to project managers, monitoring of the housing improvement, social services, and physical environmental upgrading components of the project would be undertaken by ICT/Cartagena. Quarterly reports would be prepared by the ICT monitoring team on the basis of records systematically kept of key indicators of progress toward project goals. The format of such reports was discussed at negotiations. Themes to be treated in the reports, which would be submitted to the Bank, include (i) the pace of construction of project infrastructure; (ii) degree of participation in housing improvement loans and repayment experience; (iii) pace of housing improvement and consolidation; (iv) impact of community participation; (v) appropriateness of service standards and tenure arrangements; (vi) growth of small enterprises and contractors; (vii) turnover of area residents; and (viii) demand and payments for rental accommodations. Commitments and disbursements under each ICT loan category would be reviewed at the halfway point, in addition to normal monitoring, to gauge the overall effectiveness of these programs in reaching the intended beneficiaries.

4.20 The reports would also include results from a number of studies designed to find out what changes in the economic and social well-being of area residents can be ascribed to the project. Each of these studies, to be financed under the Project Management component, is expected to take four to six man-months to carry out. Studies are envisioned on the following topics:

- changes in family consumption and the percent of income devoted to shelter, work trips, and other items;
- direct and indirect employment impacts of the project, including improved access to jobs throughout the city in addition to project-related employment;
- changes in the health and nutrition status of the area residents.

Local Participation

4.21 Among the objectives in implementation procedures for the project is that of maximizing the degree of local participation. The implementation of the project would be coordinated at the community level through five Neighborhood Development Centers (CDVs) which would be constructed in the project areas. Design, management, and evaluation of CDV programs would be assured by a local management board composed of one representative from each participating agency and three members of the community. Assurances were obtained during negotiations that each CDV will be staffed by a coordinator, two social workers, a PHIZSU loan promoter, and a small-enterprise development promoter, in addition to suitably qualified staff in the required numbers for the education, health, family and child welfare, and vocational training facilities.

4.22 In the delivery of health and family and child welfare services a high degree of local participation is planned. Health services will be in keeping with the national health plan and will be dependent on community-based health promoters and auxiliaries operating out of the health center in the CDV under the supervision of a physician. The health component will create about 160 jobs which are expected to be filled by residents of the project area, the majority of whom would be women who would receive the necessary training.

4.23. The project will also promote a community-based day care program to be run by local mothers from their own homes. Training, equipment and supervision will be provided and the mothers will be paid. Approximately 100 jobs which would all be filled by women, are expected to be created by the family and child welfare components.

4.24 Once basic primary infrastructure has been installed by the executing agency, any further improvements would be dependent on local participation. Locally based social workers, two per CDV, would work with Community Action Committees to assist with preparation of neighborhood improvement projects in line with overall development plans for the project area. Thus far this

system of local participation on a "contract in" basis has taken place on a small scale, mainly at the initiative of local groups. The project aims to strengthen these procedures and, through promotion and technical assistance by field staff, to enlarge the scope of the program. This system also places the decisions on priorities for development squarely within the community, and supports works and activities for which there is a local demand.

V. FINANCIAL ANALYSIS

A. Introduction

5.01 As the most important agency concerned with low cost urban housing, ICT constructs low-cost homes under self-help and direct construction schemes. In addition, a workers' plan assists business enterprises with worker housing programs, and another program provides for the sharing of construction costs with a private financing agency. Funds are available from international loans, ICT bonds (which must be purchased by companies with a taxable income exceeding a stated figure), and deferred purchase payments.

5.02 In line with greater recognition of an integrated approach to the solution of urban problems, the concept of providing housing has been broadened to include other public service infrastructure such as water, sewerage and electricity. At the local level, EPMC is the major public agency concerned with these services. Electricity, however, is distributed by ELECTRIBOL, which is owned partly by the Municipality of Cartagena and partly by Corporacion Electrica de la Costa Atlantica (CORELCA), the regional bulk supplier of power. The electricity networks component of the proposed project is quite small, representing about 5% of total investment costs or Col\$ 87.9 million (US\$1.9 million). Since the component creates no significant financial risk to ELECTRIBOL, its financial position has not been analyzed in this report.

Instituto de Credito Territorial (ICT)

Past Finances

5.03 Between 1942 and 1969 ICT constructed 150,000 units, one-third of them in the period 1966-1969. In 1971, ICT participation comprised 31.2% of the construction budget of the country, but by 1974 its relative share had declined to 10.6%. This coincided with a shifting emphasis toward lower cost housing, as well as greater participation in the construction industry by commercial banks, financial institutions, and other private resources. As shown in Table 5.1 below, ICT is large, having as of December 31, 1977, Col\$ 14 billion (US\$360 million) in total assets. Of this amount, about 29% or Col\$ 4 billion (US\$102 million) is in the form of paid-in capital, 57% or Col\$ 8 billion (US\$204 million) is in the form of long-term debt, and 14% or Col\$ 2 billion (US\$54 million) is represented by short-term debt.

Table 5.1

Instituto de Credito Territorial (ICT)

Summary Balance Sheets
(Col\$ billions; end of year)

	1975	1976	1977	1978	1979	1980	1981	1982
<u>Assets</u>								
Current Assets	2.07	1.79	2.09	2.79	3.44	4.26	5.28	6.55
Loans Receivable	5.26	5.83	7.20	8.74	10.82	13.41	16.62	20.59
Housing Projects	2.99	3.24	4.27	5.33	6.67	8.33	10.42	13.02
Other	0.20	0.29	0.30	0.33	0.41	0.49	0.58	0.72
Total Assets	<u>10.52</u>	<u>11.15</u>	<u>13.86</u>	<u>17.19</u>	<u>21.34</u>	<u>26.49</u>	<u>32.90</u>	<u>40.88</u>
<u>Liabilities and Equity</u>								
Current Liabilities	1.29	1.74	2.44	2.81	3.44	4.23	5.19	6.39
Long-term Debt	4.42	4.64	5.66	9.85	12.42	15.58	19.45	24.21
Capital	4.81	4.77	5.76	4.53	5.48	6.68	8.26	10.28
Total Liabilities and Equity	<u>10.52</u>	<u>11.15</u>	<u>13.86</u>	<u>17.19</u>	<u>21.34</u>	<u>26.49</u>	<u>32.90</u>	<u>40.88</u>
<u>Key Parameters</u>								
Current Ratio	1.59	1.03	0.86	0.99	1.00	1.01	1.02	1.03
Debt to Equity Ratio	2.22	1.60	1.96	2.18	2.27	2.33	2.36	2.36
Interest Rate Spread	-	-0.30	-2.10	-5.20	-7.30	-7.30	-7.10	-7.10

5.04 ICT's operating performance has been gradually weakening over the last few years, with net profits decreasing from a high of Col\$ 25 million in 1976 to Col\$ 10 million in 1977, marking the first year that ICT was unable to generate sufficient funds to cover debt service and working capital requirements. The effect of this is shown by an erosion of its liquidity position which is reflected in the current ratio; having slipped from 1.6 in 1975 to 0.9 in 1977. A current ratio of 1.2 is generally considered the minimum required for adequate short-term liquidity. ICT's decreasing profits resulted mainly from (a) high borrowing costs due to higher than anticipated local rates of inflation; (b) its failure to implement timely and adequate increases in the interest rates charged to its customers; and (c) the diminishing impact of interest rate cross-subsidy which had characterized previous years (see para 5.10). The combined effect of this has resulted in

a decrease in the interest rate spread, dropping from zero in 1975 to -5.2% in 1978, and averaging about -7.2% in 1979 and thereafter. Mortgage delinquency has not been a serious problem in ICT, which is indicative of prudent underwriting and collection practices. The Cartagena portion of ICT's overall lending portfolio, for example, has an arrears average of under 2.7 months, which is about equal to the national average.

