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STATUS OF THE CONTINENTAL WATER SUPPLY AND SEWAGE DISPOSAL PROGRAM

A. ANTECEDENTS

The initial resolution establishing the water program dates from the meetings in 1959 of the Directing Council and the World Health Assembly. It took note of the fact that the financial problems were the ones which were most severely limiting the construction of water systems throughout the Latin American countries. It will also be recalled that in the Technical Discussions of the Directing Council in 1959 the conclusion was reached that investment in water systems would be realized only when the administration, management and fiscal policies are sound. It was, therefore, on the basis of these conclusions that the Pan American Health Organization adopted the basic philosophy which has guided its operations throughout the past three years. This policy, in brief, has been that the Organization can best assist in the solution of water problems by concentrating on the creation of sound water organizations having good management; by concentrating on mechanisms of revenue production through realistic water rates structures; and by building the confidence of investors in water supply operations. (The preceding is largely quoted from the report presented at the XVI Pan American Sanitary Conference.)

B. NATIONAL WATER ORGANIZATIONS AND PLANNING

"Since signing the Act of Bogota and the Charter of Punta del Este, the Latin American countries have been formulating plans and programs to create or reform agencies for the administration and maintenance of water supply and sewerage systems, and are mobilizing a growing proportion of public resources for this field. They have also stimulated the training of technical and administrative personnel to assure the proper functioning of these services. In all of these efforts, they have had the advice of the Pan American Health Organization, and the financial assistance of the IDB, including the Trust Fund, AID, and other outside sources of financing." (Inter-American Development Bank - Social Progress Trust Fund - Third Annual Report 1963, original in Spanish).

Annex I is a table showing the institutional progress in the field of sanitary works (water and sewage) since the Act of Bogota. The table was copied from the same reference above.

C. PROJECTS AND INTERNATIONAL LOANS

Water projects both urban and rural are now under way in many countries. Annex II is a table showing for each country the loan requests for water supply and sewage disposal works presented by the countries to the Inter-American Development Bank. The table also shows the responsible national agencies, the purpose of the loan, cost of the project and amount of loan.

Annex III is a tentative tabulation of funds both international and national committed for water and sewage works. It is estimated that for the period 1960-1963 a total equivalent of US\$500 million was committed for that purpose. The majority of these funds are for urban water supplies and a substantial part of this amount is to improve existing systems either to secure more satisfactory services to present customers or to increase the capacity for attending new customers resulting from the population growth. Using the figure of US\$50.00 as the average per capita investment necessary for water supply systems, present commitments are enough to assure that an additional 10 million people can be served satisfactorily. Urban population at the beginning of the Alliance for Progress decade (January 1961) was estimated to be 100 million people from which about 60 million were provided with water of any kind. The majority of the systems were inadequate in quantity and unsatisfactory in quality. As an estimate it could be assumed that an equivalent of only 45 million people could be adequately and satisfactorily served by existing supplies.

The Alliance for Progress mandate set forth that 70 per cent of the urban population by the end of the decade (January 1971) should be served. The estimate for that population is 150 million people and this means 105 million people to be served. Existing supplies in 1961 were able to supply only 45/150 equal to 30 per cent of the 1971 population. Present commitments raise this figure to $45 + 10 = 55$ million people which is equal to $55/150$ or 37 per cent of the 1971 population.

It could be expected from the beginning that the water program would have a slow start and an increasing rate of commitments in order to comply with the Alliance for Progress mandate.

A tentative pattern for intermediate goals could be as follows:

Year (end of)	60	61	62	63	64	65	66	67	68	69	70
% of Population to be satisfactorily served	30	32	35	38	42	46	50	55	60	65	70
Status	-	-	-	37							

Comparison of intermediate goals with present commitments is apparently satisfactory. However, the following observations are pertinent:

- a) It is assumed that rates of actual construction will follow present commitments at an adequate pace and that current works will be completed within the decade.
- b) New commitments are to be established at a much faster rate than they have been hitherto.
- c) A superficial analysis of present national plans indicates that a considerable effort will have to be made by countries and that availability of international funds will have to be sharply increased in order to achieve goals set in the Charter of Punta del Este.

D. COMMUNITY WATER SUPPLY FUND

Contributions to the Special Water Fund started in the year 1960 and up through 1963 have totalled about \$1,000,000. Contributions for 1964 are as follows: U.S.A. has pledged \$450,000 of which \$300,000 are fixed and \$150,000 to be matched by the interested countries' contributions; there are unofficial indications that some countries will make small contributions. However, present indications are that contributions will be lower than the budget estimate.

The Governments have been urged to support the Fund in view of the immediate commitments of the Organization and the countries' requests to increase the assistance given in this program. Estimated expenditures for 1964 and 1965 programs are budgeted on the basis of a \$600,000 total contribution to the Fund. As shown in Annex IV 96 per cent of the contributions up through 1963 has come from the United States of America. Therefore, a considerable effort has to be made by the interested countries to raise the level of present contributions. Consideration should be given to special clauses in agreements for technical assistance to include, among government obligations, a contribution to the Fund.

The Fund has been used mostly for technical assistance in the form of long or short term advisory or consultant services. Costs shown in Annex IV refer to salaries, allowances, travel and minor services. These amount to 71 per cent of the total expenditures. The remaining have been largely used in training and education which includes fellowships and participation in seminars or symposia, amounting to 26 per cent of the total. The balance amounting to only 3 per cent was used for purchases of supplies and equipment.

E. EDUCATION, TRAINING AND RESEARCH

Emphasis continues to be placed on the importance and need for having a suitable number of engineering and auxiliary personnel for the development of water programs.

