

PUBLIC

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

ARGENTINA

PROPOSED LOANS FOR THE FOURTH STAGE OF THE RURAL WATER PROGRAM

(AR-0180)

LOAN PROPOSAL

SEPTEMBER 22, 1981

A R G E N T I N A

NATIONAL RURAL POTABLE WATER PLAN (FOURTH STAGE)

AR-0180

LOAN PROPOSAL

CONTENTS

Basic Socioeconomic Data

Loan Proposal

- Appendixes
- 1 - Proposed resolution IC
 - 2 - Proposed resolution SF
 - 3 - Recommendations
 - 4 - Annex A - Description of Program
 - 5 - Bidding procedures

ARGENTINA

Basic Socio-Economic Data

1. Statistical Profile

Continental Area (Km.2)	2,791,810
Estimates of total midyear population	
1980	27,983,902
1985	28,886,000
Percentage of urban population (1979)	84.4
Annual rate of growth of total population (per cent)	
Average 1970-80	1.8
Gross domestic product (millions of 1978 US dollars)	
1980	53,255
Gross domestic product per capita (1978 US dollars)	
1980	1,966.7
Rates of annual growth (per cent)	
Total GDP in 1970-80	2.8
GDP per capita in 1970-80	1.5
Gross investment (millions of 1978 US dollars)	
1980	13,315.2
Trade (millions of US dollars)	
Exports in 1980	7,975.0
Imports in 1980	10,400.0
International reserves (millions of US dollars)	
December, 1980	7,685.0
External public debt (millions of US dollars)	
December, 1979	9,960.3
Exchange rate (unit of the national currency per US dollars)	
December, 1980	1,990.0
March, 1981	4,269.0
June, 1981	5,100.0
Per cent change in consumer prices Jul 1981 - Jul 1980	104.9
Public Sector Deficit as per cent of GDP	
1979 (Final Budget Estimate)	3.9
Percentage of total Central Government expenditures of	
Education (1980)	11.3
Public health (1980)	2.5
Housing (1980)	5.9
Birth rate per 1,000 inhabitants (1975-80)	21.4
Mortality per 1,000 inhabitants (1975-80)	8.9
Infant mortality per 1,000 live births (1970)	62.0
Years of life expectancy at birth (1975-80)	69.4
Percentage of literacy (1978)	93.7
Energy consumption per capita (1977)	1.17 ton. oil equivalent
Economically active population by sector (1970)	

	<u>In thousands</u>	<u>%</u>
Agriculture and fishing	1,331.1	14.8
Mining	44.6	0.5
Manufacturing	1,771.3	19.7
Electricity, gas and wa er	96.6	1.1
Construction	711.3	7.9
Transportation and communication	593.3	6.6
Commerce, restaurants and hotels	1,324.8	14.7
Other	<u>3,138.5</u>	<u>34.7</u>
Total	9,011.5	100.0

Unemployment rate in the Gran Buenos Aires (per cent)

April, 1979	2.1
July, 1979	1.5
April, 1980	2.0
Oct., 1980	2.3
July, 1981	5.4

Gross Domestic Product	Real Annual Growth Rate %					Average 1980/75	Composition %		
	1977/76	1978/77	1979/78	1980/1979	1981/80*		1973	1976	1980
GDP	6.0	-3.9	7.0	1.1	0.2	2.1	100.0	100.0	100.0
<u>By Expenditure</u> (at market prices)									
Consumption	-2.3	-4.0	12.5	4.6	1.6	-0.6	75.9	73.1	73.1
Investment	17.6	-11.1	5.8	4.8	2.7	4.4	22.7	23.6	26.0
Export	26.5	7.5	-3.3	-5.6	-3.7	18.8	8.9	10.0	12.6
Import	28.7	-9.7	39.8	32.2	8.6	13.0	-7.6	-6.7	-12.4
<u>By Sector of Origin</u> (at factor costs)									
Agriculture	3.4	1.3	6.7	-2.9	3.0	2.5	11.9	12.3	10.7
Mining	8.5	1.9	5.6	5.3	0.2	4.7	1.6	1.5	1.5
Manufacturing	5.9	-10.9	9.1	-3.5	-4.2	-1.4	38.3	36.5	31.3
Electricity, gas, water	4.6	3.3	11.3	7.6	-2.1	6.1	2.6	2.9	3.1
Construction	13.5	-2.1	5.2	7.9	2.2	7.4	4.3	5.2	5.4
Commerce	7.3	-7.5	10.2	0.2	-2.2	1.0	17.7	17.3	15.7
Transportation and communication	5.9	-3.6	7.8	0.7	-0.2	2.0	7.3	7.0	6.7
Financial services	13.8	6.5	6.8	11.6	6.8	6.9	3.3	3.1	3.5
Other services	0.8	0.0	0.9	4.0	2.7	1.2	13.1	14.2	13.4

First quarter 1981/1980

Foreign Trade	(in US\$ millions)						Annual Growth Rates %				Average Growth Rate
	1976	1977	1978	1979	1980	1981	1977/76	1978/77	1979/78	1980/79	1980/75
Exports of Goods (FOB)	3,916	5,610	6,400	7,811	8,028	10,496	43	14	22.0	8.8	24.0
Agricultural	3,061	4,558	3,843	4,410	4,758		49	-16	14.7	--	--
Manufacturing	827	1,011	2,377	2,519	---		22	135	5.9	--	--
Other	29	41	180	882	---		41	339	490.0	--	--
Imports of Goods (CIF)	3,033	4,100	3,833	6,680	10,500	9,480	35	-7	74.3	60.0	27.9
Consumer	41	117	240	616	---		185	114	155.0	--	--
Intermediate	1,933	2,263	1,966	4,018	---		17	-13	181.5	--	--
Capital	516	1,110	1,020	1,737	5,220		111	3	41.4	--	--
Fuels	531	597	481	1,496	---		12	19	75.3	--	--
Other	24	63	40	---	---		163	-37	--	--	--

Estimate Central Bank, Ministry of Economics

Source: Central Bank.

Balance of Payments

(in US\$ millions)

	1976	1977	1978	1979	1980	1981*
Current Transactions	649.6	1,289.9	2,021.2	-462	-4,855	-2,721
Exports (FOB) + NFS	3,916.1	5,610.0	6,399.5	8,732	9,890	
Imports (CIF) + NFS	-3,033.0	-4,161.5	-3,833.7	-7,520	13,002	
Financial Services	-252.0	-231.7	-593.0	-1,724	-1,784	
Transfers	18.5	31.3	48.4	50	41	
Net Capital Flow	-492.2	1,021.8	1,173.0	4,300	2,338	
Errors and Omissions + Capital Flow NIE	-192.2	-97.4	25.3	456	-139	
Change International Reserves (gross)	-34.8	2,214.3	3,219.5	4,294	-2,657	
International Reserves (gross)	-554.9	1,659.4	4,878.9	9,173	6,516	

Central Bank

Public Finance

	Central Administration		Central Government a/					Public Sector			
	1979	1980	1976	1977	1978 b/	1979 b/	1980 c/	1976	1977	1978 b/	1979 b/
Current revenue	7.0	6.9	13.0	14.1	16.5	15.4		27.7	31.5	34.7	34.7
which: taxes	(7.0)	(6.8)	(11.4)	(11.5)	(13.6)	(12.9)		(15.9)	(18.4)	(20.8)	(21.0)
Current expenditure	8.0	9.4	11.9	10.7	12.9	12.7		26.5	23.1	28.4	28.1
Current deficit											
Current current	1.0	2.5	1.1	4.0	3.6	2.7		1.2	8.4	6.3	6.6
Current inflows	---	---	---	---	---	0.2		0.1	0.3	0.8	0.4
Current expenditure	0.7	0.6	4.5	4.3	3.8	3.2		13.0	12.6	12.1	10.9
Current gross investment	-na-	-na-	(3.2)	(3.3)	(3.4)	(3.2)		(11.2)	(11.1)	(11.3)	(10.4)
Current deficit (-)	1.7	3.1	-3.4	-0.3	---	-0.5		-11.7	-3.9	-5.0	-3.9
Current transfer (net)			-6.4	-3.4	-2.7	-1.4		---	---	---	---
Current (+)Def.(-)after transfers			-9.8	-3.7	-2.7	-1.9		---	---	---	---

Financing

Foreign financing (net)	---	---	---	---	---	---		1.1	1.4	2.2	1.6
Internal financing	---	---	---	---	---	---		10.6	2.5	2.8	2.3
Internal financing (net)	---	---	---	---	---	---		3.1	0.7	7.5	2.0
Central Bank	---	---	---	---	---	---		3.6	1.4	---	---
Other	---	---	---	---	---	---		3.9	0.4	0.3	0.3

Includes treasury, special accounts, decentralized agencies, energy funds and social security.

Central budget.

External budget

Source: Ministerio de Economía.

and Credit

	Billions of Pesos (end of period)						Growth Rate				Average
	1975	1976	1977	1978	1979	1980*	1977/76	1978/77	1979/78	1980/1979	1980/76
Money	260	926	2,085	4,323	10,591	21,183	125	107	145	100	119
Money	77	531	2,915	9,992	32,354	60,412	448	242	164	75	205
Money (M2)	337	1,457	5,000	14,315	42,945	81,595	243	186	200	90	180
% of GDP	13.3	18.6	24.5	40.5	44.0	--	--	--	--	--	--
External Credit											
Private Sector	461	1,877	6,795	19,637	58,911	109,869	262	189	200	87	185
Public Sector	80	83	82	80	79	76	--	--	--	--	--
	20	17	18	20	21	24	--	--	--	--	--

	Annual Average Variation (%)						Dec. 1980	Jul. 1981
	1975	1976	1977	1978	1979	1980	Dec. 1979	Jul. 1980
Money	182.8	444.1	176.0	175.5	159.5	100.8	87.6	104.9
Money	192.5	499.0	149.4	146.0	149.3	75.5	57.1	111.8
Money	251.5	360.6	97.4	137.0	161.2	109.1	101.9	86.0
Money	181.0	471.0	163.0	160.0	166.0	85.0	--	--

External Public Debt

	Committed (millions US\$)						Composition	Disbursed
	1973	1974	1975	1976	1977	1978	1979	1979
Private lenders	3,532	4,906	5,216	6,509	7,550	9,012	10,963	8,715
Supplier Credits	2,200	3,129	3,314	4,260	5,100	6,104	7,563	7,043
Banks	892	1,325	1,425	1,454	1,800	2,014	2,009	1,448
Others	794	1,149	1,153	1,986	2,530	3,085	4,639	4,680
Others	514	655	736	811	770	1,005	915	915
International								
Organizations	798	751	886	1,142	1,483	1,883	2,437	1,001
OB	341	334	486	644	800	1,053	1,324	635
Other	535	1,025	1,014	1,118	966	1,025	962	882

8a. External Public Debt

	Dispersed as of December 31					
	1974	1975	1976	1977	1978	1979
<u>By maturity</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
1 to 5 years	58.0	57.2	61.3	62.9	61.0	64.0
6 to 10 years	22.9	25.7	21.3	23.2	25.0	23.0
Over 10 years	19.1	17.1	17.4	13.9	14.0	13.0

Debt Service

Total service (in millions of US dollars)	792	788	868	1,039	2,121	1,486
Serv./Exp. of goods and services %	22.2	19.0	15.7	27.9	18.0	16.8

Loans of IDB approved as of December 80 Millions of US\$ Composition %

<u>Total</u>	2,106.3	100.0
Ordinary capital	1,142.1	54.2
Inter-regional capital	549.5	26.1
Fund special operations	359.8	17.1
Social progress trust fund	43.5	2.1
Other funds	11.2	0.5

By Sector

Agriculture and fishing	289.0	13.7
Industry and mining	461.9	21.9
Transportations and communications	285.8	13.6
Energy	703.2	33.4
Health	127.0	6.0
Urban development	41.8	2.0
Education	133.5	6.3
Export financing	60.5	2.9
Preinvestment	3.4	0.2

a/ Estimate

W2441C
MAnderson/acq/ma
Jun/24/81

I. FRAME OF REFERENCE

A. Recent Economic Situation and Outlook

1. The Argentine economy in 1980

- 1.01 Since 1976, Argentina has undergone a series of institutional changes realized through the government's determination to restructure the economy, make it more competitive abroad, and reduce the rate of inflation. Consequently, economic activity has experienced major fluctuations which have been both acute and short-lived and felt in virtually all sectors of the economy. During the period 1976/80, the economy as a whole grew moderately at an average rate of 2.5%, whereas in 1980, the GDP grew by only 1.1%. The improvement experienced during the preceding four years in the balance of payments and in the fiscal accounts slackened in 1980. Nevertheless, the government managed to bring about a drop in the rate of inflation, maintaining it at 80% yearly, approximately half the rate recorded during the preceding two and a half years.
- 1.02 The major impact on economic activity during 1980 came from the external sector. According to published information on the national accounts, exports of nonfinancial goods and services declined 5.6% in real terms with respect to 1979, after increasing on an average of almost 20% yearly during the four preceding years. Imports continued to rise during 1980 by 32% compared with a 40% increase the year before. This growth in imports was even more exceptional considering the relationship between growth in the GDP and imports in the past. Investments rose 7.6%, despite the low rate of growth in the GDP. The public sector was partially responsible for this growth. In the private sector, most investments were made in the mining and energy sectors. Many businesses took advantage of the difference in price between domestic and foreign capital goods and imported a large quantity of machinery and equipment. There was nevertheless a noticeable drop in investments in the agricultural sector in response to low prices and poor weather conditions.
- 1.03 During 1980, real salaries in the industrial sector declined very little despite the drop in industrial activity. Nevertheless, there was a reduction in payrolls in real terms due to the decline in overtime work, shorter work weeks, and longer lapses between wage adjustments. The salary difference between skilled and unskilled workers and between large-scale (over 1,000 workers) and small-scale industry grew more pronounced. Although the average rate of unemployment is still only 3.5% in Gran Buenos Aires, government studies show that 27% of the work force had been classified as self-employed, compared with approximately 20% in 1970. Employment in the industrial sector, which reached 37% in 1974, was only 30% in 1980.