Future Finances

5.05 Looking forward, the financing requirements of ICT during the period 1979-82 total US\$863 million equivalent (Table 5.2). This amount includes an outlay of US\$35 million for the proposed project and other lending operations of US\$655 million, housing projects of US\$167 million, and working capital requirements of US\$6 million. About 32% of requirements will be financed from repayments of principal (collections, net of cash flow deficit), 14% from government transfers, and 54% from borrowings.

Table 5.2

Instituto de Credito Territorial (ICT)
Financing Plan

	-----1979-82-----		
	millions US\$	billions Col\$	%
<u>Application of Funds</u>			
Loan Disbursements			
Proposed Cartagena Project	35.3	1.63	4.0
Other Programs	654.8	30.19	75.9
	<u>690.1</u>	<u>31.82</u>	<u>79.9</u>
Housing Projects	166.8	7.69	19.3
Working Capital and Other	6.1	0.28	0.8
	<u>863.0</u>	<u>39.79</u>	<u>100.0</u>
<u>Source of Funds</u>			
Internally Generated Funds	3.2	0.15	0.4
Less Debt Service	63.3	2.92	7.3
Net Internally Generated Funds	-60.1	-2.77	-6.9
Collections	337.5	15.56	39.1
Government Transfers	122.1	5.63	14.1
Deposits	134.7	6.21	15.6
Borrowings	328.8	15.16	38.1
	<u>863.0</u>	<u>39.79</u>	<u>100.0</u>

5.06 The proposed Bank-financed component is quite small relative to ICT's overall investment program shown in Table 5.2, representing only about 4% of total expenditures during the 1979-1982 period. It is, therefore, unlikely that any change in ICT's financial position would significantly affect the implementation of the project.

5.07 However, ICT's overall operating performance will continue to weaken throughout the implementation period. Although total operating income is expected to triple -- from Col\$1.7 billion in 1978 to Col\$4.7 billion by the end of 1982 -- net income is expected to decrease from a high of Col\$23 million in 1978 to Col\$10 million in 1982 (even after taking into account a recent increase in lending rates). This will not be adequate to generate sufficient funds from ICT's internal resources to cover debt service requirements and working capital needs. In this connection, it is expected that ICT will have an accumulated cash operating deficit of about US\$66 million during the 1979-1982 period, which the government proposes to cover through grants of about US\$122 million. On the basis of the foregoing, ICT's liquidity position should remain substantially the same over the next five years. However, ICT is considering measures to strengthen its financial position, and will undertake a study of the alternatives available to it (see para 5.13).

B. Special Aspects of ICT's Financial Structure

Mortgage Lending Operations

5.08 ICT has adopted an inflation indexing system which, although it falls short of ensuring long-term financial viability, generates significant automatic increases in annual revenues. This has been accomplished by dividing the system into two types of mortgage operations:

- (a) Variable Interest Rate Loans are aimed at middle-income groups and finance the purchase of housing on lots larger than 60 m² whose value at the time the loan is made exceeds Col\$ 150,000. The interest rate is adjusted annually based on the following formula (this concept differs from mortgage adjustment in that the debt itself does not change):
 - (i) the loan is divided into two tranches;
 - (ii) the first tranche is limited to a maximum of 50% of the loan, becomes progressively smaller as the size of the loan increases, and carries an interest rate of 7%;
 - (iii) the second tranche progressively increases with the size of the loan and the rate of inflation, up to a maximum interest rate of 25%;

(iv) the variable interest rate is the weighted average of the interest rates for the two tranches.

- (b) Fixed Interest Rate Loans are aimed at the lower income groups and carry an interest rate of 12%. These types of loans are typically used to finance land tenure, home improvements, neighborhood improvements and sites and services. An additional 2% is added to cover the cost of insurance, which raises the final cost to the borrower to 14%.

5.09 ICT plans to discontinue underwriting variable interest rate loans and concentrate its activities on the lower income groups. As a means of reducing the early debt service payments on fixed interest rate loans, and to bring these loans within the means of poorer families, ICT has adopted the graduated payment mortgage, wherein the amortization schedule is predicated on an annual increase of 5% per annum in monthly payments. This results in smaller monthly payments in the earlier years and an increasing amortization in later years. The initial monthly payment has been used in calculation of affordability (see paras 5.22 to 5.25), based on the premise that households will be able to accommodate the annual increases as incomes and the percent of income devoted to housing rise over time (see para 5.26 for sensitivity analysis of affordability).

Interest Rates

5.10 The recent high rates of inflation in Colombia (24% in 1975, 20% in 1976 and 35% in 1977) have put upward pressure on the cost of borrowings. As a result, the average cost of borrowings for the enterprise as a whole has climbed above the average interest rate on loans receivable (including variable and fixed). In the past, a positive interest rate spread was assured through cross-subsidy from the higher-yielding variable interest rate loans. The potential for cross-subsidy is, however, diminishing as a result of the increasing proportion of fixed interest rate loans, which now account for about 50% of the total lending volume, up from about 30% in 1976. It is expected that as ICT continues to expand its operations in low-cost housing, its need for additional grants will increase.

5.11 Notwithstanding the recent high rates of inflation in Colombia, the government has taken decisive measures to control inflation and some progress is now apparent in reversing the previous trend. With continued good economic management, inflation is expected to decrease significantly over the next few years, dropping to 16% in 1979, 14% in 1980 and 12% thereafter. It is therefore likely that the upward pressure on borrowing costs should level out, and that ICT's interest rate structure could very nearly turn positive by the end of the commitment period.

Outlook

5.12 ICT's expected cash operating deficit (para 5.07) has weakened its overall financial structure, since it will increasingly depend on continuous government grants not only to create an artificially low cost of

borrowings to enhance its interest rate spread, and hence its operating performance, but also to ensure an adequate cash flow to maintain its lending targets.

5.13 However, ICT is also considering various alternatives to strengthen its financial position. Included in the list of possibilities is an increase in the funds it receives from its non-interest bearing bonds that savings banks and insurance companies are required to purchase. Assurances were obtained during loan negotiations that ICT will undertake a study of the alternatives available to it for strengthening its financial condition. The study would be available prior to January 1, 1981, by which time an action program taking into account the study's conclusions will have been prepared.

Empresas Publicas Municipales de Cartagena (EPMC)

5.14 The proposed Bank-financed component, as shown by the table below, is quite small relative to EPMC's overall investment program, representing only about 9% of total expenditures during the 1978-1982 period. It is therefore unlikely that the implementation of the project would significantly affect EPMC's financial position. For this reason and because a detailed analysis of EPMC is being undertaken for the proposed third Bank loan to INSFOPAL, its financial position and prospects have not been analyzed in detail in this report.

Table 5.3

Empresas Publicas Municipales de Cartagena (EPMC)
Financing Plan

	1978-1982		%
	US\$	millions Col\$	
<u>Application of Funds</u>			
Proposed Investments			
Urban Projects	2.9	130.0	9.4
Other	23.1	1,039.1	75.3
	<u>26.0</u>	<u>1,169.1</u>	<u>84.7</u>
Working Capital Requirements	4.7	214.9	15.3
	<u>30.7</u>	<u>1,384.0</u>	<u>100.0</u>
<u>Source of Funds</u>			
Funds Provided by Operations	16.3	735.1	53.1
Less Debt Service	5.8	261.5	18.9
Net Internally Generated Funds	10.5	473.6	34.2
Government Transfers and Reserves	1.6	74.0	5.3
Long-term Loans	18.6	836.4	60.5
	<u>30.7</u>	<u>1,384.0</u>	<u>100.0</u>

C. Cost Recovery

5.15 Cost recovery measures have been tailored to the low capacity to pay of the area residents, and have been developed based on the following objectives: (a) investments in public utilities would be recovered through tariffs; and (b) for all other investments cost recovery would be compatible with (i) the project beneficiaries' capacity to pay; and (ii) the most expedient regularization of property rights. As a result, it is expected that about 55% of total project costs would be recovered, either from the beneficiaries or from the general revenues of the utility enterprises. Investments in land filling, external drainage, community facilities, and technical assistance, which account for the remaining 45% of total project costs, are viewed as benefitting a wider municipal area, and would be treated as a transfer of resources not recovered from the project beneficiaries. Table 5.4 summarizes the cost recovery provisions of the project.

