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ARAB REPUBLIC OF EGYPT

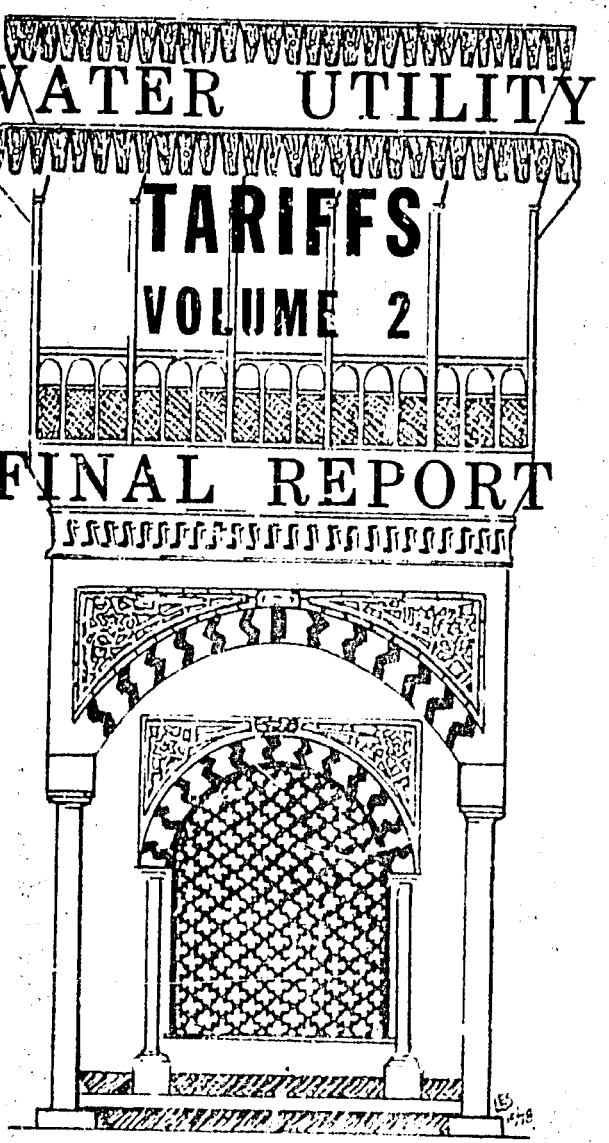
MINISTRY OF DEVELOPMENT
AND NEW COMMUNITIES

MANAGEMENT AND TARIFF STUDIES RELATIVE TO WATER/SEWERAGE SYSTEMS

WATER UTILITY TARIFFS

VOLUME 2

FINAL REPORT



بسم الله الرحمن الرحيم

وجعلنا من الماء كل شيء حي

صدق الله العظيم

BVI-ATK ASSOCIATES WITH SABBOUR ASSOCIATES

BLACK & VEATCH INTERNATIONAL
CONSULTING ENGINEERS

A.T. KEARNEY, INC.
MANAGEMENT CONSULTANTS

SABBOUR ASSOCIATES
CONSULTING ENGINEERS

OCTOBER 1979

U.S.A.I.D. GRANT NO. 263-0025

WATER UTILITY

TARIFFS

VOLUME 2

FINAL REPORT

The Story of Our Cover:-

On our cover is a sketch of a sybil, which is a fountain. During the Ottoman Empire these were a common source of drinking water. A well is located at ground level and a balcony on the second level where children were taught the Koran. Usually located near mosques, sybils were built and then donated to the public by various benefactors.

Beneath the sketch is a quote from the Koran, "We made from water all living things".