The Organization has helped the countries by sending fellows to regular graduate courses in established universities, and to special courses covering a variety of subjects. However, it is believed that the ultimate responsibility for education and training lies with the countries themselves and the Organization's action has been to help establish in each region centers devoted to the study of special environmental engineering problems of the region. These centers serve for research as well as for training.

Progress in this direction can be reported as follows:

- Venezuela application to the UN Special Fund for developing teaching and research facilities in sanitary engineering was approved and discussion of the plan of operations is in the final stage.
- Brazil application to the UN Special Fund for developing an Institute of Sanitary Engineering in Rio de Janeiro, Guanabara, was approved by the consultative board and will be considered at the next Governing Council of the UNSF in June of this year.
- The National University of Colombia in Bogota, Colombia, received a grant from the UNSF for strengthening the educational program in engineering including sanitary engineering. The executing agency is UNESCO and WHO/PAHO are cooperating in the actual recruitment of two professors, one for sanitary engineering design and the other for sanitary microbiology.
- In Buenos Aires, Argentina, a Research Center on Environmental Engineering was established through a contract between the School of Engineering of Buenos Aires and the National Institute of Industrial Technology. Objectives are: to establish a laboratory for research in environmental sanitation, and education and training. Initial emphasis will be on air pollution investigations.
- Costa Rica has presented a request to the UNSF for establishing a Water Resources Institute within the University of Costa Rica. The projects aims to "provide a service and research facility that is needed by the several national agencies concerned with the development and use of the water resources of the country". The Institute will consist of three units: a hydraulic laboratory, a ground water investigation program and a sanitary engineering laboratory.

- El Salvador has presented a request to the UNSF for a Ground Water Investigation Program for the Metropolitan Area in El Salvador.
- Interest in Water Resources Investigations has increased considerably and projects on a regional basis for all of Central America are under consideration. These include establishment of a network for collection and analysis of meteorological and hydrological data and for ground water investigations.

With a few exceptions, schools of engineering in Latin America have not been engaged in active research and seldom participate in the solution of national problems. They have been devoted almost exclusively to educational programs. The need for better communication among universities and governmental agencies and industry cannot be overemphasized. Recognizing this need as a preliminary step toward active participation in research by the universities, PAHO is carrying out a project with funds from the Organization of American States by which a series of intensive short courses will be held in several countries. Emphasis is placed on having a wide participation of local teachers and professionals; on having local personnel write manuals and texts and therefore develop a general stimulus toward increase production of technical literature in the countries. Centers for training and research will be developed. Initially dedicated to continuing education programs and to the collection and analysis of basic data and as depositories of books and publications, it is expected that the centers will develop to become research institutions. Activities in 1963 included four courses in different subjects: water supply design; plastic pipes, pumps for potable water and geophysical investigations for ground water.

F. TECHNICAL ASSISTANCE

During the past twelve months the following services of technical assistance in the field of water supply have been provided to the Governments of the Organization:

1. Permanent type of advisory services in the design and management of water supplies to the Governments of: Colombia, Costa Rica, El Salvador, Mexico, Nicaragua, Peru, Dominican Republic, Venezuela, Jamaica and Dominica. In total 12 engineers specialized in water supply techniques are providing these services.
2. Short term advisory services in technical matters in connection with training courses to the Governments of Brazil, Mexico, Venezuela, and Trinidad and Tobago.

3. Short term consultant services in the general field of administration and management of water utilities to the Governments of Argentina, Brazil, Panama, Paraguay, Peru, Venezuela, Trinidad and Tobago, and the territories of St. Lucia and Grenada.
4. Short term advisory services on accounting to Colombia and Peru.
5. High level short term advisory services in complex water pollution problems to the cities of Buenos Aires, Argentina; São Paulo, Brazil; and Montevideo, Uruguay.
6. Short term advisory services in the fields of ground water exploration and water fluoridation to Trinidad and Tobago, Colombia and Guatemala.
7. Short term advisory services in the field of sanitary engineering education, research and training to the Governments of Colombia and Panama.
8. Assistance to the Government of Peru in the preparation and signing of loan contract with the Inter-American Development Bank for rural water supply activities in that country.
9. Through its permanent staff of engineers the Organization has continued providing technical assistance in all phases of the water supply program to practically all countries of the Region through their ministries of health, water authorities, ministries of public works, municipalities and other official agencies.
10. Two advisory committees, one on technical matters and the other on community organization, in relation to the rural water supply program, were convened and met in Washington in February 1964.

G. FUTURE ACTIVITIES

In the coming years preferential attention will be given by the Organization to the promotion and execution of a program to expand the urban water supply and sewerage activities as well as to promote the initiation or expansion of water programs in the rural areas of the region. With the expanded activities in the economic, industrial and social fields in the Member Governments, it will be necessary to incorporate water programs into the national development plans and the Organization will have to be prepared to provide additional technical assistance in such endeavors. It is expected that considerable further activities in the fields of training, education and research will be implemented in the near future and accordingly the Organization will have to take the necessary steps to collaborate with the countries in these vital areas of the environmental engineering progress in Latin America. It is also expected that considerably more attention will have to be given to the investigation and solution of complex environmental problems in the large metropolitan areas with its resulting problems of water and air pollution.