5.16 The timing and magnitude of the cost recovery is, however, tied in part to the filling operations already underway, and in part to the enactment of measures giving ICT the legal right to acquire and dispose of land in the project area. In this connection, the following guidelines have been adopted.

- (a) Chiefly because fill material has by tradition been provided free to the area residents, the costs of these investments in the S.E. Zone (about US\$3.4 million) are being financed at no charge to the beneficiaries. Since these works need to be completed before utility infrastructure can be installed, completion of filling in each sector of the S.E. Zone in a manner satisfactory to the Bank has been established as a condition of disbursement for works undertaken in that sector.
- (b) Except for the few properties already owned by the area residents in fee simple, it is expected that all land in the project area will be acquired by ICT through cession from the state. Existing occupancy rights would continue to be recognized, and would be supported by a quasi-legal title that can be converted to a full title at a later date. Assurances were obtained during loan negotiations that the Government and ICT will take all necessary steps to ensure that transfers to residents begin not later than January 1, 1981.

Schedule of Cost Recovery
(Col\$ millions)

Component	Total Cost	Transferred from		Cost Recovered by			
		Central Gov't.	Local Gov't.	ICT through Capital Dev. Levy	Loan Charges	Utility Tariffs	
						EPMC	ELECTRIBOL
Land Filling	156.3	156.3					
Street Drainage	174.3	22.3		152.0			
External Drainage	244.4	244.4					
Utility Infrastructure							
Off-Site Water Trunk Mains	55.7					55.7	
Primary Water Mains	58.3					58.3	
Primary Sewerage	41.1					41.1	
Electricity Networks	87.9						87.9
ICT Loans							
Regularization of Land Tenure	12.1					12.1	
Public Services and Neighborhood Improvements	297.9					297.9	
Housing Improvements	59.1					59.1	
Sites and Relocation	133.6					133.6	
Community Facilities	226.7	200.2	26.5				
Project Management	52.4	52.4					
Technical Assistance	31.5	31.5					
Total Project Cost	<u>1,631.3</u>	<u>707.1</u>	<u>26.5</u>	<u>152.0</u>	<u>502.7</u>	<u>155.1</u>	<u>87.9</u>
US\$ Equivalent (millions)	35.3	15.3	0.6	3.3	10.9	3.3	1.9
Percentage	100	43	2	9	31	9	6

5.17 The government has agreed to make the peso equivalent of the proposed Bank loan available to the implementing agencies. Assurances were obtained during loan negotiations that the proceeds of the Bank loan allocated to each component, together with the national budget funds appropriated for the same purpose, would be made available by the government to the implementing agencies, and that these agencies would invest the funds and recover the costs in a manner consistent with the procedures outlined below.

Costs Recovered Through Tariffs

Water and Sewerage Infrastructure

5.18 Within the utility infrastructure component, recovery of the costs of off-site water trunk mains, primary water mains, and primary sewerage would be the same as that adopted for the first urban project (Loan No. 1558-CO). The covenants regarding financial rates of return and pricing policies agreed by the Bank with INSFOPAL in respect of EPMC would be applied. In this manner, 100% of the investment costs would be recovered through the general revenues of EPMC.

Electricity Networks

5.19 A similar cost recovery mechanism would apply to on-site electricity distribution networks. Tariffs would be set at levels sufficient to recover 100% of the cost of the networks through the general revenues of ELECTRIBOL, which like water and sewerage would include subscribers from both within and outside the project areas.

Costs Recovered from Beneficiaries

Street Drainage

5.20 The cost of this component would be recovered through a capital development charge levied on the basis of front footage for the properties located in the project area. The charge would be mandatory, but at the discretion of the residents could be paid as a lump sum or as part of a conventional ICT home improvement mortgage at 12% interest (plus an additional 2% for insurance) over 15 years. Eligibility of the residents for other ICT loans would be determined after including the capital development charge as the first ranking constituent of the maximum permissible debt service (up to 30% of family income) allowed under ICT lending procedures.

ICT Loans

5.21 Loans from ICT would be repaid on the basis of the graduated payment mortgage described in para 5.09. No initial down payments would be required. A flexible system would be introduced to allow the refinancing of loans, so that borrowers can increase their debt before paying off previous loans, with eligibility determined under the same criteria as described in para 5.20.

D. Affordability

5.22 Surveys undertaken since 1974 provide the most reliable recent information on income and consumption in the project areas. According to these surveys, residents have incomes of only about 60% of the average for the city, and only about one-third the average for all Colombian cities. Nevertheless, not all residents in the target zones are uniformly poor. The S.E. Zone rehabilitation area, for example, lies in a flood plain and contains many exceedingly poor families, while others a few hundred feet away in the conservation area are somewhat better off. It is for this reason that the project was designed to include several optional components in order to preserve the broad socioeconomic mix of the community.

5.23 In calculating affordability, ICT has traditionally operated on the premise that 30% of income of the head of household will be devoted to housing. The appraisal mission, however, related housing expenditure to household income more selectively for the purpose of judging affordability. For the lowest 10% of families in the project areas it was felt that 10% of household income allocated to housing-related items was a realistic figure; this proportion would increase to 15%, 20%, and 25-30% for succeeding deciles.

5.24 The resulting comparisons of costs and capacity to pay in the project areas are shown in Table 5.5. Costs are in mid-1978 prices and include design, supervision, and physical contingencies. Payments shown are the minimum in accordance with the graduated payment system described in para 5.09.

5.25 The sole mandatory charge (the capital development levy designed to recover the cost of street drainage works) is affordable to families with incomes at the 6th percentile in the project areas. Families may then, at their option, contract for public utilities, tenure, and housing improvements in various combinations, illustrations of which are provided in Table 5.5. Credits for regularization of land tenure plus interlot drains, in addition to the capital development levy, would for example imply a monthly payment of 180 pesos (US\$4.58), affordable at the 12th percentile. Families purchasing individual water, sewerage, and electricity connections in addition to the above items would be paying 556 pesos (US\$14.15), which is affordable to families at the 68th percentile in the project areas or at roughly the 12th percentile of the national urban income distribution. Those contributing more labor than the average of 20% assumed in calculations of capacity to pay for public services and neighborhood improvements (interlot drains, sidewalks, and secondary water and sewerage) would require smaller ICT loans and hence monthly payments. Purchase of an infill lot or acquisition of a relocation loan for construction of a dwelling would boost the monthly payment into the top five deciles. This is, however, still within the lowest 40% of the city as a whole.