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V O L U M E 2

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Abbreviations

AC	Alternating current
acre	4047 m^2
BOD	Biochemical oxygen demand
cm	Centimeter
cmd	Cubic meter per day
cmh	Cubic meter per hour
COD	Chemical oxygen demand
DC	Direct current
ea	Each
Feddan	4,200 m^2
ha	Hectare or 10,000 m^2
hp	Horsepower
hr	Hour
hz	Hertz
kg	Kilograms
km	Kilometer
kVa	Kilovolt amperes
kW	Kilowatt
kWh	Kilowatt hour
lit/sec	Liter per second
lcd	Liter per capita per day
LE	Egyptian pound
lot	Lot or group, normally of a similar type of property
m.H	Mega hertz
m_2	Meter
m^2	Square meter
m^3	Cubic meter
mg	Milligrams
mg/l	Milligrams per liter
mm	Millimeter
mms	Milliemes
NA	Not available or not applicable
OC	Original cost
/	per
%	percent
pt	piastre
RC	Reproduction cost
RCLD	Reproduction cost less depreciation
R.p.m	Revolutions per minute
SS	Suspended solids
v	volt
yr	year

List of Commonly Used Expressions

ACR	Advisory Committee for Reconstruction
AWGA	Alexandria Water General Authority
ARE	Arab Republic of Egypt
CAPMAS	Central Agency for Public Mobilization and Statistics
GOGCWS	General Organization for Greater Cairo Water Supply
GOSSD	General Organization for Sewerage and Sanitary Drainage
IBRD	International Bank for Reconstruction and Development (World Bank)
MODANC	Ministry of Development and New Communities
MOHR	Ministry of Housing and Reconstruction
SCA	Suez Canal Authority
USA	United States of America
USAID	United States Agency for International Development
WHO	World Health Organization

APPENDIX I

GREATER CAIRO/HELWAN

WATER UTILITY

TABLE 2.1

GREATER CAIRO/HELWAN WATER UTILITY

HISTORICAL AND PROPOSED CAPITAL IMPROVEMENT PROGRAM

Year	Major Projects Local LE 1000	Major Projects Foreign LE 1000	Major Projects Total LE 1000	Routine Projects LE 1000	Total LE 1000
			HISTORICAL		
1973					1,847
1974					588
1975					5,836
1976					8,612
1977					4,746
1978					5,245
			PROPOSED		
1979	27,294	68,218	95,512	2,000	97,512
1980	52,912	44,934	97,846	2,700	100,546
1981	40,480	28,489	68,969	4,000	72,969
1982	31,217	24,007	55,224	5,000	60,224
1983	33,330	34,369	67,699	6,000	73,699
1984	27,671	28,464	56,135	8,500	64,635
1985	21,073	17,106	38,179	9,000	47,179
1986	31,870	20,153	52,023	11,000	63,023
1987	38,347	34,594	72,941	12,000	84,941
1988	41,670	38,667	80,337	14,000	94,337
After 1988	408,042	352,743	760,785	276,800	1,037,585
Total	1979-2000				1,796,650

Reference: Adopted from Greater Cairo Waterworks Development Program, Waterworks Master Plan, Draft Final Report, Immediate Phase and Staged Development, ES-Parsons, 1978.

TABLE 2.2

GREATER CAIRO/HELWAN WATER UTILITY

DEBT SERVICE CHARGES FOR EXISTING AND PROPOSED CONSTRUCTION LOANS

Year	Local Currency Loans		Foreign Currency Loans		Total
	Existing LE 1000	Proposed LE 1000	Existing* LE 1000	Proposed LE 1000	LE 1000
1979	3,300	722	2,827	894	7,743
1980	3,300	2,045	3,587	1,915	10,847
1981	3,300	4,134	5,039	3,480	15,953
1982	3,300	6,400	5,347	4,832	19,879
1983	3,300	8,480	5,722	6,393	23,895
1984	4,759	12,582	7,026	9,530	33,897
1985	4,759	14,372	6,986	11,129	37,246
1986	4,759	17,971	7,616	13,356	43,702
1987	4,759	19,827	8,100	15,111	47,797
1988	4,759	23,480	8,568	18,305	55,112
1990	4,759	29,628	8,398	22,506	65,291
2000	4,759	63,637	5,035	49,989	123,420

* Debt service on existing foreign loans consists of amortization of the following total loan amounts:

Arab Fund	9,700,000	Kuwaiti Dinars
Czeckoslovakia	486,662	Egyptian Pounds
Japan	5,820,000	Yen
Japan	3,375,000	Yen
Federal Republic of Germany	60,000,000	Deutsche Marks
United States of America	30,000.000	Dollars