Country	Period	Principal Institutions	Type and Scope of Organization	Purpose	Financing (Principal Source of Funds)	Population with Residential Water Supply Services ¹	National Program	Observations
ARGENTINA	Before the Act of Bogota	Obras Sanitarias de la Nación (Ministry of Public Works)	National	Study, construction, operation and financing of facilities	State, provincial and municipal subsidies-service rates	10,500,000	In Preparation	
	After the Act of Bogota	Obras Sanitarias de la Nación (Ministry of Public Works)	National	Study, construction, operation and financing of facilities	State, provincial and municipal subsidies-service rates	11,000,000	Yes	
BOLIVIA	Before the Act of Bogota	Dirección de Hidráulica (Ministry of Public Works)	National	Study, construction and financing of urban facilities	State subsidy	502,000	No	
		División de Ingeniería Sanitaria (Ministry of Public Health)	National	Study, construction and financing small communities (semi-rural)	State subsidy			
		Municipalities	Local	Operation of facilities	Service rates			
	After the Act of Bogota	Administración Boliviana Autónoma de Obras Sanitarias (created in January 1982)	Created in order to carry out the national development plan in this field	Coordination of entities working on planning and execution of sanitary works		530,000	No	A consulting firm is studying measures to improve the water supplies of La Paz, Cochabamba and Oruro.
Dirección de Hidráulica (Ministry of Public Works)	National	Study, construction and financing of urban facilities	State subsidy					
División de Ingeniería Sanitaria (Ministry of Public Health)	National	Study, construction and financing for small communities (semi-rural)	State subsidy					
Municipalities	Local	Operation of services	Service rates					
BRAZIL	Before the Act of Bogota	Fundación del Servicio Especial de Salud Pública (SESP) (Created in April 1960) Autonomous State Entities Municipalities	National Institution dependent on Ministry of Public Health Semi-autonomous Institutions of the States Local	Study, construction and financing Study, construction and financing (in some cases, operation also) Study, construction, financing and operation in large cities; (exclusively operation of services in small cities)	Federal and municipal subsidies State subsidies, municipal participation-service rates Service rates	12,900,000	In Preparation	
	After the Act of Bogota	Fundación del Servicio Especial de Salud Pública Establishment of new semi-autonomous State Entities and mixed Capital Corporations Municipalities	National Institution dependent on Ministry of Public Health Semi-Autonomous Institutions of the states Local	Study, construction and financing Study, construction and financing (in some cases also operation of services) Study, construction, financing and operation in large cities; (exclusively operation in small cities)	In the financing of all institutions, special emphasis has been given to obtaining revenue through service rates	15,000,000	Yes	These institutions have an important role in the financing, programming, construction and operation of the services. Some of the new autonomous state entities will be advised by the SESP.
CHILE	Before the Act of Bogota	Dirección de Obras Sanitarias (Ministry of Public Works)	National	Study, construction, financing and supervision of the operation (except Santiago)	State subsidy	2,300,000	Being Prepared	
		Sección de Higiene Ambiental (Ministry of Public Health)	National	Study, construction and financing (rural sector)—sanitary control	State subsidy			
		Municipalities	Local	Operation of services	Service rates			
	After the Act of Bogota	Dirección de Planeamiento (Ministry of Public Works) Dirección de Obras Sanitarias (Ministry of Public Works) Sección de Saneamiento Ambiental (Ministry of Public Health) Municipalities	National National National Local	Coordination and planning Study, construction, financing and supervision of the operations (except Santiago) Study, construction and financing (rural sector) sanitary control Operation of services	State subsidy State subsidy Service rates	2,500,000	Plans for a Minimum Sanitary Works Program for the entire country, and for a two-year basic rural sanitation program, have been completed.	Basic rural sanitation program completed in 10 provinces. Existing institutions are considered adequate, hence no changes are contemplated beyond administrative reforms and rate changes.

¹ Estimates are of the number of persons with water supply services in urban areas of more than 2,000 inhabitants and are based on available data. In reference to sewerage facilities, sufficiently reliable statistics are not available, and for this reason no figures on sewerage services are included.