2. The results for the first quarter of 1981

- 1.04 Available data for the first quarter of 1981 reflect the problems confronting Argentine authorities in the current year. The GDP grew only 2% in the first quarter compared with the same period in 1980. Industrial production declined 4.2%, with a drop of 14.2% in the production of basic metal industries and 15.4% in capital goods industries. Statistics for the month of April indicated that unemployment was on the rise, although not seriously, in every city studied. Regional unemployment was especially striking in Córdoba where most of the automobile industry is located. Automobile sales declined 42% in relation to the first quarter of 1980, and the major companies have announced plans to cut production and dismiss more workers. A reduction of 7,000 jobs was reported in May. In the farm sector, there was significant recovery with the exceptional corn harvest, which helped sustain the sector. Nevertheless, meat and fish production declined and little improvement in the other agricultural headings has been reported.
- 1.05 In the first quarter, the balance of payments had a high deficit despite the increase in exportable farm production. The trade deficit was US\$800 million. The deficit in the trade account was estimated at US\$2,149.2 million, leaving a total deficit of approximately US\$2,985.5 million for the trade balance as a whole.
- 1.06 In late March 1981, the new government took office. One of the first steps taken in order to find a solution to the present situation was a 28% devaluation of the peso, a reduction in the domestic interest rate through open market operations, an increase in reserve requirements, and the imposition of special taxes on exports. The devaluation was adopted in order to stop the steady loss of foreign reserves and to dispel the uncertainty prevailing with respect to the new economic policies. The government has announced nevertheless that it will maintain the objectives of stabilization and, hence, the fiscal budget of the previous administration.
- 1.07 In spite of the measures taken to contain rising interest rates, the current high rates, which on an annual basis are over 135% for 30-day certificates of deposit, have imposed severe pressure on the economy of industrial and farm enterprises.
- 1.08 The initial devaluation adopted by the new government, combined with the high interest rates, partially curtailed the flight of capital recorded earlier. Nevertheless, within a month's time there was a new increase in capital losses, which triggered additional devaluations (taking the peso to over 5,000 per dollar) and the announcement that the peso would be devaluated at a rate of 6% monthly until further orders.

3. Outlook for the rest of 1981

- 1.09 The Argentine economy is confronted by economic difficulties which have been manifested in a loss of US\$6 billion in foreign reserves between

October 1980 and July 1981, in a decline in economic activity which is projected to continue in 1981 and a rise in both the rate of inflation and unemployment.

- 1.10 To confront these difficulties, the current economic administration has carried out a series of measures which are designed to support the economy and restrain the flight of foreign capital. In addition to the devaluation of 10 percent carried out by the previous economic administration, three devaluations of 30, 30 and 35 percent were made since March and the exchange market was divided with a fixed rate for commercial and a floating rate for financial transactions. In order to stem the flight of capital the government will undertake to finance an increasing proportion of its deficit from internal financial markets and raise interest rates as a result. It renegotiated its foreign debt with a consortium of foreign banks extending the length of amortization beyond the one or two-year periods for which almost half the debt was originally contracted. The government plans to extend lines of credit with a 2 percent real annual interest rate to private sector firms so as to be able to refinance up to 50 percent of their debt obligations for periods of up to seven years.
- 1.11 The government expects the economy to recover from the current economic recession sometime in 1982, but the cost will be in an increasing government deficit (projected at 4% of gross domestic product in 1981), increased inflation (currently at 104 percent measured July 1980-July 1981 and 10 percent latest monthly figure), and a large jump in the unemployment rate (5.4 percent currently up from 2.5 percent in October 1980). The most rapid improvements in the economy are expected to occur in the foreign sector. While it has not imposed any new import tariffs, it does expect the devaluation to bring an end to the rapid increases in imports and to renew incentives to exports. Service expenditures, particularly tourism which accounted for more than US\$1.5 billion in outflows in 1980, will be sharply curtailed during the current year.
- 1.12 It is likely that other major policy measures will be announced during the coming months as the current situation develops. Substantial differences among the various ministries regarding the future course of the economy still exist as evidenced by the resignation of the presidents of the Central Bank and the Banco de la Nación as well as the Secretary of Industry and Mining. The major issue which needs to be resolved seems to revolve around the demand to support and protect national industry at one extreme and to bring the rate of inflation back under control at the other.

B. Population

- 1.13 Preliminary data from the 1980 census indicate a total population throughout the country of 27,863,000, with a rate of growth of 1.78% with respect to 1970. The trend towards a rising urban population and a decreasing rural population is clear. By 1990, the urban population is expected to be 85.4% and the rural population 14.6%, out of a total population of 30,204,000.

C. Planning and Current Status of the National Sanitation Sector

- 1.14 Argentina has no national potable water and sewer system plan establishing medium-term goals of coverage for the urban and rural sectors. There is merely a national rural potable water program, the updating and execution of which is under the jurisdiction of SNAP. SNAP is currently arranging to engage a consulting firm to draw up a national rural sewer system program. Under these conditions, the provincial governments have been forced to develop and review their own priorities in that sector. In the absence of such plans, investments being made lack definite direction and depend more than anything else on the availability of resources. Therefore, it is unlikely that the goals set for the decade 1981-1990 at the UN water conference can be met: such goals would mean providing potable water services by 1990 for a population of 6.3 million urban inhabitants and 0.4 million rural inhabitants in localities with a population of between 100 and 2,000 people.
- 1.15 According to a study made by the Pan American Health Organization (PAHO/WHO) in 1977, 53% of the 26.1 million inhabitants of Argentina at that time had potable water supplies with house connections. Of the 21.3 million urban population, 63.6% had potable water services with house connections; the percentage for the rural population was 7%. In the federal capital, coverage by the same type of service was 95.6%; in the rest of Buenos Aires, 40%; and in the rest of the urban area, 67%. Taking into account that drinking water and sanitary sewer services are unlikely to reach the dispersed population, the percentage of rural concentrated population (1,183,000 inhabitants) with household drinking water connections was 28.8%. There is also a population with potable water service from public standposts, estimated at 4% in the urban environment and 5% in the rural area. Comparison of the data indicated with data for previous years shows a decline in the percentage of urban population being served and a rise in the percentage for the rural population.
- 1.16 An estimated 7.2 million people, or 34% of the urban population, had sewage service. Of this number, 3.8 million lived in Gran Buenos Aires and represented 53% of the benefited urban population. There is no information available on the rural population with service of this kind nor are there reliable data on the number of septic pits and latrines in the country.
- 1.17 In recent years, the increase in potable water and sewer system services in urban and rural surroundings was less than the demand for services originated by natural population growth.

D. Financing by International Agencies

- 1.18 During the past 15 years, IDB has been the source of international financing for the potable water sector in both the urban and rural areas,

as described in Chapter V of this report. This financing has included technical cooperation for institutional strengthening, personnel training, and project preparation studies.

E. Rate Structure

- 1.19 The rate policy followed in the urban sector to date by national government through its Empresa de Obras Sanitarias de la Nación (OSN) involves a free tap system which classifies customers by type of real property and its surface area and by geographical location, in a manner unrelated to the operating costs inherent in each system. Consequently, no consideration is given to the distinct technical-economic features of the services in the different regions of the country. Although an attempt has been made at the present time to have rate income cover operating costs, the rates frequently have not kept up with increases in prices. This situation was exacerbated by the absence of user consumption meters in the cities. This has been particularly acute in Gran Buenos Aires, although some improvement has begun to take place following an adjustment in the rates in line with the requirements set forth in loans 526/SF-AR and 14/IC-AR and the plan for installation of 440,000 meters financed with the resources from these loans.
- 1.20 There will be a basic change in this situation with the transfer of services from OSN to the provinces, after which each province must adjust the rate schedule to make it consistent with real costs in the zone, since there will be no offsetting of earnings and deficits in the future.
- 1.21 With regard to the rate policy applied in the National Rural Potable Water Plan, the system's receipts from rates must be enough to at least cover operating, maintenance, and administrative costs and the debt service of the subloan granted by SNAP from the IDB loan. Furthermore, the rate must generate resources for the formation of a reserve fund for repairs and in the case of the third stage (loans 526/SF and 14/IC-AR) depreciation of the systems. Rate structure implementation is set forth in the agreements signed between the SNAP and the provinces, and between the provinces and the communities. Under these agreements (i) the province through SPAR is responsible for setting the rates to be applied to each project and submitting them to SNAP for consideration; (ii) the community undertakes to put the rates in force and handle collections; and (iii) SPAR is responsible for monitoring rate collection. The province-community agreement stipulates that rates must be reviewed periodically (at least every two years), as well as for fluctuations in the price of the dollar with respect to the rate of exchange on amortization of the subloan. There is no rate structure regulating entity for this type of program.

F. The Sanitation Sector in the Program Area

1. Potable water and sewer service

- 1.22 The geographic area where the proposed program will be conducted covers virtually the entire country and will benefit localities with populations ranging from 100 to 15,000 inhabitants. Most systems to be built are classed as "introduction of potable water service", meaning that the target localities lack a formal water supply system and meet their needs through private wells using the upper aquifer (phreatic lap), which is generally susceptible to bacteriological contamination from the residents' own septic pits and latrines or from untreated beds of surface water. Only a few projects (about six) represent expansions of existing systems that are in unsatisfactory service condition or provide partial coverage.
2. Institutional structure
- 1.23 The potable water and sanitary sewer services are the primary responsibility of the provincial governments. Nevertheless, national or federal institutions, such as the Obras Sanitarias de la Nación (OSN), Servicio Nacional de Agua Potable y Saneamiento Rural (SNAP), and the Dirección Nacional de Saneamiento Ambiental (DNSA) have been active in the sector. Legally this is done through agreements signed with each province.
- 1.24 OSN is responsible for the potable water and sewer service systems of the federal capital, and was created for this purpose. Later by means of agreement, the provinces authorized it to provide the services in their jurisdictions. Its mission has been executed through the regional management offices, which are technically and administratively under the jurisdiction of the central office in Buenos Aires. As a result of the decentralization being carried out by the national government, this latter function has been withdrawn and the OSN has transferred the services run by it to the provinces, retaining responsibility for those in the province of Buenos Aires alone. Once this transfer takes place, operation of the services will be the exclusive responsibility of each province as far as the systems located within its jurisdiction are concerned.
- 1.25 SNAP is under the jurisdiction of the Ministry of Public Works and Services, through the latter's Subsecretariat for Hydric Resources. It was formed in 1964 to handle the provision of potable water service to rural settlements and at the present time covers nuclei of from 100 to 10,000 inhabitants. It is responsible for normative and financial planning and for technical support to the provincial rural potable water services. These provincial services are responsible for the design and construction of the systems, as well as for supervision of operation, maintenance and administration of the services, which is delegated to the communities through cooperatives of administrative boards.

- 1.26 SNAP works with the provinces through agreements which stipulate in detail the obligations and responsibilities of SNAP and the provincial services. The relationship between the provincial services and the local or community entities is handled through agreements also stipulating in detail the responsibilities and obligations during the phase of construction and in the course of administration of the services.
- 1.27 DNSA is a part of the Ministry of Public Health and Environment and is directly under the Subsecretariat for Promotion of Health and Rehabilitation. Fundamentally, it promotes the organization of provincial sanitation entities and is active in water services for the dispersed population and in rural communities not covered by SNAP, performing a normative and financial support function for the provincial programs under agreements with these governments. It is also responsible for quality control of water for consumption.