TABLE 3.1

GREATER CAIRO/HELWAN WATER UTILITY

PROJECTED POPULATION, CONNECTIONS AND WATER USE

Year	Population 1000	Average Number Water Connections	Water Produced 1000 m3
		HISTORICAL	
1973	5,827	180,429	531,071
1974	5,984	187,242	573,599
1975	6,131	195,028	654,056
1976	6,273	203,813	737,043
1977	6,473	214,980	800,513
1978	6,600	228,712	808,492
		PROJECTED	
1979	6,778	230,200	826,200
1980	6,961	239,200	860,000
1981	7,155	248,700	897,200
1982	7,364	258,800	942,900
1983	7,584	269,600	985,100
1984	7,812	280,700	1,032,500
1985	8,049	292,500	1,077,200
1986	8,301	305,000	1,129,800
1987	8,562	317,900	1,185,800
1988	8,834	331,600	1,244,000
1990	9,420	361,000	1,366,100
2000	13,329	558,700	2,279,700

TABLE 4.1

GREATER CAIRO/HELWAN WATER UTILITY
EXISTING GOGCWS WATER RATE SCHEDULES

	Cairo	Maadi	Marg
Potable Water	Milliemes per cubic meter		
General Public	12.00	19.00	20.00
Ministries and Government	11.80	19.00	
Raw Water			
General Public	7.00	15.00	
Ministries and Government	7.25	15.00	

	Giza	Helwan	Heliopolis
Potable Water	Milliemes per cubic meter		
General Public			
First 200 cubic meters	14.00	15.00	
Next 800 cubic meters	12.00	13.00	
Over 1000 cubic meters	10.00	11.00	
Ministries and Government	10.00	11.00	
Raw Water			
General Public			
First 1000 cubic meters	6.50	6.00	
Over 1000 cubic meters	5.00	5.00	
Ministries and Government	5.00	5.00	
Wholesale			
Filtered			6.70
Artesian			5.70

FEE FOR MAINTENANCE
AND DEPRECIATION OF METERS

Meter Diameter millimeters	Fee LE/Billing Period
15 and under	0.240
20	0.300
25	0.360
30	0.420
40	0.600
50 - 60	0.720
80	0.840
100	1.800
150	3.000
200	3.600
300	6.000

Note: Bills are issued bi-monthly

TABLE 4.2

GREATER CAIRO/HELWAN WATER UTILITY
HISTORICAL REVENUES

	1973 LE	1974 LE	1975 LE	1976 LE	1977 LE	1978 LE
OPERATING REVENUES						
Revenue from water sales	5,101,260	5,661,650	5,871,007	6,157,688	6,192,840	
Rent of meters	303,661	266,652	341,122	370,856	326,000	
Total water sales revenue	5,404,921	5,928,302	6,212,129	6,528,544	6,518,840	7,027,929
Other Operating Revenues						
Meter reading fee	12,421	1,741	7,621	10,639	8,589	
Inspection fee	4,102	6,475	9,020	9,130	9,954	
Turn on - turn off	9,690	10,661	12,825	18,183	14,725	
Meter inspection	204	341	608	838	12,501	
Connection fees	229,885	253,797	373,164	623,482	1,070,500	
Work and repair for customers	56,628	84,997	48,817	101,127	133,309	
Total other revenues	312,930	358,012	452,055	763,399	1,249,578	1,116,196
Total Operating Revenues	5,717,851	6,286,314	6,664,184	7,291,943	7,768,418	8,144,125
NON OPERATING REVENUES						
Interest	3,023		52,782	38,277	20,952	
Rent	5,376	4,674	810	247	391,508	474,490
Fines and remuneration	4,243	836	5,243	8,608	4,856	8,563
"Various" miscellaneous revenue	55,767	37,191	221,951	175,552	532,207	52,120
Total Non Operating Revenues	68,409	42,701	280,786	222,684	949,523	535,173
Total Water Utility Revenues	5,786,260	6,329,015	6,944,970	7,514,627	8,717,941	8,679,298
OPERATING SUBSIDY						
Budgeted subsidy			2,969,431	3,651,716	5,059,220	9,378,245
Net operating loss			1,677,034	3,184,451	3,703,256	4,918,290
Total Subsidy	NA	NA	4,646,465	6,836,167	8,762,476	14,296,535
BORROWED FUNDS						
Egyptian currency	3,829,000	3,228,000	5,876,350	14,404,466	12,715,000	10,682,000
Foreign currency					3,580,000	8,950,000
Total Borrowed Funds	3,829,000	3,228,000	5,876,350	14,404,466	16,295,000	19,632,000