Country	Period	Principal Institutions	Type and Scope of Organization	Purpose	Financing (Principal Source of Funds)	Population with Residential Water Supply Services ¹	National Program	Observations
COLOMBIA	Before the Act of Bogota	Instituto Nacional de Fomento Municipal (INSFOPAL), created in Oct. 1957 Sociedades Anónimas Departamentales Empresas Públicas Municipales	Decentralized autonomous organization. National Mixed, regional organizations Municipal organizations in the 8 largest cities	Study, construction, financing and supervision of the operations Mobilization of regional resources for projects executed by INSFOPAL Study, construction, financing and operation of services	State, departmental and municipal subsidies—service rates Departmental, municipal and INSFOPAL funds Municipal funds and service rates	6,500,000	Being prepared	
	After the Act of Bogota	Instituto Nacional de Fomento Municipal (INSFOPAL), created in Oct. 1957 Sociedades Anónimas Departamentales Empresas Públicas Municipales	Decentralized autonomous organization. National Mixed, regional organizations Municipal organization in the 8 largest cities	Study, construction, financing and supervision of the operations Mobilization of regional resources for projects executed by INSFOPAL Study, construction, financing and operation of services	In the financing of all institutions, special emphasis has been given to service rates as the principal source of revenue	8,400,000	Yes	The Ministry of Public Health will provide service through local health centers to localities with populations not exceeding 1,000. In many cases work has been carried out with the cooperation of the beneficiaries and of UNICEF and CARE.
COSTA RICA	Before the Act of Bogota	División de Acueductos y Alcantarillados (Ministry of Public Works) División de Ingeniería Sanitaria (Ministry of Public Health) Municipalities	National National Local	Study, construction and financing Study and sanitation control Operation of services (except San Jose)	State subsidy State subsidy Service rates	310,000	No	
	After the Act of Bogota	Servicio Nacional de Acueductos y Alcantarillados (SNAA) Established in September 1961 División de Ingeniería Sanitaria (Ministry of Public Health) Municipalities	Decentralized semi-autonomous national organization— National Local	Study, construction and financing; general coordination of national effort in this field Study and sanitation control Operation of services (except in San Jose)	Principally service rates State subsidy Service rates	325,000	Yes	
DOMINICAN REPUBLIC	Before the Act of Bogota	Dirección General de Recursos Hidráulicos (Ministry of Agriculture) Sección de Saneamiento Ambiental (Ministry of Public Health) División de Acueductos y Plantas Eléctricas de la Liga Municipal (Ministry of the Interior) Municipalities	National National National Local	Study, construction and financing Study, construction and financing (rural sector) sanitation control Supervision, distribution of municipal resources and technical advice Operation of services	State subsidy State subsidy Municipal subsidies Service rates	490,000	No	
	After the Act of Bogota	Instituto Nacional de Agua Potable y Alcantarillado (INAPA)	National	Study, construction, administration, and operation of services	State subsidy and service rates	540,000	Being prepared	The National Water Supply and Sewerage Facilities Institute (INAPA) was created as an autonomous entity under Law No. 5994 of July 30, 1962
ECUADOR	Before the Act of Bogota	Departamento de Obras Sanitarias (Ministry of Public Works) Ministry of Public Health and Social Welfare Municipalities	National, urban inhabitants National Local	Study, construction and financing Study, construction and financing (rural sector); sanitation control Study, construction, financing and operation of services in large cities; exclusively operation of services in small cities	State subsidy State subsidy Service rates and state subsidy	970,000	No	
	After the Act of Bogota	Departamento de Obras Sanitarias (Ministry of Public Works) Ministry of Public Health and Social Welfare Municipalities	National, urban inhabitants National Local	Study, construction and financing Study, construction and financing (rural sector); sanitation control Study, construction, financing and operation of services in large cities; exclusively operation of services in small cities	State subsidy State subsidy Service rates and state subsidy	1,120,000	Yes (1964-1973)	

¹ Estimates are of the number of persons with water supply services in urban areas of more than 2,000 inhabitants and are based on available data. In reference to sewerage facilities, sufficiently reliable statistics are not available, and for this reason no figures on sewerage services are included.

Country	Period	Principal Institutions	Type and Scope of Organization	Purpose	Financing (Principal Source of Funds)	Population with Residential Water Supply Services ¹	National Program	Observations
EL SALVADOR	Before the Act of Bogota	Dirección General de Obras Hidráulicas (Ministry of Public Works)	National	Study, construction and financing	State subsidy	390,000	No	
		División de Ingeniería Sanitaria (Ministry of Public Health)	National	Study, construction and financing (rural sector); sanitation control	State subsidy			
Municipalities	Local	Operation of services	Service rates					
EL SALVADOR	After the Act of Bogota	Administración Nacional de Acueductos y Alcantarillados (ANDA)	Decentralized autonomous organization—National	Study, construction, financing and operation of services—coordination of national efforts in this field	Service rates, temporary state subsidy (4 years)	450,000	Yes, short-term plan (1963-1967) Long-term plan (1964-1973) national rural sanitation program	ANDA ² will act in place of the municipal administration.
		División de Ingeniería Sanitaria (Ministry of Public Health)	National	Study, construction and financing (rural sector); sanitation control	State subsidy			
GUATEMALA	Before the Act of Bogota	Comité Nacional Agua Potable (created in 1960)	National	To coordinate water supply programs	State subsidy	445,000	No	
		Departamento de Aguas y Drenajes (Ministry of Public Works)	National	Study, construction and financing (urban sector)	State subsidy			
		Departamento de Ingeniería Sanitaria (Ministry of Public Health)	National	Study, construction and financing in small rural communities and urban centers	Municipal funds			
		Instituto de Fomento Municipal	Autonomous state organization	Technical and financial assistance to the municipalities	Municipal funds			
Municipalities	Local	Study, construction, financing and operation of services (exclusively operation of services in small cities)	Service rates and assessment fees					
GUATEMALA	After the Act of Bogota	Departamento de Aguas y Drenajes (Ministry of Public Works)	National	Study, construction and financing in urban centers	State subsidy	490,000	Yes, short-term plan; long-range plan being prepared	The Government of Guatemala has requested technical assistance from the Bank in order to carry out a study of rates
		Departamento de Ingeniería Sanitaria (Ministry of Public Health)	National	Study, construction and financing (rural sector); sanitation control	State subsidy			
		Instituto de Fomento Municipal	Autonomous state organization	Technical and financial assistance to the municipalities	Municipal funds			
		Municipalities	Local	Study, construction, financing and operation of services (exclusively operation of services in small cities)	Service rates and assessment fees			
HAITI	Before the Act of Bogota	Servicios Hidráulicos de Haití	National	Study, construction, financing and operation of facilities	State subsidy	170,000	No	
	After the Act of Bogota	Servicios Hidráulicos de Haití	National	Study, construction, financing and operation of facilities	State subsidy	180,000	No	Consideration is being given to the creation of an autonomous institution to operate the water supply services in the cities of Port-au-Prince and Petionville
HONDURAS	Before the Act of Bogota	Ministerio de Salud Pública y Asistencia Social	National	Study, construction and financing; sanitation control	State subsidy	127,000	No	
	Municipalities	Local	Principally operation of facilities	Service rates				
HONDURAS	After the Act of Bogota	Servicio Autónomo Nacional de Acueductos y Alcantarillados (SANAA) created in May 1981	Decentralized autonomous organization—National	Study, construction, financing and operation of facilities (rural sector)	Special emphasis has been given to obtaining revenue through service rates	150,000	Yes, short-term plan (1962-1965)	
		División de Saneamiento Ambiental (Ministry of Public Health and Social Welfare)	National	Study, construction and financing (rural sector); sanitation control	State subsidy			
Municipalities	Local	Operation of facilities	Service rates					

¹ Estimates are of the number of persons with water supply services in urban areas of more than 2,000 inhabitants and are based on available data. In reference to sewerage facilities, sufficiently reliable statistics are not available, and for this reason no figures on sewerage services are included.

