

WATER SUPPLY AND SANITATION PROGRAM, STAGE VI

(AR-0130)

EXECUTIVE SUMMARY

BORROWER AND GUARANTOR: The Argentine Nation

EXECUTING AGENCY: Bureau of Public Works and Communications of the Ministry of the Economy and Public Works and Services

AMOUNT AND SOURCE: IDB (OC): US\$125 million
US\$ 75 million
(local currency)
Local counterpart funding: US\$ 50 million
Total: US\$250 million

FINANCIAL TERMS AND CONDITIONS:

	OC	OC (L.C.)
Amortization period:	20 years	25 years
Disbursement period:	5 years	5 years
Grace period:	5.5 years	5.5 years
Interest rate:	variable	4%
Inspection and supervision:	1%	1%
Credit fee:	0.75%	0

OBJECTIVES: The basic objectives of the proposed program are: (a) to improve living conditions in towns with 500 to 15,000 inhabitants throughout the country, by executing works to increase water supply and sanitation services; and (b) to support the utilities that provide water supply and sanitation services, so they can maintain and enhance their administrative, financial, and operating mechanisms, and the agency responsible for sector planning, policy-setting, and regulation.

DESCRIPTION: To attain the proposed objectives, the following activities will be carried out:

- consulting services to: (i) prepare studies and designs for projects in addition to those of the representative sample; (ii) update national water supply standards; and (iii) conduct environmental control of projects and compile data for future program evaluations (US\$10,442,000);
- supervision of construction work, program execution, and contract administration, by the executing agency (US\$4,790,000);

- c. multiple works, that would include construction or expansion of water supply, sanitary sewerage, or individual sanitation systems, including sewage and sludge treatment (US\$197,831,000);
- d. acquisition of land and easements (US\$244,000);
- e. technical support and training, including institutional strengthening of the utilities providing services and of the agency responsible for sector planning, policy-setting, and regulation (US\$3,435,000); and
- f. health and environmental education, including community outreach (US\$2,427,000).

**ENVIRONMENTAL
CLASSIFICATION:**

At its meeting on May 13, 1993, the Environment Committee classified this project as a Category III operation.

BENEFITS:

As a result of program execution, some 510,000 people are expected to benefit from water supply and sanitation services, through the reconditioning, improvement, and construction of approximately 60 water supply systems and 50 sewerage systems in the same number of localities. In addition, sanitation works such as septic tanks, appropriate technology plants for treatment of the sewage and sludge from those tanks and borehole latrines will be executed in approximately 30 localities.

Under the proposed program, drinking water will be supplied to approximately 245,000 people, which is 25.5 percent of the 962,000 without water service in the towns with the population range targeted by the program. Another 265,000 will be provided with sanitation services, which is 6.9 percent of the 3,866,000 inhabitants not connected to the public sewerage system.

**LOW-INCOME GROUP
TARGETING:**

In the water supply projects, 71 percent of the beneficiaries belong to low-income groups, whereas in the sewerage projects, 43 percent of the beneficiaries are from low-income groups. For the program as a whole, 57 percent of the beneficiaries are low-income, which is much higher than the national average of 19 percent, thus meeting the criterion that there be a higher proportion of low-income beneficiaries than the percentage of low-income individuals in the country. It should be noted that the program would also be geographically aimed at the poor, since the percentage of the poor in small localities is far higher than in cities. The program

can therefore be considered to target low-income groups, as it meets the two criteria established in document AB-1704 on the Eighth General Increase in Resources.

RISKS:

The principal risk that might hinder achievement of the program objectives, under the terms and within the periods stipulated, lies in delays that might arise during reorganization of the agency attached to the Bureau of Public Works and Communications that would be directly responsible for execution: the Instituto Nacional de Obras Hídricas de Saneamiento [National Sanitary Waterworks Institute] (INOHSa). In view of this risk, the basic features of the new agency have been agreed upon with the national authorities. Moreover, the national government itself has demonstrated particular interest in carrying out the process of reorganization of the agency within the final deadlines stipulated in the respective decrees. These periods should not extend beyond the first half of 1995.

Another factor that could affect program execution would be possible delays in executing the standard agreements with the provinces and the agreements with the utilities providing the services. In previous programs that called for standard agreements, the time required for signature of the agreements exceeded six months due to the legal procedures that must be followed at the executive and legislative levels. In view of the circumstances described, an execution period of five years has been established for this operation, which is considered realistic.

The program has been designed to serve towns throughout the entire country within the range of 500 to 15,000 inhabitants, and will receive a local contribution from the community of 20 percent on average. There is a risk that the poorest communities may not be able to afford those funds, and would thus be excluded from the program. To reduce this risk, it has been agreed with the government that a matrix will be used whereby the contribution by such communities can be reduced, together with the debt service on investments in works.

**EXCEPTIONS TO
BANK POLICY:**

The program does not call for any exceptions to current policy. However, to expedite program execution and promote effective supervision by the Country Office, a change in the procedures for review of the selection and hiring of consulting services is proposed in order to allow a posteriori review by sampling for contracts with individual consultants in

amounts of less than US\$50,000 and for contracts with consulting firms in amounts of less than US\$100,000 (paragraph 3.27).

**THE BANK'S
COUNTRY AND
SECTOR STRATEGY:**

The Bank's strategy in Argentina has been divided into two stages. The first, recently completed, consisted of supporting the consolidation of economic stability by means of a series of sector adjustment operations. These operations have been carried out in conjunction with the World Bank for: public sector reform, support for privatization and/or concession of public enterprises and the process of external debt rescheduling. The second stage, launched in 1993, includes support for investments that were neglected during the periods of instability and were assigned a low priority during the consolidation process. The purpose of these investments will be to improve the provision of services in the social sectors, and the protection and conservation of the environment and, with the involvement of both the public and private sectors, to promote competitiveness on domestic and international markets.

In the sanitation sector in particular, high priority is being accorded to programs and projects designed to enhance the efficiency of the utilities providing the services, which must be strengthened institutionally and financially, and to expand services to under-served populations, in particular low-income groups. In this context, the division of responsibilities between federal, provincial, and municipal governments will be promoted, with active private sector involvement.

**SPECIAL
CONTRACTUAL
CONDITIONS:**

Conditions precedent to the first disbursement:

The borrower must submit: (a) evidence that INOHSa, the agency through which the Bureau of Public Works and Communications will execute the program, has been set up and is operational (paragraphs 3.2 and 4.6); (b) the standard agreement executed with at least one of the provinces and the agreement between that same province and at least one of the utilities providing the water supply and sewerage services in localities under its jurisdiction (paragraph 3.9); (c) evidence that the Operating Regulations of the program agreed upon with the Bank have entered into force (paragraph 3.16); and (d) evidence that the executing agency has signed the agreement for the transfer of resources with INOHSa (paragraph 3.16).

Other contractual clauses:

(a) Seven months after the effective date of the loan contract, the Special Operating Regulations for the pilot project for direct financing for municipalities must be submitted to the satisfaction of the Bank;

(b) within 12 months from the effective date of the contract and prior to the first disbursement of the resources earmarked for the pilot arrangement, evidence must be submitted that: (i) INOHSa has the institutional capacity to execute that component; (ii) the special Operating Regulations of the pilot program have entered into force; (iii) the model agreements needed to implement the pilot program have been drawn up; (iv) at least one municipality meets the eligibility criteria for the pilot operation (paragraphs 3.18 and 3.19).

(c) Provisions must be made for monitoring during program execution (paragraphs 3.14 and 3.34), the criteria for compiling program data (paragraph 3.36), the obligation to maintain the works and equipment included under the program (paragraph 3.32), to maintain a certain level of rates and efficiency in collections for services (paragraphs 4.14 and 4.20), to submit a report on the status of debt service broken down by specific loan (paragraph 4.16), and to use the resources of the pilot operation within three years from the effective date of the contract (see paragraph 3.18).

(d) Before issuing calls for bids on construction projects or before procuring the goods for eligible projects, the standard agreement signed by the borrower and the province must be submitted, as well as the works agreements signed by the province and the utilities providing the water supply and sewerage service in its jurisdiction, and in cases of financing for the pilot operation, in addition to the above, the respective requirements must be fulfilled and evidence must be submitted that the respective municipality has the necessary institutional capacity to execute the project agreed upon (paragraphs 3.25 and 3.19).

