

SÃO PAULO DRAINAGE PROGRAM, STAGE II  
(PROCAV II)

(BR-0159)

EXECUTIVE SUMMARY

BORROWER: The City of São Paulo

GUARANTOR: The Federative Republic of Brazil

EXECUTING AGENCY: The Municipal Roads Secretariat

AMOUNT AND SOURCE: IDB (OC): US\$272 million (foreign exchange)  
US\$ 30 million (local currency)  
Total IDB: US\$302 million  
Local counterpart  
funding: US\$242 million  
Total: US\$544 million

TERMS AND CONDITIONS: Amortization period: 25 years  
Disbursement period: 5 years  
Interest rate: variable on foreign exchange;  
4% on local currency  
Inspection and  
supervision: 1%  
Credit fee: 0.75% (on foreign exchange)

OBJECTIVES: To improve sanitation and living conditions for residents of valley bottoms in the municipality of São Paulo by (i) reducing the occurrence of flooding through the canalization of creeks where water control conditions are most critical; (ii) relocating some 5,250 families, providing them with better housing and social services; (iii) installing essential public services in shantytowns adjacent to these creeks, when residents are not to be relocated; (iv) reducing erosion and silting through a parks and environmental protection program, coupled with an environmental education plan and strengthening of the municipal environmental protection agency. Traffic conditions will also be improved in the valley bottoms with the construction of roads alongside these creeks that will then become a part of the municipal roads system.

- DESCRIPTION:** This is a multiple-works program that comprises (i) canalization of roughly 45 kilometers of creek-beds in 13 creeks and construction of 47 kilometers of roads alongside those creeks; (ii) improvement of housing conditions and sanitation and social services for some 5,250 families who live adjacent to those creeks, by building housing complexes and upgrading shantytowns; (iii) environmental protection activities, focusing on the establishment and conservation of parks and green areas in the secondary watersheds targeted by the program, complemented by an environmental education plan; and (iv) institutional strengthening of São Paulo's environmental protection agency and housing authority.
- ENVIRONMENTAL CLASSIFICATION:** The Environment Committee, at its meeting of November 23, 1993, classified this as a Category IV operation, and approved the respective environmental summary at its June 7, 1994, meeting.
- BENEFITS:** Execution of the works scheduled under the program would directly benefit more than 30,000 persons whose living conditions would be improved upon relocation to better housing or upgrading of their present area with the installation of essential public services. Indirect benefits would accrue to more than 80,000 people who currently live in flood-prone areas. Benefits would also be provided in the form of better road conditions in valley bottoms and enhanced environmental protection.
- RISKS:** The various municipal agencies involved in program execution will need to coordinate their work properly, especially as concerns the relocation of families. Any delays in the relocation or expropriation processes could delay the execution of works and prolong the period required for completing the program.
- THE BANK'S COUNTRY AND SECTOR STRATEGY:** The Bank's strategy in Brazil is designed to (i) help meet the social needs of low-income urban and rural populations through health, education, water supply, and sewerage programs; (ii) support activities that protect the environment and combat pollution; (iii) encourage private-sector involvement; and (iv) modernize the State.

**SPECIAL  
CONTRACTUAL  
CONDITIONS:**

The conditions established during the analysis mission were fulfilled by the borrower prior to negotiation of the draft contract.

**Special clauses:**

- (i) Two evaluations will be conducted to monitor the progress of the relocation plan. The first will take place once the first 1,500 families have been relocated or have been given access to essential public services through the shantytown improvement component; the second one will be done six months before the date set for disbursement in full. These evaluations are to be conducted by an independent consulting firm hired by the City of São Paulo and acceptable to the Bank (see paragraph 3.30).
- (ii) Presentation of semiannual reports assessing the progress of family relocation activities (see paragraph 3.30).
- (iii) Within the first three months of each calendar year, presentation of the annual environmental education program covering the activities scheduled for the year. The first plan is to be presented within six months from the date the loan contract is signed (see paragraph 3.39).
- (iv) Sixty days before the commencement of each works project, the City of São Paulo is to submit to the Bank the specific relocation plan, which is to contain a detailed description of the relocation and shantytown improvement activities for the population that will be affected by the project (see paragraph 3.31).
- (v) Work must be under way on canalization of the Cabuçu de Cima River before work may start on the Maria Paula and Paciência creeks (see paragraph 3.37).
- (vi) The Bank's standard maintenance clause will be amended to have the borrower undertake to provide maintenance for all creek sections that were canalized under PROCAV I and PROCAV II, as well as the respective receiving bodies of water and tributaries that have been canalized (see paragraph 3.43).

- (vii) Two months prior to the signing of the first construction contract, the City of São Paulo is to have incorporated into the executing unit the additional staff agreed on with the Bank (see paragraph 3.1).
- (viii) The City of São Paulo is to demonstrate to the Bank that it has secured the necessary environmental permits before awarding each works contract, and the necessary environmental permits for installation before signing the construction contract (see paragraph 3.37).

Note: The draft loan contract that was negotiated with the borrower for this operation is available for consultation by the Executive Directors.

## I. FRAME OF REFERENCE

### A. Flooding in São Paulo

- 1.1 The São Paulo Metropolitan Region was created in 1973 in response to the intense industrialization that had turned the area into a vast urban conglomerate, made up of 39 municipalities covering an area of 8,000 square kilometers and an estimated population of 15 million. The municipality of São Paulo, which is the administrative seat of São Paulo state, is the largest component of the Metropolitan Region. With an estimated population of 11.4 million, the city is also a major hub of business and industry.
- 1.2 Between 1940 and 1970, São Paulo grew at an average annual rate of 6% — a figure that has now leveled off at 2.9%. As a result of that population boom, the city experienced such intense urban growth that land use management was neglected. This is one of the main reasons why São Paulo has so few parks and green areas. The resultant phenomenon of surface sealing that has occurred in the metropolitan area accounts for the low infiltration rates and long periods of concentration 1/ which contribute to the flooding that periodically immobilizes the city's streets.
- 1.3 The impact of surface sealing in São Paulo can be seen in the higher peak flows recorded on the Tietê River at the Edgar de Souza dam. One of the worst floods in the city's history occurred in 1929, when the river peaked at 521 cubic meters per second. By 1982, the maximum flow had risen to 755 cubic meters per second, and by 1987 it was up to 1,209 cubic meters per second.
- 1.4 An additional factor has been the influx of low-income immigrants moving to São Paulo in recent years, most of them from northeastern Brazil. The only housing option available to these newcomers has been the area's shantytowns [*favelas*]. Because of the competition for land use triggered by such intense urbanization, shantytowns are usually located in fringe areas, often on steep hillsides or along the creeks that serve as the city's natural drainage system. With the progressive settlement of these valley-floor areas, more and more garbage, wastewater, and sewage has been dumped into the creeks. This has impinged on the creeks' gradients and discharge areas, thereby creating unsanitary conditions and heightening the potential for flooding at those sites.
- 1.5 Given São Paulo's rainfall patterns (annual precipitation averages 1,500 millimeters, although four hours of rain can produce up to 110 mm), the poor condition of the area's creeks is responsible for flooding at roughly 470 sites in the Metropolitan Region, spread

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1/ A hydrological variable showing the time required for runoff to reach a given discharge point.

out over a 2,400-hectare area that is home to more than 200,000 city residents. In environment and sanitation terms, the valley floors are also the most severely degraded zones and are foci of disease, poverty, and unhealthy living conditions.

B. Drainage in São Paulo

1. Management of drainage programs

- 1.6 Infrastructure works that are designed to control the localized flooding that results from increased creek flows and reduced capacity are collectively known as "microdrainage works".
- 1.7 Three main rivers cross São Paulo: the Tietê, the Pinheiros, and the Tamanduateí. These rivers have periodically inundated adjacent low-lying areas that are crossed by heavily traveled roadways and are the site of dense urban activity. The works for increasing the runoff capacity of these rivers are referred to as "macrodrainage works".
- 1.8 As concerns responsibility for flood control in São Paulo city, the State of São Paulo - through its Electric Power and Water Department (DAEE) - is in charge of all macrodrainage works. The only exceptions are: the Pinheiros River, which is administered by Eletropaulo (Eletricidade de São Paulo S.A.), since the waters of the Tietê are harnessed here to generate hydro power; and bodies of water that separate municipalities, which are administered by the state. Responsibility for microdrainage works in the basin (covering all other waterways within the municipality of São Paulo) is delegated to the City of São Paulo.

2. Macrodrainage

- 1.9 The Tietê River rises in the mountain passes of the Serra do Mar, in the municipality of Salesópolis, 740 meters above sea level and 22 kilometers from the Atlantic Ocean. Approximately 1,100 kilometers long, it crosses the entire state of São Paulo before emptying into the Paraná River. The upper Tietê watershed stretches from the river's headwaters to the Edgar de Souza dam, covering an area of 4,684 square kilometers. The average flow of the Tietê River at the dam - i.e., the natural flow in the river's upper basin - is 87 cubic meters per second. Because it is so polluted, more than half of that flow cannot be used for drinking water or recreation purposes. The natural flow can drop to as low as 10 cubic meters per second in low-water periods and surge to 1,500 cubic meters per second in full spate.
- 1.10 The State of São Paulo, working through the DAEE, has expended visible efforts to abate the problem of flooding in its capital city. The Tietê riverbed has been the object of numerous projects over the past four decades, during which time dams were built, floodgates installed, and hydro capacity boosted. The Pirapora,

Edgar de Souza, Penha, Ponte Nova, Jundiaí, and Taiaçupeba dams are particularly noteworthy. The DAEE also expanded a section of the Tietê to increase its width to 60 meters and its depth by an average of 2.5 meters over a 12-kilometer stretch between the Pinheiros River and the Guilherme de Almeida bridge downstream, thereby raising its capacity from 500 m<sup>3</sup>/s to 700 m<sup>3</sup>/s. In addition, to reduce flooding along the banks of those rivers (in particular between the Edgar de Souza and Penha dams), bottom gates with a capacity of 1,200 m<sup>3</sup>/s were installed at the Edgar de Souza dam. The Tamanduateí River has been canalized and its capacity has increased considerably, jumping from 130 m<sup>3</sup>/s to 484 m<sup>3</sup>/s. The Pinheiros River - which serves as a conduit to reverse the flow of the Tietê (by means of pumps) in order to generate electric power at the Cubatão hydroelectric plant - has been canalized along its entire length, thus greatly reducing flooding along its banks.

- 1.11 The State of São Paulo has obtained financing from the Overseas Economic Cooperation Fund of Japan (OECE) to build civil works and reduce the risk of flooding between the Edgar de Souza and Penha dams (about 42 kilometers). Those works consist of: (i) two dams on the Paraitinga and Biritiba Mirim tributaries, which are to be completed by the end of 1997 at a cost of US\$274 million; (ii) widening and deepening of the Tietê between the Edgar de Souza dam and the Pinheiros River (approximately 20 kilometers) to permit a flow of up to 1,335 m<sup>3</sup>/s, at a cost of US\$221.4 million; and (iii) straightening and canalization of the lower part of the Cabuçu de Cima River (10.3 kilometers), at a cost of US\$124 million. The executing agency for these works, which are slated to be carried out between 1995 and 1997, will be the DAEE.
- 1.12 The State of São Paulo plans to complete the works to widen and deepen the remaining 22 kilometers between the Penha dam and the confluence with the Pinheiros River - at an estimated cost of US\$360 million equivalent - between 1996 and 1998. With the execution of those works, the Tietê riverbed will be large enough to avert, or at least lessen, the risk of floods along the 42-kilometer section located between the two dams, which is the most densely populated area of the São Paulo Metropolitan Region.
- 1.13 As can be seen in the map, five of the creeks selected for PROCAV II drain into the Tietê River through the Mandaqui, Cabuçu de Baixo, and Pedras Rivers (between the Tamanduateí and Pinheiros Rivers). Two creeks (Paciência and Maria Paula) empty into the Cabuçu de Cima River, a tributary on the right bank of the Tietê. Another three (Taboão, Inhumas, and Machados) flow into the Aricanduva River, a tributary on the left bank of the Tietê; and the Itaquera River flows directly into the Tietê in the eastern part of São Paulo, upstream from the Penha dam. The Ponte Rasa and Franquinho Creeks empty into the Tiquatira Creek, which in turn flows into the Tietê downstream from the Penha dam. Chapter III discusses the relationship between the creeks covered under the

program and the flows of the Tietê River as well as the possible impact.

### 3. Microdrainage works

- 1.14 There are about 1,552 kilometers of creeks in the municipality of São Paulo, a thousand of which are located in urban areas. To date, the City of São Paulo [Prefeitura Municipal de São Paulo] (PMSP) has canalized 413 km of creeks (including the 29 km covered under PROCAV I) in downstream urban areas, where flows often exceeded 20 m<sup>3</sup>/s during the rainy season (December to March) and flooding was frequent. The City of São Paulo has scheduled canalization of roughly 65 km (which includes the 45 km programmed under PROCAV II) over the 1995-1999 period, which would bring the total to 478 km by 1999. It is estimated that the construction work under PROCAV II would protect approximately 400 of the 2,400 hectares that are now flooded almost every year at close to 470 sites.
- 1.15 With the increase in surface sealing, the deforestation of headwater catchment areas (a source of considerable erosion and, consequently, silting of the area's creeks - in addition to the garbage and other objects that are dumped there), and shorter periods of concentration, there has been no reduction in flood-prone areas; indeed, in some places they have even increased, despite the city's efforts to the contrary. The DAEE, Eletropaulo, and the City of São Paulo - through its Regional Administrative Offices - all work either continuously or intermittently to collect and haul away the litter and other objects dumped at those sites.
- 1.16 Surveys conducted by the City of São Paulo show that over the next three decades it will be necessary to canalize 205 kilometers of creeks in the present urban zone, at a cost of US\$800 million; and close to 350 kilometers in nonurban zones, at a cost of US\$980 million, for a total of US\$1,780 million at 1994 prices. That figure does not include road construction on creek banks or works to protect the creeks' headwater areas, such as the planting of green areas and the construction of erosion control works.

