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FROM - RIO DE JANEIRO

SUBJECT - Non-Capital Project Paper (PROP)
Urban Water & Sewer Systems Improvement

REFERENCE -

COUNTRY: Brazil
PROJECT No: 512-11-521-062.1
SUBMISSION DATE: September 19, 1969
ORIGINAL: Yes
PROJECT TITLE: Urban Water & Sewer Systems Improvement
U.S. OBLIGATION SPAN: FY 1961 through FY 1972
PHYSICAL IMPLEMENTATION SPAN: FY 1961 through FY 1972
GROSS LIFE-OF-PROJECT FINANCIAL REQUIREMENTS:

TABLE I
(In thousands)

State com item

	US$	US$ Equiv.
U.S. Dollars 1961-72	3,349.6	
U.S. owned local currency		
Coop. Country Contribution		
Counterpart (Program Loan)		
COMTAP (Est.)		
Trust Funds		342.0
Other (DNOS)		
TOTAL	3,349.6	1,747.8

Enclosed as annex: Tables II & III.

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A. General Description

1. Improving the overall health of a nation and thereby lengthening the productive lives of its people through provision of safe drinking water and adequate sewerage disposal facilities is one of the principal goals of the Alliance for Progress. Existing deficits of basic sanitation services and the need to expand water supply and sewerage treatment facilities in order to close the deficits have received increased emphasis at all levels of the Brazilian government since the 1960 meeting at Punta Del Este. The federal government has indicated in successive CIAP letters that urban water and sewerage facilities would be expanded and improved; and recent surveys of 579 cities, 690 mayors and 250 Congressmen revealed that at least 70% of the replies identified lack of safe and reliable water and sewerage facilities as the major municipal problem in Brazil today.

2. The goal of the USAID's Urban Water Supply program in Brazil since 1960 has been to work with local, state and federal institutions in order to develop within these institutions capacities to plan, finance, design, construct, manage, operate, and share responsibilities for municipal water and sewerage systems.

3. The approach for accomplishing the project goals has been to work directly with water and sewerage agencies at all levels of government in the planning and implementation of training and technical assistance programs. This approach has been supported with U.S. technical assistance and small grants of local currency funds. United States advisers have also been assigned to national and state organizations engaged in the planning and establishment of water supply institutions and loan funding programs. The technical training programs and loan fund assistance were designed to shift the responsibilities for providing water and sewer services from the federal and state level to the municipal level.

4. Adjustment of the target date to 1976 implies the continued ~~XXXX~~ need for technical assistance to develop training and technical assistance programs at the state level through about 1972. As yet, the Brazilian government has not made arrangements for financing or providing technical assistance to the states, who are in turn responsible for giving the municipal governments orientation in the field of water and sanitation, but it is anticipated that such training will be arranged through the national water supply loan program by 1972.

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B. Environmental Setting

During the 1970-1980 decade, the typical Brazilian will be a city dweller. Brazil will join its sister Latin republics of Argentina, Chile and Uruguay in becoming a predominantly urban country. Between 1950 and 1960 the rate of growth of Brazil's urban population averaged 7% per year, more than twice the rate of general population increase for the country. In 1940, 13% of the population was located in cities, but by 1960 this figure had reached 44%. According to some sources, by 1970, 53 million people, or 55% of the total population, will reside in cities. The proportion of the population living in cities is projected to reach 60% in 1976 and 70% in 1980.

These figures assume an onerous aspect when they are viewed in terms of the persistent tendency for construction and modernization of urban water supply and sewerage facilities to lag behind the rate of population growth. It is estimated that only 50% of the urban population is served with an intermittent water supply of ~~XXXXX~~ doubtful quality, while less than 25% has adequate sewerage service. A large backlog of unserved domestic, commercial and industrial users exist and this deficit is growing because of rapid urban growth ~~XX~~ rates. Breaking down the current deficit of basic sanitation services (water and sewerage) in urban centers by population groups, large cities with populations in excess of 300,000 are providing water ~~XXX~~ 50% of their inhabitants and sewerage for 50%; medium size cities with populations varying from 20,000 to 300,000 inhabitants are providing water for 40% of their inhabitants; and the smaller cities below 20,000 are providing only 20% of their populations with water and sewerage. (Brazil Health Sector Analysis, August 1967)

Political ~~XXXXX~~ favoritism, institutional inefficiencies, duplication of functions and responsibilities, lack of managerial ability at the operational level and repeated use of a particular approach to finance water supply and sewerage services have been the chief causes of the failure to meet the present water requirements of the urban population. Prior to 1965 all water supply and sewerage systems construction in Brazil were financed through grants from state and federal agencies. In many instances, the Federal Congress provided money for specific projects in specific towns, and usually the funds were used to finance construction of a treatment plant, dam or some part of a system; but rarely were funds provided for a complete water and sewerage system. As is evident, the grant system was sporadic, uncertain, subject to delays and manipulations and was not large enough to provide the majority of Brazilian cities with a complete and reliable water system.