NA - Not Available

TABLE 4.3

GREATER CAIRO/HELWAN WATER UTILITY

PROJECTED REVENUES

Year	Operating Revenues Water Sales LE	Operating Revenues Other LE	Non Operating Revenues LE	Total LE
1979	7,100,000	1,519,000	260,000	8,879,000
1980	7,389,000	1,737,000	280,000	9,406,000
1981	7,707,000	1,986,000	310,000	10,003,000
1982	8,096,000	2,273,000	340,000	10,709,000
1983	8,457,000	2,605,000	370,000	11,432,000
1984	8,861,000	2,882,000	390,000	12,133,000
1985	9,243,000	3,265,000	410,000	12,918,000
1986	9,692,000	3,574,000	440,000	13,706,000
1987	10,169,000	3,912,000	470,000	14,551,000
1988	10,665,000	4,284,000	500,000	15,449,000
1990	11,706,000	5,142,000	500,000	17,348,000
2000	19,464,000	12,963,000	500,000	32,927,000

TABLE 5.1

GREATER CAIRO/HELWAN WATER UTILITY

OPERATION AND MAINTENANCE EXPENSE

Year	Operating Articles				Service Articles	Total
	Wages LE	Power LE	Chemicals LE	Other LE	Maintenance & Other LE	LE
			HISTORICAL			
1973	2,109,221	995,141	253,940	444,919	198,996	4,002,217
1974	2,349,766	1,151,434	544,762	416,109	198,771	4,660,842
1975	2,551,316	1,579,917	1,548,637	850,667	291,332	6,821,869
1976	3,367,096	1,807,046	1,230,882	759,619	249,396	7,414,039
1977	3,710,597	1,914,577	2,259,376	723,822	298,390	8,906,762
1978	4,340,271	2,409,567	3,792,019	984,128	335,781	11,861,766
			PROJECTED			
1979	4,633,900	2,771,400	4,361,400	903,900	372,600	13,043,200
1980	5,305,900	3,187,500	5,016,200	1,035,000	426,600	14,971,200
1981	6,088,800	3,666,100	5,769,400	1,187,700	489,600	17,201,600
1982	7,038,900	4,216,500	6,635,700	1,373,100	565,900	19,830,100
1983	8,089,300	4,849,600	7,632,000	1,578,000	650,500	22,799,400
1984	9,326,500	5,577,800	8,777,900	1,819,300	749,900	26,251,400
1985	10,216,700	6,153,900	9,684,500	1,992,900	821,500	28,869,500
1986	11,251,500	6,789,500	10,684,800	2,194,700	904,600	31,825,100
1987	12,399,600	7,490,800	11,788,400	2,418,700	997,000	35,094,500
1988	13,658,500	8,264,500	13,006,000	2,664,300	1,098,200	38,691,500
1990	16,536,500	10,059,900	15,831,500	3,225,600	1,329,600	46,983,100
2000	44,950,400	26,883,100	42,306,500	8,768,200	3,614,200	126,522,400

TABLE 5.2

GREATER CAIRO/HELWAN WATER UTILITY

DEBT SERVICE CHARGES WITH COVERAGE REQUIREMENTS

Year	Debt Service Charges LE 1000	Debt Coverage LE 1000	Total LE 1000
1979	7,743	2,000	9,743
1980	10,847	2,700	13,547
1981	15,953	4,000	19,953
1982	19,879	5,000	24,879
1983	23,895	6,000	29,895
1984	33,897	8,500	42,397
1985	37,246	9,000	46,246
1986	43,702	11,000	54,702
1987	47,797	12,000	59,797
1988	55,112	14,000	69,112
1990	65,291	16,500	81,791
2000	123,420	31,000	154,420