### C. Housing situation in São Paulo

- 1.17 The housing problem in the São Paulo Metropolitan Region stems directly from the spiraling growth of its population over the last several decades. Between 1970 and 1991, the area's population rose 90.1%, soaring from 8.1 million to 15.4 million. During that same period, the population of the municipality of São Paulo experienced a somewhat smaller increase (74%), reflecting its more limited housing options.
- 1.18 The population boom has been focused disproportionately in areas of makeshift housing in São Paulo. The number of people who lived in



shantytowns rose from 1.1% of the total population in 1973 to 10.1% in 1992, representing 1.1 million persons.

- 1.19 Housing Secretariat data for 1992 estimate the total number of shantytowns in metropolitan São Paulo at 1,805. The northern and eastern sections - where program works would be located - include 634 of these shantytowns, 9% of which would be covered under PROCav II.
- 1.20 Shantytowns are not the only housing problem in metropolitan São Paulo, however. According to Housing Secretariat data, in addition to the 10.1% of the population who live in shantytowns, another 26.3% dwell in tenements in which more than one family occupies each unit [cortiços]; and a further 21.9% live in housing that lacks adequate infrastructure.
- 1.21 The city's housing policy is laid out by the Housing Secretariat [Secretaria da Habitação] (SEHAB), which is also responsible for regulating urban land use. The main SEHAB units in charge of formulating that policy are the Housing Superintendency [Superintendência da Habitação] (HABI) and the Housing Authority [Companhia da Habitação] (COHAB). HABI oversees the development and implementation of housing projects for shantytown dwellers. COHAB, a semiprivate company funded by the Caixa Econômica Federal and the City of São Paulo, is responsible for building the housing projects.
- 1.22 SEHAB plans to start work on a number of housing projects in São Paulo in 1994, for a total of some 60,000 housing units that are to be built over a five-year period. Prominent among them are the World-Bank-financed Guarapiranga project, which calls for 9,000 dwellings, and the 3,800-unit Cingapura project, in addition to the housing needed for the population that will be relocated under PROCav II.
- 1.23 To help solve São Paulo's growing housing problem, SEHAB is preparing a project to upgrade shantytowns and build high-rise housing projects to benefit some 80,000 families. This project has been included in the Bank's operating program with Brazil for 1995.

D. Roadways and their relationship with the canalization works

- 1.24 São Paulo's road network suffers from gaps in many of the principal roadways, making it difficult for traffic to circulate between outlying districts and the downtown area. Given the intense level of urban development here, virtually no space remains unoccupied that would permit expansion of the existing road system. Under the circumstances, the land alongside uncanalized creeks would seem to provide a good answer to the question of where additional roads could be built.

- 1.25 Responding to the need for access roads in order to provide maintenance for the creeks that are to be canalized, the City of São Paulo has taken advantage of the canalization works to improve traffic conditions along valley floors and thus heighten the benefits accruing from the projects. The building of roads parallel to canalized creeks, coupled with the shantytown improvement works, will also eliminate vacant property and thus prevent resettling of these areas. The roads that will be built as a part of PROCAV II will be incorporated into the municipality's road system.

E. Activities of international organizations

1. The Bank's participation

- 1.26 To date, the Bank has authorized loans totaling US\$1,919,000,000 for Brazil's sanitation and environmental protection sectors (20% of the country's cumulative approvals). As the Bank has increased its qualitative impact on those sectors, a rising share of annual approvals (53% in 1992, 54% in 1993, and an anticipated 60% in 1994) has been earmarked for that purpose.
- 1.27 The Bank has financed four operations in the basic sanitation sector in São Paulo. It helped to finance the Cantareira water supply system through loans 162/OC-BR and 1/SW-BR. The facilities built under that project provide more than 40% of metropolitan São Paulo's drinking water.
- 1.28 In 1986, the Bank granted loan 229/IC-BR, in the amount of US\$163 million, to São Paulo's Basic Sanitation Authority to expand the Metropolitan Region's sewer system. The funds for that operation have been disbursed in full.
- 1.29 Loan 233/IC-BR, in the amount of US\$77.5 million, was also approved in 1986. This loan financed creek canalization works under the PROCAV I program, which was the first stage of the project under consideration here. Details on the execution of PROCAV I are discussed below.
- 1.30 In 1992, the Bank approved loans 713/OC-BR and 896/SF-BR, for a total of US\$450 million, for the first stage of a program to clean up the Tietê River based mainly on upgrading sewerage services and wastewater treatment. The program is progressing on schedule, and public bidding has already taken place on 50% of the construction works and supplies.

2. Evaluation of PROCAV I

- 1.31 The Bank granted loan 233/IC-BR for the PROCAV I program, a multiple works project for São Paulo that included creek canalization, road construction, and the procurement of maintenance equipment. Work on the project was completed in 1994 at a cost of

US\$240 million. Of that amount, US\$77.5 million (32.3%) came from the IDB loan, and the remaining US\$162.5 million (67.7%) came from the local contribution.

- 1.32 The goals set for PROCav I called for canalization along 43 kilometers of creeks and construction of roads along the banks of 12 creeks in São Paulo, plus the procurement of the necessary maintenance equipment. Owing mainly to an increase in construction costs, three of the creeks were withdrawn from the project, which brought the total length of project works down to 29 kilometers.
- 1.33 The local contribution was initially estimated at US\$130 million. Half of that amount was to come from the Caixa Econômica Federal and half from the City of São Paulo. However, the Caixa failed to provide the funds in the amount and at the time required, delaying project execution considerably. Consequently, the City of São Paulo had to put up another US\$36 million from its own funds to cover the sums due from the Caixa in order to prevent further delay.
- 1.34 A total of 1,555 families (some 10,000 persons) whose homes were located in the area targeted for canalization and road construction had to be relocated. The delays that occurred in the relocation program were due to the fact that the number of housing units built did not suffice to meet the project's needs. As a result, the city was forced to seek individual solutions for each family, and this prolonged the process. These delays had a direct impact on the progress of work, which - coupled with the tardy delivery of the Caixa's contribution - made it necessary to extend the deadline for final disbursement for another three years. As a result, the project execution period was increased from four to seven years.
- 1.35 Aside from the difficulties described in the preceding paragraphs, the project completion report from the Bank's Country Office stated that the project was satisfactorily completed. The execution format selected - i.e., hiring a specialized management firm to administer and supervise program works and to actively advise the Roads Secretariat and the other municipal secretariats involved in the program - was given a very favorable rating. It was noted, as well, that the executing agency had no trouble handling the design and analysis of the additional projects that were not part of the original sample.
- 1.36 The experience acquired during PROCav I served as a basis for introducing important changes in the design of PROCav II, particularly in the program's social aspects. Accordingly, PROCav II included ex ante socioeconomic surveys of the target population, which made it possible to quantify and profile the demand for housing complexes, social infrastructure, and transportation facilities. The fact that the scheduled housing works are designed to provide 8,000 units - far more than the number needed by

PROCAV II - should prevent any recurrence of the kind of delays that were encountered in PROCAV I.

3. Activities of other multilateral agencies

- 1.37 As noted in paragraph 1.11, the State of São Paulo is about to sign a loan agreement with the OECF that will provide US\$370 million for works to realign the Tietê and Cabuçu de Cima riverbeds and build dams on the Paraitinga and Biritiba Mirim tributaries. The total cost of that program will be US\$619 million.

F. Program design

- 1.38 PROCAV II has been designed as a multiple works program. Accordingly, a group of projects were preselected in order to draw up cost estimates and determine the number of families that would have to be relocated, so that estimates could be made of the housing and social infrastructure requirements of the relocated families. The program's housing component, then, is more an outgrowth of the works to be constructed, rather than a housing program *per se*.
- 1.39 Despite the broad universe of projects that might well be included in the program, preselection is necessary because each creek's individual features in terms of shantytown populations and hydrography make it unrealistic to extrapolate the program's total cost on the basis of unit costs for projects in the representative sample. The program is flexible enough that projects can be substituted if a given project fails to meet the eligibility criteria or if unforeseen difficulties or other events arise during execution that could alter a project's priority status for inclusion in the program.
- 1.40 Based on different studies of flood-related problems along the hundreds of creeks that flow through São Paulo, the city identified 65 creeks that presented extremely critical drainage conditions at a number of sites, in terms not only of the danger of flooding but also in terms of sanitation and the hazards posed to persons living in adjacent areas. These creeks would be the target of the city's work plan for the next several years.
- 1.41 In order to preselect which of those 65 creeks would be included in PROCAV II, the City of São Paulo conducted a second, more rigorous selection process. Twenty-two creeks were eventually chosen, based on population density, work time lost due to flooding at the work site or interruption of roadways, additional risk of waterborne disease, and extent of damage caused by such flooding.
- 1.42 With a view to magnifying benefits and cutting costs by scheduling simultaneous construction of the canalization works and sewer mains, the preselection process took into account creeks in valley floors for which the Tietê River cleanup project (financed by loans

713/OC and 896/SF) and other programs have plans to lay sewer mains.

- 1.43 Owing to considerations related to the program's scale and cost, the City of São Paulo found it necessary to reduce the number of creeks to 13 and shorten the length to be canalized to roughly 45 kilometers.

## II. THE PROGRAM

### A. Program objectives and goals

- 2.1 The main purpose of the program is to help improve sanitation and living conditions for residents of valley floors in the most critical subbasins of the municipality of São Paulo. This will be achieved by instituting a second stage of the canalization, road, and housing program currently being executed by the City of São Paulo.
- 2.2 The program seeks to attain its objectives by means of activities that would:
- (i) Help to solve the drainage problems associated with frequent flooding, by increasing the creeks' capacity (through widening and canalization of creeks), and at the same time avert the risk of mudslides that might destabilize buildings and roads situated on creek banks.
  - (ii) Reduce the amount of wastewater and garbage dumped into the creeks, by eliminating shantytowns located along creek banks and by coordinating program works with the Tietê River cleanup project.
  - (iii) Improve sanitation and living conditions for shantytown residents, who would be relocated to better quality housing in areas served by public utilities. Shantytown residents who are not being relocated will benefit from the basic public services to be installed under the program.
  - (iv) Upgrade traffic conditions in the valley floors and facilitate creek maintenance by building roads parallel to creeks that have been canalized.
  - (v) Prevent the establishment of new settlements on vacant property and reduce erosion and silting by creating and protecting park areas.

### B. Description

- 2.3 This is a multiple works program for which a group of projects has been preselected to serve as the starting point for the program. Changes may be made during execution in the event that any of the preselected subprojects should fail to meet the eligibility requirements. The program would consist of the components described in the following paragraphs.

- 2.4 Canalization and roads. The following 13 creeks have been preselected for 14 canalization and road works: Machados, Cabuçu de Baixo (upper section), Cabuçu de Baixo (lower section), Mandaqui, Franquinho, Paciência, Guaraú, Aricanduva, Itaquera, Maria Paula, Inhumas, Taboão, Ponte Rasa, and Pedras. It is estimated that roughly 45 kilometers of creeks would be canalized and 47 kilometers of roads would be built.
- 2.5 Relocation: The program calls for relocating about 5,250 families, 3,900 of whom would be moved into housing complexes to be built as part of the program in the three areas selected by the City of São Paulo (Garagem, Inácio Monteiro, and City Jaraguá). The program also includes plans to build the related social services, such as elementary schools, day care centers, and health posts.
- 2.6 Shantytown improvement: An estimated 1,350 of the 5,250 families who will be affected by program works would continue to live in shantytowns. These areas would be upgraded and equipped with drinking water supply and sewerage services, main roads, electric power, and general urban amenities.
- 2.7 Environmental protection: The program's environmental protection activities comprise the following components: (i) creation of new park areas and protection of existing ones in microbasins targeted for civil works, in order to reduce erosion and silting and to keep people from settling on vacant property - this will include improving the newly freed-up areas alongside canalized sections to keep squatters from moving back in; (ii) an environmental education plan for the population living in the service area, geared toward preserving park areas and reducing the volume of garbage and litter that is dumped into the creeks.
- 2.8 Institutional strengthening. The program will strengthen the recently created Municipal Parks and Environmental Affairs Secretariat and will set up a data bank for the Civil Defense Operations Center to help forecast floods. Institutional strengthening is also scheduled for the Housing Secretariat, which will be responsible for carrying out the family relocation component.
- C. Program cost
- 2.9 The total cost of the program has been estimated at the equivalent of US\$544 million, broken down by source of financing and investment category as follows:

TOTAL ESTIMATED COST OF PROCAV II (US\$000s)					
CATEGORY	SOURCE OF FINANCING				
	IDB-FOREIGN EXCHANGE	IDB-LOCAL CURRENCY	LOCAL	TOTAL	% OF TOTAL
<b>Engineering and administration</b>	<b>5,750</b>	<b>0</b>	<b>22,650</b>	<b>28,400</b>	<b>5.3</b>
Studies and designs	0	0	10,650	10,650	2.0
Administration and supervision	5,750	0	12,000	17,750	3.3
<b>Direct costs</b>	<b>259,258</b>	<b>29,700</b>	<b>54,942</b>	<b>343,900</b>	<b>63.2</b>
Canalization	174,749	3,672	36,739	215,160	39.5
Roads	84,509	3,510	10,494	98,513	18.1
Environmental protection	0	22,518	7,709	30,227	5.6
<b>Associated costs</b>	<b>4,270</b>	<b>0</b>	<b>99,770</b>	<b>104,040</b>	<b>19.1</b>
Expropriations	0	0	46,740	46,740	8.6
Family relocation	4,270	0	47,330	51,600	9.5
Institutional strengthening and environmental education	0	0	5,700	5,700	1.0
<b>Finance charges</b>	<b>2,722</b>	<b>300</b>	<b>64,638</b>	<b>67,660</b>	<b>12.4</b>
Interest	0	0	60,620	60,620	11.1
Credit fee	0	0	4,018	4,018	0.7
Inspection and supervision	2,722	300	0	3,022	0.6
<b>Total</b>	<b>272,000</b>	<b>30,000</b>	<b>242,000</b>	<b>544,000</b>	<b>100</b>
<b>Source as a % of the total</b>	<b>50.0</b>	<b>5.5</b>	<b>44.5</b>	<b>100</b>	

- 2.10 Annex II-1 contains a detailed description of the items included in each of the investment categories.
- 2.11 To determine the program's costs, the City of São Paulo used the latest edition (January 1994) of the Roads Secretariat's unit cost table, which was published in the June 1994 edition of the city's official gazette. Those figures are consistent with the unit costs for similar canalization and road works in the most recent contracts signed by the city.
- 2.12 The consulting firms hired by GEPROCAV to prepare the project designs identified the land that would have to be purchased or expropriated in 11 of the 14 creek sections slated for canalization. For three of the creeks, no land would have to be expropriated: the lower section of Cabuçu de Baixo, Mandaqui, and Arican-duva. The indemnification cost for the entire 140,640 square meters of scheduled program works was valued at US\$110 per square meter, in accordance with the features of the different lots. These costs were considered reasonable by the Bank's project team and are in line with those recorded during PROCAV I.
- 2.13 GEPROCAV's determination of the cost of relocating families from shantytowns along ten of the creeks (there are no shantytowns along the other four creek sections) was based on recent costs for the same type of housing as is to be built under this program: US\$9,725 for each 42-m<sup>2</sup> unit in five-story buildings (without



elevators) divided among three housing complexes. For the social services - schools, health posts, day care centers, and nursery schools - GEPROCAV used recent cost figures for similar units, coming up with a total equivalent to US\$3,270,000. Those figures did not include the cost of land already acquired for the three housing complexes. The cost of installing basic public services in shantytowns whose residents will not be relocated was determined by SEHAB, using appropriate criteria and bearing in mind each shantytown's size and the cost of recent similar works, which amounted to roughly US\$2.3 million.