COST TO HOUSEHOLDS AND AFFORDABILITY

	Total Cost / ^a (000)	Estimated Effective Demand (Households)	Cost per Household		Total Monthly Payment		Minimum Monthly Income		Lowest Income Percentile reached ^{h/}
			Col\$	US\$	Col\$	US\$	Col\$	US\$	
A Development levy (street drainage)	108,756	10,158	10,706	272	111	2.82			
B Regularization of tenure	5,166	3,039	1,700	43	17	0.43			
C Interlot drains ^{b/}	24,338	4,815	5,054	129	52	1.32			
D Sidewalks ^{b/}	12,887	3,612	3,567	91	37	0.94			
E Water - Primary mains	33,284	7,422	4,484	114	22 ^{c/}				
- secondary mains ^{b/}	18,740	3,700	5,064	129	52				
- connection	17,298	3,700	4,675	119	48				
					122	3.10			
F Sewerage - Primary mains	27,175	3,270	8,310	211	11 ^{c/}				
- secondary mains ^{b/}	33,119	3,270	10,128	258	105				
- connection	13,976	3,270	4,274	109	44				
					160	4.07			
G Electricity - Networks	43,810	6,819	6,424	163	67 ^{c/}				
- connection	15,044	5,632	2,671	68	27				
					94	2.39			
H Housing Improvement Loan (average)	29,816	1,600	18,635	474	194	4.94			
A (mandatory)			10,706	272	111	2.82	740 ^{d/}	18.84	6
A+B			12,406	316	128	3.25	853 ^{d/}	21.72	9
A+B+C			17,460	445	180	4.58	900 ^{e/}	22.91	12
A+B+C+G			26,555	676	274	6.97	1,370 ^{e/}	34.88	42
A+B+C+G+E			40,778	1,038	396	10.08	1,980 ^{e/}	50.42	62
A+B+C+G+E+F			63,490	1,616	556	14.15	2,224 ^{f/}	56.63	68
A+B+C+G+E+F+D			67,057	1,787	593	15.10	2,372 ^{f/}	60.40	71
A+B+C+G+E+F+D+H			85,692	2,182	787	20.04	2,623 ^{g/}	66.79	76
Serviced Lots									
- Infill basic level (Pasacaballos)	3,777	150	25,180	641	263	6.69 ^{e/}	1,315	33.48	42
- New basic level (Pasacaballos)	10,678	300	35,594	906	372	9.47 ^{e/}	1,860	47.36	60
- Infill standard level (Pasacaballos)	3,448	100	34,476	878	360	9.16 ^{f/}	1,440	36.66	47
- New standard level (Pasacaballos)	8,978	200	44,890	1,143	469	11.94 ^{f/}	1,876	47.77	61
- Infill standard level (SE Zone)	34,437	715	48,164	1,226	504	12.83 ^{f/}	2,016	51.34	64
- Relocation loan (SE Zone)	19,568	730	26,806	683	280	7.13 ^{g/}	1,400	35.65	45

^{a/} In mid-1978 prices including design, supervision, and physical contingencies, for servicing the S.E. Zone. Conversions to US\$ are at estimated 1978 exchange rate of 39.27 pesos/US\$.

^{b/} Based on average loan amount equal to 70% of cost of works, with 30% contributed by beneficiaries

^{c/} Estimated tariffs, based on water consumption of 20 m³/month, sewerage charges 50% of water tariff, and electricity consumption of 100 kwh/month.

^{d/} 15% of income on housing-related expenditures

^{e/} 20% of income on housing-related expenditures

^{f/} 25% of income on housing-related expenditures

^{g/} 30% of income on housing-related expenditures

^{h/} Refers to population of project area. 56th percentile in project area is approximately equal to 10th percentile of national urban income distribution.

5.26 To determine the impacts on affordability of expected future rates of inflation, a sensitivity analysis was performed. Costs and hence ICT loan amounts were increased by the anticipated rate of price inflation, to which was added 5% over two years as an average adjustment in monthly payments. The results indicated that the income percentiles reached do not change appreciably under different assumptions about income growth. If incomes rise 35% through 1983, the capital development levy is still affordable at the 9th percentile in the project areas. If incomes were to rise 25%, the levy plus loans for regularization of land tenure and interlot drains would remain affordable to all but the bottom quartile in the project areas.

E. Replicability

5.27 The government readily acknowledges that most of the residents in the target zones have little job security or cash reserves, and that they are usually ineligible for social security or other forms of public income maintenance. Formal recognition of ownership in a plot and a dwelling is thus viewed by the government as the single most important element in family economic security, and should be obtained through work and savings.

5.28 However, the southeast zone of Cartagena, unlike most other urban areas in Colombia, is located in a flood plain. The topography is such that the area requires substantial investment to upgrade the land to an urbanizable condition. Given the relatively low income levels of the families in the target zones, this means that all of the required investments could not reasonably be recovered from the direct beneficiaries in the area. In some cases, such as external drainage, the catchment of beneficiaries extends outside the project area--to higher income neighborhoods which have no legal obligation to pay for the investments. Therefore, the project contains investments which the government views as a one-time effort and will not be recovered. However, all of the normal interventions such as regularization of land tenure and provision of services which would be required in future upgrading projects have been designed to standards which are affordable to the final beneficiaries and have procedures with a high probability of maximum cost recovery. These interventions are fully replicable and in fact follow existing ICT practice in upgrading programs being developed in other parts of the country.

VI. ECONOMIC AND SOCIAL ANALYSIS

A. General Justification and Project Benefits

6.01 By encouraging low-income families to improve their own dwellings and promoting their integration within credit markets and urban service networks, the project provides a feasible alternative to eradication of dwellings and resettlement of families to the far periphery of Cartagena.

Whatever success S.E. Zone residents have had in actually finding work, their location has always provided good access to employment centers and commerce and has been the ruling factor in their choice of where to live. The present project extends initiatives of the residents themselves by establishing a structure within which they may take steps to improve their health, productivity, and living conditions.

6.02 Some project components, particularly those which enhance the value of land and houses, will have a progressive impact on the distribution of wealth. Others, such as education and health services offered through the CDVs, job training, and maternal and child care, primarily affect productivity or earning capacity and hence income. The project recognizes the need for balanced increases in both wealth and income as the principal means of improving the quality of life of poor urban families. By providing most services on a "contract-in" basis, the project design avoids a situation in which increases in the value of capital assets--land and houses--outstrips the capacity to meet charges on these assets out of current income. This safeguards project beneficiaries from having to sell out because of inability to make regular monthly payments beyond their means. With 84% of S.E. Zone families and virtually all in Pasacaballos earning incomes below the Bank's relative poverty minimum, the project is consistent with attempts to direct a greater share of urban development benefits toward the urban poor.

6.03 Provision of water, sewerage, and electricity together with improvements made on dwellings raise the quality of a particular site, thereby raising sales or rental prices in the current market. From water supply improvements in particular there are also well-known externalities, most notably that people living in neighborhoods adjacent to the project areas are less likely to contract communicable diseases as the health of project area residents improves. A further externality likely to be realized within the project is the reduction in the cost of serving nonproject areas with water that will result from construction of the trunk mains and other project facilities.

6.04 The project also offers residents a variety of options permitting them to gain clear title to the land on which they live. Residents may obtain a specific credit for legalization of tenure or may combine such a credit with a home improvement loan. Promotion agents supervised by ICT within the project will explain the steps required to obtain title, based on the extent and accuracy of existing property descriptions. Families residing in the area 20 years or longer (roughly 1%-2% of families in the S.E. Zone) will be told how they may achieve title through adverse possession or "squatter's rights," at a modest legal fee.

6.05 Technical assistance to project management will have beneficial impacts during project execution and lay the foundation for more efficient resource allocation among municipal service agencies. Assistance in property assessment and tax administration, for example, will permit more effective application in Cartagena of the sound assessment guidelines drawn up by the National Geographic Institute. Better cadastral administration should also lead to higher property tax receipts and an improved fiscal capacity in

Cartagena as a whole. Enhanced taxable capacity may also lower the resistance of municipal agencies such as the Valorization Office to undertaking projects and recovering costs in low-income neighborhoods.

B. Rate of Return Calculations

6.06 Internal economic rates of return were calculated for (a) physical environmental improvements to the S.E. Zone and Pasacaballos project areas, and (b) the housing improvement program including ICT loans for regularization of tenure, domestic public utility connections, and home improvements. An overall rate of return of 16% was obtained for the combined costs and benefits of these project elements, which include design, supervision, and physical contingencies and constitute 60% of total project cost.

Physical Environmental Improvements

6.07 This component includes all capital costs of land filling, street gutters and curbs, the water trunk mains and networks, sewerage and electricity distribution networks, and ICT loans for interlot drainage and other neighborhood improvements. Capital costs were inclusive of design, supervision, and physical contingencies. An estimated opportunity cost of land was added to the cost stream in year one, while a residual value of land based on an annual increase in the real value of land of 5% over the project's life was added as a final benefit. Annual maintenance expenses were estimated or obtained from EPMC. Benefits to the provision of these internal improvements were judged to be measured by changes in the value of plots receiving the services.