TABLE 5.3

GREATER CAIRO/HELWAN WATER UTILITY

ESTIMATED DEPRECIATION EXPENSE

Year	Water Plant in Service: Annual Additions LE 1000	Cumulative Balance LE 1000	Land LE 1000	Depreciable Balance LE 1000	Average Balance LE 1000	Depreciation Expense(b) LE 1000
1978(a)		69,349	1,218	68,131		
1979	97,512	166,861	3,200	163,661	115,896	4,230
1980	100,546	267,407	5,200	262,207	212,934	7,772
1981	72,969	340,376	6,700	333,675	297,941	10,875
1982	60,224	400,600	7,900	392,700	363,188	13,256
1983	73,699	474,299	9,400	464,899	428,800	15,651
1984	64,635	538,934	10,700	528,234	496,567	18,125
1985	47,179	586,113	11,600	574,513	551,374	20,125
1986	63,023	649,136	12,900	636,236	605,375	22,096
1987	84,941	734,077	14,600	722,477	679,351	24,797
1988	94,337	828,414	16,500	811,914	767,195	28,003
1990	95,298	1,015,834	20,200	995,634	948,985	34,638
1991 to 2000	850,165	1,865,999	37,200	1,828,799	1,813,300	66,185

(a) Estimated original cost at December 31,1978

(b) At composite rate of depreciation of 3.65 per cent.

TABLE 5.4

GREATER CAIRO/HELWAN WATER UTILITY

PROFORMA RETURN ON INVESTMENT

Year	Estimated Construction Cost LE 1000	Cumulative Balance* LE 1000	Cumulative Allowance for Depreciation LE 1000	Net Plant in Service LE 1000	Required Return @ 6 Percent LE 1000
1978		147,800			
1979	97,500	245,300	7,000	238,300	14,300
1980	100,500	345,800	17,300	328,500	19,700
1981	73,000	418,800	30,800	388,000	23,300
1982	60,200	479,000	46,700	432,300	25,900
1983	73,700	552,700	65,000	487,700	29,300
1984	64,600	617,300	85,700	531,600	31,900
1985	47,200	664,500	108,400	556,100	33,400
1986	63,000	727,500	133,100	594,400	35,700
1987	84,900	812,400	160,500	651,900	39,100
1988	94,300	906,700	191,100	715,600	42,900
1990	187,400	1,094,100	262,200	831,900	49,900
2000	850,200	1,944,300	802,500	1,141,800	68,500

* Based on RCLD at December 31, 1978 plus additions at cost for years subsequent there to.

TABLE 5.5

GREATER CAIRO/HELWAN WATER UTILITY

COMPARATIVE SUMMARY OF REVENUE REQUIREMENTS

Year	Cash Basis				Utility Basis			
	Operation & Maintenance Expense LE 1000 (a)	Debt Service LE 1000 (b)	Routine Annual Improvements LE 1000 (c)	Total LE 1000	Operation & Maintenance Expense LE 1000 (a)	Depreciation Expense LE 1000 (d)	Return on Investment LE 1000 (e)	Total LE 1000
1979	13,043	7,743	2,000	22,786	13,043	4,230	14,300	31,573
1980	14,971	10,847	2,700	28,518	14,971	7,772	19,700	42,443
1981	17,202	15,953	4,000	37,155	17,202	10,875	23,300	51,377
1982	19,830	19,879	5,000	44,709	19,830	13,256	25,900	58,986
1983	22,799	23,895	6,000	52,694	22,799	15,651	29,300	67,750
1984	26,251	33,897	8,500	68,648	26,251	18,125	31,900	76,276
1985	28,870	37,246	9,000	75,116	28,870	20,125	33,400	82,395
1986	31,825	43,702	11,000	86,527	31,825	22,096	35,700	89,621
1987	35,095	47,797	12,000	94,892	35,095	24,797	39,100	98,992
1988	38,692	55,112	14,000	107,804	38,692	28,003	42,900	109,595
1990	46,983	65,291	16,500	128,774	46,983	34,638	49,900	131,521
2000	126,522	123,420	31,000	280,942	126,522	66,185	68,500	261,207