D. Financing plan

- 2.14 The program would be financed through an IDB loan for US\$302 million and a local contribution equivalent to US\$242 million. The local counterpart would come entirely from the City of São Paulo's own assets. The IDB loan would consist of US\$272 million in foreign exchange (representing 50% of the total cost) and US\$30 million in local currency - both from the Bank's ordinary capital.
- 2.15 The following terms and conditions are proposed for the Bank loan:

Source of Funds	Ordinary Capital Foreign Exchange	Ordinary Capital Local Currency
Amount:	US\$272 million	US\$30 million
Amortization period	20 years	25 years
Grace period	5.5 years	5.5 years
Disbursement period	5 years	5 years
Interest rate	variable	4%
Inspection and supervision	1% of the loan amount	1% of the loan amount
Credit fee	0.75% on undisbursed balances	-

E. Recognition of expenditures

- 2.16 The City of São Paulo has made outlays totaling approximately US\$2.5 million for environmental and economic feasibility studies and for the project designs chosen for the representative sample. It will present these expenses to be recognized as part of the local counterpart funding.

### III. PROGRAM EXECUTION

#### A. The executing agency

- 3.1 Program execution will be the responsibility of São Paulo's Roads Secretariat, which has set up an executing unit for that purpose (GEPROCAV). This system proved to be satisfactory during the first stage of the program (PROCAV I), which was financed by the Bank through loan 233/IC-BR. The unit operates under the supervision of a director, appointed by the director of the Roads Secretariat, who receives support from the agencies participating in the program (the Planning, Housing, Parks and Environmental Affairs, Legal Affairs, and Finance Secretariats) through representatives who have been especially appointed for that purpose. The unit's will be assisted by two full-time professionals (one for civil works, the other for administrative and financial matters), who will supervise the management firm in inspecting the construction companies' work and in the administrative and financial support activities performed by that firm. The representatives of the Housing and Roads Secretariats will be assigned to the program on a full-time basis. It is recommended that a clause be included in the loan contract requiring that the aforementioned support staff be incorporated into the executing unit two months prior to the signature of the first works contract.
- 3.2 GEPROCAV has hired a consulting firm that specializes in managing this type of project to serve as the program administrator. That firm will be responsible for the review and constant updating of project designs, preparation and revision of bid documents, review of disbursement requests, and monitoring of compliance with contractual conditions.
- 3.3 Except for the managerial functions performed by the consulting firm, the City of São Paulo - working through the various secretariats participating in the program - would be responsible for all key management decisions, including approval of the legal format for all public bid and contract documents, decisions on the legal implications of contracts, supervision and award of bids, review and payment of disbursement requests, and allocation of local counterpart resources. It would also coordinate the family relocation process, expropriation procedures, and implementation of the environmental education program.
- 3.4 The management firm was hired directly, pursuant to a municipal law that allows such contracting. The Roads Secretariat's general counsel has indicated that the contracting is in accordance with applicable Brazilian legislation. The procedure was also confirmed by the São Paulo Auditor's Office.

- 3.5 This is the same firm that managed the first stage of the program. Given the firm's good record and the experience it acquired in streamlining the expropriation and relocation processes during PROCAV I (critical factors in carrying the program out on schedule), the project team considers the firm to be capable of managing PROCAV II and recommends that its services be continued. Since that contract is to be financed entirely out of the local counterpart funds, the terms of reference and amount for the new contract were reviewed during the analysis mission and found to be satisfactory and consistent with the costs recorded during PROCAV I. Technical supervision of the construction of works on the first five creeks to be canalized under the program (Machados, Arincanduva, Itaquera, Mandaqui, and Franquinho) has been contracted for by the City of São Paulo with its own resources, and accordingly is not included in the program costs. Technical supervision of works on the other eight creeks will be funded in foreign exchange from the Bank loan, and consulting firms will be hired through international competition in accordance with Bank procedures.
- 3.6 The program's relocation activities will be conducted through the city's Housing Secretariat (SEHAB), which has a full-time representative in the executing unit so that operations can be coordinated with GEPROCAV.
- 3.7 To coordinate the activities entailed in the program's relocation and shantytown improvement components, an executive group for managing the PROCAV II relocation and shantytown improvement Program has been set up alongside the Housing Superintendency (HABI). The group will be a part of the SEHAB structure and will be supervised by HABI.
- 3.8 The executive group, which was officially established in May 1994, is the formal successor to a working group of technical staff from various HABI departments (Planning, Project Execution, Housing Affairs, Accounting, Administration, and Legal Affairs). The group is headed by a coordinator who is appointed by SEHAB's director and who reports to the SEHAB director through the director of HABI, thus becoming a part of the SEHAB organizational structure. The group had been set up informally a few months earlier and was placed in charge of drafting the relocation plan.
- 3.9 To ensure proper coordination with the other municipal secretariats involved in the relocation process, the Housing Secretariat has signed specific agreements with the Secretariats of Education, Transportation, Social Welfare, Health, and Parks and Environmental Affairs.
- 3.10 Plans have also been made -- through the establishment of a consultative committee<sup>^</sup> to provide an open channel of communication between the coordinator of the executive group and leaders of the communities affected by program works, as well as the NGOs involved
- x

in various phases of PROCAY II's implementation. The committee would consist of representatives of the shantytowns, representatives of NGOs active in housing issues, and members of GEPROCAV. The coordinator of the executive group would serve as the committee's chairman. To ensure that an active role is played by the committee, the group consultation formats utilized with leaders of some of the shantytowns during preparation of the relocation plan will be maintained, strengthened, and extended to all program shantytowns. SEHAB has contacted the principal NGOs that work with housing issues in São Paulo with a view to defining suitable ways in which they can take part in relocation activities. The consultative committee was formally established by SEHAB in May 1994.

- 3.11 The detailed organizational charts showing the specific responsibilities of each area participating in the execution of the relocation plan have been reviewed by the project team and were found to be adequate.
- 3.12 The environmental education component will be carried out by the Parks and Environmental Affairs Secretariat. GEPROCAV will be in charge of overseeing the calls for bids and the execution of civil works under this component, since the program's environmental protection works will be included in the bids for each creek. The Parks and Environmental Affairs Secretariat will have a full-time representative at GEPROCAV. To ensure effective coordination and distribution of responsibilities, GEPROCAV has signed an agreement with that secretariat. As part of the program's institutional strengthening component, this secretariat's capabilities will be upgraded.

B. Status of program preparation

- 3.13 The City of São Paulo has the basic designs required in order to issue calls for bids on the projects selected for the representative sample. It has also completed the detailed timetable for preparation of the program's other civil works projects. The schedules for the basic engineering designs and projects for the rest of the works are included in Annex III-1.

1. The representative sample

- 3.14 The representative sample consists of six canalization and road construction projects, which account for 54% of the program's direct costs. Canalization works will cover approximately 23.5 kilometers, or 52% of the estimated total of 45 kilometers; the roads to be built under the six projects total 25 kilometers, or 53% of the total programmed length (47 kilometers). The projects have been reviewed by the Bank and have been found to be satisfactory.

## 2. Acquisition of land

- 3.15 No land will need to be expropriated for works on the Aricanduva, Mandaqui, and lower Cabuçu de Baixo creeks. The City of São Paulo has already issued a municipal decree to expropriate land along eight of the other creeks; decrees must still be issued for the Ponte Rasa, Inhumas, upper Cabuçu de Baixo, and Itaqueruna creeks (the Itaqueruna creek is a tributary of the Itaquera River).
- 3.16 An estimated 1,700 properties will have to be expropriated at sites affected by program works. Brazil has legislation governing the entire expropriation process, and the municipal department responsible for this area has expropriated close to 7,000 tracts (i.e., an annual average of 800) over a nine-year period. Given the experience acquired with expropriations during PROCAV I and the prospective average of 340 tracts a year to be expropriated under this program, the City of São Paulo should be able to complete all the necessary expropriations on schedule.

### C. Eligibility criteria for works

- 3.17 Projects must meet the following criteria in order to be eligible for inclusion in the program:
- (i) The project site must be located in a drainage area having a design flow greater than 20 m<sup>3</sup>/s, based on a rainfall recurrence interval of 25 years.
  - (ii) The site must have a density of more than 75 inhabitants per hectare or an average of more than 150 shantytown families for each kilometer of canalization works.
  - (iii) Each kilometer of canalization work must provide flood protection to an area of at least three hectares, or it must provide benefits to at least 8,000 people (in the form of protection from flooding, mudslides, etc.).
  - (iv) Roads to be built must be incorporated into the basin's existing highway system.
  - (v) The socioeconomic rate of return (EIRR) must be greater than 12%, following the methodology used to evaluate the projects in the representative sample.
  - (vi) The capacity of the receiving body or bodies of water downstream from each creek slated for canalization must be large enough to handle the increased flow produced by the canalization works.
- 3.18 It is suggested that these criteria be included in the prospective loan contract to be signed with the City of São Paulo.

D. Execution period and bidding timetables

- 3.19 The program will have an execution period of five years as from the date the loan contract enters into effect. That time frame is consistent with the program's dimensions, the types of activities scheduled for GEPROCAV, the Roads Secretariat, and the City of São Paulo, and the time needed to secure the local contribution, to acquire the land, and to build the three housing complexes.
- 3.20 At the time of the analysis mission, it was agreed that the number of international tenders would be reduced from 28 to 15 and that the three national tenders for construction of the three housing complexes would be maintained. The number of tenders, the schedules, and the amounts involved are all considered satisfactory. The contract amounts range from a minimum of US\$2.9 million for canalization, road, and flood protection works in the upper Cabuçu de Baixo to a maximum of US\$38.2 million for those in that creek's lower section. The national public bidding packages range from US\$8.2 million for the housing complex in Garagem to US\$17.9 million for the one in City Jaraguá, both of which will be financed out of the local contribution. Annex III-2 contains the schedule for public bidding.
- 3.21 Given the schedule for preparation of some of the canalization and road projects, plus the feasibility of obtaining the local contribution and coordination with the canalization works on the Cabuçu de Cima River that are to be financed by Japan's Overseas Economic Cooperation Fund, GEPROCAV has asked the Bank that work on two of the creeks (Maria Paula and Pedras) be scheduled for startup during the third year of program execution. It is therefore proposed that the loan contract stipulate a deadline of 36 months from the date the contract is signed for the physical startup of all program works.

E. Investment schedule

- 3.22 The investment schedule, which was drawn up on the basis of the execution period and GEPROCAV's programming, is summarized below.

Investment Schedule (US\$000s)							
	Year 1	Year 2	Year 3	Year 4	Year 5	Total	%
IDB loan (OC)							
Foreign exchange	60,501	68,921	78,182	50,540	13,856	272,000	50.5
Local currency	6,685	6,808	7,047	6,053	3,407	30,000	5.5
Local contribution (City of São Paulo)	58,576	61,576	55,982	41,403	24,463	242,000	44.5
Total	125,762	137,305	141,211	97,996	41,726	544,000	100.0
Percentage	23.1	25.2	25.9	18.1	7.7	100.0	

F. Relocation of families

- 3.23 Since this is a multiple works program, a series of projects were preselected for purposes of scaling the program and estimating its costs. Based on the projects thus chosen, program execution is expected to affect some 5,250 families. Of that number, 3,900 families would be relocated to housing complexes; the rest would remain where they are but would benefit from the basic public services that would be installed, as described later on in this document.
- 3.24 The relocation of families affected by program works will be carried out pursuant to the City of São Paulo's relocation plan. The plan was drawn up with input from each of the municipal secretariats that will be involved in implementation; these are the same secretariats that make up the executive group described in paragraph 3.8. The City of São Paulo drafted a preliminary relocation plan that was later revised to incorporate suggestions and comments from leaders of some of the shantytowns in the service area. The final version was then reviewed during the analysis mission and found to be generally acceptable, with a few small changes suggested. A detailed description of the plan can be found in Annex III-3. The definitive text of the relocation plan has been submitted by the City of São Paulo and approved by the Bank.
- 3.25 As contemplated in the plan, and with a view to preventing encroachment by squatters prior to completion of the relocation process, an initial roster of shantytown residents will be drawn up six months before the startup of works along each creek. The purpose of this roster will be to verify the demand for housing units and social infrastructure and to distribute provisional relocation vouchers. These vouchers will inform families of the possibility of being relocated to a housing complex and will seek to curb any further inflow of families and to accurately estimate the number of families to be relocated.
- 3.26 A more complete census will be taken approximately three months before families actually begin to be relocated. This census will provide a final confirmation of the number of families to be relocated, along with information about their payment capability and the distribution of family expenses. Families will also be asked to confirm their preference as to the three relocation options offered under the process, which are described below.
- 3.27 To accommodate the families who will be relocated, the City of São Paulo has selected three areas (City Jaraguá, Inácio Monteiro, and Garagem) where it owns lots on which the housing complexes are to be built. The complexes will have a total of 8,000 apartments (3,900 of which have been reserved for PROCAV II), and will consist of five-story buildings having four 42-m<sup>2</sup> apartments to a floor, located in developed areas that are equipped with the necessary

infrastructure. The additional social services required - such as health centers, child-care centers, schools, post offices, public telephones, and transportation - were determined by the survey that was conducted in the shantytowns to collect data for formulating the relocation plan. These additional facilities will be included in the program, and would be financed in part out of the loan proceeds; execution would be coordinated under specific agreements have been signed between the Housing Secretariat and the other municipal secretariats involved.