Country	Period	Principal Institutions	Type and Scope of Organization	Purpose	Financing (Principal Source of Funds)	Population with Residential Water Supply Services ¹	National Program	Observations
MEXICO	Before the Act of Bogota	Secretaría de Recursos Hidráulicos	National except the Federal District	Study, construction and supervision of the operation of facilities	Federal subsidy	12,500,000	Being prepared	The projects are generally carried out by the Secretaría de Recursos Hidráulicos with joint financing provided by Federal, state and municipal governments. The Banco Hipotecario y de Obras Públicas provides financial assistance for projects in this field.
		Secretaría de Salubridad y Asistencia	National	Study, construction and financing (rural sector); sanitation control	Federal subsidy			
		Banco Hipotecario Urbano y de Obras Públicas	National	Financing through governmental contributions	Service rates and funds from local government			
		Servicios Sanitarios del Distrito Federal	Local	Study, construction, financing and operation of facilities	Service rates			
	After the Act of Bogota	Juntas Federales de Agua Potable	Regional	Operation of services and administration	In general, greater emphasis has been given to the function of rates in financing facilities	13,500,000	Yes	
		Municipalities	Local	Operation of facilities				
		Secretaría de Recursos Hidráulicos	National except the Federal District	Study, construction and supervision of operation of facilities				
		Secretaría de Salubridad y Asistencia	National	Study, construction and financing (rural sector); sanitation control				
NICARAGUA	Before the Act of Bogota	Departamento Nacional de Servicios Municipales (Ministry of Development)	State Organization—National	Study, construction, financing and operation of facilities	State subsidy and municipal funds	240,000	No	
		Empresa Aguadora de Managua	Municipal Organization—Local	Study, construction, financing and operation of facilities	Service rates			
		Ministerio de Salubridad	National	Sanitation control	State subsidy			
		After the Act of Bogota	Departamento Nacional de Servicios Municipales (Ministry of Development)	State Organization—National	Study, construction, financing and operation of facilities			State subsidy and municipal funds
	Empresa Aguadora de Managua		Municipal Organization—Local	Study, construction, financing and operation of facilities	Service rates			
	Ministerio de Salubridad		National	Sanitation control	State subsidy			
	Before the Act of Bogota		Servicio de Acueductos y Alcantarillado (Ministry of Health, Labor and Welfare)	National	Study, construction, financing and operation of facilities	State subsidy and service rates	296,000	No
		Comisión de Acueductos y Alcantarillados de Panamá	Semi-autonomous organization in charge of only Panama City	Operation of facilities	Service rates			
Municipalities		Local	Operation of facilities	Service rates				
After the Act of Bogota		Instituto Nacional de Acueductos y Alcantarillados de Panamá (created in December 1961)	Autonomous state organization—National	Study, construction, financing and operation of facilities (urban sector)	State subsidy and service rates	300,000		
	Departamento de Salud Pública (Ministry of Health, Labor and Welfare)	National	Study, construction and financing (rural sector); sanitation control	State subsidy				

¹ Estimates are of the number of persons with water supply services in urban areas of more than 2,000 inhabitants and are based on available data. In reference to sewerage facilities, sufficiently reliable statistics are not available, and for this reason no figures on sewerage services are included.