I. FRAME OF REFERENCE

A. Water supply and sanitation sector

1. Organization of the sector

- 1.1 In 1980 responsibility for water supply and sewerage services in Argentina was transferred from Obras Sanitarias de la Nación [National Sanitary Works] (OSN) to the provincial governments. As a result of that transfer, the subsequent transfer to the municipalities of some services, and operation by entities such as cooperatives, there are currently around 1,500 providers of those services.
- 1.2 The regulatory and control functions that had been performed by the OSN were also transferred to the provincial utilities, in some cases with partial differentiation of responsibilities for regulation and provision of services.
- 1.3 In 1988 the national government established the Consejo Federal de Agua Potable y Saneamiento [Federal Water Supply and Sanitation Council] (COFAPyS), successor to the Servicio Nacional de Agua Potable y Saneamiento [National Water Supply and Sanitation Service] (SNAPyS), the agency responsible for the five stages of the national water plan partially financed by the Bank.
- 1.4 In 1993 the national government granted the Empresa Aguas Argentinas S.A. the concession to the water supply and sewerage services provided by OSN in the city of Buenos Aires and 13 municipalities in the province of Buenos Aires.
- 1.5 On August 11, 1994, by Decree 1368, the executive branch decided to intervene in COFAPyS with a view to reorganizing the sector, bringing it into line with the new requirements, so as to reduce the dissatisfaction and shortcomings in the provision of services affecting a large percentage of the population. The process of reorganization includes the creation of an Office of Water Resources, as part of a modification of the organizational structure of the Ministry of the Economy and Public Works and Services.
- 1.6 At the provincial level, some of the water supply and sewerage services are at different stages in the process of being privatized or granting concessions. The greatest progress has been made in this respect in the provinces of: (a) Corrientes, which has granted concessions to a private enterprise, Aguas de Corrientes S.A. for the provision of services in most localities; (b) Mendoza, where the enterprise Obras Sanitarias de Mendoza S.E. has recently changed its form of ownership and become a joint-stock company with private capital; (c) Santa Fe, which has significantly improved its operating infrastructure in its principal services, as a step prior to granting concessions; (d) Tucumán, which is in the stage of granting concessions for the services provided by the provincial

utility; and (e) Formosa, La Rioja, Misiones, and Salta, which have made the political and institutional decision to take steps towards some degree of privatization and have initiated the evaluation process.

- 1.7 Within these processes, the provincial government: (a) maintains control over the concessions; (b) exercises the authority to oversee the use and protection of water and other natural resources; and (c) in certain circumstances, provides services in localities in which privatization schemes cannot yet be instituted.
- 1.8 At the municipal level, services are provided in the largest towns in which the provincial agency does not have jurisdiction by cooperatives or municipal agencies that are part of the municipal government. It is very rare for a decentralized municipal agency to provide water supply and sewerage services.
- 1.9 In short, the sector has a variety of organizational structures and agencies for regulation and planning, depending on each province and municipality. However, generally speaking, Argentina has been making far-reaching changes in recent years in terms of establishing regulatory frameworks, defining the responsibilities of system operators, and encouraging the participation of private enterprise. These changes favor operations geared toward increasing service levels and, at the same time, providing these services with enhanced efficiency.

2. Utilities providing services at the local level

- 1.10 In towns with between 500 and 15,000 inhabitants, which is the target population of the proposed program, water supply and in some cases sewerage services have been provided privately, under the responsibility of cooperatives, neighborhood councils, user centers, or other forms of organization with direct community participation. This mechanism has been satisfactorily used in the five stages of the national water supply plan.
- 1.11 The cooperative spirit is widespread and well developed in Argentina and has generated utilities that provide services which have grown and diversified their activity to include other services to the community such as energy, telephones, gas, and cable television. Their development has been such that they have become strong organizations, with great capacity for technical, operational, and financial management, characterized by their vitality, performance, and efficiency.
- 1.12 Given the favorable results obtained in towns with this population range, the mechanism has been replicated. Moreover, provincial governments have encouraged its development on their own initiative for the construction and subsequent operation and maintenance of the systems.

- 1.13 The responsibilities of each province in executing sanitary works in towns of between 500 to 15,000 inhabitants are carried out through specialized agencies in charge of the water supply and sanitation sector. These agencies, such as the Sanitary Works Administrations, Water and Sanitation Departments, and Sanitary Works Companies, have been set up as provincial agencies or state-owned companies and, in general, have acquired sufficient experience in conducting this type of activity.

3. Waterborne diseases

- 1.14 The highest rates of waterborne diseases are for diarrhea, which, like the rates recorded for typhoid fever and hepatitis, indicate that unhealthy conditions persist in some provinces. These rates did not change from 1989 to 1990. This situation demonstrates that even though efforts have been made to increase water supply services, a significant improvement in public health conditions can only be achieved when small towns are also provided with appropriate sanitation services.

4. Levels of service

- 1.15 According to the National Population and Housing Census of 1991, 69 percent of the population had access to public water supply service through distribution systems and 36 percent had sewerage systems. These percentages placed Argentina in 14th and 15th position, respectively, within Latin America for the provision of these services. As shown in the following tables, this situation means that of a total of 32.2 million inhabitants, nearly 10 million lacked public water supply service and more than 20 million did not have sewer systems.
- 1.16 As shown in these tables, of the 28.1 million city-dwellers in 1991, 21.3 million (76.9 percent) were supplied by water systems and 11.4 million (40.6 percent) had access to sanitary sewerage systems.
- 1.17 In rural areas, in other words in localities with less than 2,000 inhabitants, of the 4.1 million total, 900,000 (23.1 percent) had water supply service and 100,000 (2.4 percent) had sanitary sewerage systems. It should be noted that of these 4.1 million rural inhabitants, only 1.4 million lived in towns of over 500 and the remaining 2.7 million in scattered rural settlements.

WATER SUPPLY SERVICES (in millions of inhabitants)										
Population		%	In house %		On site %		Off site %		Total inhabitants	
Total	32.2	100.0	19.3	59.9	2.0	6.1	1.0	3.2	22.3	69.2
Urban	28.1	87.2	18.7	66.5	1.7	66.5	0.9	3.3	21.3	76.9
Rural	4.1	12.8	0.6	14.6	0.2	5.9	0.1	2.4	0.9	23.1

SEWERAGE AND BASIC SANITATION SERVICES (in millions of inhabitants)										
Population		%	Public system		Septic tank		Pit latrine		No privy	
Total	32.2	100.0	11.4	35.6	9.8	30.4	4.3	13.1	6.7	20.9
Urban	28.1	87.2	11.4	40.6	8.8	31.3	3.5	12.5	4.4	15.6
Rural	4.1	12.8	0.1	2.4	1.0	24.4	0.7	17.1	2.3	56.1

5. Potential and actual demand for services in towns with 500 to 15,000 inhabitants

- 1.18 With specific reference to towns in the range of 500 to 15,000 inhabitants, through May 1991, of the 4.3 million inhabitants of the 2,893 towns in this range, 962,000 had no water supply service. As for sanitation, 3,866,000 inhabitants had no access to a sanitary sewerage system, 1.9 million (49.2 percent) used septic tanks, 800,000 (20.7 percent) had pit latrines, and 1.2 million (30.1 percent) had no privy.
- 1.19 Approximately US\$250 million would be needed to cover the entire population in the range of 500 to 15,000 inhabitants that lack water supply. The estimated actual demand would be on the order of US\$204 million.
- 1.20 If the entire population in the range that has no conventional sanitary sewerage systems and that has individual systems were to demand sanitary sewerage systems, US\$1.64 billion would be required. Although insufficient data is available to calculate actual demand, it has been estimated at US\$1,116,000,000.

B. Bank strategy

- 1.21 The Bank's strategy in Argentina has been divided into two stages. The first stage, recently completed, consisted of supporting the consolidation of economic stability through a series of sector adjustment operations. These operations have been carried out in conjunction with the World Bank for: public sector reform, support for privatization and/or concession of public enterprises, and the process of external debt rescheduling. The second stage, launched

in 1993, includes support for necessary investments that were neglected during the periods of instability and were assigned low priority during the consolidation process. These investments will improve the provision of services in the social sectors, the protection and conservation of the environment, and the competitiveness in markets of both the public and private sectors.

- 1.22 In the sanitation sector in particular, high priority will be given to programs and projects geared to improving the efficiency of the utilities providing the services, which must be strengthened institutionally and financially, and to extending services to underserved populations, in particular low-income groups. In this context, the division of responsibilities between the federal, provincial, and municipal governments will be promoted, with active private sector involvement.

C. Participation of the Bank and other organizations

- 1.23 The Bank has financed seven investment projects in the sector through 13 loans, for a total of US\$445.2 million. The Bank helped finance programs for the construction of infrastructure works for rural and urban water supply systems.
- 1.24 In rural areas the Bank has financed three projects for a total of US\$177.2 million, and in urban areas four projects for a total of US\$268 million.
- 1.25 Of the latter, the only ongoing projects are the national water supply and sewerage program, stage I (PRONAPAC), financed jointly by the Bank (loans 621/OC and 855/SF) and by the IBRD, designed to increase coverage in cities with more than 15,000 inhabitants, and the water supply plan, stage V, financed by loan 545/OC, to supply water to towns with between 500 and 15,000 inhabitants. Both programs, executed by COFAPyS, experienced delays in the initial stage of execution primarily due to lags in fulfilling the conditions precedent, lengthy bidding procedures, and arrears in repayment of the country's debt with the Bank.
- 1.26 It is only since the end of 1993 that PRONAPAC has overcome the institutional difficulties and managed to streamline the process of subproject evaluation and approval. This has allowed 57 percent of the loan resources to be committed in the last year. Disbursements amount to only eight percent. In addition, there are projects under consideration that, according to the schedule, would raise loan resource commitment to 100 percent at the end of the year.
- 1.27 In the case of stage V of the water supply plan, most of the works have been completed and the few remaining ones are at the final stage of execution. As of September 1994, 87 percent of the loan resources had been disbursed and 100 percent committed. All resources are expected to be disbursed before the end of 1994. The goals and objectives established for stage V were easily exceeded,

since the local contribution to the program was increased and more than 450,000 inhabitants benefitted.