II. THE PROGRAM AND ITS FINANCING

A. Purposes

- 2.01 The principal purposes of the program are as follows:

- a) To provide potable water, mainly by means of house connections, to an initial population of approximately 285,000 persons living in 160 localities in both rural and semi-urban surroundings, through the construction of 150 systems; and
- b) To enhance the qualifications of middle-grade personnel who will be responsible for supervising construction and for the operation and maintenance of the new systems.

B. Program Description

1. Criteria for selection of localities

- 2.02 In general, the projects for both the representative sample and the rest of the program involve localities selected or to be selected by the provincial potable water agencies (SPAR) and approved by SNAP, based on the following criteria:
- i) They should have a population of between 100 to 15,000 inhabitants at the time the Bank approves the respective project; 1/
 - ii) They have no public service providing more than 120 liters per capita per day;
 - iii) They have a reasonably reliable water source as far as its capacity is concerned, which covers the demand for the design period of 20 years, and quality of which does not entail costly treatment;

iv) They have been economically analyzed as follows:

- a) cost efficiency for localities with less than 10,000 inhabitants. An acceptable cost-efficiency ratio of US\$40 per inhabitant, measured in April 1981 dollars, has been set; and
- b) benefit-cost for localities with over 10,000 inhabitants. In order for projects to be eligible they must have an economic rate of return of 12% as a minimum.

Should the cost-efficiency of a project be higher than the figure indicated in (a), its eligibility may be defined in the same manner as indicated in (b). Nevertheless, and in accordance with the procedure followed in loans 14/IC-AR and 526/SF-AR, it is recommended that, for special cases and subject to approval by the Bank, projects may be financed on which the cost-efficiency ratio is higher or the economic rate of return is under 12% when localities are involved that have a high incidence of illnesses of hydric origin or problems related to water quality, such as high content of arsenic, fluorine, or other salts, and where the level of income furthermore prevents them from making a greater contribution to the project's cost. The total sum earmarked for this type of project may not exceed 10% of the direct cost of the program; 2/

v) Ability of the localities to contribute more than 10% of the cost of the works;

vi) Willingness to pay for the service through rates.

2.03 These selection criteria are virtually the same as were used in loan 526/SF-AR in Stage III. The cost-efficiency was established in that loan at 15 dollars per inhabitant, computed on late 1977 prices; the same ratio for the proposed program has been set at 40 dollars at April 1981 prices. Furthermore, since the proposed program reaches localities of up to 15,000 inhabitants, the methodology for economically determining the eligibility of localities with over 10,000 inhabitants will in all instances be the benefit-cost method.

1/ Through the earlier stages of the program, the number of inhabitants in the settlements served has gradually increased. Stage III covers localities with between 100 and 10,000 inhabitants and therefore SNAP, exercising its authority, decided to expand coverage in the proposed program to settlements with up to 15,000 inhabitants.

2/ In Stage III, this exception was utilized in an amount equivalent to 2% of the direct cost.

2. Design and representative sample

2.04 The projects in the representative sample have been dimensioned using the design parameters of the SNAP technical norms. ^{1/} The remaining program projects will be the same way. These parameters are as follows.

- Design period: 20 years (for some components such as pumps, motors, chlorinators, etc., the period is ten years).
- Supply: 50 liters per capita per day for public standposts and from 130 to 260 liters per capita per day for systems with house connections.
- Cost coefficients; maximum daily: 120% of the daily average; maximum hourly: 180% of the daily average.
- Storage: 25% of daily average consumption.
- Pressures: minimum: 10 meters
maximum: 50 meters
- Minimum diameter: 50 mm
- Type of material: asbestos cement, PVC, and occasionally zinc-plated steel.

2.05 The representative sample is composed of 45 systems with final designs prepared in a manner acceptable to the Bank, which represent 37% of the program's direct cost. Their principal characteristics are given in Table IV-1 of the project report.

3. Characteristics of the works

2.06 The program consists of the construction of approximately 150 potable water systems for 160 localities with between 100 and 15,000 inhabitants. Some 120 systems would tentatively be for completely rural

^{1/} For the purpose of updating the technical norms, SNAP intends to conduct, with its own resources outside the proposed program, a consumption curve study in localities that are part of the National Rural Potable Water Plan and that have potable water service, in order to determine consumption levels, expenditure coefficients (daily and hourly maximums) and losses in the distribution system. This information will be of special importance in order for SNAP to revise its technical norms, striving to improve the preparation of future potable water programs similar to the proposed program. Furthermore, a study will be made to collect information that will enable an evaluation of the economic and social impact of the National Rural Potable Water Plan to be made, including some localities with no public service. The results of both studies will be presented to the Bank for its information through the Field Office in Argentina.

communities (under 2,000 inhabitants) and the remainder (30 systems) would be for semi-urban localities (over 2,000 inhabitants). A few of the latter will have over 10,000 inhabitants.

(a) Catchment

- 2.07 The catchment works will mostly consist of machine-drilled wells with and average depth of 40 meters, lined with steel pipe and filter for the intake of water. In some systems, surface water tapped directly from rivers or existing irrigation canals will be used. In a few systems, reinforced concrete wells up to 8 meters in diameter will be drilled by hand in order to tap sub-surface water from reservoirs yet to be built.

(b) Treatment

- 2.08 The water sources selected will receive adequate treatment to make the water safe for drinking and free from pollution of any kind. Only chlorinated lime or chlorinated sodium will be used on subterranean water. For surface waters, treatment plants using desanders, sedimentators, and fine filters will be built, with the addition of a chlorine solution at the end. No problems are foreseen of an excessive presence of flourine or arsenic; nevertheless, should this occur, special treatment plants would be constructed for their removal. In the cost of the proposed program, a reasonable allowance (US\$500,000) has been included in Category 2 of Direct Costs to cover this eventuality.

(c) Piping

- 2.09 The pipelines will be installed between the sources of water and the storage tanks or cisterns. For the most part they will be made of arbestos cement and PVC, with a minimum diameter of 3 inches.

(d) Storage

- 2.10 Most cisterns will be made of reinforced concrete and elevated. Only in a few systems will they be built at ground level (supported).

(e) Distribution

- 2.11 The pipes for the distribution system will be made of asbestos cement for 150 mm-diameter sizes or larger, and PVC for the rest. The minimum diameter is 2 inches. The necessary valves will be installed in order to isolate the principal circuits. Upon completion of the works, it is estimated that at least 80% of dwellings fronting on distribution pipes will be connected to each system.

(f) Housedhold connections

The outside household connections are included in the direct cost of the proposed program. The cost of the intra-household connections will be borne by the users, with no problems anticipated in this respect based on the experience of earlier stages.

4. Training

- 2.12 The proposed program includes a training component to increase the qualifications of middle-grade personnel who will be responsible for supervising, operating and maintaining the new systems. The plan provides for: 3 courses for operator-administrators with an estimated attendance of 90 participants; 2 courses for work supervisors, attended by 60 participants; 1 course for operating and maintenance supervisors, and 1 course on accounting techniques, attended by 30 and 20 participants, respectively. The courses will be given by Argentine experts both at the academic and practical level and represent the third stage of this type of program. 1/

C. Cost of the Program

- 2.13 The estimated total cost of the program at April 1981 costs in US\$89,325,000 equivalent, broken down by investment category and sources of financing as follows:

1/ Appendix 3 of the project report provides details on these courses.

Table II-1

COST AND FINANCING OF THE PROGRAM
(thousands of US\$)

Investment Categories	(IC)	I D B			LOCAL	Grand Total	%
		Foreign exchange(SF)	Local	Total	Local Currency		
1. <u>Engineering and administration</u>		-	1,000	1,000	13,000	14,000	15.7
1.1 Design		-	500	500	500	1,000	1.1
1.2 Supervision and Administration <u>1/</u>		-	500	500	12,500	13,000	14.6
2. <u>Direct costs</u> <u>2/</u>		28,700	14,075	42,775	21,750	64,525	72.2
2.1 Supply equipment execution works		28,700	14,075	42,775	21,750	64,525	72.2
3. <u>Associated costs</u> <u>2/</u>		-	1,100	1,100	400	1,500	1.7
3.1 Vehicles and equipment		-	1,100	1,100	-	1,100	1.3
3.2 Land		-	-	-	200	200	0.2
3.3 Training		-	-	-	200	200	0.2
4. <u>Financial costs</u>		7,000	1,325	8,325	975 <u>3/</u>	9,300	10.4
4.1 Interest		6,643	1,150	7,793	-	7,793	8.7
4.2 Credit fee		-	-	-	975 <u>3/</u>	975	1.1
4.3 Inspection and supervision		357	175	532	-	532	0.6
Total		35,700	17,500	53,200	36,125	89,325	100.0
Percent		40.0	19.6	59.6	40.4	100.0	

1/ Vehicles and laboratory equipment includes contingencies and escalation.

2/ Includes contingencies and escalation, except "land".

3/ To be paid in foreign exchange.

- 2.14 The cost estimates were based on the number of physical works to be executed and the unit costs of the different headings corresponding to the representative sample, which are based on officially established prices in each province for materials and labor and the social security contributions fixed by the government. These are the figures used by construction companies in developing their proposals. Recent costs on jobs similar to those included in the program which were done by contract or by force account were also considered. The equipment costs are based on quotations received from potential suppliers. The amounts allotted to the different investment categories reasonably reflect the total cost of the program at April 1981 prices.
- 2.15 The engineering and administration costs (US\$14 million) include (i) US\$1 million for development of remaining projects in the program. The figure also covers any design services that may be required during execution of the works. The design portion represents 1% of the project cost; (ii) technical supervision of program execution which will be handled by both the provincial agencies and SNAP. This includes the salaries and fringe benefits of professional, technical and other staff directly responsible for program execution, the cost of eleven rural-type vehicles which will have to be procured so that the aforementioned staff can properly perform their tasks, plus complementary laboratory equipment for water analysis. The engagement of special consultants for supervision of the works is not expected, because, these being uncomplicated projects, the latter will be performed entirely by said agencies; and (iii) office expenditures and part of the administrative expenditures for the provincial agencies involved in the program and the SNAP have been considered. Supervision and administration are allotted US\$13 million, representing 14.6% of the program costs, which is reasonable.
- 2.16 The direct costs of construction (US\$64,525,000), represent 72.2% of the program cost and stand for the cost of pipes and accessories, flow and consumption meters, pumping equipment, electricity substations, chlorinators, structural steel, cement, sand, lumber, gravel, equipment and tools, materials transport, labor, technical services and contractors' profits, etc. The estimated cost of the remaining projects was based on the representative sample, using average figures by population category.
- 2.17 Associated costs (US\$1,500,000) include US\$200,000 for the training plan described in paragraph 2.12; US\$200,000 for procurement of land and easements for program works; and US\$1,100,000 for the procurement of ten rural-type vehicles, six pieces of mobile equipment with shop in order to handle major maintenance in the provinces where the capacity of the local entities is inadequate, and complementary computer equipment for SNAP (US\$100,000). Expansion of SNAP's computer equipment through the procurement of a mini-computer would make it possible to increase the printing speed from 60 characters to 200 per second; to increase the internal and external memory capacity; enhance the operating system from

monoprocess to cobol language and multiprocessing. This equipment would be helpful to the SNAP for mechanization of the budget, control of the financial performance of the works, and other financial and technical applications. It would also improve the management of the portfolio of subloans to the provinces and tabulate the operating results of potable water systems in operation for control purposes.

- 2.18 The financial cost estimates (US\$9,300,000) were based on the timetable of investments for the program and the financial terms currently in force by the Bank.
- 2.19 For contingencies, included in supervision and administration (vehicles and laboratory equipment), and in associated costs, a 10% provision was made. The contingency allowance, under direct costs was figured at 12%; this is considered reasonable in view of the nature of the projects involved, nearly all of which will have subterranean water as the source, which generally involves an element of uncertainty. In addition, a US\$500,000 allowance was made for some five of the systems which may require special treatment plants because of water quality problems.
- 2.20 Escalation was figured at the Bank's current rates, 1/ except that none was estimated for direct costs for 1981 because it was felt that increases in domestic prices this year would be offset by devaluations of the Argentine peso. For equipment and vehicles, the escalation in 1981 was taken into account. The resulting values have been incorporated into the respective investment categories.