- 3.28 Shantytown residents who would be affected by the program but whose homes are not situated in construction areas would not be relocated. Conditions permitting, the program will install basic public services in these shantytowns. These services would include the construction of water supply and sewer systems and a main road for refuse collection, works to provide protection against mudslides, land titling, and home improvements. In places where the topographical conditions, the very small number of dwellings, or plans for future projects do not permit such improvements, families would also be moved to the housing complexes.
- 3.29 The relocation plan offers the following three options for area residents directly affected by program works:
- (i) Relocation to one of the three housing complexes that are to be built.
  - (ii) Swap of housing entitlements: A family that is forced to relocate could exchange its entitlement to live in the new housing complex with a family that lives elsewhere in the shantytown but outside the program's construction area. The swap could also involve other shantytowns where the city has scheduled urban development or improvement activities.
  - (iii) Installation of basic public services in shantytown areas that are affected by program works but lie outside the construction zone.
- 3.30 The plan also calls for monitoring to ensure that relocation proceeds as scheduled. Two evaluations will be required during this stage: The first one will take place once the first 1,500 families have been relocated or have been given access to essential public services through the shantytown improvement component; the second one will be done six months before the date set for disbursement in full. Annex III-4 sets out the basic indicators to be covered in the evaluations. The terms of reference for these evaluations must be submitted in advance to the Bank, and the evaluations themselves are to be conducted by an outside consulting firm acceptable to the Bank that has been hired by the City of São Paulo specifically for that purpose. In addition, the city is to



present semiannual reports on the relocation process and its impact on the progress of program works.

- 3.31 Efficient and timely execution of the relocation plan is particularly important owing to its impact on execution of the program works, as was discovered during PROCAV I. Accordingly, great care has been taken to make sure that the relocation and construction timetables are properly synchronized since the startup of any part of the civil works is contingent upon timely relocation of the families. The structure set up for program execution was designed to ensure proper coordination of these activities. Sixty days before the commencement of each works project, the City of São Paulo is to submit to the Bank the specific relocation plan, which is to contain a detailed description of the relocation and shantytown improvement activities for the population that will be affected by the project.

G. Environmental considerations

1. Program impact

- 3.32 Any adverse impact resulting from execution of the works will be short-lived if the mitigative measures are properly applied. Any such impact would be a result of construction activities, and the mitigative actions are well-known and routinely used in connection with works executed by the City of São Paulo. In order to ensure proper disposal of the sludge excavated during construction work, the bid specifications will ask bidders to present proposals for the different types and volumes of sludge, specifying disposal methods and distances involved. This will guarantee that applicable environmental guidelines are complied with and will make it possible to estimate sludge disposal costs more accurately.
- 3.33 In addition to the socioeconomic impact produced by relocation of the families (a subject that is discussed elsewhere herein), studies were done of the possible impact canalization would have on flood crests in receiving bodies of water, specifically the Tietê River.
- 3.34 The São Paulo Water Technology Center conducted studies to determine the possible increase in peak flows that could be triggered by canalization works in the downstream sections of these creeks and rivers. The study findings show that the drainage areas of the PROCAV II creeks are very small when compared with the overall drainage basin of the upper Tietê River, and, accordingly, their impact would be negligible. The studies also showed that the causes of flooding in the upper Tietê are different from those that cause flooding in the PROCAV II creeks: flooding in the upper Tietê is caused by frontal rains which fall over broad areas that drain into the river, while flooding in the creeks stems from heavy convective rains that are highly localized within the confines of the subbasins. The meteorological conditions observed in the São

Paulo Metropolitan Region are such that the possibility of these two types of rains occurring simultaneously is quite remote.

- 3.35 In examining the creeks that do not empty directly into the Tietê River, the center's study found that the Tiquatira creek has enough capacity to handle the flows from the Ponte Rasa and Franquinho creeks. For the Aricanduva creek, the study indicated that construction work would have to be done in the gallery section and in the downstream portion to accommodate the increased flow from the Taboão and Machados creeks. The study also showed the need to execute the works contemplated for the Cabuçu de Cima River to enable it to receive the flows from the Maria Paula and Paciência creeks. Similarly, the lower section of the Cabuçu de Baixo will require construction work in order to handle the additional flow triggered by canalization of the Guaraú creek.
- 3.36 To minimize this impact, the program includes the requisite works for the Aricanduva and Cabuçu de Baixo creeks. For the Cabuçu de Cima River, the Electric Power and Water Department (DAEE) is about to sign a loan contract with the Government of Japan covering the works required there. It is recommended that the loan contract include the stipulation that work in the Maria Paula and Paciência creeks may not begin until the DAEE has signed the contract with the OECF and has started work on the Cabuçu de Cima River.

## 2. Environmental permits

- 3.37 The Municipal Parks and Environmental Affairs Secretariat, which includes the National Environment System, is the agency that issues permits for the construction, installation, enlargement, and operation of facilities that use natural resources and can be considered to cause pollution. The secretariat sets the basic criteria and reviews the terms of reference for environmental impact studies. It also approves these studies and the associated reports (EIA/RIMA), through the Municipal Environmental Affairs Council, which consists of representatives from the various municipal secretariats, the private sector, and nongovernmental organizations. Since this is a multiple works program, the secretariat asked that two environmental impact studies be prepared (one on the eastern zone and the other on the northern zone). To ensure that the secretariat's recommendations are taken into account in the execution of works, it is recommended that the City of São Paulo demonstrate to the Bank that: (i) before awarding the works contract, it has secured the necessary environmental permits; and (ii) before signing the construction contracts, it has secured the necessary environmental permits for installation.

## 3. Execution of the program's environmental components

- 3.38 The environmental protection component will be executed by GEPROCAV, working in close coordination with the Municipal Parks and Environmental Affairs Secretariat. Public bidding on these

works will be carried out concurrently with bidding on the canalization and road works. Execution must start as soon as the drainage and road construction work has been completed in order to prevent resettlement of the area by squatters. Given the limited budget resources available, the priorities for each basin would be: (i) to prevent resettlement, by setting up recreation areas; (ii) to minimize erosion, by building protective works and (iii) to boost infiltration capacity, by reforesting areas in the basin and creating community gardens.

- 3.39 The Municipal Parks and Environmental Affairs Secretariat will execute the environmental education component by hiring specialized services and setting up environmental education centers in the program area. The secretariat has drawn up a preliminary work plan for the purpose of estimating the costs involved. It is proposed that the secretariat, through the executing agency, present the first year's annual environmental education plan six months from the date the loan contract is signed, and annually thereafter during the first three months of each successive year.
- 3.40 The institutional strengthening component to be executed by the secretariat's various departments will consist of two types of activities: (i) strengthening of those departments; and (ii) measures to guarantee the program's environmental quality and ensure compliance with applicable São Paulo legislation.

H. Ex post evaluation

- 3.41 The City of São Paulo has indicated that it is not interested in conducting a general economic evaluation after completion of the program. It has, however, given its consent for a socioeconomic evaluation of the results of the relocation plan, as described above in paragraph 3.30.

I. Maintenance of roads and canalized creeks

- 3.42 The City of São Paulo - through its Regional Administrations Secretariat - performs the maintenance and cleaning of the 413 kilometers of canalized creeks (which include the 28 kilometers canalized under PROCAV I) in the municipality's urban districts. The city has been complying with the contractual maintenance commitment assumed under loan 233/IC-BR (PROCAV I), which is limited to the 28 kilometers canalized during that stage, i.e., works that were completed only recently. For the other canalized creeks, the city has not allocated enough funding for such cleaning and maintenance, as is evident from the number of creeks whose flow has been slowed by silting and dumped garbage and the flooding this has caused. Furthermore, the secretariat's maintenance activities are not properly planned and, since no records are kept of maintenance work and there is no breakdown of costs for each creek, it is difficult to assess the true dimensions of the problem.

- 3.43 Given the amount the City of São Paulo has spent on canalizing these creeks, proper maintenance is essential if they are indeed to help abate flooding. The sections canalized under PROCAV I as well as those scheduled for PROCAV II are interconnected with other creeks, so proper operation will depend on the level of maintenance provided for the entire system. Accordingly, the standard IDB clause will be broadened in order not only to cover the creeks canalized under PROCAV II but also to extend the term of the contractual obligation to report to the Bank on the maintenance of creeks canalized under PROCAV I by including this in the contractual clause of the new loan. The contractual commitment should also cover maintenance of the respective bodies of water and tributaries canalized for PROCAV I and PROCAV II creeks.
- 3.44 Based on the amounts spent on maintenance of PROCAV I canalization works, the annual cost would average US\$20,000 for each kilometer of canalized creek, which means an estimated US\$8 million will be needed each year to perform maintenance on the 413 kilometers of canalized creeks. This amount, which would be used to cover maintenance for all canalized creeks, represents approximately 0.3% of the City of São Paulo's current revenue. It can be reasonable assumed, then, that the City would be able to meet the contractual commitment to maintain the creeks canalized under PROCAV I and PROCAV II and their tributaries and receiving bodies, for which the amount is considerably smaller.
- 3.45 The Regional Administrations Secretariat is also responsible for maintaining the roads that run alongside the canalized creeks. The analysis mission found road maintenance to be satisfactory. Since program roads represent only a small portion of the municipality's overall road system, it may reasonably be concluded that they will continue to be maintained properly.

#### IV. THE BORROWER AND THE EXECUTING AGENCY

##### A. The borrower and the executing agency

- 4.1 The borrower and executing agency for the program will be the City of São Paulo, backed by the guarantee of the Federative Republic of Brazil. The city will also assume the commitment to use its own budgetary resources to provide the local counterpart funds.
- 4.2 The City of São Paulo's executive branch, which enjoys political, administrative, and financial autonomy, is vested in the mayor and the deputy mayor, who are elected by popular vote every four years. The term of office of the current mayor and deputy mayor expires December 31, 1996. Legislative power is vested in the Municipal Council. Its members, who are also elected by popular vote, are responsible for such functions as approving the city budget every year and securing loans and setting up credit operations, when authorized to do so by the mayor.

##### B. Organization and administration of São Paulo's government

- 4.3 The City of São Paulo is divided into eighteen secretariats, which include three decentralized agencies. It also has four semipublic companies and two public corporations. The secretariats that would be involved in program execution are discussed in the following paragraphs (their respective roles were described in chapter III).
- 4.4 The Roads Secretariat, as the program's executing agency, is responsible for designing and building new roads in the municipality and for addressing the problems that flooding causes for traffic on municipal thoroughfares. Accordingly, one of its duties is the canalization of creeks, which is the main objective of this program. To discharge the obligations assumed under the previous drainage program (loan 233/IC-BR), the secretariat set up an executing agency that reported directly to the secretariat's director. The agency was assisted by a specialized consulting firm that managed the program and supervised the construction work.
- 4.5 The Housing Secretariat - which will be in charge of all relocation activities under the program, through the Housing Superintendency - is responsible for implementing São Paulo's housing and urban development policy.
- 4.6 The Parks and Environmental Affairs Secretariat was set up by the present municipal administration pursuant to Law 11,426 of October 18, 1993. Its main function is to plan, organize, and coordinate environmental protection activities within the Municipality of São Paulo.

- 4.7 The Regional Administrations Secretariat provides, among other activities, ongoing maintenance for creeks located in the municipality.
- 4.8 The Finance Secretariat is responsible for processing program disbursement requests. Its main functions are to set, collect, and control municipal taxes and fees; oversee service delivery; keep property tax records; coordinate and monitor budget execution; perform treasury services; keep accounting records; and present financial and budget balance sheets. The secretariat's Accounting and Treasury Department will be able to perform all the necessary tasks during the program execution period; the systems currently in use, as well as the existing accounting and financial structure, are considered to be satisfactory.

C. Financial situation of the City of São Paulo

1. Analysis of budget execution

- 4.9 The City of São Paulo has been attaching increasing importance to investments in road and drainage works built by the Roads Secretariat, as can be seen in the following table, which compares the amounts spent by the city with those spent by the secretariat.

(in thousands of constant U.S. dollars)

	1991	1992	1993
Roads Secretariat	157,286	238,530	376,477
City of São Paulo	253,893	360,757	439,688
Percentage	61.9%	66.1%	85.0%

- 4.10 The annual budget is the main instrument for financial control of the City of São Paulo's activities. The following table presents a summary of budget execution for the last three years.