- 1.28 The government has used its own resources to construct simplified water supply and sanitation systems in rural communities with less than 500 inhabitants. The Ministry of Public Health is responsible for this population range and for the corresponding programming. However, the projects were executed and financed with funds from the Bureau of Public Works and Communications. In recent years the government has allocated between US\$5 million and US\$10 million for the execution of this type of works.
- 1.29 Experience in executing the national water supply plan has been positive in that service levels have been significantly increased in a population range that initially was severely neglected. The mechanism used to construct the works was appropriate and the arrangements for operating and maintaining the systems have on the whole been satisfactory. Nevertheless, during execution of the previous stages, delays were caused in some cases by the length of time it took for the international bidding procedures to be completed with amounts that were not at all attractive to foreign contractors. The design of this stage has incorporated the experience acquired to make for more efficient execution.

II. THE PROGRAM

A. Objectives

- 2.1 The basic objectives of the proposed program are: (a) to enhance living conditions in towns with 500 to 15,000 inhabitants throughout the country, by executing works to increase water supply and sanitation services; and (b) to support the utilities providing water supply and sanitation services so they can maintain and improve their administrative, financial, and operating mechanisms, and the agency responsible for sector planning, policy-setting, and regulation.

B. Goals

- 2.2 Program execution is expected to provide about 510,000 inhabitants with water supply and sanitation services, through the reconditioning, improvement, and construction of approximately 60 water supply systems and 50 sewerage systems in the same number of locations. In addition, sanitation works such as septic tanks, appropriate technology plants for treatment of the sewage and sludge from the tanks and latrines will be executed in about 30 localities.

C. Scale of the operation

- 2.3 The following factors were taken into consideration to determine the scale of the operation: (i) actual demand in the target population range; (ii) proven capacity of the executing agency to prepare and execute projects; and (iii) the size and quality of the representative sample of projects.

D. Program impact

- 2.4 The program aims to: (a) supply some 245,000 inhabitants with drinking water, which is 25.5 percent of the 962,000 inhabitants without service in the population range considered; and (b) provide sanitation services to about 265,000 inhabitants, which is 6.9 percent of the 3,866,000 inhabitants without access to the public sewerage system.

E. Components

- 2.5 To attain the proposed objectives and goals, the following activities will be carried out:
- a. consulting services to: (i) conduct studies and designs in addition to those of the representative sample; (ii) update national drinking water standards; and (iii) conduct environmental control of projects and compile data for future program evaluations (US\$10,442,000);

- b. supervision of construction work, program execution, and contract administration, by the executing agency (US\$4,790,000);
- c. multiple works, that would include the construction or expansion of water supply systems, sanitary sewerage, or individual sanitation systems (US\$197,831,000);
- d. acquisition of land and easements (US\$244,000);
- e. technical support and training, including institutional strengthening of the utilities providing the services and of the agency responsible for sector planning, policy-setting, and regulation (US\$3,435,000); and
- f. health and environmental education, including community outreach (US\$2,427,000).

F. Estimated cost

- 2.6 The estimates drawn up indicate that the total cost of the program would be the equivalent of US\$250 million. The breakdown by source of financing and investment category is shown in the table below. Taxes are not included, at the request of the borrower, and may be considered as part of the local contribution if the subexecuting agencies so request.
- 2.7 The criteria used by the executing agency to estimate the cost are considered reasonable. Nearly US\$200 million of the total cost of the operation is for direct costs, an amount which includes the values calculated for the unallocated costs category. The average direct cost per inhabitant for all projects shown to be feasible in the analysis conducted is US\$217 for water supply projects and US\$404 for sewerage projects. These unit costs are somewhat higher than those seen in other countries in the region. However, they are realistic values in Argentina and are consistent with the costs obtained in executing the previous stage of the program and with values found by the IBRD, set forth in the Sector Evaluation Report prepared in February 1994. The average costs per inhabitant indicated in that report were US\$250 for water supply systems and US\$350 for sewerage systems.

PROGRAM COST
(in US\$ thousands)

INVESTMENT CATEGORY	TOTAL BY FUND				
	IDB		LOCAL	TOTAL	TOTAL %
	OC	OC (local currency)			
ENGINEERING AND ADMINISTRATION	3,956	7,084	4,192	15,232	6.1
Studies and designs	3,358	7,084	0	10,442	4.2
Supervision and administration	598	0	4,192	4,790	1.9
DIRECT COSTS	116,113	65,730	15,988	197,831	79.2
Water supply and sanitation works	116,113	65,730	15,988	197,831	79.2
ASSOCIATED COSTS	3,681	1,436	989	6,106	2.4
Land and easements	0	0	244	244	0.1
Technical support and training	2,062	1,030	343	3,435	1.4
Health and environmental education	1,619	406	402	2,427	0.9
FINANCE CHARGES	1,250	750	28,831	30,831	12.3
Interest	0	0	26,300	26,300	10.5
Credit fee	0	0	2,531	2,531	1.0
Inspection and supervision	1,250	750	0	2,000	0.8
TOTAL	125,000	75,000	50,000	250,000	100.0
% FUND/PROGRAM	50.0	30.0	20.0	100.0	

2.8 The following paragraphs describe the bases used to draw up the investment category estimates:

1. Engineering and administration (US\$15,232,000)

2.9 This category, which represents 6.1 percent of the total program cost, is broken down into the following subcategories:

- a. **Studies and designs (US\$10,442,000).** These resources would be earmarked for engaging consulting services to: (i) prepare studies and designs of approximately 150 projects, which would be kept on file to complete the universe of this stage of the program and meet the needs of the sector in the medium term with reference to its target locations; (ii) update the national water supply standards, which was not done in stage V; (iii) ascertain that the projects are executed according to the environmental guidelines established during the analysis; and (iv) compile data for future program evaluations.
- b. **Supervision and administration (US\$4,790,000).** This amount corresponds to the incremental costs that would be incurred during the five years of program execution. It also includes the acquisition of some equipment for proper supervision of the

works and administration of contracts, which would supplement the executing agency's equipment. The estimate reflects the experience gained during execution of the previous stage.

2. Direct costs (US\$197,831,000)

2.10 This category represents 79.2 percent of the total program cost. It includes the costs of works construction. Following standard practice in Argentina, it also covers the verification or conducting of all construction tests and specifications to bring the projects from the basic design phase to the final project stage, and all adjustments to projects of the representative sample that were agreed upon during the analysis. The works consist of:

- a. water supply systems, including civil works, equipment, materials for reconditioning, improvement, and construction of intakes, conveyance pipe, purification plants, storage tanks, distribution systems, household connections, master meters and household meters of approximately 60 water supply projects;
- b. sewerage systems, including civil works, equipment, materials for construction of sewer systems, sewage treatment plants, and final disposal works for approximately 50 sewerage projects; and
- c. sanitation systems, including the civil works, equipment, materials for reconditioning, improvement, and construction of individual waste disposal systems such as septic tanks, and treatment plants for the sewage and sludge from those systems in about 30 locations. These works are to be executed in localities that already have such means of disposal but need additional works to reduce the environmental impact that would result from execution of water supply works.

3. Associated costs (US\$6,106,000)

2.11 This category, which represents 2.4 percent of the total program cost, includes:

- a. Land and easements (US\$244,000): This is the value of the land and easements that only possibly might have to be acquired, since in most cases, according to the experience of the previous stages of the program, the participating town has already acquired them when financing is requested to execute the works.
- b. Technical support and training (US\$3,435,000): This subcategory includes institutional strengthening of the utilities providing the services and of the agency responsible for sector planning, policy-setting, and regulation. The principal items in this subcategory are: (i) procurement of data-processing equipment (US\$158,000), vehicles for operation and maintenance

(US\$668,000), and mobile workshops and laboratories (US\$1,820,000); (ii) preparation and teaching of courses on operation and maintenance of water supply and sewerage systems, supervision and inspection of systems, administrative and accounting methods, and project evaluation (US\$304,000); and (iii) strengthening of the planning and regulatory agency (US\$485,000).

- c. **Health and environmental education (US\$2,427,000):** This item would finance activities designed to: (i) assess current living conditions and future expectations; (ii) analyze attitudes and inclinations towards community action and participation in water supply and sanitation projects; (iii) determine methods of community education and outreach; and (iv) conduct health and environmental education programs.

4. Unallocated costs (US\$35,882,000)

- 2.12 As this is a multiple works program, this amount - which represents 14.5 percent of the total cost - was divided among the investment categories and is not shown in the table of costs as a separate category.