D. Financing of the Program

- 2.21 The total program cost of US\$89,325,000 equivalent would be financed through two Bank loans, one in inter-regional capital resources worth US\$35,700,000 equivalent, and another in local currency for US\$17,500,000 equivalent from the Fund for Special Operations, representing respectively 40% and 19.6% of the total figure. The percentage in foreign exchange meets the policy set forth in document FP-33-1 for the Social Infrastructure sector for Group A countries, of which Argentina is a part. The local currency loan from the FSO represents 33% of the total Bank financing.
- 2.22 The local contribution would be US\$36,125,000 equivalent (40.4% of the program cost), 45% to be covered by the government and the SNAP, 35% by the provincial agencies (SPAR), and 20% by the respective communities. These communities, upon completion of construction, would be responsible for operating the systems and it is therefore recommended that a clause be included in the loan contract, as in the earlier stages, stipulating

1/ 1981: 10.4% (only equipment and vehicles); 1982: 9.4%; 1983: 8.5%; 1984: 8.0%; 1985: 7.8%.

the borrower's obligation to demonstrate to the Bank, prior to the call for bid, that an agreement has been signed between the provincial potable water service and the corresponding local entity for construction of the system. The agreement should stipulate the community contribution and the contribution from the provincial service as well as the terms for its later operation, maintenance and administration and for engaging the technical staff necessary for these latter purposes. 1/

- 2.23 The resources of the Bank would be used to finance (i) the cost of vehicles devoted to technical supervision of the project (US\$400,000), the complementary laboratory equipment (US\$100,000), and a portion of the designs (US\$500,000); (ii) 66.3% (US\$42,775,000) of the direct cost of construction; (iii) the vehicles and equipment for maintenance of the potable water systems operated by some of the provinces, and the computer equipment (US\$1,100,000). At the request of the borrower, the Bank would finance the interest during program execution; the relevant financial costs, with the exception of the credit fee, have been included in the program cost. The resources required for inspection and supervision by the Bank would also be financed.
- 2.24 The local contribution of US\$36,125,000 equivalent, of which US\$35,150,000 would be in local currency (39.3% of the program cost) and earmarked to cover the engineering and administrative costs, with the exception of the vehicles for technical supervision, laboratory equipment and part of the design part of the direct costs of construction (US\$21,750,000), of which an estimated amount of US\$7,225,000 equivalent might be the cash contribution made by the communities; credit commission (US\$975,000 in foreign exchange); real estate and easement rights (US\$200,000) and the training program, which amounts to US\$200,000.
- 2.25 The following terms are proposed for financing the program with IDB resources:

	IC	SF
- Amortization period	20 years	25 years
- Grace period	4.5 years	4.5 years
- Disbursement period	4 years	4 years
- Interest <u>2/</u>	9.25%	3%
- Credit fee	1.25%	-
- Commission for inspection and supervision	1%	1%

The amortization periods of 20 years for the IC loan and 25 years for the FSO loan have been recommended bearing in mind the norms set forth in document GP-91-6 of February 27, 1981.

1/ See Recommendation 2.

2/ The rate of interest will be the rate in force at the time the loan is approved by the Board of Executive Directors.

III. THE BORROWER AND EXECUTING AGENCY

A. The Borrower

- 3.01 The borrower would be the Argentine Nation, which would assume service of the proposed loan. The local contribution to the program would be provided by the Nation, the participating provinces, and the projects' beneficiary communities.

B. Institutional Structure of the Program

- 3.02 Program execution has the following three levels of participating agencies:

The Nation. Through the Servicio Nacional de Agua Potable y Saneamiento Rural (SNAP), it is responsible for the technical, administrative, accounting, legal and social assistance required for realization of the National Plan and supervision of administrative and accounting management of the organizational effort and promotion of the beneficiary communities. The Nation will transfer the IDB loan resources to SNAP ^{1/} which would be turned over to the provinces as subloans. The Nation also contributes to the financing of the local contribution.

The Provinces. The provinces are responsible through the provincial rural potable water services, known to date as SPAR, for community organization and promotion; preparation of projects and works budgets to be submitted to SNAP for approval; execution of the works through public bidding or, as appropriate, force account; assisting the communities in managing the systems, and the collection of funds for reimbursement to SNAP. The provinces make contributions to the SPAR in order to meet their operating costs.

The Localities. The communities, through their cooperatives or local boards, contribute financially to the construction and are responsible for the operation and maintenance of the system, as well as for the billing and collection of services.

- 3.03 The division of responsibilities is established by means of agreements between the SNAP and the provinces, and between the provinces and the communities.

C. The Executing Agency of the Program

1. Description

- 3.04 The Servicio Nacional de Agua Potable y Saneamiento Rural (SNAP) is the agency responsible for execution. This is an autonomous agency formed specifically for execution of the National Plan by Decree 9762 of

^{1/} See resolution IC 8(c)(i) and Resolution SF 7(d)(i).

December 1964. Its current structure, mission and authority are defined in Decree 2629 of April 1973. SNAP is an agency of the Subsecretariat for Hydric Resources of the Ministry of Works and Public Services.

2. Functions

- 3.05 The functions of the SNAP are the promotion, supervision and administration of the rural community potable water supply and sanitation program. The specific works are executed through the provincial rural potable water services (SPAR).

3. Organization

- 3.06 The organization chart of the SNAP, defined in Decree 2629 of April 1973, shows two offices under the administrator (the technical office and the economic-financial office); plus the regional delegations and the planning and management control department. The technical office includes the engineering and promotion departments. The economic-financial office is composed of the accounting department, the economic-financial studies department, and also the treasury and personnel divisions and the receipts and disbursements office.

4. Staff

- 3.07 The current staff of SNAP numbers 89 officers and employees, of which 25 are professionals (13 engineers, 7 accountants, and 5 in other disciplines). Of the remaining 64, 9 are technicians and 55 are classified as administrative staff.
- 3.08 A prerequisite to the first disbursement of loans 526/SF and 14/IC-AR was presentation to the Bank of the staff recruitment plan to complete the technical and administrative staff of SNAP and demonstration that it had completed at least 80% of the staffing for the five existing regional delegations. This condition was duly met to the satisfaction of the Bank, but subsequently the national government restrictions on hiring plus delays in the staff recruitment process led to 32%, or 42 of the 131 scheduled positions, being vacant. The lack of staff is most acute in the regional delegations and weakens supervision of the SPARs and the the community entities, particularly the operation and maintenance of the systems already in operation. It should be mentioned that there are 35 positions in the current staffing plan of the regional delegations, of which 20 are filled (58%); at the present time, SNAP is taking the necessary steps to cover these positions. ^{1/} Nevertheless, in order to assure adequate supervision by SNAP in the construction phase of the proposed program and in the operational and maintenance phase of the systems in operation, it is recommended that before the

^{1/} Decree 411/81 freezes all public administration positions for 1981, and, consequently, exceptions to this norm must be requested. SNAP states that it has already obtained the support of the Ministry of Works and Public Services for this purpose.

first disbursement of the loan resources, the borrower through SNAP, demonstrate to the Bank that it has fully staffed the regional services with professional and technical personnel, including a service chief, a regional engineer, a regional technical supervisor, a regional accountant, and a regional assistant accountant. Such staffing should be maintained during the course of program execution. 1/

5. Comments on SNAP organization and operation

- 3.09 In general, the SNAP organization is adequate for the achievement of its purposes, and its procedures are acceptable. Nevertheless, improvement is required in the reporting system on the operation and maintenance of projects placed in service, for purposes of evaluation and decision-making in the event there are deviations from standards. It is considered that SNAP would be able to correct this shortcoming once it expands its data processing capacity and completes its staffing, particularly in the regional delegations.

6. Financial administration

- 3.10 For the administration of SNAP's financial resources, the provisions of the national accounting law are followed. In accordance with these provisions, a budget accounting system is kept, and a record of fund transactions and of assets and inventories. Separate accounting of the program partially financed by resources from the IDB loan is also kept, showing its performance. This accounting is kept in national currency and in U.S. dollars.
- 3.11 As part of its internal controls, an adequate distribution of authority has been made and an authorization and verification system implemented. The SNAP's internal controls do not include an internal audit unit. No recommendations are made in this regard since, in addition to the internal control procedures already in effect, the national Tribunal de Cuentas (Accounts Tribunal) keeps a permanent delegation in SNAP, which intervenes beforehand in movements of funds, and the size of the entity would not justify an operative audit office. The national Contaduría General (General Accounting Office) monitors budget movements. The financial statements of the IDB program are examined by the Contaduría and the opinion for the year 1979 gives a clean opinion on the financial statements of the program in execution and of SNAP's budget execution.

7. Budget execution

- 3.12 In order to give an idea of the size of SNAP expenditures, a summary statement of budget execution is given as follows:

1/ See resolution IC 8(c)(iii), resolution SF 7(d)(iii) and Appendix 4 - Program description item VII.

Table III-1

(Equivalent in US\$ thousands)
constant January 1981)

	Execution			Budget
	1978	1979	1980	1981
<u>Receipts</u>	<u>21,432</u>	<u>14,721</u>	<u>13,740</u>	<u>23,629</u>
<u>Expenditures</u>				
Operational	1,433	1,655	2,185	3,570
Capital	18,569	10,698	10,346	18,658
Debt service	<u>1,340</u>	<u>1,601</u>	<u>1,209</u>	<u>1,401</u>
Total Expenditures	<u>21,432</u>	<u>13,954</u>	<u>13,740</u>	<u>23,629</u>
Surplus or (deficit)	-	767	-	-
	=====	=====	=====	=====

3.13 The following comments are made on budgetary execution:

- (i) SNAP receipts are composed of contributions made by the government for the financing of the program, which constituted between 42% and 59% of the total receipts from 1978 to 1980; the use of IDB loans represented between 50% in 1978 of total receipts and 29% in 1980. SNAP's only income of its own is recoveries made from subloans to the provinces, the relative size of which moved from 8% in 1978 to 12% in 1980;
- (ii) SNAP executed 69% of the approved operating budget in 1978. This figure was 89% for 1979 and 80% for 1980. Capital expenditures fluctuated between 100% execution and 77% in the three years examined. The level of expenditures reflects progress in the rural water supply program; and
- (iii) The ratio of operating expenditures to capital expenditures jumped from 8% in 1978 to 16% in 1979 and 21% in 1980. This change reflects the lower level of investments in 1979 and 1980 and boosts in operating expenditures, attributable to higher costs of supervision for a growing number of potable water systems in operation.

3.14 The debt service is for the IDB loans. SNAP has had a balanced budget and showed a budget surplus in 1979 alone, the proceeds of which were used in the 1980 budget.

8. Recoveries of subloans

- 3.15 Actual recoveries in the portfolio of subloans to the provinces, as compared to the amounts that should have been collected in the year, improved markedly, moving from 59% in 1979 to 87% in 1980. Delinquencies at March 31, 1981, totaled US\$158,000 equivalent owed by seven provinces of the total 21 participating in the program. Four provinces absorb 93% of the delinquent balance. The lag in the four provinces is attributed to financial difficulties and problems involving distances in order to maintain a more effective collection system in the communities, particularly in Catamarca which has arrears totaling US\$51,000, i.e., 32% of the total delinquency. Because of the recordkeeping system, the amount of the SNAP's total portfolio cannot be determined, and it is recommended that the contract require reporting on the status of receipts and expenditures of the systems financed and accounts receivable, as well as on the use of the recoveries from the subloans. ^{1/} In general, collection action by SNAP is acceptable. The administrative procedures for billings are adequate for collection in the provinces.

D. Servicios Provinciales de Agua Potable y Saneamiento Rural (SPAR)

1. Nature

- 3.16 The SPARs are provincial agencies under the jurisdiction of the ministries or secretariats of public works, economy or social welfare of the respective provinces. There are 22 SPAR agencies that were formed between 1965 and 1967.
- 3.17 The government's administrative decentralization policy provided for the transfer to the provinces of the regional potable water services administered by the Obras Sanitarias de la Nación (OSN). The transfer was formalized under agreements between the federal government and the provincial governments, involving the effective transfer of staff, facilities and equipment. The provinces themselves must adopt provisions that may include the following arrangements: (i) formation of new entities incorporating OSN and SPAR services; (ii) retention of the SPARs and formation of new entities for the operation of the OSN services. The documentation available to date indicates that of the 22 participating provinces: (a) in nine provinces the SPARs will become part of a new entity handling the rural and urban services; (b) in four provinces, including Buenos Aires, no changes will be made as a result of the transfer of the OSN services; and (c) in the remaining nine provinces the situation is as follows. In two, it must be confirmed whether SPAR will continue operating as a decentralized agency; in two provinces, not enough information is available to voice an opinion; in five provinces, no information at all is available.

^{1/} See Recommendations 3 and 4.