(in thousands of constant U.S. dollars)

	1991	1992	1993
Current income	2,485,623	2,339,276	2,101,761
Current outlays	2,259,646	2,220,418	1,881,132
Current savings	225,978	118,858	220,629
Debt amortization	140,884	151,795	158,593
Own assets for investment	85,094	-32,937	62,036
Credit resources	325,603	155,839	373,156
Other	14,991	2,925	147
Capital expenditures	604,349	574,929	582,502
Surplus (deficit)	-178,660	-449,101	-147,163

- 4.11 It can be seen from the table that, although the City of São Paulo had current savings in 1991, 1992, and 1993, it ran deficits in each of those years. The US\$449 million deficit (18% of revenue) posted in 1992 was due in part to a decline in the collection of property taxes, which resulted from failure to keep the land registry properly updated. A further factor was the judicial decree that prohibited the city from applying progressive tax rates in keeping with rising property values; consequently, it was forced to charge the lowest rate on all property.
- 4.12 In 1993 the city government underwent a reshuffling. The new officials, guided by a different philosophy, launched a spirited campaign to bring operating expenses under control, boost revenue, improve the administrative efficiency of the city's government, and enlist private-sector participation in delivering some services. The results of this new approach to financial management began to be felt late in the 1993 fiscal year, when current savings returned to their 1991 level. This made it possible for the city to honor its debt payments and thus reduce its deficit to 7% of revenue.
- 4.13 As will be explained in the discussion of financial projections for 1994 and subsequent years in chapter V, at present the City of São Paulo is taking steps that will substantially improve its financial situation. The chief measures adopted starting in 1994 are:
- (i) Better collection of property taxes, by updating the land registry, adjusting rates, and recalculating amounts (through monetary correction) for taxes paid. These measures should boost collection by 64% in 1994 alone.
  - (ii) Lower public transportation subsidies, by raising fares and privatizing services. These two measures should

reduce the subsidy level from the US\$327 million recorded in 1992 to an annual US\$100 million as of 1995.

- (iii) Renegotiation of the city's long-term debt, so that its debt service payments are now up to date.

## 2. Analysis of the city's indebtedness

### Historical debt figures (US\$000s)

	Dec. 31, 1991	Dec. 31, 1992	Dec. 31, 1993
<b>Financial liability</b>			
Balances owed	174,085	192,547	81,736
Other	21,345	12,615	6,981
Total financial liability	195,341	205,162	88,716
<b>Long-term internal liability</b>			
Loan contracts	270,608	313,685	271,515
Municipal bonds	460,615	643,019	1,141,194
Subtotal	731,224	956,704	1,412,710
<b>Long-term external debt</b>	512,306	525,287	527,927
Total long-term debt	1,243,530	1,481,991	1,940,637
Total	1,438,871	1,687,153	2,029,353

- 4.14 As can be seen from the table, the city government's total debt rose by 41% over the period in question. The structure of the debt, however, has changed. Short-term liabilities dropped sharply from US\$205 million at year-end 1992 to US\$88.7 million at year-end 1993, thus reducing significantly the city government's annual debt service obligations.
- 4.15 The most important factor contributing to the higher debt level has been the issue of municipal bonds equivalent to US\$1,141 million. In the future, however, the city's bond issues will be curtailed, since they will only be allowed to be issued to pay for debts resulting from expropriations that were not paid prior to 1988 [*precatórios judiciais*]. These totaled around US\$200 million at year-end 1993 and require approval by the National Senate in all cases.
- 4.16 The authority to contract new long-term financial obligations is regulated by Federal Senate Resolution 11 of January 31, 1994. Pursuant to Resolution 11, debt assumed under contract or bonds may



not exceed 9% of real net revenue in 1994, and 11% in the years thereafter.

- 4.17 The city has renegotiated its long-term debt and is now up to date in its debt servicing. It will thus be in a position to step up its investments in construction over the next several years.

D. External audit

- 4.18 The Auditor's Office [*Tribunal das Contas*], which is a branch of the Municipal Council, is the office responsible for overseeing the city's budget expenditures.
- 4.19 The financial statements for the first stage of the program were audited by independent public accountants, who issued unqualified opinions in all cases. It is recommended that the annual financial statements for the second stage be audited by a firm of independent public accountants working under the supervision of the National Treasury Department, which would then send the Bank its statement and comments on the audit report.

## V. PROGRAM FEASIBILITY

### A. Technical feasibility

- 5.1 From the technical standpoint, the program is considered to be feasible and amply justified. The main factors substantiating that opinion are the following:
- a. The program responds to the urgent need to reduce the number of areas in northern and eastern São Paulo that are subject to flooding almost every year; and to expand the road system in 13 valley floors pursuant to the prioritization criteria presented by the City of São Paulo, which were considered satisfactory by the Bank.
  - b. The basic engineering designs for six creeks have been prepared, thus providing a basis for adequate cost estimates and the preparation of bid documents and specifications.
  - c. The execution schedule adequately reflects the times needed to complete all of the activities envisaged. Accordingly, the proposed five-year disbursement period is felt to be realistic and feasible.
  - d. GEPROCAV has accumulated sufficient experience in both the design and the supervision of canalization, road, and protection works, as was demonstrated under PROCAV I. Four basic designs have been readied in addition to the six that comprise the representative sample. The other four projects will be prepared between September 1994 and April 1995, and the schedule calls for seven projects to be completed in April 1995. Accordingly, no delays would occur in the five projects that are to be started in March 1995. In addition, SEHAB/HABI, GEPROCAV, and the consulting firm that will be in charge of management have ample experience with expropriation and family relocation procedures, which will be coordinated with the canalization, road construction, and protection works.

### B. Institutional and financial feasibility

- 5.2 The administrative system set up by the City of São Paulo for the execution of works under the first stage of PROCAV (financed by loan 233/IC-BR) worked satisfactorily. A similar approach will be used for the second stage, although coordination with the municipal secretariats will be strengthened in carrying out the environmental protection and relocation components. The executing unit is already in operation and will receive support from the city's organizational structure and the services of a consulting firm specializing in this type of project. This will be the same firm that managed PROCAV I; its performance was a distinctly positive

contribution to that program's success. Given the foregoing, the borrower is felt to have the requisite institutional capability to execute the program as scheduled.

- 5.3 The City of São Paulo, through its Housing Secretariat, has scheduled various projects that would create roughly 10,000 to 12,000 housing units a year over the next five years. Since this secretariat has logged an annual average of 7,000 housing units in recent years, it may reasonably be assumed that it is capable of providing the 800-odd units that will be required during each year of PROCAV II. An additional guarantee is the fact that the housing complexes in question have a far larger capacity (8,000 units as compared with the 3,900 scheduled under the program).
- 5.4 To verify the ability of the city's budget to provide the local counterpart contribution, financial projections were drawn up on the basis of the program's investment schedule. Those forecasts and the basic assumptions used in preparing them are listed in Annex V-I.
- 5.5 The results of those projections are summarized below.

Financial projections  
(US\$000s)

	1994	1995	1996	1997	1998	1999
Current income	2,453,973	2,361,455	2,409,099	2,460,615	2,516,090	2,575,623
Current outlays	1,951,648	1,910,336	1,955,862	1,996,439	2,041,326	2,071,453
Current savings	502,325	451,119	453,237	464,176	474,764	504,170
Loan amortization	94,850	71,736	57,913	62,165	71,350	58,644
Surplus for investment	407,475	379,383	395,324	402,011	403,414	445,526
IDB loan		65,519	74,833	85,493	59,409	19,746
IDB project		121,656	139,190	141,793	104,267	43,094
Investment and other items	119,850	99,850	103,850	108,050	112,460	117,091
Surplus for other works	287,625	223,396	227,117	237,661	246,096	305,087

- 5.6 The financial projections show the impact of the measures adopted by the new municipal administration as described in paragraph 4.13. These measures have significantly increased tax revenue 2/ by reducing the city's contributions to public transportation services and renegotiating its debt amortization schedule.
- 5.7 The higher current income for 1994 as compared with subsequent years is due to a one-time payment of US\$150 million that will be transferred to the city as a result of a suit it recently won against the state government.
- 5.8 For each of the years covered in the projections, the city has current savings ranging from US\$450 million to US\$500 million - sums that will suffice to cover loan and bond payments. Current savings during that period would account for 20% of the city's current income.
- 5.9 The projections show that, after loan payments are made, there would be enough surplus to cover the annual local contribution for the program and the amounts routinely allocated to municipal companies. These amounts are somewhat smaller than in 1992 and 1993, since there will no longer be any need to make capital contributions to the Municipal Public Transport Authority. After meeting those obligations, there would be an annual surplus - which would never fall below US\$240 million - to help finance other works to be carried out by the city. At the same time, since the projections did not take into account any other long-term financing aside from the IDB loan for PROCAV II, the city could step expenditures up to the 1993-1994 levels by means of long-term credit operations.
- 5.10 In view of the foregoing, the City of São Paulo is felt to be capable of furnishing the local contribution and will have sufficient funds to pay back its debt and finance other works in addition to those under the program. It will also have the necessary financial resources to defray the cost of maintaining program works.
- 5.11 Debt service payments in the first few years following the execution period will require approximately US\$40 million a year. Since that sum represents only 1.6% of the current income that the city would have in 1999, the outlay is deemed to be comfortably within the city's possibilities.

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2/ In addition to updating the land registry and adjusting tax amounts on a daily basis (through monetary correction), the City of São Paulo sent the Municipal Council's Finance Committee the new formulas for computing the property tax, which will generate a substantial increase in collection levels.

C. Economic feasibility

- 5.12 Given the multiple purposes of the proposed works, the various components were examined separately: (i) a least-cost project designed exclusively to address environmental issues and flooding in areas adjoining the creeks; (ii) a least-cost project to address traffic problems in areas adjoining the creeks; and (iii) a joint project, to be carried out at the lowest possible cost, that would address both of these issues at the same time.

1. Economic costs of investment and maintenance

- 5.13 This calculation is presented for the joint project and for a "drainage only" scenario. The total outlays in January 1994 financial prices for the works to be built in the six creeks selected for the sample would be US\$238.2 million, or 43% of the program's overall cost. For the socioeconomic analysis, the cost in market prices was converted to economic prices. The conversion factors 3/ utilized for this purpose showed the total economic cost of the sample projects to be US\$194.5 million.
- 5.14 The cost analysis for the joint project took into account the estimated amounts that would be spent for the canalization works alone, which include certain items needed in order to build access roads for maintenance purposes. In economic terms, these drainage projects would total about US\$121.7 million, or around 62.5% of the joint-project cost. The difference between the joint project cost and the drainage-only scenario would be the marginal cost of building the proposed main roads.

2. Least-cost analysis

- 5.15 A least-cost analysis was conducted for all of the sample projects, considering alternative types of canal sections (trapezoidal vs. open or closed rectangles) and the type of lining (concrete or gabion). All of the projects presented were found to meet the least-cost requirement. An analysis of the least-cost recurrence interval was performed for creeks with flows of more than 100 m<sup>3</sup>/s and a recurrence interval of more than 25 years. The Itaquera creek, with a flow of 191 m<sup>3</sup>/s, was the only one in the sample with an estimated recurrence interval of 50 years. The analysis that was based on a mathematical model, however, came up with an optimal recurrence interval of 25 years for this project, and accordingly that interval was adopted for all projects in this stage.

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3/ The factors used for converting market prices to shadow prices for each category of inputs were: standard conversion factor, 0.94; local materials and equipment, 0.94; skilled labor, 0.90; unskilled labor, 0.48; lubricants, 0.53; gasoline, 0.37; land purchased and expropriated, 0.94; and civil works, 0.76.

### 3. Cost-benefit analysis

#### a. Benefits produced by canalization

- 5.16 The benefits resulting from the creek canalization works will have a favorable impact on a number of factors influencing the quality of life of families in the area. The analysis quantified the benefits stemming from less congested traffic, better housing for relocated families, and higher land values as a result of better environmental conditions in the creeks.
- 5.17 To measure the anticipated benefits of program execution, a socioeconomic survey of 2,000 families living in the projects' service area was conducted. The following results were obtained: (i) a willingness to pay (WTP) of US\$34 a month for each family that would be moved from the shantytowns to new housing; that sum represents about 14% of this population's average family income, which is well below the 30% level considered sufficient to secure financing for housing in Brazil; (ii) a WTP of US\$17 per family per month for drainage services, which represents about 5% of family income in this area; and (iii) a US\$25 increase in the amount paid in rent for each unit. This figure is about 29% higher than the rents currently being paid in the areas covered by the survey.

#### b. Benefits resulting from road construction

- 5.18 The main purpose of the proposed roads in the valleys targeted for canalization is to extend them and link them up with São Paulo's existing road system. This is expected to improve traffic conditions by providing new routes that will allow vehicles to circulate under less congested conditions.
- 5.19 For each road to be built under the project, traffic counts and surveys of the origin and destination of vehicles were made to determine current flows. These figures were then projected up to the year 2010. The present value of the benefits for all the projects in the sample amounts to US\$71.8 million, 54.8% of which would be in the form of reduced vehicle-operating costs. The remaining 45.2% would be in the form of time saved by users.

### 4. Summary of the resulting action

- 5.20 As a result of the cost-benefit analysis conducted using the methodology described above, the Tremembe and Lageado creek projects were withdrawn from the final sample, as was the roads component for the Machados and Guaraú creek projects. Similarly, the Cabuçu de Baixo creek was excluded from the final sample because the basic designs were not ready and the Machados creek was excluded because the feasibility analysis had not yet been conducted for works downstream on the Aricanduva River. Except for the Guaraú creek, simultaneous execution of the road and drainage works will result in projects having rates of return well over the

12% minimum required by the Bank: the sample would post a total of US\$106.2 million in net benefits and an EIRR of 21%.

5. Analysis of distributive impact

- 5.21 The conventional methodology was used to estimate the distributive impact of the projects in the representative sample, identifying and quantifying the net benefits accruing to low-income groups as a share of the total benefits received by the private sector. This included the benefits consisting of the manpower hired to build, operate, and maintain the projects. Low-income groups were defined as those with an annual per capita income below US\$1,188 as of December 1993. The resulting distributive impact coefficient was 42.2%, as can be seen in the following table.