5. Finance charges (US\$30,831,000)

- 2.13 The finance charges, which represent 12.3 percent of the total program cost, were calculated according to standard Bank practices. Interest over the program execution period amounts to US\$26,300,000 equivalent, the credit fee on the undisbursed balances to US\$2,531,000, and inspection and supervision to US\$2 million.

6. Bank financing

- 2.14 The proposed Bank loans for US\$200 million equivalent from the ordinary capital would consist of US\$125 million in foreign currency and US\$75 million equivalent in local currency. These amounts represent 50 percent and 30 percent of the total program cost, respectively. The terms and conditions proposed for the loans are as follows:

	<u>OC</u>	<u>OC (L.C.)</u>
Amortization period:	20 years	25 years
Physical initiation of works:	4 years	4 years
Term for disbursement:	5 years	5 years
Grace period:	5.5 years	5.5 years
Interest:	variable	4%
Credit fee:	0.75%	0%
Inspection and supervision:	1.0%	1.0%

- 2.15 According to a matrix agreed upon with the Bank that takes into account the types of project and socioeconomic profile of the localities, higher percentages of the local currency loan may be used for the poorest localities and different financing structures would be established, varying the percentages of the loans in foreign currency and local currency to maintain the overall pari passu agreed upon. This matrix is part of the Operating Regulations of the program. The purpose of using this matrix is to reduce the impact of the financial obligations on low-income groups when the respective rates are applied.

7. Local contribution

- 2.16 The local contribution, for US\$50 million equivalent, accounting for 20 percent of the total program cost, would come from contributions from the localities.

III. PROJECT EXECUTION

A. Executing agency

- 3.1 The executing agency of the program would be the Argentine Nation, using the Bureau of Public Works and Communications of the Ministry of the Economy and Public Works and Services, through INOHSa.
- 3.2 COFAPyS, which was taken over by the national government under executive decree, will continue to be responsible for the obligations arising from the contracts entered into with the Bank during a transition period. Once INOHSa is operating, the Bureau of Public Works and Services, through this new agency, will be responsible for executing stage VI of the program, in addition to the previous commitments acquired that were the responsibility of COFAPyS. INOHSa will be set up bearing in mind, as a minimum, the basic guidelines agreed by the Bank with the Bureau of Public Works and Communications. It must be satisfactorily set up as a condition precedent to the first disbursement. 1/

B. Type of program

- 3.3 The program will be executed as a multiple works program. The studies and basic designs of the water supply and sanitary sewerage projects of the representative sample were prepared by the responsible provincial agencies of the sector and by hired consultants. The remaining studies and designs will be prepared following the same procedure. For execution of the sanitation works, such as septic tanks, standard designs and national specifications will be used.

C. Program execution

- 3.4 The arrangements for execution would be similar to those used in stage V. Coordination and distribution of responsibilities at the national, provincial, and local levels will be stipulated through agreements to be signed between the executing agency and the provinces and between the provinces and the localities.
- 3.5 Under this arrangement, the Argentine Nation will transfer the loan resources to a special account of the executing agency, which in turn would transfer them to the provinces under the same terms and conditions as those of the Bank loans. This transfer will take place by means of remittances payable to the respective special accounts of the responsible provincial agencies in the sector, once the local counterpart funds for the projects to be constructed have been deposited in those accounts.

1/ See conditions precedent.

- 3.6 In view of the national government's interest in strengthening the decentralization process, the program includes, as a pilot arrangement, the possibility of funds being transferred directly to municipal utilities that provide water supply and sewerage services to towns of between 500 to 15,000 inhabitants. Up to 10 percent of the resources assigned to the program works component may be used for this purpose. This amount would consist of funds from the IDB loans and from the local contribution, in the same overall paripassu ratio agreed upon for the program.
- 3.7 In this particular case, the municipal utilities providing the services will execute the works and will assume the financial obligations of repaying the loans that would be used to execute the water supply, sewerage, and sanitation works in eligible towns of 500 to 15,000 inhabitants under their jurisdiction.
- 3.8 In this stage of the national plan, as in the previous stages, standard agreements must be signed between the national government and the provinces, as well as agreements between the provinces and the utilities providing the water supply and sewerage services. In the case of the pilot arrangement, agreements must also be signed with the participating municipalities.
- 3.9 These agreements are particularly important because they set forth the terms, conditions, and commitments to be assumed by each of the parties for program execution. In this regard, the executing agency must submit to the Bank, prior to the first disbursement, the standard agreement signed with at least one of the provinces and the agreement between the province and at least one of the utilities providing the water supply and sewerage service in localities under its jurisdiction, where works construction would be financed with program resources. 2/
- 3.10 Construction of the works would start with the projects of the representative sample for which the basic designs are available. Once the works have been completed, the towns, through their cooperatives, councils, or other user organizations, will be responsible for: (a) operation and maintenance; and (b) billing and collection for services rendered and debt service.

D. Representative sample

- 3.11 COFAPyS made available to the Bank 71 projects with a direct cost of approximately US\$100 million to make up the representative sample of the multiple works component. Of these, five were initially rejected because they did not meet the basic requirements for evaluation. As a result of the technical, socioeconomic, financial, institutional, and environmental evaluations conducted, a total of 34 feasible projects were selected, of which 19 are

2/ See conditions precedent.

water supply projects and 15 sanitary sewerage projects. The direct cost of these projects is equivalent to a total of US\$47.3 million, excluding taxes, escalation, and contingencies.

- 3.12 The water supply and sanitary sewerage projects reviewed are at the basic design level, which meant their feasibility and costs could be "determined with a reasonable degree" of reliability. To satisfactorily execute the works, the projects must be adjusted according to the results of the detailed analysis set forth in a separate document and the contractors must conduct all complementary activities, geotechnical testing, structures, pond impermeability, slope stability, electromechanical design, to bring the projects to the final project level. The cost has been included in the budget for each project.
- 3.13 The total cost of the sample projects analyzed and deemed acceptable represents 30 percent of the direct cost of the water supply and sanitary sewerage components.
- 3.14 To ensure there will be a sufficient number of feasible projects, it has been estimated that approximately 150 projects must be prepared, at an annual rate of not less than 35 projects, in the first four years of program execution. The progress of these activities will be covered in the semiannual progress reports that the borrower will submit to the Bank. 3/ Those studies and designs will be prepared with the help of individual consultants and firms specializing in sanitary works. The cost of these consulting services is included in the cost of the program.
- 3.15 However, it should be noted that the national government has indicated that the loan contract would only be signed once the executing agency has enough feasible projects available for an amount of not less than 50 percent of the direct cost of the program. This is expected to be the case during the first half of 1995, taking into account the fact that some of the projects reviewed by the Bank during the analysis that were not included in the sample are being modified on the basis of observations made and a further group is being prepared by consultants.

E. Eligibility criteria

- 3.16 The program will be governed by the Operating Regulations. The executing agency will present the final version of the Operating Regulations, agreed upon with the Bank, once they have entered into force, as a condition precedent to the first disbursement. 4/ Furthermore, prior to the first disbursement the executing agency must sign the agreement with INOHSa for transfer of resources. 5/

3/ See contractual conditions.

4/ See conditions precedent.

5/ See conditions precedent.

These regulations must contain, among other provisions: (a) the mechanism for project submittal and review; (b) the technical, socioeconomic, financial, institutional, environmental, and legal eligibility criteria; (c) the procedures to be followed for project approval; and (d) the financing matrix according to the type of project and socioeconomic conditions of the localities. The basic eligibility criteria for the water supply and sanitary sewerage projects are described below, as these are crucial for proper program execution:

1. Criteria common to both water supply and sanitary sewerage projects

- a. The locality must have a population of between 500 and 15,000 inhabitants on the date project preparation is completed or updated, which must be within six months prior to project submittal.
- b. The water supply and sanitary sewerage projects must represent the least economic cost alternatives and have been evaluated according to a methodology acceptable to the Bank, showing an economic internal rate of return equal to or greater than 12 percent.
- c. A standard agreement must be signed and an agreement between the province and the participating locality or the municipal utility providing the services in the case of the pilot scheme, which must contain the respective obligations regarding execution and administration of the systems, including the application of rates for metered consumption.
- d. The locality or, if applicable, the utility operating the water supply and sewerage services, must contribute a local contribution equivalent to at least 10 percent of the cost of the project.
- e. In projects for improvement or expansion of water supply or sanitary sewerage systems, when the locality has a functioning water supply system, it must be proven that the revenue from rates in the last year covers the costs of operation and maintenance or that at the time the agreements with the locality or with the municipal utility is signed, that such costs are already being covered.
- f. The beneficiaries must be duly informed about the project, including the arrangements for cost recovery, and the project must be acceptable to at least 70 percent of the population.

2. Specific criteria for water supply projects

- a. A safe water source must be available with sufficient flow and quality to meet demand for a design period of 20 years, and there must be legal instruments guaranteeing its use for this period. If groundwater is used, test results from the well or wells drilled in the project area must be available.
- b. Measures must be taken to avoid the impact of an increase in sewage, for which purpose, if necessary, program resources will be used to prepare studies and designs and execute sanitary sewerage projects and individual systems, including facilities for the treatment and disposal of the sewage and sludge from septic tanks and works to upgrade existing sanitation systems.