- 3.18 Accordingly, and taking into consideration the characteristics of the proposed program, it is recommended that there be a requirement for demonstration to the Bank, prior to the call for bid on the construction of the first project in a province, that the respective provincial agency have an organizational unit staffed with the necessary qualified personnel to efficiently execute the program of works envisaged in the province and to properly supervise the potable water services in operation. ^{1/}

2. Functions

- 3.19 The provincial services are in charge of planning and executing the works that are part of the programs confronted by SNAP and the provinces. In accordance with this mission, they are in general responsible for studies of sources, conduct of socioeconomic studies, preparation and/or review of projects, preparation of documentation, and handling of bidding and construction done by force account or under contract with outside parties. They are responsible for control or supervision of operating services and may in some instances undertake operation and administration directly.

3. Organization

- 3.20 The organizational chart of the SPARs is generally consistent with program requirements. Three well-defined administrative areas have been established: (i) engineering; (ii) social promotion; (iii) economic-financial.

4. Staff

- 3.21 The staff working in the 22 SPARs numbers 1,287 officers and employees, which represents an increase of 194 over November 1977 when the earlier loan was studied. The staff breakdown is as follows:

	<u>Number</u>	<u>%</u>
Professional	188	15
Technical	467	36
Administrative	342	27
Service	290	22
	<u>1,287</u>	<u>100</u>

In general, the staffing of the SPARs is considered adequate in number and qualifications for program execution.

5. Financial administration

- 3.22 In general, the SPARs' accounting is done on a budget system and is governed by the public accounting standards in force in each province.

^{1/} See Recommendation 2(b).

The SPARs are subject to prior and/or subsequent inspection by the general accounting offices of the provinces, accounts tribunal, or similar control agencies.

6. Financial resources

- 3.23 The funds for the operation of the SPARs are furnished from budget allotments made to the provincial agency of which they are a part. The agreements entered into by SNAP with the provinces also stipulate a commitment by the Nation to contribute to the operating expenditures of the SPARs, whenever the provincial contributions fail to cover their operating costs. The investment expenditures are covered by SNAP allocations using budget resources and the IDB loan, allocations by the provinces, and community contributions.

7. Budgets

- 3.24 Information is given below on the yearly budgets appropriated in the period 1978 to 1980, since there are no data available on the amounts executed. Still, this indicates the size of the resources at the disposal of the SPARs:

Table III-2

(Equivalent in US\$ thousands - constant January 1981)

	<u>1978</u>	<u>1979</u>	<u>1980</u>
Administrative	4,299	3,253	2,330
Operation and maintenance	1,759	1,301	823
Investments in works	<u>13,484</u>	<u>11,709</u>	<u>10,553</u>
Total	<u>19,542</u>	<u>16,263</u>	<u>13,706</u>

Some decrease is noted in the appropriations as expressed in constant figures because of inflation. A larger share of the higher costs of Stage III of the program is being handled by the provinces. It is worth noting that operation and maintenance of the systems is a responsibility of the community entities and that the amounts assigned in the budgets of the SPARs are used to strengthen the maintenance activity and for unusual replacements that cannot be covered by the community entities.

E. Community Entities

- 3.25 Rural community entities promoted by the SPARs would be in charge of the operation and administration of the water systems constructed under the program. The communities are also involved in the execution of the projects, making cash contributions thereto. The nature of the community entities varies but the predominant system is one of cooperatives. Under the program, training is given to the personnel administering and operating the systems.
- 3.26 The basic functions of the community entities consist, in an initial phase, in helping to create a favorable response on the part of the

people towards an improvement in their living conditions through the National Rural Potable Water Plan and other related programs, and to cooperate in the work being done as part of the Plan through individual cash contributions. Later, the community entities assume responsibility for operating and administering the water systems built, including collection of rate receipts, and act as a facility for coordination with the SPARs.

IV. PROGRAM EXECUTION

A. Terms and Conditions of Execution

- 4.01 Execution of the proposed program would be done using an arrangement similar to the one that was satisfactorily employed in the conduct of loans 114/TF, 302/SF, 526/SF and 14/IC, which financed the three earlier stages of the National Rural Potable Water Plan.
- 4.02 The executing agency would be the Servicio Nacional de Agua Potable y Saneamiento Rural (SNAP), which would be in charge of the planning and technical and administrative supervision of the program. The provincial potable water agencies (SPAR) would be in charge of construction by means of public bidding, based on agreements to be signed with the SNAP. The engagement of specialized services for supervision of construction would not be necessary, since SNAP has experience in this work plus the expert staff.
- 4.03 The construction program would begin with the projects of the representative sample which include plans, specifications and other documents, and with minor adjustments would allow the bidding process to begin without delay, each province promoting the calls for bid for each system, in line with the prevailing practice in Argentina. This way, construction could begin on nearly 45 water supply systems, with an estimated period of execution of approximately 20 months.
- 4.04 The training program will be conducted by Argentine experts supervised by the SNAP, similar to the manner in which it was done under earlier loans which provided satisfactory results. This program would be of particular benefit to personnel in the new localities which do not have the required background.

B. Preparation of the Remaining Projects

- 4.05 The remaining projects, which together with the representative sample that will make up the program, will be drawn up by the provincial potable water agencies using domestic engineers and firms specialized in work of this type. These projects will be approved by the SNAP before presentation to the Bank. Bearing in mind that some 60 projects would be available by the date of approval of the Bank loan and that an average of six projects could be prepared monthly, as occurred in Stage III, it is estimated that the remaining projects will be completed within 18 months from the entry into force of the loan contract.

C. Procurement of Land and Easements

- 4.06 According to the documentation received with the representative sample, the provincial authorities have legal access in 60% of the localities to the land that would be devoted to construction of program works, especially wells, storage tanks, treatment plants, and others. Based on the experience in the earlier stages, no problems are expected in the other localities. With respect to easements, since almost all the pipes will be installed on public streets, there will be no need to obtain easements, except for a few pipelines where no problems are foreseen. In any event, there are legal provisions that would make possible immediate possession of the land, if required. Nevertheless, in accordance with Bank policy, prior to the call for bid on construction of each of the works in the program, the borrower must demonstrate that he owns or possesses the rights to the land on which the construction will take place. 1/

D. Procurement of Goods and Services

- 4.07 The procedures that will be followed for the bidding and awarding of construction contracts, as well as for the procurement of equipment and materials required for the program, will abide by Argentine law and the relevant Bank rules. The bidding procedures for this operation are given in Appendix 5, and should become an integral part of the subsequent loan contract.

E. Force Account Works

- 4.08 In the earlier stages of the program, most construction in the provinces of Catamarca, Chubut, Santiago del Estero, La Rioja, San Luis and Salta was done by force account. The reason for this was that contractors were uninterested in submitting tenders since the amounts involved were relatively low (still lower because of the community contribution) and the administrative costs high because of the remoteness of the localities, to which access was generally poor. Under the force account arrangement, the practice has been followed of procuring materials through public bidding, and thus only about 40% of the cost of the works is not bid upon. For this reason, a clause was included in loans 526/SF and 14/IC authorizing construction by force account up to a total of US\$4 million providing the need for this is demonstrated by the executing agency because of the particular characteristics of the works or their location. 2/ Following the same approach, and bearing in mind that this involves local currency expenditures in areas of the country with low-level income population, it is recommended that the present program carry the same authorization up to the indicated amount of US\$4 million

1/ See Recommendation 1(b).

2/ As of April 30, 1981, force account construction had been approved totaling US\$2,784,000, which represents 70% of the authorized total.

for construction by force account in said provinces or others which pose the same problems. Of this amount, up to US\$2,560,000 equivalent might be applied to the resources of the FSO loan from the Bank.

F. Preliminary Plan of Execution (PEP)

- 4.09 It is estimated that all the activities considered in the program, including the liquidation of the final financial commitments and presentation of the final report, could be done in a period of three years from the entry into force of the subsequent loan contract and that their physical initiation will be within a period of two years from the said date. A preliminary version of the project execution plan (PEP) is given in Appendix 14 of the project report.

G. Bidding Program

- 4.10 Based on the representative sample, whose systems would be the first ones built, and the contract deadline for physical initiation of the works, the bidding timetable would be more or less the following:

Table IV-I

(Thousands of US\$)

<u>Items 1/</u>	<u>First year 2/</u>	<u>Second year 2/</u>	<u>Totals</u>
Supervisory vehicles	350	-	350
Laboratory equipment	90	-	90
Rep. sample systems	16,260	-	16,260
Remaining systems	4,500	28,000	32,500
Maintenance and computer equipment	<u>400</u>	<u>570</u>	<u>970</u>
Totals	21,600	28,570	50,170

- 4.11 According to its legislation, SNAP cannot effect bidding for outside parties. Consequently, the procurement of the vehicles for supervision of construction (two for SNAP and nine for an equal number of SPARs), the laboratory equipment for use by three SPARs (Appendix 5), and maintenance vehicles and equipment for six SPARs (Appendix 7) will have to be arranged by SNAP and the SPARs as far as their respective procurements are concerned. Although the procurement total in four provinces will be under US\$100,000, even in these cases, competitive procedures including goods produced in the eligible Bank countries will be followed. The relevant provision ensuring compliance with this condition is included in the bidding procedure.

1/ Includes contingencies.

2/ Includes part of two calendar years.

- 4.12 With respect to construction bids, each province handles those works in its jurisdiction, and the usual practice in Argentina is bidding on a system-by-system basis, giving an opportunity for active monitoring of the process by the respective community entities. Consequently, grouping several systems into a single bid is not customary and the procedure followed sometimes becomes a continuing activity.
- 4.13 In the earlier stages, despite the fact that the calls for public bidding were made internationally, no tenders were made by foreign firms and the awards were all made to domestic companies. The proposed program contains no new conditions that would change the expectations in this respect.

H. Investment Timetable (Appendix 6)

- 4.14 Based on project costs, its plan of execution and the bidding timetable, the following investment timetable is expected (in US\$ thousands):

Table IV-2

<u>Resources</u>	<u>1st. year 1/</u>	<u>2nd year</u>	<u>3rd year</u>	<u>4th year</u>	<u>5th year 1/</u>	<u>Total</u>
IDB	1,015	10,180	13,965	15,920	12,120	53,200
Local	<u>960</u>	<u>6,755</u>	<u>10,725</u>	<u>11,095</u>	<u>6,590</u>	<u>36,125</u>
Total	1,975	16,935	24,690	27,015	18,710	89,325
Percent	2.2	19.0	27.6	30.3	20.9	100.0

I. Recognition of Expenditures

- 4.15 To prevent interruption in the conduct of the National Rural Potable Water Plan, the SNAP has begun construction on some works in the proposed project. It is estimated in this regard that prior to approval of the loan by the Board of Executive Directors, but no later than March 11, 1981, the date on which the loan application was submitted, the SNAP, through public bidding, will have awarded and partially executed construction contracts.
- 4.16 It is accordingly recommended that the loan contract authorize recognition of such expenditures (US\$400,000 chargeable to the resources of the FSO loan and US\$204,000 chargeable to the local contribution), provided that requirements substantially similar to those stipulated in said contract have been met.

1/ Part of year.

J. Financial Execution of the Program

(a) Flow of program funds

- 4.17 The IDB resources would be received directly by the SNAP. The federal government would allocate to SNAP annually the amounts representing the local contribution. The SNAP would see that both the provinces and the communities make their respective local contributions.
- 4.18 The financial conditions covering the subloans will be as follows: (i) total term: 20 years; (ii) grace period: 18 months; (iii) rate of interest: 8% annually; (iv) amortization: in quarterly installments; and (v) maintenance of value: in charge of the community. The respective agreement will stipulate that the IDB loan resources be transferred to the communities under financial terms acceptable to the Bank. The rate of interest charged the communities is based on the financial terms of the IDB loans. In accordance with the agreements, each province is responsible for repayment of the subloan to the SNAP. The community entities are answerable to the provinces. The procedure established by the SNAP for collection from the provinces is considered acceptable.

(b) Use of recoveries

- 4.19 Due to the fact that recoveries from the subloans are made during the course of the period of program execution, an estimate of the funds that would be accumulated has been made for Stage IV, which is the subject of the present report, based on the financial conditions governing the subloans and the terms of the IDB loans. The results over the ten-year period, given in Appendix 4 of the project report, show that there would be annual surpluses. A stipulation therefore is recommended in the loan contract that the funds accumulated in excess of the amounts necessary for service of the loan may only be used for granting new subloans consistent with the purposes of the proposed program, such as minor expansions and replacement of equipment. 1/

K. Rates

- 4.20 For the proposed program it is recommended that the rate charged in the systems produce enough income to cover the administrative, operating, maintenance and depreciation costs. This recommendation is made bearing in mind the Bank's current practice in the rural potable water sector and the precedent set in loan 526/SF-AR.

1/ IC Resolution, clause 8(f), and SF Resolution, clause 8(h).