DISTRIBUTIVE IMPACT OF PROCAV II (US\$ millions)				
Item	Public Sector	Private Sector		Social Prices
		Low-income groups	Other	
1. Benefits from drainage	19,100.4	42,414.1	78,919.5	140,434.0
2. Benefits from roads	0.0	32,269.1	38,402.9	70,672.0
3. Investment	-114,677.0	11,009.0		103,668.0
4. Operation	-1,418.1	136.1		1,282.0
Total	-96,994.7	85,828.4	117,322.4	106,156.0

Distributive impact coefficient:  $85,828 / (85,828 + 117,322) = 42.2\%$

## COSTS ITEMIZED BY CATEGORY

1. Engineering and administration (US\$33,800,000)

- a. Studies and designs (US\$10,650,000). These are the costs of the consulting firms hired to do the basic engineering designs and final projects for the program and the respective technical specifications. The amount includes US\$2.1 million which the borrower has spent and will ask to have recognized against its contribution.
- b. Supervision and administration (US\$17,750,000). This category includes all costs related to: (i) program management during the five-year execution period and supervision of works in the following creeks: Cabuçu de Baixo (upper and lower sections), Paciência, Guaraú, Maria Paula, Inhumas, Taboão, Ponte Rasa, and Pedras - which have an estimated cost of US\$5,750,000 and will be funded with foreign exchange from the Bank loan. It does not include supervision costs for the Machados, Mandaqui, Franquinho, Aricanduva and Itaquera creeks, since these were contracted for by the City of São Paulo and are not part of the program.

2. Direct costs (US\$343,900,000)

Since this is a multiple works program, the direct costs include contingencies amounting to 10% of estimated costs, and escalation, in accordance with Bank procedures.

- a. Canalization (US\$215,160,000). Costs involved in the construction of 14 sections of channel or closed galleries, for a total length of approximately 45 kilometers.
- b. Roads (US\$98,513,000). Construction costs for an estimated 47 kilometers of roads along several sections of 13 creeks.
- c. Environmental protection (US\$30,227,000). Construction costs for parks and slope protection in the 14 watersheds where the canalization and road works are to be undertaken.

3. Associated costs (US\$104,040,000)

- a. Expropriations (US\$46,740,000). This covers: (i) purchase or expropriation of the additional land required by the City of São Paulo, based on a determination that approximately 70 hectares must be acquired, at a cost of US\$31,270,000; (ii) purchase of or indemnification for 140,640 square meters of improved property having an estimated value of US\$15,470,000.



- b. Relocation of families (US\$51,600,000). This covers the relocation of families affected by the program, including the construction of 3,900 housing units measuring 42 square meters each, the installation of basic public services in shantytowns, and construction of the necessary social infrastructure. The US\$4,270,000 in Bank funding would go to financing part of the costs for social infrastructure.
  - c. Institutional strengthening and environmental education (US\$5,700,000). This consists of three components: (i) US\$1.7 million for institutional strengthening of the Parks and Environmental Affairs Secretariat; (ii) US\$3 million for an environmental education plan; and (iii) US\$1 million for institutional strengthening of the Housing Secretariat.
4. Finance charges (US\$67,660,000) This category covers:  
(a) US\$60,620,000 in interest accruing over the execution period;  
(b) US\$4,018,000 for the credit fee; and (c) US\$3,022,000 for program inspection and supervision by the Bank.

**BIDDING SCHEDULE FOR PROJECT DESIGNS**

	1994	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	US\$1
<b>ENGINEERING DESIGNS</b>							
abucu de Bx. (down stream)	NNNEEEE	E					
nhumas	NNNEEEE	E					
onte Rasa	NNNE	EEEE					
io das Pedras	NNNE	EEEE					

**Total US\$ x 1.000**

<b>PROJECTS</b>							
achados	NNNEEEE	EE					
abuçu de Bx. (down stream)	NNN	EEEEEE					
abuçu de Bx. (up stream)	NNN	EEEEEE					
andaqui	NNNEEEE	EE					
ranquinho	NNNEEEE	EE					
aciencia		NNNEE	EEEE				
uarau		NNNEEEEE					
ricanduva	NNNEEEE	EE					
taquera	NNNEEEE	EE					
aria Paula			N	NNNEEEEE			
nhumas	NNN	EEEEEE					
aboão		NNNEEEEEEE					
onte Rasa			NNNEEEEE				
io das Pedras			NNNEEEEE				

**Total US\$ x 1.000**

**E = Execution, N = National Bidding**

BIDDING SCHEDULE FOR PROGRAM WORKS

DESCRIPTION	1994	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	US\$1
<b>ZATION AND ROAD WORK</b>							
chados	III	IIIEEEEEEEEEE	EEEEEEEEEEEE				
bucu de Bx. (down		IIIIIIIEEEEE	EEEEEEEEEEEE	EEEEEEEEEEEE	EEE		
ream							
buçu de Bx. (up			IIIIII	EEEEEEEEEEEE			
ream)							
ndaqui	III	IIIEEEEEEEEE	EEEEEEEE				
anquinho	III	IIIEEEEEEEEE	EEEEEEEEEEEE	EEEEEE			
ciencia			III	IIIEEEEEEEEE	EEEEEEEEEEEE	EEEEEEEE	
arau		III	IIIEEEEEEEEE	EEEEEEEEEEEE	EE		
canduva	III	IIIEEEEEEEEE	EEE				
aquera	III	IIIEEEEEEEEE	EEEEEEEEEEEE	EEEEEEEEEEEE	EEEEEE		
ria Paula				IIIIIII	EEEEEEEEEEEE	E	
humas	I	IIIIIIIEEEEE	EEEEEEEEEEEE	EEEEEEEEEEEE			
boão		IIIIII	EEEEEEEEEEEE	EEEEEEEEEEEE	EEEEEEEE		
nste Rasa			IIIIII	EEEEEEEEEEEE	EEEEEEEEEEEE	E	
o das Pedras				IIIIIII	EEEEEEEEEEEE		
<b>TION OF FAMILIES</b>							
ools, day care centers		IIIIII	EEEEEEEEEEEE	EEEEEEEEEEEE			
health posts							
sing complexes							
Jaragua City	NNN	EEEEEEEEEEEE	EEEEEEEEEEEE	EEEEEEEEEEEE	EEEEEEEE		
Inacio Monteiro	NNN	EEEEEEEEEEEE	EEEEEEEEEEEE	EEEEEEEE			
Garagem	NNN	EEEEEEEEEEEE	EEEEEEEEEEEE	EEEEEEEEEEEE	EEEEEE		

Total US\$ X 1.000	32
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I = International Bidding, E = Execution, N = National Bidding

RELOCATION PLAN  
SUMMARY

1. Scope of relocation and expropriations under PROCAV II

The canalization of valley bottoms scheduled under PROCAV II will entail:

- a. Relocation of 3,900 families who live in shantytowns that will be directly affected by the program works.
- b. Installation of basic public services in adjacent shantytowns, benefitting 1,350 families.
- c. Expropriation of 1,700 properties in areas targeted for construction.

In all, 40,300 persons would be affected by these three measures, 30,000 of them shantytown residents.

Expropriation procedures will follow the clearly defined provisions set forth in Brazilian legislation, as embodied in the 1988 Federal Constitution. All indications are that the expropriation process will go forward more smoothly in the second phase of PROCAV, thanks to recent legislative changes that allow for prompt payment of indemnities and the assignment of more judges to this area.

GEPROCAV's coordination activities are carried out by experts who work exclusively on expropriation. These experts acquired their experience and demonstrated their leadership abilities in this field during phase I.

The plan, summarized below, deals exclusively with the relocation of families and the installation of basic public services in adjacent shantytowns.

The estimate of the total number of people affected is considered to be reliable, given the extent of the field work carried out: socioeconomic surveys of shantytown residents living along all the creeks initially selected (the survey did not include Inhumas, which was added to the project during the analysis mission), expedited tallying, definition of the area based on aerial photogrammetric surveys, adjustment of the relocation and shantytown improvement plan with the basic designs for the canalization and roads projects, and analysis of survey findings and the detailed maps of the affected areas with social workers who work in these shantytowns and are thoroughly familiar with conditions there.

Even so, the relocation plan assumes there will be some increase in the population to be relocated, as worsening economic conditions in Brazil and in São Paulo push poorer families to leave their rented dwellings and seek housing in shantytowns. This phenomenon, which is borne out by

housing statistics for the past few years, is further compounded by the natural growth of the target population and the risk of land speculation (squatter settlements), which is difficult to prevent in projects of this nature.

2. The target population

Relocation activities are anticipated along 10 of the 14 creeks included in PROCAV II. Construction on the Aricanduva, Pedras, Mandaqui, and Cabuçu de Baixo (lower section) creeks should not have any impact on shantytown residents.

Land will have to be expropriated along 11 creeks: the 10 slated for relocation activities plus the Pedras creek.

The main findings of the socioeconomic survey conducted in late 1993 on a cross section sample of shantytowns located along the 14 creeks initially selected are summarized below. Basic, general indicators were chosen for all the shantytowns, without considering (in this annex) any variations from one shantytown to the next.

- a. Actual employment status: 34.1% of the heads of household interviewed were formally employed; 41% worked in the informal market; 23% were unemployed or underemployed.
- b. Official employment status: 41% were registered; 31.2% were unregistered; 4.8% were retired; the rest were unemployed or underemployed and, accordingly, were not registered.
- c. Household income: the average monthly income of the population surveyed was 2.3 times the minimum wage. However, that average covered a wide range: while 19.2% of the households had incomes below the minimum wage (approximately US\$65/month) and fell in the category of absolute poverty, 41.2% received between one and three times the minimum salary, 23.1% received three to five times the minimum salary, and 16.4% received more than five times the minimum salary. Gross per capita income averaged only one half the minimum salary.
- d. Residency status
  - (i) The average length of a family's residency in the shantytowns was slightly over six years, with longer periods in Guaraú, Taboão, Paciência, and Ponte Rasa.
  - (ii) 86.9% of those interviewed said they owned the dwelling in which they lived.
  - (iii) 50.4% of the dwellings are of masonry, which indicates that residents have made an investment, that they

intend to remain in the area, and that they aspire to better living conditions.

e. Current distance to social services (this indicator is normally measured in terms of time spent by a family in getting to basic services)

- (i) Day care centers: 60% of users are within 15 minutes of a day care center.
- (ii) Primary school: most are within a 15-minute distance; 33% are 15 to 30 minutes away.
- (iii) Health centers or posts are less than 15 minutes away from 43.4% of users, while 32.2% have to walk up to half an hour to reach such facilities.
- (iv) Most food is obtained at open air markets located near the shantytowns, in the residents' own neighborhoods.
- (v) Communications: public telephones are used by 89% of the population and are located nearby; 44.7% report that they use postal services, although the distance is slightly greater.
- (vi) Distance to work: living close to one's workplace was considered important by only 6.8% of those interviewed. This is probably due to the fact that 41% work close to home; only 24.3% stated that they took more than half an hour to get to work.
- (vii) Access to efficient public transportation, which is already an important consideration, will become even more important when families are relocated. In this respect, the definitive relocation plan provides for the availability of public transportation at the three relocation sites and guarantees access to central São Paulo with only one transfer.

In summary, most of the shantytown residents who will be affected by project works live in precarious economic and housing conditions but they have reasonable access to social services. When asked about moving, most people said they preferred to remain in the area but would move if they were guaranteed access to infrastructure (water, sewerage, electricity, streets, public lighting) and basic social services (especially health care, education, public transportation, and public safety).

Most residents were worried about how they would pay for all the expenses involved in moving out of their shantytowns. Although they were attracted by the prospect of a permanent solution to their housing needs

in a new home that would belong to them, would meet all applicable regulations, and would be in communities equipped with infrastructure, residents were afraid they might not be able to afford the expenses involved: financing charges of the Municipal Housing Fund and the maintenance, electricity, water, and gas fees to be paid at market prices.

Most of the residents currently own their dwellings. However, since most of these homes were built on unauthorized sites, their low-income owners do not pay any property tax. At the same time, the substantial water, electricity, and cooking-gas subsidies that shantytown residents receive make utility rates largely symbolic.

The options set forth below apply both to families who would be subject to relocation or shantytown improvement activities and private property subject to expropriation.

### 3. Proposed options

#### Relocation of shantytown residents to housing complexes

The three options proposed in the family relocation and shantytown improvement plan flow from one basic objective: to provide families with permanent housing, either in new communities or by upgrading the shantytowns where they currently live.

Given the growing pressure on real estate in greater São Paulo, permanent low-income housing can no longer be approached in terms of single-family lots and houses. The virtual nonexistence of vacant public land and the high cost of the few private properties large enough to accommodate several families make such an approach impractical. Three possible options remain:

- (i) Relocation in housing complexes built on available public land or expropriated private land.
- (ii) Upgrading of shantytowns whose physical condition and land status would allow for comprehensive infrastructure improvement, building of streets, and reallocation of space use – clearing critical areas and building up others. The goal would be to significantly upgrade shantytowns with a view to integrating them into the surrounding urban fabric. Indeed, the city's housing program refers to the "transformation of shantytowns into neighborhoods" that would gradually be incorporated into the city. The pilot experiment for this "transformation" was launched in early 1994 under the Cingapura project in 14 of the city's shantytowns. The PROVER project, which is in an initial preparatory stage, should extend the urbanization/integration approach to many more shantytowns.

- (iii) Individual solutions, through the creation of a real estate exchange, enabling families subject to mandatory relocation to acquire (with financing) houses or apartments put on the market as a result of the cooling off of the economy.

Given the large number of families facing mandatory relocation under PROCAV II, option (iii) is impractical because of its operational complexity, the current restrictions of the home financing system for low-income families, and the need to find collective solutions that can be carried out in a relatively short time.

In the light of the above-mentioned restrictions (scarcity of available public lands, which would require resorting to high-rise solutions; operational complexity of individualized solutions based on conventional home financing, which has proved unstable; tight schedule for the canalization works, which require large-scale relocation in a short time), the first option is the best one for PROCAV II. It aims to relocate the majority of the shantytown residents who will be affected by the project works to housing complexes in three areas owned by the City of São Paulo. These communities are designed to accommodate low-income groups under PROCAV II and other housing projects being carried out by the Housing Secretariat.

The three areas in which the complexes are to be built are already owned by the City of São Paulo. They lie within the city's limits, at an acceptable distance from the shantytowns where the target population currently lives. Only 5.6% of the families to be relocated from Paciência (174) and Maria Paula (45) live 15 km from the relocation site, 20.9% (Taboão and Inhumas) live 10-11 km away, 10.4% live at a distance of 9.5 km, 31.6% are 7.5 km away, and the remaining 31.5% live at distances ranging from 3 km to 7 km. Hence, the majority (63.1%) will be relocated within a radius of 7.5 km from their present location, which is a perfectly acceptable range in São Paulo.