3. Specific criterion for sanitary sewerage projects

The locality must have a water supply system that is operated and maintained according to generally accepted engineering practices.

F. Criteria for the pilot operation

- 3.17 For the program resources to be used under the pilot scheme described in the previous paragraphs, the following conditions must be fulfilled: (a) the executing agency must present, to the satisfaction of the Bank, Special Operating Regulations that stipulate the eligibility criteria for the pilot operation and the eligibility criteria of the aforementioned municipal utilities providing the services; (b) loan ___/OC-AR must have been declared eligible for disbursement; and (c) the projects presented for possible financing under the pilot arrangement must meet all eligibility criteria according to the general Operating Regulations of the program and the applicable special criteria stipulated and agreed upon with the Bank.
- 3.18 The Special Operating Regulations — which will set forth, among other things, the special criteria agreed upon with the Bank — must be presented within seven months and must be implemented within 12 months from the date of eligibility of loan ___/OC-AR, and the resources allocated to the pilot operation must be committed within 36 months from the same date. Uncommitted resources will be automatically returned for use under the general Operating Regulations of the program proposed in this document. 6/

6/ See contractual conditions.

3.19 For use of the resources under the pilot arrangement, in addition to the program eligibility criteria, special criteria must be met and must reflect the following guidelines, among others:

- a. For eligibility of the pilot operation: (i) The Bank must approve the Special Operating Regulations, which must have entered into force; (ii) evidence must be submitted to the satisfaction of the Bank that INOHSa has sufficient capacity, with professionals in technical, operational, economic, institutional, financial, environmental, and legal areas, to fully meet the responsibilities arising from project execution under the above-described pilot scheme; (iii) the model agreements needed to implement that pilot operation must be presented; and (iv) an agreement must be signed with at least one of the municipal utilities providing the water supply and sewerage services that would participate in the pilot operation. 1/
- b. For eligibility of the municipal utilities providing the water supply and sewerage services: (i) A standard agreement must be signed with the province in which the municipal utility or utilities providing the water supply and sewerage services which would be recipients of the resources from program financing are located; (ii) an agreement must be signed with the municipal utility providing the water supply and sewerage services that would take part in the pilot operation; (iii) evidence must be submitted that the inhabitants of the locality to be served were consulted on the project and that at least 70 percent are willing to pay for the services; (iv) evidence must be submitted that the municipal utility providing the services that would receive the funds meets all the technical, operational, economic, institutional, financial, environmental, and legal eligibility criteria agreed upon with the Bank, both for project execution and for system administration, operation, and maintenance, and the Bank must issue a statement of non-objection thereto; (v) the provincial and municipal guarantees must be duly formalized, through allocation of the respective resources for joint participation; and (vi) if the funds are to be used to finance sewerage systems, the same municipal utility or local cooperative must operate the water supply service.

G. Acquisition of land and easements

3.20 In executing the previous stages of the national plan no major outlays were made to acquire the necessary land, and no difficulties arose. The works were usually constructed on public land belonging to the locality, municipality, or province. The cost of the program therefore includes a nominal sum equivalent to US\$244,000, including contingencies. This amount would cover the

1/ See contractual conditions.

costs of any acquisition of land or easements, if due to unforeseen circumstances there were no feasible alternative but to change the original location of some works to privately-owned land.

- 3.21 If the land is privately owned, there are several legal instruments in Argentina that cover transfer, purchase-sale, and expropriation. Under the expropriation arrangement, which would be the last resort, the fair price of the property is established and the real estate declared to be of public utility. The system of easements is governed by provisions set forth in the Civil Code.

H. Investment schedule

- 3.22 The program would be executed over five years, in view of the experience gained during the previous stages and the analysis of component execution at this stage. The following table summarizes the investment schedule:

(in US\$ thousands)

Financing	Year 1	Year 2	Year 3	Year 4	Year 5	Total	%
OC	7,761	25,178	30,682	36,490	24,889	125,000	50.0
OC (L.C.)	6,506	15,000	17,832	20,671	14,991	75,000	30.0
Local contribution	3,144	7,081	10,350	14,114	15,311	50,000	20.0
Totals	17,411	47,259	58,864	71,275	55,191	250,000	100.0
Percentage	7.0	18.9	23.5	28.5	22.1	100.0	

I. Physical initiation of construction

- 3.23 A period of four years is proposed for physical initiation of the works, since construction of each project usually takes about one year. If all the works are initiated by the end of the fourth year, they would be completed within the five-year program execution period.

J. Procurement procedures and bidding schedule

- 3.24 International public bidding will be required in all cases in which foreign currency financing from the Bank is involved and the estimated contract amounts exceed US\$3 million equivalent for works and US\$350,000 equivalent for the procurement of equipment and materials. This recommendation is based on the fact that in the previous stage no foreign contractors participated in international public bidding on works with inclusive costs exceeding the amounts proposed. It should be noted that the average direct costs of the water supply and sewerage works, without contingencies and escalation, are on the order of US\$760,000 and US\$2.3 million, respectively. About five construction projects under the program are expected to have a cost higher than the recommended threshold. For

the awarding of construction contracts and the procurement of goods in amounts below the above-mentioned thresholds, the ex post review procedure may be followed, in accordance with Bank rules on procurement.

- 3.25 Prior to issuing calls for bids on works or, if appropriate, prior to procuring goods for eligible projects, the borrower, through the executing agency, must submit the standard agreement signed with the province and the agreements required between the province and the utilities providing the water supply and sewerage services in the towns under their jurisdiction. 8/
- 3.26 Under Argentine legislation, each province is in charge of works that are located in its jurisdiction. This arrangement has strengthened local interest not only in the project execution phase but also in the subsequent phase of administration, operation, and maintenance of the respective water supply and sanitary sewerage systems for which the provinces are responsible. In view of the above, a tentative bidding schedule has been drawn up and is shown below. The estimated amounts do not include taxes or unallocated amounts, such as contingencies.

(in US\$ thousands)

Bidding	Year 1	Year 2	Year 3	Year 4	Amount
Data processing, metering equipment					
Pitometry, laboratories					
Computation, mobile workshops					
Multi-purpose vehicles	XX				2,580
Group 1 (8 projects)	XX				11,458
Group 2 (25 projects)		XX			35,808
Group 3 (35 projects)			XX		50,130
Group 4 (42 projects)				XX	60,157

- 3.27 For the selection and hiring of consulting firms and individual consultants, current Bank procedures will be followed and will constitute an integral part of the loan contract. However, given the number of consulting contracts needed for the program, and in order to expedite program execution and allow efficient supervision by the Country Office, it is recommended that previous review by the Bank be required only in the case of contracts with individual consultants in amounts of more than US\$50,000 and contracts with consulting firms in amounts of more than US\$100,000. The entire

8/ See contractual conditions.

selection and hiring procedure for contracts below the above-mentioned amounts will be reviewed semiannually on a sample of 20 percent of the amount of the services contracted for that period. Should any deviations be found, the following measures will be taken: (i) disbursements under those contracts will be suspended; (ii) the amounts already disbursed under those contracts will be recovered from the following disbursements; and (iii) any other measures deemed advisable will be taken.

K. Operation and maintenance

- 3.28 The decentralized arrangement of the previous stages will continue to be used for this stage, as for the most part it worked reasonably well. Under this arrangement: (a) the central level will plan, regulate, and oversee program execution; (b) the provincial level will design the projects and execute works except in the case of the pilot operation; and (c) the local utilities will administer, operate, and maintain the systems, with the support and technical advice of the provincial agencies responsible for water supply and sewerage services, except in cases in which the pilot arrangement is used.
- 3.29 This decentralized arrangement, which is acceptable, is in line with the principles stipulated in national legislation and regulations. Nevertheless, difficulties have arisen when the systems have reached the end of their useful life or serve very small localities with a predominantly low-income population. It has also been observed that new agencies require more support and personnel training to create an initial management capacity which enables them to perform the administration, operation, and maintenance activities.
- 3.30 As a result of the analysis, the program includes a technical support and training component, which, in addition to courses, includes the procurement of equipment, multi-purpose vehicles, and mobile workshops and laboratories to control the physical, chemical, and bacteriological quality of the water. The courses cover the areas of works inspection, operation and maintenance practices and supervision, and administrative and accounting methods. The system of technical cooperation between the utilities themselves will also be used as a means of training, since some local utilities providing services have well-developed capacity and efficiency.
- 3.31 The local utilities must prove they have the legal capacity to participate in the program. According to national legislation, legal capacity entitles them to operate and maintain the water supply and sewerage systems, collect payments for rates, and conduct commercial transactions. These requirements are included in the Operating Regulations and the Special Regulations for the pilot operation.