L. Operation and Maintenance

- 4.21 The local entities, most of which will be cooperatives already existing in a number of towns and also handling the electricity service, will be in charge of the operation and maintenance of the systems, so that these local entities may be technically and administratively qualified to guarantee adequate operation of the systems, training courses will be conducted as part of the program for middle-level staff in operation and maintenance, including supervision of such activities. In Stages II and III of the National Plan SNAP has followed this practice with satisfactory results.
- 4.22 In order to ensure to the extent possible that the systems are properly operated and maintained, it is recommended that a clause be included in the loan contract 1/ by virtue of which the borrower undertakes to present during the first quarter of each year to the Bank's satisfaction, beginning in the year after the first system constructed under the program enters into operation and the next ten years thereafter until the conclusion of all the works: (i) an annual maintenance plan for the project's systems, and (ii) a detailed report on this matter covering the prior year, including the degree of efficiency achieved and the status of maintenance of the systems as of the end of the prior year.

M. Ecological Aspects

- 4.22 The program will have no unfavorable ecological impact, since a good part of it involves tapping relatively modest underground streams of water and their delivery, after the water is made suitable for drinking, to the users, without affecting individuals or irrigation areas. Seventy-one percent of the localities included in the representative samples have sanitary facilities for disposal of sewage and it is estimated that, given the educational level and standard of living of the Argentine rural population, once drinking water becomes available from a public supply system, the necessary residential works will be constructed for the disposal of sewage originated by the project.

N. Project Technology

- 4.23 With respect to the project's conception, criteria have been used that led to simple, easily operable solutions, with no sophisticated elements. A technology is believed to have been used, accordingly, that is consistent with the type of works to be built. As regards construction of the systems, although small-scale equipment will be utilized to

1/ See Recommendation 5(b).

excavate ditches for the placement of pipes, intensive use will be made of local manpower and materials, and for some time an estimated 800 to 1,000 individuals might be needed.

O. Economic and Social Impact Evaluation

- 4.24 After four years, coinciding with the final disbursement of the loan, SNAP will present to the Bank an economic and social impact evaluation. Since this is the fourth stage of a fundamentally homogeneous program, the impact of the present stage can be estimated on the basis of the experience from earlier projects. On the other hand, the baseline data for the ex-ante situation can be obtained from the fourth stage communities. The methodology for the economic evaluation should be benefit-cost analysis, as developed for the appraisal of the present program stage. The social impact should be measured by identifying the present value of the net benefits accruing to low-income groups.

The necessary data base must be developed from surveys undertaken in a representative sample of communities with and without a public water system (fourth stage communities). The information required from the communities for each survey household or business includes:

1. Sources and costs of existing water supply (for communities without a public system).
2. Per capita consumption by source of supply and by family income level.
3. Convenience of water supply, i.e. indoor or outdoor taps.
4. Uses for water, e.g. full bathroom, shower, etc.
5. Use of building (family home, school, commercial, etc.).

In addition to the above, the surveys of communities with a public water supply on local cooperatives should provide:

1. Tariffs paid.
2. Actual investment cost.
3. Maintenance, operating and administration costs.
4. Total number of connections and related population by year.

P. OEO Recommendations

- 4.25 In document GN-1299 of April 1979, the Operations Evaluation Office (OEO) of the Office of the Controller made recommendations on technical, economic, financial, and organizational aspects of seven potable water

and sewer service projects. In the analysis of the proposed program, any recommendations from that document that might be applicable were taken into account. Special attention was given to the practices followed by SNAP, the provincial services, and the community entities in relation to the maintenance of works and equipment; and also in relation to the measurement of service, which would be provided by every system in the proposed program, a majority of which would have meters, or in a few systems, consumption regulators.

Q. Bank Inspection and Supervision

- 4.26 The Field Office of the Bank in Argentina will be responsible for Bank supervision of the program.

V. EXECUTION OF EARLIER LOANS

A. Background

- 5.01 The Bank has helped finance potable water programs in the urban and rural sectors of Argentina through seven loans totaling US\$122.7 million equivalent.

B. Urban Sector

- 5.02 In the urban sector, four loans have been approved totaling US\$53.7 million equivalent: 43/SF, 86/TF, 70/SF, 14/IC and 526/SF. Loans 43/SF, 86/TF and 70/SF have been totally disbursed and the respective works duly concluded. The revision or evaluation by the Bank of said loans was effected in document PR-832-A of October 20, 1977.
- 5.03 Loans 14/IC and 526/SF. These loans are in process of execution. The contracts were signed on April 15, 1978, for a loan total of US\$31 million (loan 14/IC) and a total of US\$52 million (loan 526/SF). Both loans contributed to expanded coverage of the potable water services in the country's urban and rural sectors. Execution of the urban subprogram, which has a Bank contribution worth US\$46 million is in the hands of Obras Sanitarias de la Nación (OSN) and the subprogram entails construction of a potable water system for 700,000 residents in the area of La Matanza, province of Buenos Aires, and the installation of 440,000 meters in that area and in several other cities, which would be the basis for the establishment of the rate system on measured consumption. As of June 30, 1981, the weighted physical progress of the subprogram was approximately 44% and the pace of disbursements of the loan resources, 14%. The local contribution to the subprogram is 38% of the estimated total. The major reasons for the discrepancies between the physical advancement in the subprogram and the Bank disbursements were delays incurred in the compliance with the prior conditions, in the preparation of the bidding documents and their processing, and the processing and approval of Decree 1510 supporting the international bids.

All the project works were duly initiated within the time-period set and are currently in active execution or completed. The first phase of the meter plan is over with the installation of 40,000 meters, and the second phase of 100,000 meters is in process of execution in the area of La Matanza. With regard to the third phase, involving 300,000 meters, the opening of tenders from prequalified firms is forthcoming.

C. Loans Disbursed in the Rural Sector

- 5.04 The Bank has granted three loans in the rural sector for a total equivalent of US\$69 million: 144/TF, 302/SF, 526/SF and 14/IC. Execution of these projects has been in charge of the Servicio Nacional de Agua Potable (SNAP) with the participation of the respective provincial rural potable water services (SPAR).
- 5.05 Loans 114/TF and 302/SF were evaluated in the aforementioned document PR-832-A.

D. Loans Being Disbursed in the Rural Sector

- 5.06 The third stage of the National Rural Potable Water Plan is in process of execution, as follows:
- 5.07 Loans 14/IC-AR and 526/SF-AR. The contracts were signed on the date and for the amounts mentioned in paragraph 3.03 of this report. The Servicio Nacional de Agua Potable (SNAP), acting in coordination with the provincial services (SPAR), is in charge of the execution of the rural subprogram, which has current financing from these two loans worth US\$35,750,000 equivalent. This subprogram originally entailed the construction of approximately 226 potable water systems to supply 270 rural localities of from 100 to 10,000 inhabitants, benefiting a total population of 400,000 persons. In response to a request made by the borrower, the Bank in October 1980 approved a reduction in the physical goals of the project to 143 potable water systems for 176 rural localities; this was an outcome of a sharp rise in the escalation of domestic costs in the country. At the same time an increase in the cost of the project worth US\$17 million equivalent was approved, which would be partially covered by the corresponding increment in the local contribution chargeable to SNAP, the provincial services, and the communities. At that time, the Bank approved the cancellation of US\$1,250,000 of loan 14/IC-AR, pursuant to the Bank's rules on the use of foreign exchange in force at the time the operation was approved and according to which foreign exchange must be earmarked for direct and indirect foreign costs. The amendatory contract embodying the cancellation is pending signature. On June 30, 1981, the weighted physical progress was 52%, there were 96 completed projects, and the rest of the works are under construction. All the works in 141 systems or projects were begun or committed during the period for initiation that expired on April 15, 1981, since the two missing projects are not includable in this stage.

The 141 systems will serve 175 localities with approximately 352,000 inhabitants in all. As of the date mentioned, 38% of the disbursements chargeable to the rural subprogram had been made. Bearing in mind the goals and objectives in force for this operation and the operation being in active phase of construction at the present time, its completion is expected.

- 5.08 The 14 provinces participating in Stage III have gradually been included therein through SNAP-province agreements, reinforcing the administrative structures of the provincial entities, which in general are performing adequately, although there is a need to train personnel in some provinces in supervision, advisory work and maintenance. The constructive efforts of the community entities and cooperatives in the satisfactory execution of the projects and their administration and operation should be mentioned.
- 5.09 The quality of the works executed under contract and by force account as well is satisfactory. The bidding on contracts was done internationally, since the financing of the works coincided with a foreign exchange loan (14/IC-AR). All the companies that presented tenders were Argentine.

E. Compliance with Contract Clauses

- 5.10 The rate clauses of loans 114/TF and 302/SF stipulate that rates should at least cover administrative, operating and maintenance expenditures as well as service of the loan. In loans 526/SF and 14/IC, this clause provides for the rate schedule in the rural systems to cover the administrative, operating, maintenance and depreciation expenditures. The available information in SNAP, for 1980, covering 380 systems of a total 477 systems in operation (81%) ^{1/} indicates the following: (i) 338 systems, on 87% of the total reported, have surpluses and are in compliance with the rate clause; (ii) 49 systems had a deficit in 1980, 25 of which were stage I systems (114/TF-AR); 19, stage II (302/SF-AR); and 5, stage III (526/SF-AR and 14/IC-AR). SNAP had no precise data on the financing of these deficits by the community, but experience indicates that they would have resources from prior fiscal years or, in the case of cooperatives, revenues from other services rendered; (iii) communities adjust rates periodically in order to keep up with rising costs as well as to handle the debt service payable in dollar equivalents; and (iv) a lag was also noticed in some communities in the collection of rates where payments are made quarterly or semiannually.

^{1/} For 201 systems, this covers the results for four quarters of the year; for 51, three quarters; for 65, two quarters; and for 70, one quarter.

A lag in the repayment of some of the subloans was also observed, attributable to the remote location of the localities and problems of accessibility. Based on the data examined, a high percentage of systems is complying with the rate clause. Nevertheless, the exact number of systems complying with this requirement or failing to do so cannot be determined. In order to obviate this lack of information on the operating results of the systems, it is recommended that the subsequent loan contract require SNAP to present annually to the Bank information on receipts and expenditures of the systems financed by the proposed program, outlays for subloan services, and the status of accounts receivable. ^{1/}

- 5.11 The other clauses in contracts 114/TF and 302/SF have been fulfilled to the satisfaction of the Bank.

F. Maintenance of Works and Equipment

- 5.12 Stages I and II of the National Rural Potable Water Plan included technical cooperations that enabled SNAP to train personnel in the maintenance of works and equipment. These personnel, who belong to the provincial services (SPAR) or to the community entities, have been performing the maintenance tasks adequately. As part of the training program using resources from ATP/SF-1611-AR, included in stage III, consultants have been engaged and SNAP has organized courses to train operator-administrators, courses in accounting techniques, and courses to train operating and maintenance supervisors.
- 5.13 SNAP also took steps aimed at the gradual implementation of preventive maintenance work and documents were drawn up that are being put into effect by the SPARs: (i) preventive maintenance standards for facilities and equipment; (ii) inventory forms and specifications, by locality, for equipment; forms for inventory and classification of facilities and equipment, (iii) by province; and (iv) preventive maintenance timetables and follow-up, by province. This is a clear, specific set of documents attuned to the projects, visibly superior to what was being used earlier. Implementation in their entirety would lengthen the service life of the water supply systems, provide an inventory of equipment and facilities, rationalize technical assistance and monitoring by SPARs of communal groups, and make available annual maintenance programs in each community and in each province. In doing this work, SNAP has distributed and explained to the SPARs the scope and application of these documents.
- 5.14 To summarize, i) significant progress has been made in the development of maintenance programs and their implementation, particularly adequate norms and equipment and facility inventories; ii) the implementation of plans and works on preventive maintenance is being done gradually, considering the operation of the services by communal entities and assistance to them and monitoring by the SPARs. Virtually total

^{1/} See Recommendation 3.

implementation is expected by the time all the works in Stage III are completed on schedule in two more years, and what has been done to date is deemed acceptable; iii) it would be advisable to strengthen the respective SPAR sections with vehicles and equipment, and in the case of provinces where maintenance is in charge of the provincial entity, with mobile shops and laboratory equipment as well.