Other factors come into play as well in determining the acceptability of relocation distances: (i) the families interviewed conditioned their willingness to relocate to more distant areas on the availability of public transportation and social services in the new location; (ii) the detailed distance table (prepared for the preliminary version of the plan) indicates that in many cases existing public transportation will make it easier for residents to get downtown or get to key social services from the new location. In the long run, as metropolitan transportation services are established, residents of the northern and northeastern areas of the municipality will also gain access to the hubs of economic activity in greater São Paulo. In the short and medium term, the executive group will have to ensure implementation of the agreements between the Housing and Metropolitan Transportation Secretariats by assigning more buses to the relocation sites. Specifically, the estimated levels are as follows:



- (i) The City Jaraguá complex in the northwestern part of the municipal region (which can accommodate 4,700 families) has space reserved for 1,641 PROCAV II families from the Cabuçu, Paciência, Guaraú, and Maria Paula creeks.
- (ii) The Inácio Monteiro complex, which is located in the closer-in Guaianazes district and can accommodate 2,000 families, has space reserved for 1,481 PROCAV II families.
- (iii) The Garagem complex in the northeastern region (which can accommodate 2,000 families) has space reserved for 754 PROCAV II families.

SEHAB/HABI has considered the possibility of these complexes accommodating even more families under PROCAV II, should demand exceed the original estimates. The opposite could also occur, should the scheduled shantytown improvement works allow more families to remain where they are.

The planned housing complexes consist of five-story buildings (including the ground floor) with four apartments to a floor. Each apartment has a useful area of 42 square meters and includes a living/dining area, two bedrooms, a kitchen, a bathroom, and a service area. There are also common areas on the premises.

The apartments will be ready for immediate occupancy, though simply equipped.

The apartment blocks will meet the City of São Paulo's standards with respect to spacing, insulation, recreation areas, parking, etc. The construction of social infrastructure within the complexes is also provided for, some with IDB resources. Since the facilities to be set up in the complexes themselves will not be able to meet the entire demand from PROCAV II and other projects, expansion of the social services currently available near the new complexes is also planned. In fact, specific agreements pertaining to PROCAV II have already been concluded between SEHAB and various sector secretariats (health, education, FABES-day care centers, sports and recreation, transportation, parks and environmental affairs) to ensure that the necessary social facilities are available and operational in time to serve the families relocated to the various complexes.

The second option is basically an outgrowth of the first. It also provides for relocation to housing complexes, the difference being that the families who were identified at the time the initial roster was drawn up and issued an entitlement voucher to move to an apartment in a housing complex would be allowed to swap their entitlement with another family from their shantytown, who - since they do not live in the construction area - would not be subject to mandatory relocation or entitled to an apartment. This proposal, known as the "domino effect", grows out of

HABI's earlier experience and the observation that the households identified are not always interested in moving to an apartment or they are unable to move for cultural or socioeconomic reasons. In fact, the families living closest to the creek beds are usually the ones that arrived most recently and the ones living in the most precarious conditions; as a result, they are the most reluctant to accept, or are the least prepared for, the change involved in moving to an apartment.

To understand the logic behind the "domino effect" insight is needed into the social dynamics and stratification of shantytowns. As families move back from the creek's banks, they tend to move into better dwellings and, accordingly, into a higher class within the shantytown. These families are slightly better off economically; under the project, however, they would not be identified for relocation. By allowing residents to make swaps, the "domino effect" also allows families with limited resources to move into a better dwelling within the shantytown without being burdened by all the costs that come with an apartment. For families that will not benefit from the public services to be installed in the remaining shantytowns or those that forgo the chance to relocate to a housing complex, the possibility of their moving to another shantytown that is being upgraded (under PROCAV II or not) will be studied on a case-by-case basis.

The third option under the plan consists of upgrading the remaining shantytowns. Under this option, the project would provide coverage to all the households affected directly and indirectly by the project, rather than limiting itself to improving the living conditions of only those families identified for relocation to housing complexes. The shantytowns that would receive basic public services have already been identified, using the following criteria:

- (i) The shantytown must have a minimum of 100 families (although the feasibility of works for smaller ones is also being studied).
- (ii) Shantytowns situated on public land (city property) would receive priority; additional research (described in the annex) is being completed by HABI-PATRI's Real Estate Department.
- (iii) Land must be able to support the construction of a road system and urban infrastructure.
- (iv) There must be no plans for large-scale construction projects in the area for the next five years, since these could entail tearing down the shantytowns and thus nullify the justification of the cost of the work.
- (v) The target population must support the action.

These criteria would be applied to the basic designs (currently in the bidding phase) for the sample projects, in order to evaluate implementation conditions and costs of these works under PROCAV II. Preliminary studies have already been conducted (see the annex to the plan), based on the results of in-progress projects that are being carried out with the City of São Paulo's own resources and coordinated by SEHAB, and based on the initial steps of the shantytown improvement proposal, as part of the IBRD-funded Guarapiranga project.

The idea of upgrading the remaining shantytowns under PROCAV II began taking shape in the course of the project preparation missions. The final decision to include this component in the project was made shortly before the analysis mission.

Preparatory work on this component is still under way. Basic surveys are in preparation in order to test the assumptions contained in the annex to the plan. These surveys will be conducted on a sample of three shantytowns that present different characteristics and are regarded as "upgradable". The results of these sample surveys should provide the necessary input to begin preparing the shantytown improvement project.

The shantytown improvement proposal would include the following activities:

- (i) Construction of water, sewerage, electricity, and storm drainage systems; access roads to dwellings, integrated into the surrounding road system (allowing access at least to garbage trucks); and retaining walls, where necessary.
- (ii) A new layout of streets and lots consistent with the above-mentioned systems.
- (iii) Land conveyance (through usufruct, or the sale of land through COHAB, once the city government has transferred this power to that entity).

It should be stressed that this proposal differs significantly from the usual shantytown improvement schemes, in which "improvement" tends to amount to a few specific or emergency measures. Such stop-gap improvements are undertaken when it would not be technically viable to upgrade a shantytown or when total or partial shantytown clearance appears probable in the future. PROCAV II provides for total removal of shantytowns in areas where only a few families remain (in which case, all the families would be relocated to housing complexes) and upgrading of the larger, remaining shantytowns. The option of "shantytown improvement only" was omitted from PROCAV II from the outset as being too restrictive.

According to data currently available, nine of the shantytowns that would be left standing present conditions that would justify upgrading them.

This figure may be adjusted upwards once the road projects for the Ponte Rasa, Maria Paula, and Cabuçu de Baixo creeks are completed.

At this writing, the following creeks and shantytowns are being considered:

- (i) Machados creek: Tanque/Itapolis and Vitotoma Mastrorosa I and II (although Vitotoma I has just under 100 dwellings, most of them are of masonry).
- (ii) Guaraú creek: Sucupira II, Condessa Amália Matarazzo, and Jardim Peri I.
- (iii) Taboão creek: Vila Antonieta and Santo Eduardo.
- (iv) Paciência creek: Mimosa II, which is eligible in theory, should not be considered because of the planned widening of the Fernão Dias highway.

The cost estimates for these works were based on data from other projects that are currently under way. They vary significantly, depending on the characteristics of the shantytown and the number of beneficiary households (see the annex to the plan).

The costs of other in-progress shantytown improvement projects were averaged, giving an estimated cost of US\$2.27 million for the works under this project. Given the incompleteness of the data, the PROCAV II coordinators consider it possible to finance up to an amount of US\$3,000 per family for these purposes. The city government has undertaken to pay the costs of these works, even if the basic designs should reveal that costs will be higher than indicated in the initial estimates.

#### 4. Home financing terms for families relocated to housing complexes

Families relocated to housing complexes will have access to the home financing system set up for low-income families under the new Municipal Housing Fund (FMH) and approved by the Municipal Council on June 23, 1994. The FMH should be up and running soon, according to the proposal prepared by SEHAB's technical affairs office. There is every reason to believe that the families relocated under PROCAV II will benefit from the new FMH financing mechanisms.

The basic difference between the FMH and its predecessor (FUNAPS) lies in the new dual-contract format:

- (i) The first contract is for the financing of the property and follows the standard guidelines of the home financing system. It is based on the property's real value. If the property changes ownership, the contract is renegotiated (rather than extended under the terms of the initial contract). Installment payments are based

on the household's income. The new system benefits low-income households (i.e., those with a monthly income of less than four times the minimum wage) by reducing installment payments 31% to 36% in comparison with the former system. Payback periods are flexible and can be made longer or shorter depending on the borrower's ability to pay.

An especially important feature of the proposed system is that it will make it possible to repay the FMH and recover, at least partially, the city's housing investments so that it can reinvest in other low-income housing projects. Owing to imperfections in the former fund, there were no legal means for collecting payments from families who had received a low-income house or apartment. Under the proposed new system, the city government will be authorized to charge a minimum rate (for usufruct) or installment payments (for purchase of the property): the usufruct option will be applicable exclusively to state-owned or state-controlled properties, while sale will involve transferring the property from the city government to COHAB for subsequent sale.

- (ii) The second contract is a one-year, renewable contract, personal and nontransferable, to provide subsidies for families who are temporarily unable to afford the full cost of their installments. For households with incomes of up to four times the minimum wage, the subsidy could reduce installments by up to 68%. The household's ability to pay will be reviewed annually, and its eligibility for a subsidy extended or terminated. In summary, the subsidy enables households with low incomes or in temporary financial difficulties to have a home of their own and receive home financing; it eliminates, or at least reduces, the risk of recipient families forfeiting their vested rights to a home of their own because they cannot make payments on it.

The success of PROCAV II's relocation component will depend in large part on prompt availability of this subsidy for households that need it. Any delay in implementing the subsidy mechanism, so that households would only have access to conventional financing through COHAB, carries the risk of default.

Given the importance of the dual-contract home financing system to be adopted under PROCAV II, implementation will have to be monitored closely.

It should also be emphasized that the proposed financing mechanism will give the city's assistance to shantytown residents a less dole-like character than has been the case in recent years.

5. Organization of family relocation and shantytown improvement activities: social work and community participation

To provide support for community organization and coordination for the various tasks involved in the family relocation and shantytown improvement activities, the Housing Secretariat (SEHAB) issued a directive setting up an executive group specifically charged with managing relocation and shantytown improvement activities under PROCav II. The group is composed of experts (one principal and one alternate) from each department of the Housing Superintendency (HABI) - Planning, Projects and Works, Social Work, Legal Affairs, Accounting, and Administration - working under the coordination of a SEHAB expert appointed by SEHAB's director.

The executive group's organization chart also covers coordination of agreements specifically pertaining to PROCav II in order to ensure timely participation by the municipal secretariats in co-execution of the plan. Similarly, it includes a consultative committee made up of representatives from the communities and NGOs. Creation of the consultative committee was decided in the course of the analysis mission and formalized by a SEHAB directive issued on May 27, 1994. The committee is now being formed. Its membership will be made up of representatives of the affected shantytowns formally designated at community meetings, representatives of NGOs in the housing field, and GEPROCav representatives. The executive group's coordinator will chair the meetings of the committee.

The executive group began its work during the plan's preparatory phase. It has been given considerable freedom of action, and its members are in the process of assembling a technical team charged with implementing the plan in each member's area of responsibility. The experts, who are based at HABI's regional offices and work directly in the shantytowns, will play a crucial role by providing a link with the communities.

The executive group works closely with GEPROCav's Technical Office for Environmental Coordination and Shantytown Projects. Jointly they are responsible for preparing as well as implementing the plan.

It should be noted that the preparatory work involved in PROCav I was very different from PROCav II's with respect to relocation activities. During the first phase, although 1,500 households were relocated and another 1,800 expropriated, no major importance was attached to this activity in the project document or in terms of institutional implications. Expropriation fell under the authority of GEPROCav, while relocation was one of HABI's many routine tasks.

Furthermore, several problems beset the first phase, the following among them: the Caixa Econômica Federal funds allocated for the project were not made available; growing problems with FUNAPS, which culminated in its dismantling; change in municipal administration and working relations with the low-income population; priority given to alternatives to relocation so that construction would not fall farther behind schedule.

Under PROCAV II, care was taken to involve and mobilize SEHAB/HABI organizationally and operationally (from the top down through the field level), beginning with the project preparation phase. An executive group, linked to those agencies and GEPROCAV, was set up and assigned responsibility for overseeing the entire relocation and shantytown improvement process. The active participation of other sector secretariats was also taken into account. Channels of communication and consultation with the affected population were established. The executive group, which was formally established after the definitive version of the plan was drafted, is engaged in taking the necessary steps to ensure the plan's success (defining the monitoring and evaluation system, setting up technical teams from each HABI area involved in the process, drafting the consultative committee's by-laws prior to its formal installation, etc.).

Direct execution of the plan will involve the following phases:

- (i) Projects and works will be coordinated and supervised by HABI-3, which performs some tasks directly and subcontracts others (project designs as well as works). COHAB is expected to play a significant role in building the housing complexes. Provision has also been made to ensure that the social services projects for the housing complexes will be compatible with those of the other secretariats involved as well as with the shantytown improvement, canalization, road, and environmental protection projects.
- (ii) The executive group's director, with support from the group's other members, will act as coordinator for the work of HABI's planning, accounting, administration, housing-related social work, and legal affairs departments; agreements; and the consultative committee. He will represent the executive group at GEPROCAV's coordination meetings, thus providing - with the support of GEPROCAV's technical manager for environmental coordination and shantytown projects - an ongoing interface with PROCAV II's other operations departments.
- (iii) HABI-2 is in charge of housing-related social work, i.e., the social work undertaken with the affected communities and families, as described below:
  - Meetings with community leaders in order to explain PROCAV II's objectives and the need for relocation, debate the options proposed by the City of São Paulo, and collect input from the residents themselves with an eye to fine-tuning the plan. This effort was begun in early 1994 on a representative sample of communities. The format of ongoing consultation and dialogue with the communities will

be the main feature of this social work throughout the plan's implementation, both for relocation and shantytown improvement activities. The use of group dynamics techniques is recommended for these consultations, although other methods may also be considered. The meetings planned with NGOs prior to presentation of the project to the IDB's Board of Executive Directors will follow the same procedures.