- 3.32 Once the works have been delivered to the local utilities, the extension workers and health educators will act as liaisons between the localities and the provincial government, through the utilities responsible for water supply and sewerage services.
- 3.33 In order to ensure that the water supply and sewerage systems constructed under this program are properly operated and maintained, the contract for the proposed loan will include a clause whereby the executing agency agrees to ensure that the agreements between the executing agency and the provinces, between the provinces and the communities, and those with the municipalities in cases in which the pilot arrangement is used, will stipulate that within 180 days of each calendar year, starting from the second year of program execution and continuing for 10 years after completion of each of the works, the following must be submitted to the Bank: (a) an annual maintenance plan for all Bank-financed water supply and sewerage systems; and (b) a detailed report on the previous year's execution of the repair plan and on the degree of operational efficiency and state of maintenance of the systems at the end of that year. 9/

L. Environmental considerations

- 3.34 At its meeting of May 13, 1993, the Environment Committee (EC) of the Bank classified this program as a Category III operation, based on the potential impact it would have on the environment. The Committee also considered the Environmental Summary on October 4, 1994, the recommendations of which were incorporated into the program design, and include the following most important measures:
- a. The Operating Regulations and Special Regulations of the program will include the methodology agreed upon with the Bank for project evaluation from the environmental standpoint.
 - b. The executing agency: (i) will indicate the consulting services needed to ensure implementation of the system for environmental quality control of the projects and train its human resources, the cost of which activities may be financed with program resources; (ii) will disseminate the environmental quality control procedures for its projects to all interested parties and potential program participants; (iii) will make constant efforts to train its specialists in environmental matters, through participation in workshops, courses, and other events, and also will maintain contacts with other institutions involved in the area, such as the Instituto Nacional de Ciencia y Técnica Hídrica [National Water Science and Engineering Institute] (INCYTH) and the Secretaría Nacional de Recursos Naturales y Ambiente Humano [National Office of Natural

9/ See contractual conditions.

Resources and Human Environment] (SRNyAH); and (iv) will modify the environmental eligibility criteria when necessary, with the consent of the Bank, to keep them up-to-date in light of the knowledge and experience acquired during execution of the works.

- c. The environmental quality control system proposed must be evaluated by the Bank 24 months after the first disbursement, to ascertain any necessary changes in view of the institutional development of the provincial and national agencies involved.
- d. The recommendations made in the environmental study will be incorporated into the bidding document for the works and implementation of those recommendations will be monitored during works execution.

M. Control, monitoring, and evaluation

- 3.35 The Bank's Country Office in Argentina will directly control and monitor program execution. The executing agency will submit semi-annual progress reports to the Bank. If program execution is found to be unsatisfactory, the executing agency must submit to the Bank, within 60 days of the latter's recommendations, the corrective measures it intends to take, along with the respective schedule for their implementation. 10/
- 3.36 The results of program execution will be evaluated by the Bank within 90 days following the last disbursement of the loan, and the project completion report (PCR) will be prepared by the project team, based on the draft prepared by the Country Office in Argentina. It is estimated that approximately 24 professional-weeks at Bank Headquarters and 80 in the Country Office will be needed to control, monitor, and evaluate the program.

N. Ex post evaluation

- 3.37 The executing agency will compile and process data for an ex post evaluation of the outcome of the program. These processed data will be submitted to the Bank in reports beginning in the second year of program execution and annually until its completion. The first report will also give a detailed description of the procedure for compiling and processing the annual data. 11/ Owing to the very specific nature of the functions and responsibilities assigned to personnel of the executing agency, specialized consulting services will be hired to help prepare the annual progress reports during program execution. The cost of data compilation would be financed with program resources. After program completion, the executing agency will agree to continue collecting the necessary

10/ See contractual conditions.

11/ See contractual conditions.

additional data. It should be noted that the executing agency has indicated that its commitment would be limited to data compilation.

IV. THE BORROWER AND EXECUTING AGENCY

A. Borrower and executing agency

- 4.1 The borrower would be the Argentine Nation, and the executing agency the Bureau of Public Works and Communications of the Ministry of the Economy and Public Works and Services. The Bureau, through INOHSa, would transfer the resources of the external financing to the utilities providing the services through the respective provinces, for execution of the water supply and sanitation works. The resources would be transferred on the same terms and conditions stipulated in the loan contract with the Bank.

B. Bureau of Public Works and Communications

- 4.2 The Bureau of Public Works and Communications is responsible, among other things, for activities relating to the water supply and sanitation sector. Under the State reform and modernization process, the government reorganized the Bureau by means of Executive Decree 1492/94 of September 4, 1994. The new organizational structure of the Bureau will be announced by the end of the year. That decree also set up the Office of Water Resources in the Bureau, the functions of which will include planning, regulating, and executing the policies of the water supply and sanitation sector, functions which at that time were performed by COFAPyS.
- 4.3 COFAPyS was created in 1988 with legal capacity and linked to the national executive branch through the Bureau of Public Works and Communications. Pursuant to the law establishing it, the agency assumed all the functions, responsibilities, rights, and obligations, along with the staff, of SNAPyS, the agency that was responsible for managing water supply programs in localities of up to 15,000 inhabitants until that date. It also assumed responsibility for urban areas nationwide, as well as for establishing, regulating, and planning water supply and sanitation sector activities.
- 4.4 COFAPyS executed stage V of the National Plan, although with some delays, providing drinking water to 108 localities, thus demonstrating that it has the capacity to execute this type of project in towns of 500 to 15,000 inhabitants. However, due to various circumstances, despite the efforts made in towns within the range mentioned, coverage has still not been sufficiently increased.
- 4.5 On August 11, 1994, as part of the State reform process, the government took control of COFAPyS. This takeover initiated a process of transformation in the agency's organization and operations, designed to make it more flexible and efficient in the tasks of promotion, preparation, and supervision of water supply and sewerage projects and in the investment of resources, leaving the tasks of sector planning and policy-setting to the Office of Water Resources.

- 4.6 The takeover decree stipulated a period of 180 working days for the preparation and presentation of a plan for reorganization, restructuring, and allocation of functions of the agency. As a first step, INOHSa would be established to replace COFAPyS. INOHSa would be responsible for executing the proposed program and would assume the obligations previously acquired with the Bank. The borrower will submit to the Bank, as a condition precedent to the first disbursement, the regulations approved by the executive. Once INOHSa is established, the Bank will verify that those regulations include at least: (a) the creation and organizational structure of the new agency; (b) its functions and responsibilities; (c) its initial staffing and recruitment schedule; (d) its financial and physical resources; and (e) the logistic support and operating services required for its proper operation. ^{12/} Until INOHSa is established, COFAPyS, under the administration of a government inspector, will continue to meet its responsibilities and obligations with its current staff and structure.
- 4.7 Contrary to the five previous stages and in view of the restructuring process in the various sector institutions, the government selected the Bureau of Public Works and Communications, the highest authority in the sector, as executing agency for the program. Although the process of reorganizing the Bureau has not been completed, it is the only agency that can ensure continuity of the program in this transition stage. However, execution of the program would be implemented by the Bureau through INOHSa, the agency that would subsequently be responsible for projects in the sector.
1. Personnel
- 4.8 At present, COFAPyS has a total staff of 73 officials and employees, which is considered sufficient to conduct the activities during the transition period.
- 4.9 Owing to the nature of the program and the experience gained by the staff during execution of the previous stages, if INOHSa retains this acquired capacity, no difficulties are anticipated in its successfully serving as executing agency.
2. External auditing
- 4.10 External auditing, pursuant to the Financial Administration Law, is conducted by the Office of the Auditor General. Within 120 days after the end of each year, the financial statements of the program, audited by that office, will be submitted to the Bank. The first statements will be presented in the year in which program execution begins. ^{13/}

^{12/} See conditions precedent.

^{13/} See contractual conditions.

C. Fulfillment of financial conditions

1. Rates

- 4.11 The utilities providing the water supply and sewerage services demonstrated that they had met the contractual obligation concerning rates. In July 1994, the Bank considered this contractual obligation to have been met for 1993. According to the contract, for each of the systems financed with Bank resources, the executing agency must submit information on compliance with the rates clauses and, in the case of noncompliance, the measures taken to rectify the situation.
- 4.12 That information was submitted behind schedule due to inadequacies in the flow of information to the executing agency. Because of the large number of systems involved (over 400), compiling the data has been a slow and difficult process, particularly after the execution of works has been completed for some time. To remedy this situation, it was agreed: that the agreements to be signed between INOHSa and the provinces and between the provinces and the utilities providing the services would not only include the obligation to provide INOHSa with the information promptly, but would also stipulate penalties to ensure the required data is provided, on time, during the life of the agreements. ^{14/} The penalties may include ineligibility for future loans and advance payment of outstanding debt.
- 4.13 To ensure that the agencies providing the services maintain a level of revenue that covers their operating costs and generates sufficient funds to meet their financial obligations, it was agreed that the agreements to be signed between the executing agency and the provinces and between the latter and the utilities providing the services must stipulate the obligation to demonstrate to the Bank that the rates charged for water and sewerage services by the utilities participating in the program generate sufficient revenue to cover at least all operating costs, including those associated with the administration, operation, maintenance, and depreciation of revalued fixed assets. If the rates fail to generate sufficient revenue to meet all financial obligations associated with the water supply and sewerage service in a timely manner, the necessary measures, which may include rate increases, must be taken to obtain such additional funds as may be necessary for that purpose. The agreements must also indicate the measures that must be taken to ensure due compliance in the case of noncompliance with this requirement.
- 4.14 The information on compliance with the rate clause will be presented to the Bank annually within 180 days after the close of each fiscal year, beginning one year after the startup of works under