6.08 Based on these considerations, the internal economic rate of return to physical environmental improvements was 15%. Were benefits to decrease or costs to increase by 15%, the rate of return would fall to 12%. An equivalent increase in benefits or reduction in costs would raise the rate of return to 19% in the former case and 20% in the latter.

Housing Improvements

6.09 In this case the rate of return calculation compared the capital costs (inclusive of design, supervision, and physical contingencies) to be financed with ICT loans for regularization of tenure, domestic public utility connections, serviced sites and house construction, and home improvements, plus an assumed maintenance outlay, with increases in the rental value of dwellings the improvements would make possible. Current rental values in the S.E. Zone vary from 300 pesos monthly near the shore of the Tesca lagoon to 500 pesos in intermediate areas, and up to 1,000 pesos per month along Avenida Don Pedro de Heredia. If 500 pesos, or 6,000 pesos yearly, represents a rough average for the S.E. Zone (300 pesos in Pasacaballos), a rate of return to the housing improvement package may be estimated by comparing costs with the difference between rental values on improved dwellings in comparable neighborhoods elsewhere in the city and those prevailing in the project areas. Improved dwellings comparable in most other respects bring about 1,200 pesos per month in other parts of the city, and about 600 pesos in Pasacaballos.

There is presently no reliable way to gauge the price elasticity of demand for housing in Cartagena. However, conventional practice as well as a number of studies of housing markets in other developing and developed countries have maintained that a value of minus one is a reasonable approximation. In such a situation, the expected 7% increase in the stock of housing of this type occasioned by the project will lead to a fall in market rentals of 7% maximum and, on average, 3-1/2%. Increments of 700 pesos per dwelling in the S.E. Zone and 300 in Pasacaballos adjusted downward by 3-1/2% were consequently used in estimating benefits.

6.10 These considerations yielded an internal economic rate of return to this component of 21%. With increases or decreases of 15% in costs and benefits, the rate of return changes as shown below:

	<u>IERR</u>
15% decrease in benefits	13%
15% increase in costs	14
15% increase in benefits	29
15% decrease in costs	30

Combined Costs and Benefits

6.11 The combined internal economic rate of return on all quantifiable project benefits was 16%. This return does not fall below 11% (the estimated opportunity cost of capital in Colombia) if benefits are decreased or costs increased 20%. It does not change if unskilled labor and foreign exchange are evaluated at shadow prices. External drainage works, flood protection, and community facilities, which have diffuse, generalized benefits to the city in addition to project families, were the major elements whose benefits were not quantified. Benefits as measured will somewhat understate the true benefits to the extent that project cost components included in the calculations, such as the water trunk mains, serve other parts of the city as well as the S.E. Zone. Moreover, these economic rates of return do not reflect some social benefits which, because of limitations of data, could not be quantified. A social rate of return should be higher than the economic one since (a) a large majority of the project beneficiaries (74%) live at consumption levels below the Critical Consumption level estimated for Colombia, so that social benefits would be above economic ones; and (b) a large share of the additional incomes from employment creation should go to the same groups, thus lowering labor costs in social terms as compared to costs in economic terms.

C. Employment Aspects

6.12 The project will provide opportunities to generate additional jobs and increase effective demand among project area residents. Civil

engineering construction with scale economies such as utility installations are expected to generate significant employment at a cost per man-year among the lowest of any sector in Colombia. Community facilities would be constructed with maximum participation of small contractors using local labor and building materials. Small enterprises are similarly expected to account for an important share of wages and salaries generated from housing improvement credits. Considering also the labor content of materials used in construction, self-managed house construction on the scale contemplated for the S.E. Zone and Pasacaballos should stimulate the market for skilled and semi-skilled informal sector craftsmen. Additional employment will result from linkages with other sectors which use the income generated from construction or provide inputs. The construction process itself is not expected to place undue demands on scarce technical manpower in the Cartagena area.

6.13 Employment opportunities will also be improved through training. In each CDV, Employment and Productivity Units (UPEs) will provide training in basic skills through SENA's innovative Urban Mobile Program. The UPEs will also foster the growth of small enterprises and improve the vitality of existing ones by providing technical assistance and facilitating access to formal credit institutions.

6.14 In screening of job candidates for the EPZ, the Zona Franca Industrial y Comercial (ZFIC) will favor existing Cartagena residents over migrants from the interior, and will make no attempt to recruit outside the Cartagena metropolitan region. Some of the estimated 6,000 jobs to be created in the EPZ are consequently likely to go to residents of the S.E. Zone and Pasacaballos. Other project area families will benefit indirectly as the EPZ absorbs labor elsewhere in Cartagena, freeing jobs they can compete for.

D. Urban Poverty Impacts

6.15 About 14,350 families (over 95,000 individuals, slightly more than half of Cartagena's population below the relative poverty minimum) would benefit from the project through improved infrastructure, housing, and community facilities. The project would improve conditions of dwellings comprising about three-quarters of the estimated qualitative housing deficit (i.e., the number of substandard units) in the city. About 84% of households in the S.E. Zone and virtually all in Pasacaballos earn incomes below the urban poverty level of US\$855 per household per year in 1976 prices. If project investments benefit poor families at each project site in the same proportion, a total of US\$30 million or 85% of the total project cost of US\$35.3 million is attributable to the urban poverty group. Benefits of water and sewer provision and upgrading of dwellings and neighborhoods will accrue to the project area population. Similarly, returns from use of the social facilities can be expected to accrue primarily to the poor. Assuming that the Bank loan finances poverty- and nonpoverty-related expenditures in a manner similar to that of the project as a whole, the percentage of urban poverty lending is also 85% or US\$11.5 million of the loan amount of US\$13.5 million.

E. Constraints, Limitations, and Risks

6.16 The major uncertainty facing the project is whether optional components, particularly the ICT loans for home improvements and public utility connections, will be taken up at the expected rate. In the S.E. Zone 80% of consumption expenditure of the poorest families is for food. To have required these families to spend 20% of income for housing when according to recent surveys they are now spending 2%-3% is to cause disruption to their patterns of living. For this reason the optional features have been designed to be as independent of one another as possible, so that families may contract for each over time as their financial circumstances permit. By the close of disbursements it is expected that most project families will have chosen at most one or two options. Many will simply continue payments on the single obligatory charge (the capital development levy) until their incomes improve. Conservative assumptions were made regarding the proportion of families from which the effective demand was estimated. As a consequence, the risk of less than full utilization of the loan by the end of the disbursement period is considered small.

6.17 A second constraint on project effectiveness is the uncertain return to SENA training programs, given the difficulties of labor absorption in Cartagena. To some degree this can be mitigated by training and promotion earmarked to specific demand by firms for labor or the output of labor-intensive enterprise, such as ZFIC intends to undertake on behalf of EPZ firms.