The Brazilian National Water Loan Fund founded in April 1965 with initial funding amounting to NCr$3.2 million, established a new concept and self-sustaining method of financing the construction of water and sewerage projects. The National Water Loan Fund was designed to offer Brazilian municipal administrators an opportunity to break away from the

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traditional paternalistic approach which left cities and towns dependant on the central government. Under National Water Loan Fund procedures, municipalities had to take the initiative to plan and acquire financing for needed public water systems. In so doing, local officials had to assume the related responsibilities for proper administration of new local facilities, and also obtain the backing of local public opinion to support the costs involved. The municipalities themselves had to seek out technical assistance needed to formulate loan applications enabling them to qualify for loans from the Water Fund. (See notes on "National Water Supply Program in Brazil, ~~xxxxx~~ October 25, 1965).

During the early years of this fund, from 1960 to 1966, the National Foundation of Public Health (FSESP) and the National Department of Sanitation ~~(xxxx)~~ (DNOS) were the federal agencies which AID/Brazil worked with in developing training programs for increasing responsibility at the municipal level for financing and managing water systems. This program met with variable success, depending considerably on the section of the country and also the strength of FSESP and DNOS in the regional water supply program. FSESP's history is sanitation, and the sanitary engineers in FSESP are probably the most expert team of water supply engineers in the country, in operation and management. Unfortunately, however, instead of taking the lead as a national policy maker in water supply programs, FSESP has settled to become a municipal water management agency.

Through a series of agreements with USAID/Brazil, several training centers were built by FSESP and some equipment purchased. After the termination of the agreements, FSESP provided the funds for their continued operation for 2 years, and since then (2 years ago) have not provided funds for continuation of courses. While the apparent reasons for their reduced training ~~xxxxx~~ efforts are budgetary, the more profound reasons are political and seem to spell an ever-diminishing role for FSESP in the field of national water supply.

DNOS, the second most active federal agency in the national water supply program, is restricted to the design and construction of water supply and sewerage systems. It has nothing to do with operation or maintenance, turning these responsibilities over to the municipalities immediately upon completion of the project. In addition, DNOS does not have a policy making role at the national level, except indirectly through its designs and construction management procedures. And as far as management, training and technical assistance goes, it has no program at all. For these reasons, work with these two agencies at national level was, and is becoming, increasingly more difficult.

On the other hand, there are many state and municipal agencies, and quasi-governmental institutions interested in developing training and technical assistance programs. The State of Paraná is an excellent example. Perhaps this is because there was an AID technician there for

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three years. Paraná has developed one of the best technical assistance and training programs in Brazil, with the help of a small grant through a Project Agreement with USAID/B. Other states are interested in similar agreements, particularly Rio de Janeiro, Bahia, Pernambuco and Paraíba.

In addition to these states, the Instituto Brasileiro de Administração Municipal (IBAM), has operated a series of very effective training programs to assist in the implementation of self-finance and management capabilities at the municipal level.

The municipal governments are anxious to accept this responsibility, but know their limitation. Unfortunately, the federal agencies which seem most likely to press training and technical assistance programs in water supply and sewerage have not given it enough attention.

The National Housing Bank (BNH) is now handling the National Water Loan Fund (FISAME), through its Superintendency for Sanitation Financing (SFS), and is now in the best position to assume this responsibility. While the BNH does not have the manpower to implement training and technical assistance programs itself, it does have the authority to demand the development of such programs at the state level as a precondition to a municipal loan.

USAID/Brazil can help considerably in this event by approving small local currency (CONTAP) grants and providing technical assistance to the states to advise and guide in the development of these programs.

C. Strategy

With the development of the national loan fund for water supply construction, FISAME, managed by the Superintendency of the System for Financing Sanitation, in the National Housing Bank, has signed agreements for financing state and local construction programs with all except five states of Brazil. As these programs develop during the next year or eighteen months, there will be a rapid increase in the demand for trained technicians, both at the professional and sub-professional level.

The diminishing role of FSESP indicates that the federal government is not yet disposed to provide money or technical assistance to help develop training and technical assistance programs. At the same time, the proposed USAID $15 million loan to the National Housing Bank will not provide for assistance of this kind. (Health Sector Loan nº 512-L-074)

The strategy of ENRW therefore will be to coordinate training activities with the development of ~~XXX~~ state programs through FISAME loans, approving small local training grants, to assist not only in the development of training programs, but also in the development of technical assistance programs at the state level. It is neither anticipated nor desirable that such programs will be established in every state in Brazil through COHEAP grants, but the program which has been developed in Paraná has created interest in neighboring states. ENRW plans to develop similar programs in the states of Rio de Janeiro, Bahia, Pernambuco, and Paraíba in order to serve as "models" for the remaining states. All of these states have expressed an interest in technical assistance programs, and preliminary contacts have already been made.

Through use of a project agreement with IBAM, the same kind of effect can be obtained through the development of 20 "model" water supply administrative centers throughout Brazil. Limited personnel and financial resources require that key cities and states be selected for the development of "model" programs.

The national water supply program should be in full operation by 1976. The need for training and technical assistance activities should be evident to all concerned by then. But until 1976 some USAID assistance is necessary.