- The initial roster that is to be drawn up represents the first direct contact with the shantytown residents who will be affected by project works. This activity is scheduled to begin as early as six months prior to the startup date for construction work along the project creeks. Drawing up the roster will entail interviewing and identifying the head of each household and its members (based on area maps and house numbers), and distributing individual vouchers to each household to ensure that it will be included on the relocation list. The roster is intended to prevent further settlement in the area (with help from the target populations). At the same time, it will make it possible to update and systematize data and adjust the various planned actions. This activity will promote community involvement and closer cooperation between residents and the teams of social workers, and will launch a process of collective and individual dialogue with the residents concerning their relocation options. This activity was scheduled for such an early stage because some of the shantytowns are quite large and negotiating the proposed options will take some time.
- A more complete census will be taken one to three months prior to relocation (with the longer periods being allowed for the larger shantytowns). This should be enough time considering that the basic data needed for project execution will have been gathered during the compilation of the initial roster. This census will compile more complete data on each household, specifying household income (to determine ability to pay in connection with the financing contracts), current workplace location, sociocultural ties (for purposes of keeping neighbors together after relocation to the housing complexes), and each household's preferred options (e.g., possible interest in swapping their housing entitlement).



- Implementation of the strategies for relocation and shantytown improvement (along with the above-mentioned activities) will require holding many meetings with the communities and residents affected in order to discuss: the criteria used in assigning housing units, by complex; home owner rights and responsibilities; approaches to financing; monthly installment payments; eligibility for subsidies; charges levied on residents of housing complexes (condominium maintenance fees, utilities); the need for, and forms of, community organization (before and after relocation).
- The actual move from the shantytowns to the housing complex; estimating costs, negotiating dates, strengthening the social work teams (on leaving the shantytown and arriving at the housing complex), arranging for various services (moving trucks, laborers, food, etc.), preparing documentation (terms of occupancy) to be signed by residents when they receive the keys to their apartments, etc.
- Follow-up services and technical assistance for residents after relocation: social work will need to continue after relocation in order to meet the residents' special support needs during the initial phase of adaptation to their new living conditions so as to: dispel doubts, resolve problems, answer financing questions, strengthen community organization groups, etc.
- Active participation in monitoring and evaluating the plan: the HABI social work team will perform one of the essential monitoring and evaluation functions, which is the periodic verification of relocation and shantytown improvement indicators, with respect to both the target population and the mechanisms proposed for executing the plan, involving the population itself in all phases.

Throughout the relocation and shantytown improvement process, residents and NGOs will be able to address claims to the consultative committee if those claims have not been satisfactorily resolved locally by the HABI-2 social workers. Similarly, the executive group's director may request a meeting of the consultative committee to inform the population about the plan's progress, adjustments, etc. The committee's by-laws will have to be drawn up prior to project implementation. The committee's role and the procedures for selecting representatives from each shantytown must be clarified in the consultative meetings with the communities.

The superintendency's institutional capacity will be bolstered in conjunction with PROCAV II in order to ensure the satisfactory performance of the various HABI teams involved in project execution. The importance of that institutional strengthening is undeniable now that SEHAB and HABI are seeking to introduce a new philosophy in working with shantytown populations.

## EVALUATIONS OF THE RELOCATION PLAN

The social impact assessments will be performed by means of a longitudinal study based on a representative sample of all the creeks and all the alternatives contained in the relocation plan. The following criteria must be covered, as a minimum:

- (i) Relocated families who have received an apartment in a housing complex.
- (ii) Families who remained in the upgraded shantytowns.
- (iii) Family makeup, employment profile, education profile, income levels, health and sanitation conditions.
- (iv) Access to basic infrastructure and social services, distance and cost of travel to work, school, and other social services in the relocation areas.
- (v) Physical characteristics of each dwelling and basic infrastructure in upgraded shantytowns.
- (vi) Family participation in community organizations and in the restructuring of neighborhood relationships in the relocation areas.
- (vii) Participation in the environmental education program.
- (viii) Benefits and shortcomings observed by families in connection with the program's components, including the drainage, roads, relocation, and environmental education subprojects.
- (ix) Impact of access to own home of greater value.
- (x) Expectations for economic and social improvement of both the family and the community.
- (xi) Number of families covered by PROCAR program who stayed in the upgraded shantytowns or housing complexes.
- (xii) Performance of the housing portfolio, by type of contract and ownership format.
- (xiii) Ability of relocated families to meet new obligations (electricity, condominium fees, water, etc.)

PROYECCIONES FINANCIERAS

Bases para su formulación

La estimación de ingresos y gastos de la Prefectura se formuló en base a los supuestos siguientes:

- 1) Los ingresos provenientes del impuesto predial y de las tasas vinculadas al mismo en 1994 se incrementarían en un 64% en relación a 1993 como resultado de las medidas fiscales adoptadas y a partir de 1995 se tendría un crecimiento vegetativo del 5%.
- 2) El impuesto a Producción y circulación de bienes mantendría la tendencia ya verificada en 1994 de incrementarse en un 5% anual.
- 3) Los ingresos patrimoniales se mantendrían a un nivel estable de US\$ 150 millones y los ingresos del Fondo de Liquidez Municipal bajarían en un 5% anual, debido a que se prevé una baja en la emisión de títulos.
- 4) Las transferencias que recibirá la Prefectura se estimó que aumentarían anualmente en un 5 %, en 1994 se recibiría un monto adicional del equivalente de US\$ 150 millones como resultado de que la Prefectura gano un juicio al Estado en relación al monto que debía transferirse en años anteriores.
- 5) Los recursos del préstamo del Banco y los montos anuales que se programa invertir en el proyecto son los establecidos en el cronograma de ejecución definido en este documento.
- 6) Los gastos de personal en 1994 se incrementarían en un 10% y un 5% en los años siguientes, los demás gastos de operación como resultado de la política de contención del gasto aumentarían en un 5% anual.
- 7) Las transferencias corrientes como resultado de los cambios en la política de subsidios al transporte bajarían en 1994 al equivalente de US\$ 200 millones y a partir de 1995 se estabilizarían en US\$ 120 millones anuales.
- 8) Los gastos financieros y la amortización de la deuda son los montos que se determinan como resultado de la renegociación de la misma.
- 9) Dentro de las gastos de capital el concepto de inversiones disminuye en relación al nivel de 1993 debido a que desaparecen los compromisos de inversión que la Prefectura tenía con la CMTC.
- 10) Los montos que se destinarían a obras e instalaciones es el remanente de recursos propios que tendría la Prefectura luego de atendidos sus demás compromisos y no incluye recursos provenientes de la utilización del crédito.

	Actual									Total
	1991	1992	1993	1994	1995	1996	1997	1998	1999	94—99
REVENUE	2826216	2498041	2475064	2454123	2431843	2491489	2554856	2579570	2595876	15107757
CURRENT										
Property Tax	301363	108046	89060	146058	153361	161029	169081	177535	186412	993476
T	530191	501953	421278	442342	453400	464735	476354	488263	500469	2825583
er taxes	54989	59567	52061	55000	55000	55000	55000	55000	55000	330000
es	139354	194436	132519	198779	203748	208842	214063	219414	224900	1269746
Total Tax revenue	1025897	864002	694918	842179	865509	889606	914498	940212	966781	5418785
nsfers	989448	831798	773587	946794	850946	893493	938168	985076	1034330	5648807
Financial Revenues	221918	104691	129716	150000	150000	150000	150000	150000	150000	900000
Municipal Liquidity Fund	115599	386657	396430	400000	380000	361000	342950	325803	309512	2119265
he current revenue	132760	152129	113110	115000	115000	115000	115000	115000	115000	690000
Total other current revenues	1459725	1475275	1406843	1611794	1495946	1519493	1546118	1575879	1608842	9358072
TOTAL CURRENT REVENUES	2485622	2339277	2101761	2453973	2361455	2409099	2460616	2516091	2575623	14776857
CAPITAL										
ans	325603	155839	373156							0
B Loan				0	70238	82240	94090	63329	20103	330000
her	14991	2925	147	150	150	150	150	150	150	900
TOTAL CAPITAL REVENUE	340594	158764	373903	150	70388	82390	94240	63479	20253	330900
EXPENDITURES	3004878	2947144	2622228	2454123	2431843	2491489	2554856	2579570	2595876	15107757
CURRENT										
stff— related	950829	784463	637739	701513	736589	755003	773878	793225	793697	4553905
pplies	119145	155522	122817	120000	126000	133300	138915	145861	153154	817230
ontractual services	593667	708144	619091	634568	650432	668693	683361	700445	717956	4055455
nsfers	238268	331428	289059	200000	120000	120000	120000	120000	120000	800000
nsfer to persons	235011	180705	171502	175790	180184	184689	189306	194039	198890	1122898
Financial expenses	92233	32941	12170	89777	67131	64177	60979	57757	57757	397578
er	30492	27216	28755	30000	30000	30000	30000	30000	30000	180000
TOTAL CURRENT EXPENDITURES	2259645	2220419	1881133	1951648	1910336	1955862	1996439	2041327	2071454	11927066
CAPITAL										0
nstructions	253893	360757	439688	287625	230096	233617	245661	250096	304887	1551982
Project					119675	140097	142390	104187	43651	550000
quipment and supplies	25915	19932	15889	15000	15000	15000	15000	15000	15000	90000
estments	179068	185227	123507	100000	80000	84000	88200	92610	97241	542051
ortizations	140884	151795	158593	94850	71736	57913	62165	71350	58644	416658
ers	145473	9014	3418	5000	5000	5000	5001	5000	4999	30000
TOTAL CAPITAL EXPENDITURES	745233	726725	741095	502475	521507	535627	558417	538243	524422	3180691
RENT SURPLUS(SHORTFALL)	225977	118858	220628	502325	451119	453237	464177	474764	504169	2849791
Debt amortization	140884	151795	158593	94850	71736	57913	62165	71350	58644	416658
FUNDS FOR INVESTMENT	85093	-32937	62035	407475	379383	395324	402012	403414	445525	2433133
AL SURPLUS(SHORTFALL)	-178662	-449103	-147164	0	0	0	0	0	0	0

PREFECTURA MUNICIPAL DE SAN PABLO  
FINANCIAL PROJECTION  
(US\$ 000)

	1993 (ACTUAL)	1994	1995	1996	1997	1998	1999	TOTAL
<b>REVENUES</b>								
<b>CURRENT</b>								
Taxes								
Property Tax	89060	146058	153361	161029	169081	177535	186412	993477
VAT	421278	442342	453400	464735	476354	488263	500469	2825564
Other taxes	52061	55000	55000	55000	55000	55000	55000	330000
Fees	132519	198779	203748	208842	214063	219414	224900	1269745
Total tax revenue	694918	842179	865510	889607	914497	940212	966781	5418785
Transfers	773587	946794	850946	893493	938168	985076	1034330	5648806
Financial revenues	123716	150000	150000	150000	150000	150000	150000	900000
Municipal Liquidity Fund	396430	400000	380000	361000	342950	325803	309512	2119265
Other current revenues	113110	115000	115000	115000	115000	115000	115000	690000
Total Current Revenues	2101761	2453973	2361455	2409099	2460615	2516090	2575623	14776856
<b>CAPITAL</b>								
Loans	373156							
IDB Loan			70238	82240	94090	63329	20103	330000
Other	147	150	150	150	150	150	150	900
Total Capital Revenue	373303	150	70388	82390	94240	63479	20253	330900
Total Revenue	2475064	2454123	2431843	2491489	2554855	2579569	2595876	15107756
<b>EXPENDITURES</b>								
<b>CURRENT</b>								
Staff related	637739	701513	736589	755003	773878	793225	793697	4553905
Supplies	122817	120000	126000	132300	138915	145861	153154	160811
Contractual Services	619091	634568	650432	666693	683361	700445	717956	4053455
Transfers	289059	200000	120000	123000	120000	120000	120000	803000
Transfer to persons	171502	175790	180184	184689	189306	194039	198890	1122897
Finacial expenses	12170	89777	67131	64177	60979	57757	57757	397578
Other expenses	28755	30000	30000	30000	30000	30000	30000	180000
Total Currente expenditures	1881133	1951648	1910336	1955862	1996439	2041326	2071453	11927065
<b>CAPITAL</b>								
Constructions	439688	287625	230096	233617	245661	250096	304887	129140018
IDB Proyect			119675	140097	142390	104187	43651	550000
Equiment and supplies	15889	15000	15000	15000	15000	15000	15000	90000
Invesments	123507	100000	80000	84000	88200	92610	97241	542051
Debt Amortization	158593	94850	71736	57913	62165	71350	58644	416658
Other	3418	5000	5000	5000	5000	5000	5000	30000
Total Capital Expenditures	741095	502475	521507	535627	558416	538243	524423	3180691
Total Expenses	2622228	2454123	2431843	2491489	2554855	2579569	2595876	15107756
Surplus(shortfall)	-147164	0	0	0	0	0	0	0

PROPOSED RESOLUTION

BRAZIL. LOAN \_\_\_\_/OC-BR. TO THE MUNICIPALITY OF THE CITY OF SAO PAULO  
(Microdrainage Project, Second Stage)

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Municipality of the City of Sao Paulo of Brazil, as Borrower, and the Federative Republic of Brazil, as Guarantor, for the purpose of granting the former a financing to cooperate in the execution of the microdrainage project (second stage). Such financing shall be for the amount of three hundred and two million dollars of the United States of America (US\$302,000,000), which are part of the Ordinary Capital resources of the Bank. The amount of the financing shall be disbursed as follows: (a) up to 272,000,000 dollars or the equivalent thereof in other currencies which are part of the Ordinary Capital, except that of the Federative Republic of Brazil; and (b) up to 30,000,000 dollars in local currency of the Federative Republic of Brazil. This loan shall be subject to the "Special Contractual Conditions" and the "Terms and Financial Conditions" of the Executive Summary of the Loan Proposal.