VII. SUMMARY OF RECOMMENDATIONS AND LOAN CONDITIONS

7.01 During loan negotiations, assurances were obtained that:

- (a) the necessary counterpart funds would be made available to the participating agencies, and that these agencies would invest the funds and recover the costs in an acceptable manner (paras 3.03-3.04, 5.18-5.21).
- (b) ICT would lend for regularization of land tenure, public services and neighborhood improvements, housing improvement, and serviced sites and relocation on terms and conditions outlined in Acuerdo 4 (1977) utilizing the pricing systems and allocation procedures outlined in the above document. Any changes in the terms and conditions for subloans to beneficiaries in the project areas or the pricing and allocation procedures would be subject to agreement between the Borrower and the Bank (para 4.12, 4.16);
- (c) ICT would be responsible for the management and coordination of the project, and would establish a project management unit with all necessary staff (para. 4.08);

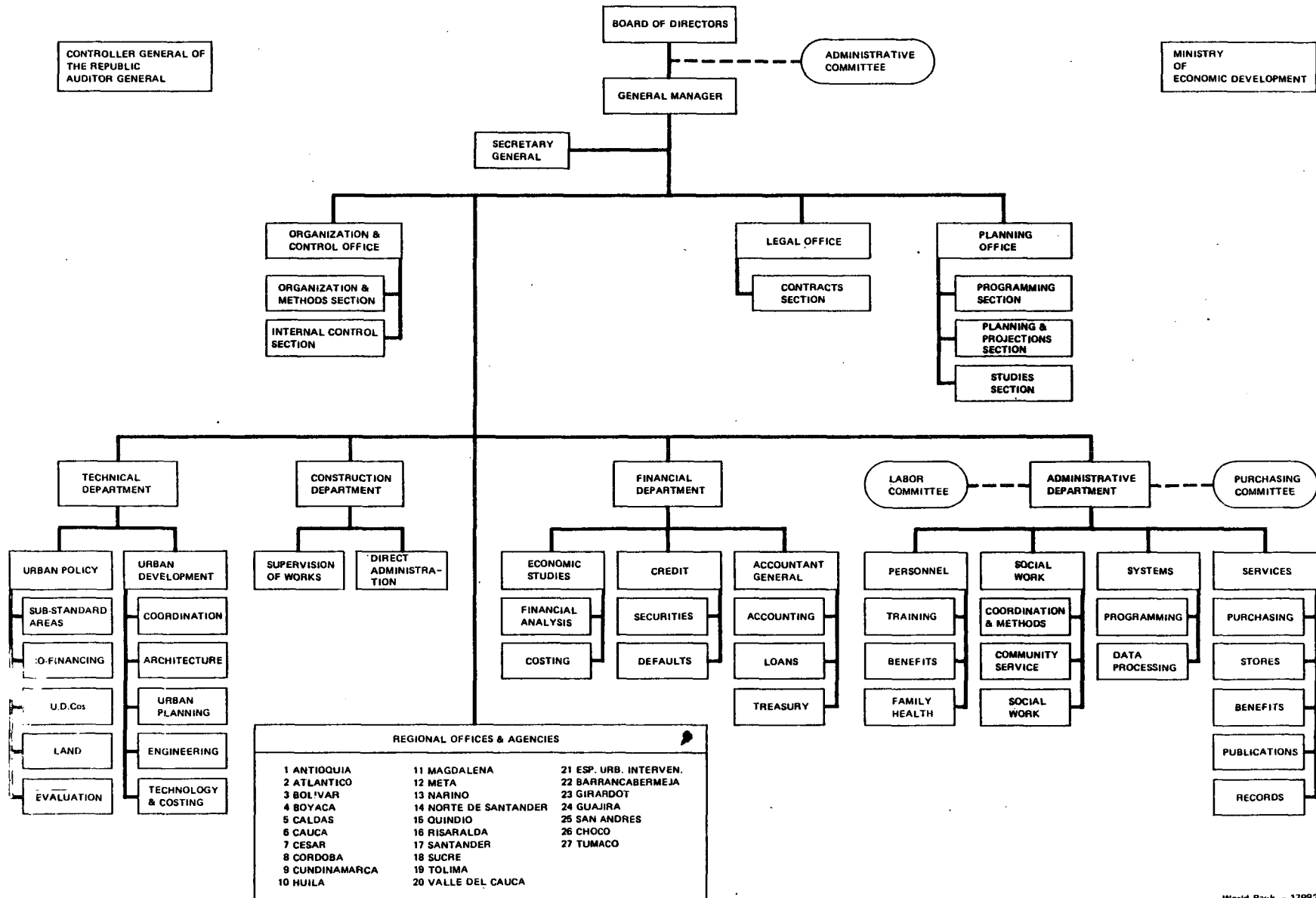
- (d) participating agencies would assume responsibility for, adequately staff, and operate the facilities under their control during the life of the project (para 4.01). Community Development Centers (CDVs) would be staffed as outlined in para. 4.21;
- (e) ICT would undertake a study of the alternatives for long-term financial viability available to it, and by January 1, 1981 prepare a program for strengthening its financial condition taking into account the study's conclusions (para. 5.13);
- (f) ICT would establish and carry out monitoring and evaluation of the project, including studies of particular aspects of the project's progress (para 4.19-4.20);
- (g) Completion of filling in a manner satisfactory to the Bank in each sector would be a condition of disbursement for works to be carried out in that sector under the project (para. 5.16 (a));
- (h) Empresas Publicas Municipales de Cartagena (EPMC) would ensure that:
 - (i) as in the first urban project, tariffs would be set at such levels as to ensure the recovery of 100% of the costs of the investment, including the proportion contributed directly by Government (para 5.18);
 - (ii) all conditions pertaining to agreements in force with INSFOPAL shall be maintained (para 5.18).
- (i) the Government would take all necessary steps, with ICT, to ensure that transfers to residents begin not later than January 1, 1981 (para 5.16(b)).

7.02 The following special conditions of loan effectiveness have been specified:

- (a) ICT would enter into agreements satisfactory to the Bank with the following participating agencies: Ministry of Health, Ministry of Education, National Training Service (SENA), National Institute of Family Welfare (ICBF), Instituto Nacional de Fomento Municipal (INSFOPAL), Empresas Publicas Municipales de Cartagena (EPMC), Electrificadora de Bolivar (ELECTRIBOL), and the National Geographic Institute (IGAC) (para 4.02).

7.03 With the assurances and conditions indicated above, the project is suitable for a Bank loan of US\$13.5 million equivalent.

COLOMBIA
SECOND (CARTAGENA) URBAN DEVELOPMENT PROJECT
INSTITUTO DE CREDITO TERRITORIAL (ICT)
ADMINISTRATIVE ORGANIZATION OF HEAD QUARTERS



**COLOMBIA
SECOND (CARTAGENA) URBAN DEVELOPMENT PROJECT
Implementation Schedule**

	Year	1978				1979				1980				1981				1982				1983					
	Quarter	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
S.E. ZONE																											
Land Filling		[Construction/Implementation]																									
Street Drainage			[Engineering Design/Preparation]				[Tendering/Selection and Bank Review]				[Construction/Implementation]																
External Drainage		[Tendering/Selection and Bank Review]				[Construction/Implementation]																					
Foreshore Protection					[Engineering Design/Preparation]		[Tendering/Selection and Bank Review]				[Construction/Implementation]																
Utility Infrastructure																											
Water Trunk Main					[Engineering Design/Preparation]		[Tendering/Selection and Bank Review]				[Construction/Implementation]																
Primary Water Mains				[Engineering Design/Preparation]			[Tendering/Selection and Bank Review]				[Construction/Implementation]																
Primary Sewerage					[Engineering Design/Preparation]		[Tendering/Selection and Bank Review]				[Construction/Implementation]																
Electricity Networks					[Engineering Design/Preparation]		[Tendering/Selection and Bank Review]				[Construction/Implementation]																
ICT Loans																											
Land Tenure																											
Public Services and Neighborhood Improvements																											
Housing Improvements																											
Serviced Sites and Relocation																											
Community Facilities																											
Construction		[Construction/Implementation]																									
Equipment																											
Training																											
PASACABALLOS																											
Streets and Drainage																											
Utility Infrastructure																											
Water Trunk Main																											
Primary Water Mains																											
Electricity Networks																											
ICT Loans																											
Land Tenure																											
Housing Improvements																											
Public Services																											
Serviced Sites																											
Community Facilities																											
Construction																											
Equipment																											
Training																											
TECHNICAL ASSISTANCE																											

KEY
 [Hatched Box] Engineering Design/Preparation
 [Dotted Box] Tendering/Selection and Bank Review
 [Solid Box] Construction/Implementation