USAID is in continuous contact with PAHO, and ~~X~~ cooperates with them at every possible instance. PAHO's principal interest in training is at the professional level. The interest of USAID is principally at the sub-professional level (medium-level) and there is no conflict between the two programs.

D. Planned Targets

1) The targets in the technical assistance and training program are to help create a reservoir of technical and professional personnel expert in the water supply and sewerage fields at all levels to carry out the water and sewerage programs, establish permanent water and sewerage works personnel training ~~XXXXXXX~~ programs in large cities, establish technical assistance and training activities in state water and sewerage agencies, establish training activities ~~XX~~ in financial management and planning through IBAM, distribute technical information, books, pamphlets, etc., to Brazilian water and sewerage agencies, and provide technical assistance in the development of the National Water Loan Fund (FISAME).

The estimated number of technicians to be trained has been increased periodically, but the goal is now 2400 operating level personnel and 556 professional level personnel by 1971. This is to be accomplished through project training agreements, participant training, and correspondence courses. To date, 2000 operating personnel and 313 professional personnel

have been trained. This means that during the next two years, about 400 operating and 240 professional personnel will be trained. Most of the professionals will receive training through correspondence courses at the University of São Paulo.

To date, about 26,000 pieces of technical literature have been distributed, and approximately 12,000 additional pieces of literature will be distributed during the next two years.

Through USAID projects adequate technical assistance and training programs have been developed in the States of Guanabara and Paraná. The States of Rio Grande do Sul and São Paulo already have good training programs and are contracting for some assistance in training and administration improvement programs ~~EM~~ from IBAM.

However, there are four states remaining which will require assistance if they are going to develop similar ~~PROGRAMM~~ programs. These are the states of Rio de Janeiro, Bahia, Pernambuco and Paraíba. It is hoped that adequate assistance can be given to these states during the next two years. The same kind of agreement entered into with SAMEPAR, adapted to local conditions, is envisioned for these programs.

E. Course of Action

During the next two or three years, it is proposed that:

1. Technical assistance and training agreements be made with four states, Rio de Janeiro, Bahia, Pernambuco and Paraíba, to assist in the development of a medium level training program and the implementation of a technical service within the state agency, designed to assist municipalities develop self-reliance and capability in this field.

2. An agreement be made with IBAM to provide managerial and technical orientation to 20 Brazilian cities to assist in the installation of model water and sewerage services. The water and sewerage service centers in these cities will serve as regional models for smaller cities in the area. This would culminate the series of seminars and courses on management principles that IBAM has been propounding during the last five years through a series of agreements with USAID on water supply administration, management, and financing.

3. A sewer design and construction correspondence course be developed at the School of Hygiene and Public Health, University of São Paulo. The correspondence course on water supply engineering developed at the University of São Paulo became self-supporting as of September 1969, and has been a complete success. A course on sewer design and ~~MAINTENANCE~~ construction would meet with similar success.

4. It is proposed that a technical manual on water treatment plant operation be translated and published in Portuguese.

5. It is proposed to train 60 water and sewerage works professional personnel (30 per year) in the U.S. under the participant training program. The majority of these technicians will be sent in observation-type training groups on lending procedures and management and financing of water systems. U.S. technicians will work with the SFS in developing U.S. training programs that will be financed as required under the terms of the Health Sector Loan that is to be made to the National Housing Bank.

6. Training and technical assistance technicians will work with SFS personnel to develop standard guidelines for the training and technical assistance programs necessary at the state level to assist municipalities.

7. The need for training in sewerage works is critical. The City of Rio de Janeiro with a population of four to five million has only two small sewage treatment plants. The State of Paraná, with a population of eight to ten million, has only one adequate sewage treatment plant. The need for good design and construction is now, and training is appropriate. Medium level training in plant operation is not a current need, however, since there are practically no plants in Brazil. The preoccupation at this level is the awareness of the need for future training and planning for such training. The University of São Paulo will provide a training course in this area.

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TABLE II
USAID Dollar Inputs
(US$ 000)

	FY 1970	FY 1971	FY 1972
Personnel Services			
PASA	61	41	43
Contract			
Participants	45	25	
Commodities			
Other Costs			
PASA	10	6	6
TOTAL	$116	72	49

TABLE III
Local Currency Inputs
(US$ 000 Equivalent)

	FY 1970	FY 1971	FY 1972
Trust Funds	68.0	61.0	57.0
CONTAP	171.2	-o-	-o-
Other			
TOTAL	239.2	61.0	57.0

The above figures do not include the following activities in the field of water supply and sanitation.

I. Counterpart	U.S.$1000	NCr$1000
(a) National Water Fund		NCr$16,000,[illegible]
(b) Water Supply Pará		1,000,[illegible]
U.S. Dollar Equivalent		US$5,438.6

II. U.S. Dollar Loans	
(a) SUNSAM (512-L-057)	$2,175.0
(b) CEDAG (512-L-058)	$2,925.0
(c) Health Sector (512-L-074)	$15,400.0

III. A.I.D. Administered Country Loans	
(a) DNH (Water Supply) 512-G-042	NCr$8,000,000
U.S. Dollar Equivalent	($4,384.0)