VI. JUSTIFICATION OF THE PROGRAM

A. Technical Feasibility

- 6.01 The project for the 45 systems making up the representative sample have been technically well designed by the provincial potable water agencies, following engineering standards approved by the Bank. All of them have been approved by SNAP and are acceptable to the Bank. ^{1/} The technical solution for each system was reached based on a comparative study of alternatives, particularly with regard to the source of supply. Treatment of surface water was determined based on the criterion having low cost, easily operable plants. For the systems using underground water, the hydro-geological studies are available and the test wells have been drilled and will be the final ones. As a precautionary measure, no work may be opened for bid unless the flow of the source selected has been duly verified beforehand.
- 6.02 The 125 remaining projects will be contracted to domestic engineers and/or engineering firms. In line with SNAP experience, no problems are expected in completion of the missing designs within the 18-month period of loan contract validity, since this work is already underway.
- 6.03 In accordance with prior loan experience, the competitive bids would include both the supply of materials and construction. Most of the works would be done by contractors, and only a small group of systems would be built by force account. No difficulties are foreseen in the supply of materials or availability of manpower and it is estimated that the program will be executed on schedule.
- 6.04 The costs of the systems are considered reasonable and were computed based on the number of physical works to be carried out and the unit cost of the different headings in the representative sample, using officially established prices in each province for materials and labor, and government costs as far as social charges are concerned. The equipment costs are based on quotations from potential suppliers. The program has adequate allowances for contingencies and cost escalation.
- 6.05 To summarize, all the technical factors have been carefully evaluated and it is therefore concluded that the program is technically feasible.

^{1/} Although additional economic information is required on three of the projects, this does not invalidate the quality of the representative sample.

B. Institutional and Financial Capability

- 6.06 It is estimated that both the Nation as well as the provinces as a whole would be in a position to: (i) make the local contribution to the proposed program, and (ii) make the contributions for termination of the program in process being financed with resources from loans 526/SF and 14/IC-AR, since the total annual requirement for funds would not exceed the annual average used in the period 1978/1980, with the exception of 1982 and 1983 when the Nation must make a greater effort of 8% and 7%, respectively.
- 6.07 The local contributions required for the financing of the program as part of the national and provincial budgets are not a significant share of their investment programs. Experience shows that the community entities have been able to make their contributions from part of the local contribution to the respective projects. The Argentine Nation grants priority in budgetary execution to projects financed by international agencies.
- 6.08 SNAP, which would act as the program's executing agency, has an available organization and procedures and experience in similar programs. The professional staffing of the regional delegations would be duly strengthened. SNAP is qualified to evaluate the administrative and financial feasibility of the provincial agencies that would be responsible for project construction and for supervision of the operation and maintenance of the systems in service. These provincial agencies have an organization, staff and procedures attuned to program requirements, including the promotion and organization of the community entities, and are currently being reorganized. The relevant recommendations in this regard have been made in order to ensure the satisfactory execution and operation of the system. ^{1/}

C. Economic Justification

- 6.09 The economic justification of this program is based upon the benefit-cost analysis of the project sample corresponding to 45 communities. The results of the economic analysis are presented in Chapter VII of the Project Report, which shows the present value of net benefits (NPVs) for each project. Only 2 of the 45 projects have NPVs of less than zero. For the two projects with negative NPVs, the internal rate of return is below the minimum acceptable rate of 12 percent. The benefit-cost analysis of the sample provides basic parameters which can be used directly in undertaking the same type of analysis for communities with a population of over 10,000 people.
- 6.10 The benefit-cost analysis also provides the basis for justifying the inclusion of the other projects in communities with a population of up to 10,000 inhabitants. This is possible by using statistical techniques

^{1/} See resolution IC 8(c)(iii) and resolution SF 7(d)(iii).

to compare the results of the benefit-cost analysis to the more traditional measure of economic acceptability, the cost-efficiency ratio. The statistical comparison of the two measures permits the identification of a cost-efficiency (CE) value which would yield almost the same results as a benefit-cost analysis. This value for the CE ratio is 40 when dollar costs are placed in constant prices of April 30, 1981. Since the correlation between the two measures is not perfect, it is possible for an economically acceptable project to have a cost-efficiency ratio of greater than 40. Consequently, projects with CE ratios of over 40 should be analyzed using benefit-cost analysis. When projects fail this test, as in the case of two projects in the sample, they should be redesigned to meet the economic criterion of benefit-cost analysis.

D. Impact on Low-Income Groups

- 6.11 The calculation of the net economic benefits accruing to low-income groups is based upon the data for 35 of the 45 projects in the sample. The two projects with negative net benefits are eliminated from the base since these projects should not be undertaken without some reformulation. The other eight projects are excluded from the calculation because of insufficient income data. For the smaller sample, 70 percent of the net income benefits are attributed to low-income groups. Consequently 70 percent of the total loan amount is attributable to the low-income group. That is, US\$37.24 million of the US\$53.2 million in total IDB lending is attributable to low-income families.

E. Justification of the Use of FSO Resources

- 6.12 The use of local currency FSO resources is justified under the provisional guidelines approved by the Board of Executive Directors in document GP-82-8 of May 20, 1981, in which it was indicated that such local currency could be utilized for projects in less developed regions in any Bank member country and in projects of a social nature, this being the case with the program proposed herein.

PROPOSED RESOLUTION 1/

ARGENTINA. LOAN /IC-AR TO THE ARGENTINE NATION
(Rural Water Supply Program - Stage IV)

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 Argentine Nation, as borrower, for the purpose of granting it financing to cooperate in the execution of a Rural Water Supply Program - Stage IV. This financing shall be subject substantially to the following conditions:

1. Amount and Currencies: Up to US\$35,700,000, or the equivalent in other currencies which are part of the inter-regional capital resources of the Bank to pay for goods and services acquired through international competition in the member countries of the Bank, and for such other purposes as may be specified in the loan contract. Payments of amortization and interest shall be effected in the currencies disbursed.
2. Source of Funds: The inter-regional capital resources of the Bank.
3. Guarantee: The general responsibility of the borrower.
4. Credit Fee: 1-1/4% per annum on the undisbursed portion of the financing, commencing to accrue 60 days after the date of the contract and payable in dollars of the United States of America on the same dates as the interest.
5. Amortization: The borrower shall amortize the loan in a period of 20 years from the date of the contract, by means of consecutive, semiannual, and, where possible, equal installments. The first installment shall be paid 6 months after the date set for the last installment of the loan.
6. Interest: 9-1/4 % per annum, payable semiannually on principal amounts outstanding. The first payment shall be made 6 months after the date of the contract. At the request of the borrower, resources of the financing may be used to pay interest during the period of disbursement thereof.

1/ The provisions set forth in this Appendix and in Appendices 2, 3 and 4 shall become definitive only when the Board of Executive Directors has approved the loan proposal.

7. Material Initiation and Disbursement: The term for material initiation of all projects shall expire two years after the effective date of the contract and the term for disbursement of the financing shall expire four years after said date.
8. Special Conditions:
- (a) The resources of the loan shall be utilized in their entirety by the borrower through the Servicio Nacional de Agua Potable y Saneamiento Rural (SNAP), in coordination with the corresponding rural drinking water supply services in the various provinces. If modifications in the legal provisions or the basic regulations concerning the SNAP or the provincial services are approved which, in the opinion of the Bank, may substantially affect the program, the Bank may take such measures as it deems appropriate, in accordance with provisions to be set forth in the loan contract.
 - (b) The resources of the loan, together with those of Loan /SF-AR, shall be used to participate in the execution of a program estimated at the equivalent of US\$89,325,000. Consequently, the loan contracts shall contain such provisions as the Bank deems appropriate to ensure that such additional resources as may be required for the complete execution of the program shall in due course be provided, in an amount estimated at the equivalent of US\$36,125,000 which shall not include recovery of credits granted with the resources of loans 114/TF-AR, 302/SF-AR, 526/SF-AR and 14/IC-AR, in accordance with a schedule of investments satisfactory to the Bank. (Paragraph 4.19)
 - (c) Prior to the first disbursement of the financing, the borrower, through the Executing Agency, shall submit to the Bank's satisfaction:
 - (i) evidence that a system has been established for the direct transfer to the SNAP of the resources of the financing; (Paragraph 3.02)
 - (ii) the draft agreements to be entered into between: (1) the borrower and each of the Provinces participating in the Program; and (2) such Provinces and the relevant-community organizations. Such agreements shall insure the compliance, by the above mentioned Provinces and community entities with the obligations contracted by the borrower in Loan Contracts Nos. /IC-AR and /SF-AR. Specifically, the system for the transfer of resources and responsibilities for the execution of the programs shall be established in such agreements; (Paragraphs 3.02 and 3.03) and
 - (iii) evidence that the SNAP has adequately staffed the regional delegations with professional and technical personnel and has taken appropriate measures for the maintenance of that staffing, during the period of execution of the program. (Paragraph 3.08)

- (d) The borrower shall take the necessary measures, to insure, to the satisfaction of the Bank, that the rates for water supply services of the specific systems associated with the financing shall yield at least sufficient revenue to cover all operating expenses of the respective systems, including those related to administration, operation, maintenance and depreciation. (Paragraph 4.20)
- (e) In the acquisition of machinery, equipment and other materials for the program and in the awarding of construction contracts, the system of public bidding shall be followed whenever the value of such acquisitions or contracts exceeds the equivalent of US\$100,000. Tenders shall be subject to the procedures set forth in an annex to the loan contract. (Paragraph 4.07)
- (f) The funds arising from recoveries of credits granted with resources of Loans /IC-AR and /SF-AR to the respective Provincial Services may, to the extent they accumulate in excess of the amounts needed to service of the loan, be used only for the granting of new credits conforming substantially to the rules laid down in the loan contract and in the respective agreement, unless five years after the date of the last disbursement of the financing, the Bank and the borrower agree upon another use for recoveries that does not depart from the basic objectives of the financing, or agree to reduce the period of validity of this obligation. (Paragraph 4.19)
- (g) The Bank shall establish such inspection procedures as it deems necessary to ensure the satisfactory execution of the program, and the borrower, the SNAP and the respective Provincial Services shall extend all cooperation required for the most effective accomplishment of this purpose. Of the amount of the financing, the equivalent of US\$357,000 shall be allocated for credit to the general income accounts of the Bank to meet expenses of general inspection and supervision.

PROPOSED RESOLUTION 1/

ARGENTINA. LOAN /SF-AR TO THE ARGENTINE NATION
(Rural Water Supply Program - Stage IV)

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 Argentine Nation, as borrower, for the purpose of granting it financing to cooperate in the execution of a Rural Water Supply Program - Stage IV. This financing shall be subject substantially to the following conditions:

1. Amount and currencies: Up to US\$17,500,000 in Argentine pesos, which are part of the Fund for Special Operations of the Bank, to defray local expenses and for such other purposes as may be specified in the loan contract. Payments of amortization and interest shall be effected in the currencies disbursed.
2. Source of funds: The Fund for Special Operations.
3. Guarantee: The general responsibility of the borrower.
4. Amortization: The borrower shall amortize the loan in a period of 25 years from the date of the contract, by means of consecutive semi-annual, and, where possible, equal installments. The first installment shall be paid 6 months after the date set for the last installment of the loan.
5. Interest: 3 % per annum, payable semiannually on principal amounts outstanding. The first payment shall be made 6 months after the date of the contract. At the request of the borrower, resources of the financing may be used to pay interest during the period of disbursement thereof.

1/ The provisions set forth in this Appendix and in Appendices 1, 3 and 4 shall become definitive only when the Board of Executive Directors has approved the loan proposal.

6. Material Initiation and Disbursement: The term for material initiation of all projects shall expire two years after the effective date of the contract and the term for disbursement of the financing shall expire four years after said date.