COLOMBIA

SECOND (CARTAGENA) URBAN DEVELOPMENT PROJECT

Selected Documents and Data

Available in the Project File

- A. Reports and Studies Relating to the Project
- A. 1 Consultores del Caribe Ltda. Plan de Renovacion Urbana, Zona Sur Oriental Cartagena. April 1974; 3 volumes. A technical and economic study of investment alternatives for the S.E. Zone.
- A. 2 Departamento Nacional de Planeacion. Programa de Integracion de Servicios y Participacion Comunitaria en Zonas Marginales Urbanas: Zona Sur-Oriental Cartagena. September 1976. A survey of living conditions in Cartagena and the S.E. Zone originally prepared for the first Bank urban project.
- A. 3 Departamento Nacional de Planeacion, Urban and Regional Development Unit. Cartagena: Programa Zona Sur-Oriental. February 1977; January 1978; April 1978. Working documents on the project.
- A. 4 Departamento Nacional de Planeacion, Urban and Regional Development Unit. Evaluacion Social del Proyecto de Erradicacion y Relocalizacion de la Zona Sur-Oriental de Cartagena. August 1976. Costs and benefits of the eradication alternative.
- A. 5 Restrepo y Uribe Ltda. Estudios Geotecnicos Zona Sur-Oriental de Tugurios de la Ciudad de Cartagena: Informe Preliminar. December 1975. Contains results of soil surveys and an annotated bibliography of studies conducted up to that time.
- A. 6 Restrepo y Uribe Ltda. Estudios de Recuperacion de las Zonas Vecinas a la Cienaga de la Virgen en la Ciudad de Cartagena: Informe Preliminar. December 1975. Enumeration and description of surveys of needs and priorities in the S.E. Zone.
- A. 7 R. Obregon and J. Uzcategui. The Viability of Low Income Housing Programs in Developing Countries. June 1972. M.I.T. Master's Thesis that explores housing conditions and policies in developing countries using the Cartagena S.E. Zone as a case study.
- A. 8 Hidroestudios Ltda. Diseno de las Obras de Adequacion de Terrenos; Informe de Primera Etapa. August 1977. Preliminary feasibility study.

- A.9 United Nations Development Programme, Office for Projects Execution. Preliminary Assistance Mission Report. June 1978. Report on program to establish planning framework for Cartagena region.
- A.10 ICT/Cartagena. Censo de Propietarios de la Zona Sur-Oriental, Sector II. 1977. Detailed survey of land tenure status and density of dwelling occupancy among property owners in Sector II, S.E. Zone.
- B. ICT Reports: PHIZSU Loan Program
- B.1 PHIZSU: Guia Metodologica. September 1976. Framework and rationale for PHIZSU program of low-interest loans for housing and urban development.
- B.2 Plan de Habilitacion Integral Zonas Subnormales. 1977. Outlines regulations and procedures under PHIZSU loans.
- C. Other Reports
- C.1 J. Linn. Urban Public Finances in Developing Countries: A Case Study of Cartagena, Colombia. January 1975. Analysis of metropolitan finance in Cartagena, prepared under Bank research project No. 670-70 ("Urban Public Finance and Administration").
- C.2 Lacydes Cortes Diaz. Familia y Sociedad en Cartagena. July 1971. A study of household composition and behavior in Cartagena published by the Economics Faculty, University of Cartagena.
- C.3 F. Medina and A. Fullea. El Mercado de Vivienda en Cartagena. August 1970. Identifies relevant aspects of supply and demand for housing in Cartagena.
- D. IBRD Appraisal Mission Working Documents
- D.1 Detailed cost estimates, project components.
- D.2 Note on ICT Procurement Procedures. E. Canessa.
- D.3 Working Paper: Boca de la Boquilla. E. Canessa.
- D.4 Note on Employment Impacts. O. Grimes.
- D.5 Calculation of Foreign Exchange Content. E. Canessa.

COLOMBIA - CARTAGENA SOUTH-EAST ZONE

Squatter development
reaching out towards
sand bar in Sector III



1

Plots being reclaimed
by squatters in
Barrio Boston



2

View of Tabu drainage
ditch towards the
Lagoon



3

Maria Auxiliadora
drainage ditch in
the dry season
(Sector I-II)



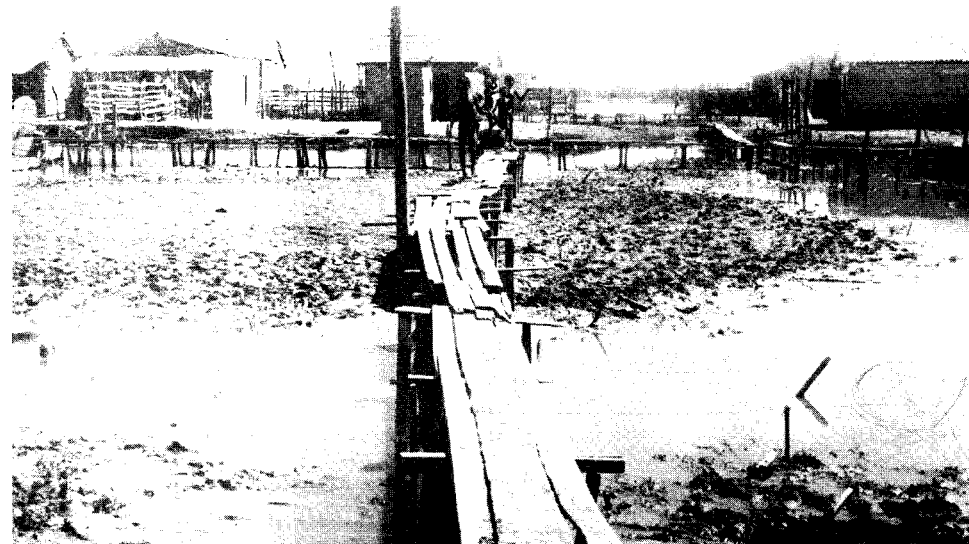
4

Filling operations
in progress
(Sector II)



5

Boardwalks connecting
houses in Sector II
(Barrio Boston)