Country	Period	Principal Institutions	Type and Scope of Organization	Purpose	Financing (Principal Source of Funds)	Population with Residential Water Supply Services ¹	National Program	Observations
PARAGUAY	Before the Act of Bogota	Corporación de Obras Sanitarias de Asunción (CORPOSANA)	Semi-autonomous organization in charge of only Asunción	Study, construction, financing and operation of facilities	Service rates	154,000	No	
	After the Act of Bogota	Servicio Autónomo Nacional de Obras Sanitarias (SANOS) created in June 1962 Corporación de Obras Sanitarias de Asunción (CORPOSANA)	Autonomous state organization—National, except Asunción Semi-autonomous organization, in charge of only Asunción	Study, construction, financing and operation of facilities Study, construction, financing and operation of facilities	Service rates and state subsidy Service rates	172,000	Yes	
PERU	Before the Act of Bogota	Subdirección de Obras Sanitarias (Ministry of Development and Public Works)	National	Study, construction, financing and operation of facilities	State subsidy and service rates	1,500,000	No	
		División de Ingeniería Sanitaria (Ministry of Public Health)	National	Study, construction and financing (rural sector); sanitation control	State subsidy and service rates			
		Municipalities	Local	Study, construction and operation of facilities	State subsidy and service rates			
	After the Act of Bogota	Corporación de Saneamiento de Arequipa, created in 1961 Corporación de Saneamiento de Lima Metropolitana, created in 1962 Servicio Especial de Salud Pública (Ministry of Public Health) Subdirección de Obras Sanitarias (Ministry of Development and Public Works) División de Ingeniería Sanitaria (Ministry of Public Health) Municipalities	Autonomous organization—Departmental Autonomous—Local National National National Local	Study, construction, financing and operation of facilities Study, construction, financing and operation of facilities Study, organization, administration and operation of sanitary facilities Study, construction, financing and operation of facilities Study, construction, financing and control of operation of facilities (rural sector); sanitation control of urban sector Study, construction and operation of facilities	Service rates and special taxes Service rates and special taxes State subsidy and service rates State subsidy and service rates State subsidy and service rates State subsidy and service rates	2,800,000	National short-term program (2 years) Long-term plan being prepared National short-term plan (2 years) Long-term plan being prepared	A basic rural sanitation law adopted in 1962 establishes the basis for providing drinking water and sanitary facilities in centers of less than 2,000 inhabitants within the country. The Ministry of Public Health, through the Public Health Special Service, will be responsible for this program. The Sanitary Corporation of Lima has undertaken a long-range, self-financing program to provide Lima with adequate water and sewerage facilities up to 1980
URUGUAY	Before the Act of Bogota	Administración de Obras Sanitarias del Estado (Ministry of Public Works) Dirección de Saneamiento, Concejo de Montevideo	Semi-autonomous organization—National Local (only sewerage services)	Study, construction, financing and operation of facilities Study, construction, financing and operation of facilities	State subsidy and service rates Municipal funds and assessment	1,200,000	Being prepared	
	After the Act of Bogota	Administración de Obras Sanitarias del Estado (Ministry of Public Works) Dirección de Saneamiento, Concejo de Montevideo	Semi-autonomous organization—National Local (only sewerage services)	Study, construction, financing and operation of facilities Study, construction, financing and operation of facilities	State subsidy and service rates In general, greater emphasis is being given to the application of service rates as the main source of revenue. Also, consideration is being given to the establishment of assessment fees on properties directly or indirectly benefited by the extension of sanitation facilities	1,460,000	Being prepared	
VENEZUELA	Before the Act of Bogota	Instituto Nacional de Obras Sanitarias (INOS) División de Ingeniería Sanitaria (Ministry of Health and Social Welfare)	Autonomous organization—National National	Study, construction, financing and operation of facilities; urban sector Study, construction, financing and operation of facilities; rural and semi-rural sector sanitation control	State subsidy and service rates State subsidy and service rates of the semi-rural sector	2,400,000	In final stage of preparation	
	After the Act of Bogota	Consejo Nacional de Recursos Hidráulicos Instituto Nacional de Obras Sanitarias (INOS) División de Ingeniería Sanitaria (Ministry of Health and Social Welfare)	National Autonomous organization—National National	General coordination Study, construction, financing and operation of facilities; urban sector Study, construction, financing and operation of facilities; rural and semi-rural sector sanitation control	In general, greater emphasis is being given to the establishment of service rates as the main source of revenue	3,600,000	Yes	

¹ Estimates are of the number of persons with water supply services in urban areas of more than 2,000 inhabitants and are based on available data. In reference to sewerage facilities, sufficiently reliable statistics are not available, and for this reason no figures on sewerage services are included.

Country Loan (*)	Date of Approval Date of Contract	Borrower (Guarantor)	Purpose	Cost of Project (US\$)	Amount approved (US\$)
ARGENTINA	p*	Administración General de Obras Sanitarias de la Nación	Expansion of water supplies for the southern part of Buenos Aires	---	5,500.00
BRAZIL TF	11-30-61 3- 1-62	Superintendencia de Aguas e Esgotos do Recôncavo (Bahia State)	Collection, carriage, treatment, pumping, storage, distribution, and meters for the city of Salvador	8,127,000	4,120,000
TF	4- 5-62 5- 2-63	Banco do Nordeste do Brasil (U.S. of Brazil)	Expansion and improv. of water supply and sewerage systems of 3 capitals (Recife, Maceio, and Natal); improv. of water supply facil's. in Terecina, São Luis, & the chief town of the area (Campina Grande)	18,534,700	12,990,000
TF	3-13-62 5- 5-62	Banco del Estado de Guanabara, S.A. (Guanabara State)	Expansion and improvement of the water supply system of Guanabara	27,883,852	12,500,000
TF	3 -13-62 5 - 5-62	Banco del Estado de Guanabara, S.A. (Guanabara State)	Expansion and improvement of the sewerage system of Guanabara, specially in Timbo-Faria, Irajá, and Ilha do Governador. A treatment plant will be constructed	22,473,000	11,000,000
SF	3-13-62 5- 5-62	Banco del Estado de Guanabara (Guanabara State)	Improvement and expansion of the distribution system, expansion of sources of supply, and installation of meters. 2,370,000 persons will be benefitted.	25,653,200	11,500,000
TF	11-21-63 2-20-64	Departamento de Aguas e Esgotos (Para State)	Expansion and improvement of water supply and sewerage systems of the city of Belém.	4,829,000	2,500,000
SF	12-19-63 ----	Departamento Municipal de Aguas e Esgotos de Porto Alegre (Banco del Estado de Rio Grande del Sur)	Expansion and improvement of the water supply and sewerage systems of Porto Alegre	6,973,500	3,150,000
CHILE OC	11-22-61 5-16-62	Government of Chile (Direccion de Obras Sanitarias de Concepcion y Talcahuano)	Expansion of the water supply system in Concepcion and in Talcahuano for a population which it has been calculated, will, by 1982, be 230,000 in Concepcion and 120,000 in Talcahuano. At present Concepcion has 140,000 inhabitants and Talcahuano 65,000	1,805,880	1,050,000
TF	11-22-61 5-16-62	Government of the Republic of Chile	For water supply systems in the cities of Concepcion and Talcahuano	4,248,120	2,470,000
OC	4- 4-63 5-24-63	Empresa de Agua Potable de Santiago (Republic of Chile)	Expansion and improvement of the water supply system of Greater Santiago which will directly or indirectly benefit 2,454,000 persons	10,695,000	5,125,000
TF	3-12-64 3-17-64	Republic of Chile	Construction of water systems in about 300 rural communities with less than 1,000 inhabitants	5,000,000	2,500,000
COLOMBIA OC	4- 9-61 6- 3-61	Empresas Públicas de Medellín (Republic of Colombia)	Improvement and expansion of the water supply facilities for the metropolitan area of the city of Medellín whose population in 1975 will, it is estimated, be 1,342,000 inhabitants	10,500,000	5,361,935
OC	6-15-61 10-17-61	Empresas Públicas Municipales de Cartagena (Republic of Colombia)	Expansion of the water and sewerage systems of Cartagena for a population estimated at 278,000 inhabitants	10,800,000	6,000,000
TF	11-22-61 2- 3-62	Empresas Municipales de Cúcuta (Republic of Colombia)	Expansion of water supply and sewerage systems for the city of Cúcuta	9,161,000	5,183,000
TF	10-26-61 4-16-62	Empresas Municipales de Cali (Republic of Colombia)	Expansion of the principal and secondary network of the whole of distribution system and the construction of 4 storage tanks	4,780,000	2,454,000