^{14/} See Operating Regulations.

the program and throughout the life of the agreements. This obligation is also part of the stipulations contained in the Operating Regulations of the program. 15/

2. Loan portfolio

- 4.15 The executing agency of stage V, as part of the contractual obligations previously assumed, must submit to the Bank information on the status of its loan portfolio. As of June 30, 1994, the loan portfolio was the equivalent of US\$208 million, for the most part consisting of loans for Bank-financed projects. The delinquency rate at that time was two percent. Presentation of this information fulfilled the contractual requirement. Since the loan portfolio of COFAPyS is with the provinces and not with the final beneficiaries of the resources, the percentage of the portfolio affected cannot be determined. In addition, its data-processing system does not currently have the installed capacity to record that information.
- 4.16 With the introduction of the new accounting system, INOHSa will be able to record data from the beneficiary utilities in the accounts. It is therefore recommended that the INOHSa-province agreements include the obligation on the part of the province to report to the executing agency the balance of the loan portfolio and total debt in arrears, broken down by specific loan and amount of time past due, and the obligation on the part of the executing agency to forward that information to the Bank. It is recommended that such data be presented to the Bank within the first 180 days after the end of each calendar year and during the life of the loans. 16/

D. Provincial agencies

- 4.17 The responsibilities of each province in program execution are met through specialized agencies that are in charge of the water supply and sanitation sector. The agencies, which will serve as sub-executing agencies and will also receive the funds, have the necessary capacity and experience. Nearly all of them have been set up as part of the provincial public sector or as state-owned enterprises.

E. Utilities providing the services

- 4.18 The utilities that are the final recipients of the program resources must be officially established and already responsible for administering the water supply and sanitation services. Utilities set up to provide those services or those already in existence that provide other services and will take on the provision of water supply and sewerage may also participate in the program. Those

15/ See contractual conditions.

16/ See contractual conditions.

utilities for the most part have been cooperatives or private enterprises set up in the localities themselves.

- 4.19 Analysis of the institutional condition of the agencies that made up the representative sample revealed that there is a need for managerial support in accounting and business management. It was verified that the rates charged complied with the minimum requirement under the respective Bank policy.
- 4.20 Collection levels for the last fiscal year were acceptable in most of the cooperatives. To ensure that a sufficient level of collections is maintained by the water supply and sewerage utilities, it is recommended that the agreements to be signed between the provinces and the cooperatives include the obligation to demonstrate to the Bank, through the executing agency, that at least 85 percent of outstanding balances have been collected. For these purposes, outstanding balances are accounts receivable that fell due during the respective fiscal year plus outstanding balances carried over from previous fiscal years. This information will be presented during the life of the contract between the utility and the province within 180 days after the close of each fiscal year, beginning with the first year of operation of the respective works. 17/

17/ See contractual conditions.

V. PROGRAM FEASIBILITY

A. Technical feasibility

- 5.1 The program is considered to be feasible and fully justified from the technical standpoint, since it meets the needs of small urban and concentrated rural localities that currently either have no service or receive unsatisfactory service in terms of quantity, continuity, pressure, and, in some cases, quality of the water supplied. Furthermore, the program addresses the need to resolve problems of public health and environmental pollution caused by the complete lack or inadequacy of sewage collection and treatment.
- 5.2 The studies and basic designs of the projects in the representative sample have been prepared according to current national standards, which are consistent with generally accepted engineering principles. The designs prepared correspond to the least-cost, technically feasible alternatives.
- 5.3 The provincial agencies responsible for water supply and sanitation services have the technical capacity and necessary experience to contract and supervise the works. There is also a sufficient number of national and foreign enterprises to execute the works and supply the materials and equipment, either domestic or imported.
- 5.4 The execution schedule has been drawn up taking into account the nature of the works, the processing periods for prequalification and bidding, and the experience gained during execution of the previous stages.
- 5.5 The institutional improvement of the utilities providing the services that would be financed with this program would be instrumental in ensuring that once the works have been constructed they are properly operated and maintained.

B. Institutional feasibility

- 5.6 The executing agency, INOHSa, will be structured on the basis of COFAPyS that has been taken over, following the guidelines agreed upon with the Argentine authorities during the analysis. According to those guidelines, the most must be made of the experience gained in executing this type of program during the previous stages.

C. Financial feasibility

- 5.7 The local counterpart funding for the works would come from the beneficiaries and would be on average 20 percent of the total cost thereof. The national government and/or the provinces would contribute the resources needed for administration and other overhead costs associated with the program.

- 5.8 As in the previous stages, the necessary local funds will be generated by special contributions from cooperative members. Moreover, the financial projections of the utilities analyzed to make up the representative sample of the program indicate that they would be able to generate resources to service the debt.
- 5.9 In conducting the previous stages of the national plan no difficulties have been encountered in the timely availability of the local contribution since the executing agency only transfers the resources of the financing to a special account once the funds from the participating localities have already been deposited therein. The contributions from the localities may include funds from other national sources.
- 5.10 The amount the government would need to contribute to the program represents a small percentage of its annual recurrent expenditures, as seen in the table below, which gives a projection of funding needs for the five years of program execution. These resources would mostly be for payments on account of interest, and inspection and supervision during execution.

Projection of financial resources
(in US\$ thousands)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total	%
IDB	14,267	40,178	48,514	57,161	39,880	200,000	80.0
Government	2,149	3,820	6,337	9,350	12,112	33,768	13.5
Communities	995	3,261	4,013	4,764	3,199	16,232	6.5
Total	17,411	47,259	58,864	71,275	55,191	250,000	100.0

D. Environmental feasibility

- 5.11 Considering that the program entails the construction of small- or medium-scale systems, any adverse environmental impact generated should be of little import and usually temporary or reversible. The largest sewage treatment plant is for an initial population of less than 15,000 inhabitants.
- 5.12 As the water supply and sewerage systems are to be constructed in urban areas, they will have no major negative impact on the physical and biological environment, but will have a very positive impact on the human environment.
- 5.13 In order to reduce or prevent any adverse environmental impact and thus render the program feasible, a draft of the environmental quality control procedures for projects to be financed under the program was prepared. A mechanism is proposed under those procedures to identify, evaluate, and devise solutions for the alleviation of any adverse environmental impact that might occur during

the different phases of implementation of the works to be executed under the program. This methodology was applied to projects of the sample, demonstrating their feasibility. The procedures will be part of the program Operating Regulations.

E. Socioeconomic feasibility

- 5.14 To verify the socioeconomic feasibility of each project, three types of analysis were conducted: (i) alternative analysis, which ascertained whether for the desired level of service the proposed project was the least-cost option; (ii) cost-benefit analysis; and (iii) beneficiary analysis, which assessed the payment capacity of the potential beneficiaries and calculated the percentage of low-income population benefitting from the projects. The results are presented at efficiency prices in foreign exchange, ^{18/} in constant values of May 1994.
- 5.15 For the socioeconomic analysis of the operation, the Bank was presented with a set of 66 projects for a total value of US\$98 million, of which 25 were sanitation projects and 41 water supply projects. A technical and economic analysis of those projects, together with a financial and institutional analysis of the utilities providing the services, led to the selection of 34 projects for a value of US\$55.8 million, at market prices, including taxes. Of the 32 projects that were not selected, 15 were for water supply projects and three for sanitation projects that were not economically feasible.
- 5.16 Both the benefits and costs included are the result of comparing the situation with and without the project, thus obtaining the incremental values arising from execution of the proposed works.