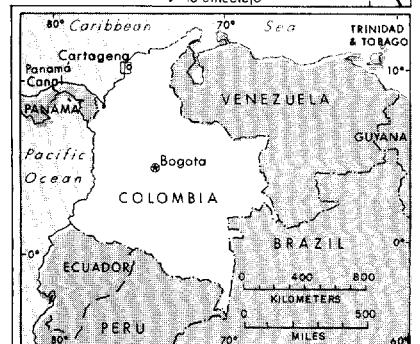
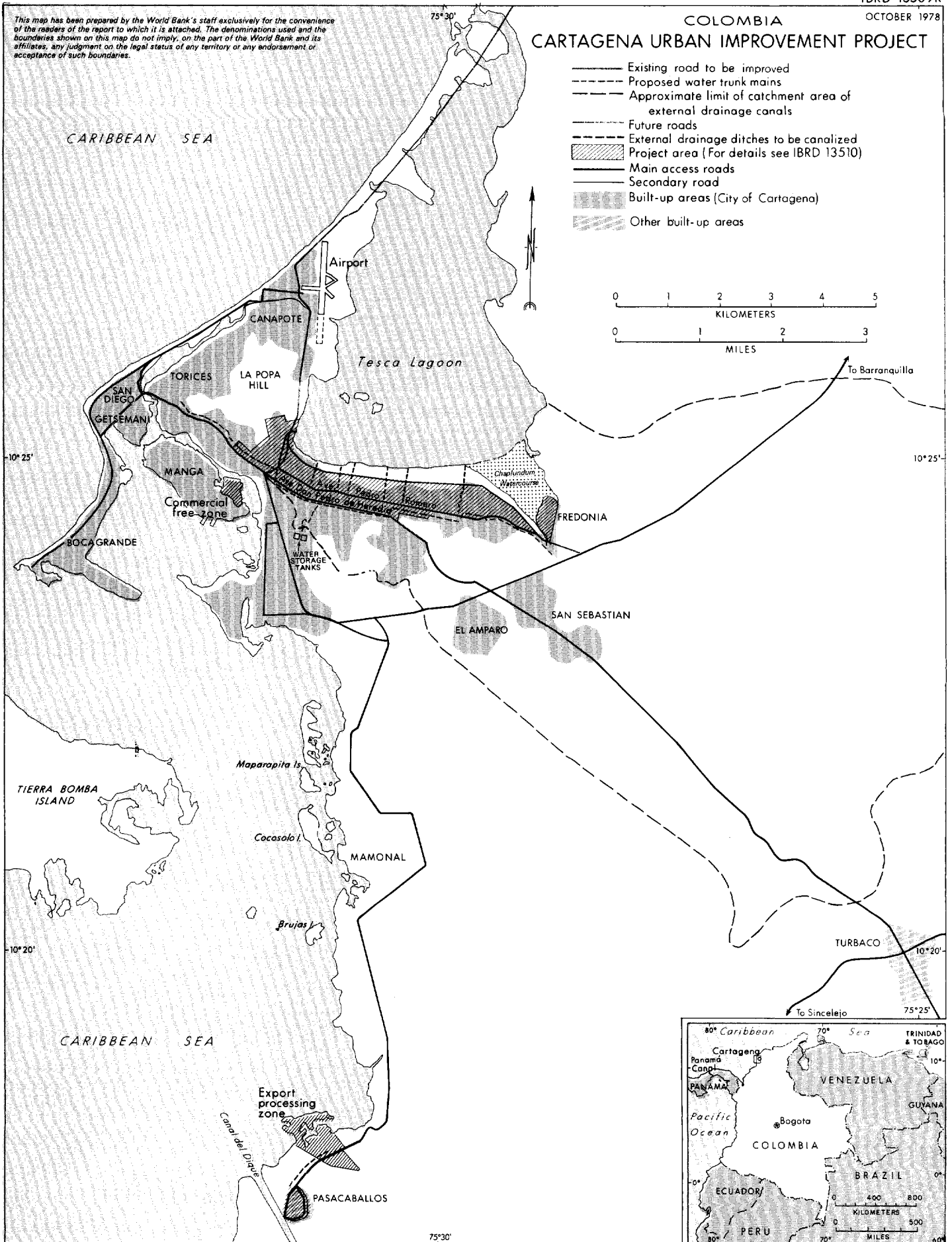
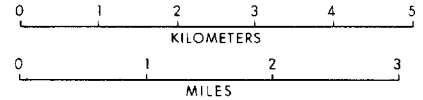
6

COLOMBIA

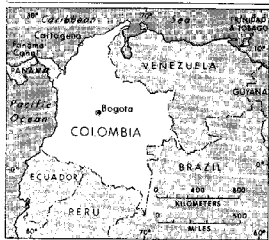
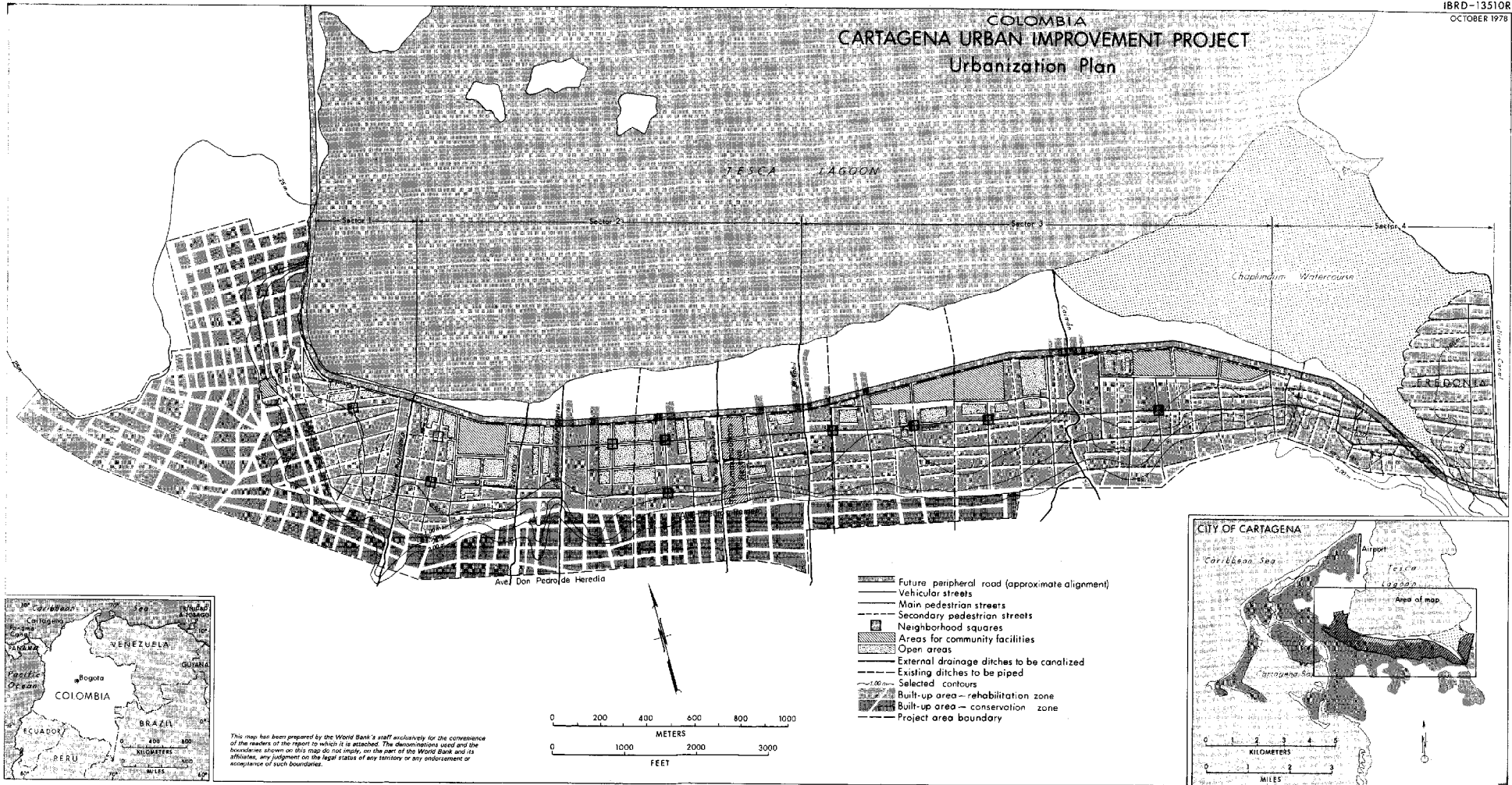
CARTAGENA URBAN IMPROVEMENT PROJECT

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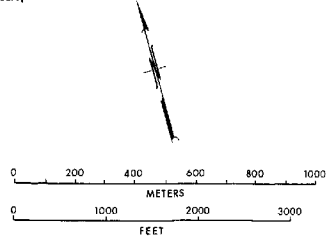
- Existing road to be improved
- - - Proposed water trunk mains
- - - Approximate limit of catchment area of external drainage canals
- - - Future roads
- - - External drainage ditches to be canalized
- ▨ Project area (For details see IBRD 13510)
- Main access roads
- Secondary road
- ▨ Built-up areas (City of Cartagena)
- ▨ Other built-up areas



COLOMBIA
CARTAGENA URBAN IMPROVEMENT PROJECT
Urbanization Plan



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- Future peripheral road (approximate alignment)
- Vehicular streets
- Main pedestrian streets
- Secondary pedestrian streets
- Neighborhood squares
- Areas for community facilities
- Open areas
- External drainage ditches to be canalized
- Existing ditches to be piped
- Selected contours
- Built-up area - rehabilitation zone
- Built-up area - conservation zone
- Project area boundary