(*) OC = Ordinary Capital
SF = Special Fund
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P = Pending

Country Loan (*)	Date of Approval Date of Contract	Borrower (Guarantor)	Purpose	Cost of Project (US\$)	Amount approved (US\$)
COLOMBIA (Cont.) OC	7-12-62 8-21-62	Instituto Nacional de Fomento Municipal (Republic of Colombia)	Construction of water supply and sewerage systems in 367 urban communities. This project will benefit approximately 2,958,000 persons by 1975	9,088,000	4,000,000
SF	7-12-62 8-21-62	Instituto de Fomento Municipal (Republic of Colombia)	Construction of water supply and sewerage systems in 367 urban communities	5,680,000	2,500,000
TF	7-12-62 8-21-62	Instituto Nacional de Fomento Municipal (Republic of Colombia)	Construction of water supply and sewerage systems in 367 urban communities	19,312,000	8,500,000
COSTA RICA TF	12-12-63 12-13-63	Servicio Nacional de Acueductos y Alcantarillado	To finance studies on water supply and sewerage systems in 3 towns	150,000	100,000
	P *	Servicio Nacional de Acueductos y Alcantarillado	Sewerage system for the metropolitan area of San José	---	6,500,000
ECUADOR TF	2-28-62 7-10-62	Municipalidad de Quito (Republic of Ecuador)	Expansion and improvement of the sewerage system of the city of Quito and rural parishes in Quito, Cantón	5,015,000	3,000,000
TF	2-19-63 10-1-63	Republic of Ecuador	Water supply and sewerage systems for 18 towns	6,224,000	5,500,000
	P *	Municipalidad de Guayaquil	Study of a sewerage project	---	220,000
EL SALVADOR OC	8-10-61 11-17-61	Banco Central de Reserva de El Salvador (Republic of El Salvador)	Expansion and improvement of water supply systems in 5 towns	2,100,000	1,260,000
TF	8-10-61 11-17-61	Banco Central de Reserva de El Salvador (Republic of El Salvador)	Improvement of the sewerage systems in 5 towns in El Salvador	1,400,000	840,000
TF	10-12-61 11-17-61	Banco Central de Reserva de El Salvador (Republic of El Salvador)	Improvement of the water supply and sewerage systems in 34 communities and various additional rural communities	3,830,000	2,700,000
	P *	Administración Nacional de Acueductos y Alcantarillados	Water systems for 112 communities and sewerage systems for 64 communities (3,000,000) - Water systems for rural communities (1,400,000)	---	4,400,000
GUATEMALA OC	9-28-61 2-27-62	Hidroeléctrica del Atlántico, S.A.	Installation of a main pipeline for the city of Puerto Barrios	265,000	175,000
TF	3-8-62 8-3-62	Banco de Guatemala	Construction of 82 water supply and sewerage systems	5,150,000	3,500,000
	P *	Republic of Guatemala	Water system for Guatemala City and neighboring communities	---	6,700,000
HAITI SF	3-5-64 ----	La Banque Nationale de la République d'Haiti (Republic of Haiti)	To improve and expand the water supply system of Port du Prince, Pétionville, and the neighboring areas	2,710,000	2,550,000
HONDURAS TF	3-7-63 4-8-63	Servicio Autónomo Nacional de Acueductos y Alcantarillados (Tegucigalpa) (Republic of Honduras)	Expansion and improvement of water collection and water carriage systems of the present sources and introduction of new sources. Installation of meters and reorganization of services	2,700,000	2,150,000
	P *	Servicio Autónomo Nacional de Acueductos y Alcantarillados	Water supply for 8 small and medium-sized towns	---	400,000