1. Water supply

a. Least-cost analysis

- 5.17 In the water supply projects it was verified that the source, including conveyance and treatment, was the least-cost option taking into account costs of investment, operation, and maintenance. There is usually only one possible layout for the distribution system, apart from analysis of a single or dual system in cases of very wide streets, which was conducted when necessary. In some cases, the alternative of supplying two localities with a single production system was analyzed: for example, in San Felipe and Santa Barbara in the province of Tucumán. In addition, the costs of replacing electromechanical equipment after 10 years of

^{18/} Accounting price ratios: foreign exchange, 1; unskilled labor, 0.516; skilled labor, 0.6; supplies, 0.71; domestic equipment, 0.76; energy, 0.83; general conversion factor, 0.80; chemicals, 0.75. (Martijena, G.; July 1993).

service were considered, as well as expansions of the treatment plant or number of pump wells according to demographic growth.

b. Cost-benefit analysis

- 5.18 The cost-benefit analysis of water supply projects used the SIMOP model. The economic benefits considered were the saving of resources by replacing existing supply systems and the increase in drinking water consumption valued in terms of the willingness to pay of the beneficiaries.
- 5.19 For each potential beneficiary locality of the program, an outreach campaign was conducted to disseminate information on the program and encourage the active involvement of the beneficiaries, bearing in mind that they would have to pay an initial share of between 10 percent and 30 percent of the total cost of the works. As part of the outreach campaign, a survey was prepared in order to compile the data used to determine the benefits and distributional impact of the project, as well as to determine the receptiveness of the population to the program.
- 5.20 The population projection was prepared by assuming geometric growth based on the intercensal rate of 1980-1991. The population to be served with the system, obtained from the survey, was verified and corrected, where necessary, using the population of the 1991 census.
- 5.21 It was found that of the 41 projects analyzed for a value of US\$32.8 million, 26 are economically feasible for a value of US\$18.2 million. Of these, 11 are expansion projects (US\$12.7 million) and 15 are for new systems (US\$5.5 million).
- 5.22 To simplify the economic evaluation of new water supply projects in addition to those of the sample, that will be financed by the program, a cost-effectiveness method was developed to determine the cutoff points at which projects are no longer economically feasible. To do so, the ratio was computed between the total cost in present value per inhabitant for the current population, including costs for investment, operation, and maintenance, in the year 0, and the internal rate of return for each of the 22 new projects analyzed. As the result, projects with a cost higher than US\$654 per inhabitant were found to be unfeasible. Those with costs below US\$482 per inhabitant are feasible and require no additional economic analysis. Those that fall in the middle must be evaluated using the SIMOP model.
- 5.23 The uneconomical new projects principally involve populations of less than 1,000 inhabitants. There are economies of scale in the investment costs and in the operation and maintenance costs that make these small systems more expensive per connection. It was recommended to the authorities that in these cases simplified

systems with a lower level of service and lower cost be developed (for example, with public taps).

- 5.24 The cost-benefit analysis must be conducted to determine the feasibility of the expansion projects. However, a simple method for eliminating unsuitable projects is to compare the amount of water available without the project with the water consumption that would occur using the supply resulting from applying the demand model, including new users. If the consumption is less than the water available, the expansion will be financed along with an institutional strengthening project including household metering of 100 percent of connections, a drop in basic consumption to 10 cubic meters/month, and calculation and introduction of the rate that will moderate consumption (long-term marginal cost rate).
- 5.25 The basic consumption of 10 cubic meters/month will enable low-income families to use water efficiently and encourage them to consume a minimum necessary to avoid health problems. It should be noted that the analysis was conducted using a basic consumption of 10 cubic meters/month and it was found that the utilities providing the services would have no financial problems.

2. Sanitation

- 5.26 The sanitation projects are all for new systems with the exception of the Puerto Santa Cruz system located in the province of the same name. Most of these include sewage treatment plants, for which the degree of treatment was determined based on the assimilative capacity of the receiving body of water and the subsequent uses of the water.

a. Least-cost analysis

- 5.27 In the sanitation projects, it was verified that the final disposal arrangements, including outfalls and sewage treatment plants, were the least economic cost options taking into account investment, operation, and maintenance costs.

b. Cost-benefit analysis

- 5.28 Public and private benefits were considered in the sanitation projects. Private benefits were the savings of resources in cleaning individual systems (septic tanks) and the increase in well-being stemming from an increase in consumption of drinking water and from improvement of the environment and household health. The public benefits were the improvement and/or preservation of the environment including the health of users and characteristics of the receiving bodies of water. These benefits were measured by the willingness to pay.
- 5.29 As in the water supply projects, an outreach campaign was conducted through meetings and surveys to disseminate information on the

project and encourage community participation. A survey was also prepared to determine the acceptability and priority of the project within the community, as well as to collect data to calculate the economic benefits.

- 5.30 The benefits were calculated using two methodologies: (a) savings of costs; and (b) increase in well-being measured by the willingness to pay (WTP) for the service. The cost saving methodology considered as benefits the value of construction costs avoided, the useful life and frequency of cleaning of individual systems (systems without the project: septic tanks, latrines). To determine the WTP, the contingent valuation method was applied using the referendum response model. This methodology was applied owing to the importance of the public benefits (most of the projects include treatment plants to reduce environmental pollution) and the high motivation of the beneficiaries to participate in project preparation, as indicated in the survey and focal groups.
- 5.31 The average WTP for each of the projects ranges from US\$20/month for the poorest localities or those with least problems to US\$45/month for the most affluent localities, such as for example Villa General Belgrano, where average monthly family income is US\$1,400.
- 5.32 It was found that of the 25 projects evaluated for a total of US\$60.6 million, 21 were economically feasible, amounting to US\$49.7 million.
- 5.33 Most of the projects are feasible because they were designed for relatively large populations (5,500 inhabitants on average) with a higher family income than in the water supply projects, and in stages, the first of which concerns the most densely populated area of the locality and would be financed by the program.
- 5.34 To economically evaluate the projects not included in the sample, the WTP will be inferred using models developed during program preparation. If they are feasible, a simplified survey will be conducted similar to the WTP survey indicating to the beneficiary the costs that will have to be defrayed for the initial payment, connection to the system, and monthly rate. More than 70 percent of the community must find the work to be acceptable for the project to be considered feasible.

3. Sensitivity analysis

- 5.35 A sensitivity analysis was conducted on the investment costs in the water supply and sewerage projects and the WTP in the sewerage projects, thus determining the values for which the projects would not be feasible.
- 5.36 The results on feasibility of the water supply projects of the sample are robust, since the costs would have to be increased by at

least 18 percent for the projects to no longer be viable. The feasibility results of the sewerage projects are robust in terms of the investment costs. However, they are not as robust for WTP, since in 30 percent it was found that if WTP is 15 percent less than estimated, the projects would no longer be feasible.

F. Beneficiary analysis

1. Payment capacity

- 5.37 To analyze payment capacity, it was verified that the monetary value of basic consumption was less than three percent of family income. Of the water supply projects that are acceptable to the Bank, only in Pehuencó would 30 percent of the inhabitants not meet this requirement and pay five percent of family income. In sanitation projects, only in Norberto de la Riestra would 13.5 percent of the population have to pay 3.6 percent of family income. The payment capacity of the beneficiaries is therefore considered sufficient, generally speaking.
- 5.38 For the new projects to be included in the program, the payment capacity will be verified by determining the cost of the basic consumption and the percentage of income corresponding to the respective payment for the socioeconomic segment.

2. Low-income group targeting

- 5.39 In the water supply projects, 71 percent of the beneficiaries belong to low-income groups, whereas in the sanitation projects 43 percent of the beneficiaries are from low-income groups. For the program as a whole, 57 percent of the beneficiaries are low-income, which is much higher than the national figure of 19 percent, thus meeting the criterion that there be a higher proportion of low-income beneficiaries than the percentage of low-income individuals in the country. It should be noted that the program would also be geographically aimed at the poor, since the percentage of the poor in small localities is far higher than in cities. In Argentina, the low-income population consists of persons with a monthly family income of less than US\$686. The program can therefore be considered to target low-income groups, as it meets the two criteria established in document AB-1704 on the Eighth General Increase in Resources.

G. Program risks

- 5.40 The principal risk that might hinder achievement of the program objectives, under the terms and within the periods stipulated, lies in delays that might arise during reorganization of the agency attached to the Bureau of Public Works and Communications, that would be directly responsible for execution. In view of the risk, the basic features of the new agency have been agreed upon with the national authorities for the proposed operation. Moreover, the

national government itself has demonstrated particular interest in reorganizing the agency within the final deadlines stipulated in the restructuring decrees. These periods should not extend beyond the first half of 1995. A further factor that could affect program execution would be possible delays in executing the standard agreements and the agreements with the utilities providing the services. In previous stages that required standard agreements, the time required for signature of the agreements exceeded six months in view of the legal procedures that had to be followed at the executive and legislative levels. Taking these circumstances into account, an execution period of five years has been established for this operation, which is considered realistic.

- 5.41 The program has been designed to serve towns throughout the country that have between 500 and 15,000 inhabitants, and will receive a local contribution from the community of 20 percent on average. There is a risk that the poorest communities may not be able to find those funds, and would thus be excluded from participating in the program. To minimize this risk, it has been agreed with the government that a matrix will be used whereby the contribution of such communities can be reduced, together with the debt service on the investments in works.

PROPOSED RESOLUTION

ARGENTINA. LOAN /OC-AR TO THE REPUBLIC OF ARGENTINA
WATER SUPPLY AND SANITATION PROGRAM, VI 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 Republic of Argentina, as Borrower, for the purpose of granting it a financing to cooperate in the execution of a water supply and sanitation program. Such financing shall be for the amount of up to US\$200,000,000 or its equivalent, which are part of the Ordinary Capital resources of the Bank, of which up to US\$125,000,000 shall be disbursed in United States dollars or its equivalent in other currencies, except that of Argentina, and up to US\$75,000,000 equivalent shall be disbursed in Argentinean pesos. The financing shall be subject to the "Special Contractual Conditions" and the "Terms and Financial Conditions" of the Executive Summary of the Loan Proposal.