7. Special conditions

- (a) The resources of the loan shall be utilized in their entirety by the borrower through the Servicio Nacional de Agua Potable y Saneamiento Rural (SNAP), in coordination with the corresponding rural drinking water supply services in the various provinces. If modifications in the legal provisions or the basic regulations concerning the SNAP or the provincial services are approved which, in the opinion of the Bank, may substantially affect the program, the Bank may take such measures as it deems appropriate, in accordance with provisions to be set forth in the loan contract.
- (b) The resources of the loan, together with those of Loan /IC-AR, shall be used to participate in the execution of a program estimated at the equivalent of US\$89,325,000. Consequently, the loan contracts shall contain such provisions as the Bank deems appropriate to ensure that such additional resources as may be required for the complete execution of the program shall in due course be provided, in an amount estimated at the equivalent of US\$36,125,000 which shall not include recovery of credits granted with the resources of loans 114/TF-AR, 302/SF-AR, 526/SF-AR and 14/IC-AR, in accordance with a schedule of investments satisfactory to the Bank. (Paragraph 4.19)
- (c) Up to the equivalent of US\$400,000 of the resources of the financing may be used to cover expenses made in the program before the date of this resolution but after March 11, 1981, provided that requirements substantially similar to those set forth in the resolution and in the loan contract have been fulfilled. (Paragraphs 4.15 and 4.16)
- (d) Prior to the first disbursement of the financing, the borrower, through the Executing Agency, shall submit to the Bank's satisfaction:
 - (i) evidence that a system has been established for the direct transfer to the SNAP of the resources of the financing; (Paragraph 3.02)
 - (ii) the draft agreements to be entered into between: (1) the borrower and each of the Provinces participating in the Program; and (2) such Provinces and the relevant-community organizations. Such agreements shall insure the compliance, by the above mentioned Provinces and community entities with the obligations contracted by the borrower in

Loan Contracts Nos. /IC-AR and /SF-AR. Specifically, the system for the transfer of resources and responsibilities for the execution of the programs shall be established in such agreements; (Paragraphs 3.02 and 3.03) and

- (iii) evidence that the SNAP has adequately staffed the regional delegations with professional and technical personnel and has taken appropriate measures for the maintenance of that staffing, during the period of execution of the program. (Paragraph 3.08)
- (e) The borrower shall take the necessary measures, to insure, to the satisfaction of the Bank, that the rates for water supply services of the specific systems associated with the financing shall yield at least sufficient revenue to cover all operating expenses of the respective systems, including those related to administration, operation, maintenance and depreciation. (Paragraph 4.20)
- (f) In the acquisition of machinery, equipment and other materials for the program and in the awarding of construction contracts, the system of public bidding shall be followed whenever the value of such acquisitions or contracts exceeds the equivalent of US\$100,000. Tenders shall be subject to the procedures set forth in an annex to the loan contract. (Paragraph 4.07)
- (g) The provisions of paragraph (f) above notwithstanding, certain works included in the programs may be carried out by force account in an amount of up to the equivalent of US\$4,000,000, provided that the advisability of doing so by reason of the particular characteristics of the works (amount, location, or the like) has been demonstrated to the satisfaction of the Bank. (Paragraph 4.18)
- (h) The funds arising from recoveries under credits granted with resources of Loans /IC-AR and /SF-AR to the respective Provincial Services may, to the extent they accumulate in excess of the amounts needed for service of the loan, be used only for the granting of new credits conforming substantially to the rules laid down in the loan contract and in the respective agreement, unless five years after the date of the last disbursement of the financing, the Bank and the borrower agree upon another use for recoveries that does not depart from the basic objectives of the financing, or agree to reduce the period of validity of this obligation. (Paragraph 4.19)
- (i) The Bank shall establish such inspection procedures as it deems necessary to ensure the satisfactory execution of the program, and the borrower, the SNAP and the respective Provincial Services shall extend all cooperation required for the most effective accomplishment of this purpose. Of the amount of the financing, the equivalent of US\$175,000 in Argentine pesos shall be allocated for credit to the general income accounts of the Bank to meet expenses of general inspection and supervision.

RECOMMENDATIONS

- A. It is recommended that, in addition to the conditions set forth in the proposed resolutions, the following conditions, to be performed to the satisfaction of the Bank, be included in the loan contracts:
1. Unless the Bank shall agree otherwise, prior to each call for bids or whenever works are carried out by force account, before the beginning of the actual work, the borrower through the executing agency, shall submit to the Bank:
 - (a) the general plans, specifications, budgets, specific bidding requirements and such other documents as are necessary to call for bids; (Paragraph 4.07) and
 - (b) only in the case of construction works, evidence that it is in legal possession of the lands required for the respective construction work and/or the pertinent easements or rights. (Paragraph 4.06)
 2. In addition to the requirements set forth in Recommendation A.1 above and at that same time, the borrower, through the Executing Agency, shall submit to the Bank for each project:
 - (a) evidence that, on the basis of the draft agreements referred to in paragraphs 8(c)(ii) and 7(d)(ii), respectively, of the resolutions, agreements have been entered into between the Argentine Nation and the respective provinces and between the province and the corresponding community entity; (Paragraphs 3.02 and 3.03)
 - (b) proof that the respective provincial organization has established within its structure a unit staffed with the necessary personnel, at an adequate level, such as shall enable it to efficiently accomplish the construction work program planned for the province and to maintain adequate supervision over the drinking water supply services in operation; (Paragraphs 3.16 through 3.18) and
 - (c) studies that shall demonstrate that the hydraulic head and the potability of the available water are acceptable. (Paragraph 2.02(iii))
 3. The borrower shall provide the Bank, through the executing agency, on a yearly basis, as from December 31, 1982, the following information on the systems financed with the loans:
 - (a) statements of income and expenses wherein, at least, the billing for water rates and total outlays are identified; and

- (b) accounts receivable at the end of the respective year. (Paragraph 3.15)
- 4. The borrower shall undertake:
 - (a) that the works constructed under the program shall be administered, operated and maintained in accordance with generally accepted technical standards; (Paragraph 4.21) and
 - (b) to submit to the Bank, beginning in the year after the setting in operation of the first system constructed under the program and then for the 10 years following completion of all work: (i) a plan for annual maintenance of the Program systems; and (ii) a detailed report on maintenance work done in the previous year on the same subject matter and on the degree of operating efficiency achieved and the state of conservation of the systems at the end of the previous year. (Paragraph 4.22)
- 5. The borrower shall submit, through the Executing Agency, at the end of the fourth year after the effective date of the loan contracts or on a concurring date with the last disbursement, an ex-post evaluation report on the results of the program, based on the methodology and guidelines agreed upon with the Bank and set forth in paragraph VI, Appendix 4. (Paragraph 4.25)
- 6. The Bank may recognize, as part of the national contribution to the program, up to US\$204,000 equivalent in expenses made in the execution of program-related works before the date of the resolutions but after March 11, 1981, provided that with respect to such expenditures, requirements substantially similar to those set forth in said resolutions and in the loan contracts have been satisfied. (Paragraphs 4.15 and 4.16)
- 7. The financial statements of the program during its execution shall be presented annually to the Bank, certified by the Contaduría General de la Nación. The first financial statements shall be those for the year in which execution of the program begins. (Paragraph 3.11)
- B. An annex similar in content to Appendix 4 (The Program) shall be included as an annex in each one of the loan contracts.

THE PROGRAM
(Annex A to the Loan Contract)

I. Purposes

1.01 The purpose of the program shall be to assist in the execution of Stage IV of the Rural Drinking Water Supply program in the Argentine Republic. The principal purposes of the program shall be:

- (a) To supply drinking water, mainly through residential service connections, to an initial population of about 285,000 persons who live in some 160 places in rural areas, by providing for the construction of about 150 systems, and
- (b) To improve the capabilities of the middle-level personnel who will be in charge of supervising construction work and operating and maintaining the new systems.

II. Description

2.01 The Program shall consist of the activities and works that are detailed in the following paragraphs:

- (a) Impoundment: Impoundment works shall consist of machine-drilled wells; the impoundment of surface water directly from rivers or existing irrigation canals, and hand-drilled wells with diameters of up to 8 meters, with steel-reinforced concrete structures to impound ground water.
- (b) Treatment: Treatment plants shall be constructed for surface water, based on the use of sand traps, settling tanks and slow filters, with chlorine solution being added at the end. For underground water the methodology of chlorination based on hypochlorine of sodium or calcium shall be used.
- (c) Conveyance: Water conveyance lines shall be installed between the water sources and the tanks or reservoirs. For the most part they shall be made of asbestos cement and polivinyll of chlorine (PVC), of at least 3 inches diameter.
- (d) Storage: Most of the reservoirs shall be made of steel-reinforced concrete and be raised above ground. Only in a few systems shall they be constructed at ground level (supported).

- (e) Distribution: The pipe used in the distribution systems shall be made of asbestos cement for diameters of 150mm or greater, and of PVC for the rest. The smallest diameter shall be two inches. The valves needed to separate the main circuits shall be installed. On completion of the works, approximately 80% of the houses facing distribution pipes must be connected to each system. Outside residential service connections are included in the program.
- (f) Training: The program shall include a plan for training to improve the capabilities of the intermediate-level personnel who shall be in charge of supervision, operation and the maintenance of the new systems and shall provide for: three courses of instruction for operators-administrators; two courses of instruction for work supervisors; one course of instruction for operation and maintenance supervisors, and one course of instruction on accounting methods. The courses shall be given by Argentine professionals in the theoretical as well as in the practical levels and shall constitute a third stage of this type of program.

III. Cost

- 3.01 The total cost of the program is estimated at US\$89,325,000, approximately according to the allocation by investment category and source of financing shown below:

COST AND FINANCING
(Equivalent in thousands of US\$)

Investment	B A N K		B O R R O W E R			%
	Foreign exchange /IC-AR	Local cur- rency /SF-AR	Total	Local cur- rency	Grand Total	
1. Engineering and Management	-	1,000	1,000	13,000	14,000	15.7
1.1 Design	-	500	500	500	1,000	1.1
1.2 Supervision and Management	-	500	500	12,500	13,000	14.6
2. <u>Direct Costs</u>	<u>28,700</u>	<u>14,075</u>	<u>42,775</u>	<u>21,750</u>	<u>64,525</u>	<u>72.2</u>
2.1 Supply of equipment and construction work	28,700	14,075	42,775	21,750	64,525	72.2
3. <u>Associated Costs</u>	<u>-</u>	<u>1,100</u>	<u>1,100</u>	<u>400</u>	<u>1,500</u>	<u>1.7</u>
3.1 Vehicles and Equipment	-	1,100	1,100	-	1,100	1.3
3.2 Land	-	-	-	200	200	0.2
3.3 Training	-	-	-	200	200	0.2
4. <u>Finance Charges</u>	<u>7,000</u>	<u>1,325</u>	<u>8,325</u>	<u>975 a/</u>	<u>9,300</u>	<u>10.4</u>
4.1 Interest	6,643	1,150	7,793	-	7,793	8.7
4.2 Credit Fee	-	-	-	975 a/	975 a/	1.1
4.3 Inspection and Supervision	<u>357</u>	<u>175</u>	<u>532</u>	<u>-</u>	<u>532</u>	<u>0.6</u>
Total	35,700	17,500	53,200	36,125	89,325	100.0
Percentages	40.0	19.6	59.6	40.4	100.0	

a/ To be paid with foreign exchange.

IV. Invitations for Bids

- 4.01 Whenever the goods to be acquired or obtained under contract by means of public invitation for bids are financed either in whole or in part with the foreign exchange proceeds of Loan /IC-AR, the procedures as well as the specific bases of the invitations for bids shall allow for unrestricted participation of goods and/or services originating from member countries of the Bank. Consequently, the same procedures and specific bases shall not hinder or restrict the supply of goods or the participation of contractors originating from those countries.

V. Criteria for Selection of Localities

- 5.01 The localities shall be selected in accordance with the following criteria:
- (a) The locality must have a population of between 100 to 15,000 inhabitants at the time the Bank approves the respective project;
 - (b) They must lack a public service capable of providing more than 120 liters of potable water per person per day;
 - (c) They shall have a reasonably safe source of water with respect to capacity, one which shall supply demand over the 20-years design period, and whose quality shall not require costly treatment;
 - (d) That the localities have been subjected to economic analysis as follows:
 - (i) Cost-effectiveness analysis for localities with fewer than 10,000 population. The acceptable cost-effectiveness ratio has been set at US\$40 per person, measured in April 1981 dollars; and
 - (ii) Cost-benefit analysis for localities with more than 10,000 population. In order for projects to be eligible they must yield a 12% rate of economic return, at least.

In the event the cost-effectiveness ratio of any project should be greater than the amount set forth in (i) above, its eligibility may be defined in the manner specified in (ii) above. Nevertheless, in exceptional cases and with the prior approval of the Bank, such projects as have a greater cost-effectiveness ratio or in which the economic rate of return is less than 12% may be financed, provided localities are involved which have a high incidence of water-borne diseases or problems associated with water quality such as high content of arsenic, fluor or other salts and which have, moreover, an income level such as does not allow them to make a large contribution to the cost of the project. The total amount allocable to this kind of project may not exceed 5% of the direct cost of the program.

- (e) That the beneficiary localities shall be capable of providing a contribution greater than 10% of the cost of the works; and
- (f) That the beneficiaries of the respective projects shall be willing to pay the service rate charge.

VI. Methodology for Ex-Post Evaluation

- 6.01 The effects of the program shall be measured on the basis of experience with earlier programs.
- 6.02 The methodology for economic evaluation must consist of a cost-benefit analysis such as the one done to analyze the program. The social effect shall be measured by identifying the present-day value of net benefits received by the low income sectors.

VII. Personnel Required for Program Execution

- 7.01 For purposes of the compliance with the provisions set forth in paragraph 8(c)(iii) of the Proposed Resolution DE- /81 (Appendix 1) and paragraph 7(d)(iii) of the Proposed Resolution DE- /81 (Appendix 2) it shall be understood that the adequate staffing of each one of the regional delegations of SNAP with professional and technical personnel shall comprise a chief of service, an engineer, a technical supervisor, an accountant and an accounting aide, unless that, under exceptional cases duly justified, the borrower shall propose some other arrangement and the Bank shall declare it has no objections to it.