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Country Loan (*)	Date of Approval Date of Contract	Borrower (Guarantor)	Purpose	Cost or Project (US\$)	Amount approved (US\$)
MEXICO TF	3-15-62 6-15-62	Nacional Financiera, S.A. (Government of Mexico)	Water supply for 12 communities in the State of Yucatan, including Merida, and also a sewerage system for the city of Chetumal	15,280,000	9,200,000
NICARAGUA TF	6-28-63 9-27-63	Republic of Nicaragua	To finance a study on a sewerage system for the city of Managua	235,000	185,000
PANAMA TF	5-31-62 6-14-62	Instituto de Acueductos y Alcantarillados Nacionales (Republic of Panama)	Construction of new water systems and improvement of the existing systems in la Chorrera, Aguadulce (including Pocrí), Santiago, Chitré, Las Tablas, and David	3,835,000	2,762,000
PARAGUAY	p*	Servicio Autárquico Nacional de Obras Sanitarias	Study of water supply projects for 5 towns	----	65,000
PERU OC	2- 3-61 6- 2-61	Corporación de Saneamiento de Arequipa (Republic of Peru)	Expansion and improvement of water supply and sewerage systems in the city of Arequipa. These projects will cope with water supply for the next 15 years	6,400,000	3,910,899
TF	3-19-64 3-24-64	(Republic of Peru)	Construction of water systems in about 150 rural communities with less than 2,000 inhabitants	3,100,000	1,650,000
DOMINICAN REPUBLIC	5-20-64 ----	Instituto Nacional de Agua Potable y Alcantarillado	Water supply systems for 5 towns	----	1,000,000
	5-20-64 ----	Instituto Nacional de Agua Potable y Alcantarillado	Study of a water supply system for Santo Domingo	---	95,000
URUGUAY OC	8- 3-61 10- 9-61	Government of the Republic of Uruguay	Expansion of the water supply system of Montevideo; if not constructed, the water deficit in Montevideo by the end of 1963 would be of 50,000 m ³ a day	14,500,000	5,743,000
TF	12- 7-61 5-21-63	Government of the Department of Montevideo	Sanitation of the Arroyo Pantanoso basin. It includes the installation of 74.7 kms. of 25 and 40 cm. pipes	12,000,000	2,500,000
VENEZUELA TF	12- 7-61 5- 3-62	Government of the Republic of Venezuela	Provision of water supplies to 330 communities with less than 5,000 inhabitants, the majority of which are rural communities	20,000,000	10,000,000
TF	12-14-61 5- 3-62	Instituto Nacional de Obras Sanitarias (Government of Venezuela)	Improvement and provision of drinking water services to 55 cities with between 5,000 and 10,000 inhabitants	21,000,000	10,000,000
OC	8- 2-62 8-24-62	Instituto Nacional de Obras Sanitarias (Republic of Venezuela)	Improvement of the water supply system of the city of Maracaibo. It is estimated that 20 per cent of the present population do not have water service. The project will cope with water supplies up to 1970	20,598,000	6,000,000

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INTERNATIONAL FUNDS USED FOR THE CONSTRUCTION OF WATER SUPPLY AND
SEWAGE SERVICES IN LATIN AMERICA IN
THE PERIOD 1960-1963

(U.S. Dollars)

Country	Water	IDB Sewerage	IBRD Water	AID Water Sewerage	EXIMBANK Water *	Estimated amount of domestic funds
Brazil	43,110,000	14,650,000	-	12,300,000	-	52,800,000
Colombia	26,165,930	7,833,000	-	-	-	36,334,158
Costa Rica	100,000**	-	-	4,000,000	4,500,000	2,350,000
Chile	11,145,000	-	-	2,840,000	-	10,604,000
Dominican Republic	1,000,000	-	-	-	-	-
Ecuador	5,200,000	3,300,000	-	-	-	2,749,000
El Salvador	3,280,000	1,520,000	-	-	-	2,530,000
Guatemala	2,475,000	1,200,000	-	-	-	1,740,000
Haiti	2,550,000	-	-	-	-	160,000
Honduras	2,150,000	-	-	3,050,000	-	550,000
Jamaica	-	-	-	3,700,000	-	-
Mexico	8,650,000	550,000	-	-	-	6,080,000
Nicaragua	-	185,000**	3,000,000	600,000	-	3,000,000
Panama	2,762,000	-	-	9,815,000	-	2,553,000
Paraguay	-	-	-	3,517,000	8,250,000	-
Peru	4,389,539	1,171,360	-	8,600,000	6,500,000	7,939,000
Uruguay	5,743,000	2,500,000	-	-	7,500,000	18,257,000
Venezuela	26,000,000	-	-	-	-	35,600,000
	144,720,469	32,909,360	3,000,000	48,422,000	26,750,000	183,246,158
31 December 1964	International loans		256,411,829			
	Total loans		439,707,987***	Projects financed independently		100,000,000

Notes * For the Agency for International Development it has not been possible to separate the amount for water supply projects from that for sewerage projects; however, the share allotted to sewerage projects is known to be relatively small.

** These loans are means solely for studies.

*** In addition to the funds the Latin American countries have contributed to programs receiving international financial assistance, those countries have made public or private investments in the amount of \$ 100,000,000 in programs either financed solely by them or with the assistance of grants from international agencies or foundations such as UNICEF. This additional sum brings the total amount of money invested by Latin American countries in water supply and sewerage programs to about \$280,000,000.

COMMUNITY WATER SUPPLY FUND	1960	1961	1962	1963	TOTALS	
					\$	%
INCOME						
<u>Voluntary Contributions</u>						
Government of Colombia	-	-	-	9,911	9,911	1
Government of the United States of America	200,000	125,000	300,000	300,000	925,000	96
Government of Venezuela	16,418	-	-	15,000	31,418	3
TOTAL	216,418	125,000	300,000	324,911	966,329	100
EXPENDITURE						
Technical Assistance (personnel services)	83,217	93,710	215,714	293,562	686,203	71
Supplies and Equipment	2,020	1,659	18,439	7,119	29,237	3
Training and Education	57,174	10,149	119,865	59,125	246,313	26
TOTAL	142,411	105,518	354,018	359,806	961,753	100