(a) Table 5.1
(b) Table 2.2
(c) Table 2.1
(d) Table 5.3
(e) Table 5.4

TABLE 6.1

GREATER CAIRO/HELWAN WATER UTILITY

COINCIDENTAL DEMAND FACTORS

	DEMAND FACTORS		
	Maximum Day %	Base %	Extra Capacity %
Coincidental maximum day demand factors	125	100	25
Ratio	100	80	20
	Maximum Hour %	Base %	Extra Capacity %
Coincidental maximum hour demand factors	185	100	85
Ratio	100	54	46

TABLE 6.2

GREATER CAIRO/HELWAN WATER UTILITY

ALLOCATION OF OPERATION AND MAINTENANCE EXPENSE
TO FUNCTIONAL COST COMPONENTS

1984 Test Year

		Common to All					Common to All Except Wholesale		
			Extra Capacity Cost					Extra	
	Total	Base Cost	Maximum Day	Maximum Hour	Meters & Services	Bills	Base Cost	Capacity Max.Hour	Raw Water Cost
	LE1000	LE1000	LE1000	LE1000	LE1000	LE1000	LE1000	LE1000	LE1000
Pumping Expense									
Power	5,462	4,916	511	35					
Other	282	149		133					
Raw Water Expense	512								512
Water Treatment Expense									
Chemicals	8,778	8,778							
Other	3,737	2,990	747						
Transmission and Distribution Expense									
Transmission mains	3,209	2,567	642						
Distribution mains	2,364						1,253	1,111	
Meters and services	750				750				
Customer Accounts Expense									
Meter reading, billing and accounting	240					240			
Administrative and General Expense	918	477	116	11	63	20	105	93	33
Total	26,252	19,877	2,016	179	813	260	1,358	1,204	545

TABLE 6.3

GREATER CAIRO/HELWAN WATER UTILITY

ALLOCATION OF UTILITY PLANT IN SERVICE
TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

		Common to All				Common to All Except Wholesale		
			Extra Capacity Cost					
	Total LE 1000	Base Cost LE 1000	Maximum Day LE 1000	Maximum Hour LE 1000	Meters & Services LE 1000	Base Cost LE 1000	Extra Capacity Max.Hour LE 1000	Raw Water Cost LE1000
Source of Supply Plant	2,720	2,180	540					
Pumping Plant	13,440	7,120		6,320				
Water Treatment Plant	212,670	170,140	42,530					
Transmission and Distribution Plant								
Transmission mains	184,940	147,950	36,990					
Distribution mains	116,270					61,620	54,650	
Services	41,700				41,700			
Meters	14,070				14,070			
General Plant	52,940	29,590	7,240	570	5,030	5,570	4,940	
Sub total	638,750	356,980	87,300	6,890	60,800	67,190	59,590	
Raw Water Facilities	22,800							22,800
Total	661,550	356,980	87,300	6,890	60,800	67,190	59,590	22,800
Percent of Total	100.0	54.0	13.2	1.0	9.2	10.2	9.0	3.4

TABLE 6.4

GREATER CAIRO/HELWAN WATER UTILITY

ALLOCATION OF CAPITAL COSTS
TO FUNCTIONAL COST COMPONENTS
1984 TEST YEAR

Cost Component	Ratio %	Cash Basis Capital Cost LE1000	Utility Basis Capital Cost LE1000
COMMON TO ALL			
Base cost	54.0	22,878	27,014
Extra capacity cost Maximum day	13.2	5,595	6,603
Maximum hour	1.0	441	500
Meters and Services*	9.2	1,014	1,719
COMMON TO ALL EXCEPT WHOLESALE			
Base cost	10.2	4,306	5,103
Extra capacity cost Maximum hour	9.0	3,819	4,502
SPECIAL COST			
Raw water cost	3.4	1,461	1,701
Sub total		39,514	47,142
CONTRIBUTION FOR SERVICES*	———	2,883	2,883
Total Capital Cost	100.0	42,397	50,025

* Contribution for services is deducted from allocated cost of meters and services.

TABLE 6.5

GREATER CAIRO/HELWAN WATER UTILITY

SUMMARY OF ALLOCATION OF CASH BASIS COST OF SERVICE TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

Cost Component	Operation & Maintenance Expense LE 1000	Cash Basis Capital Related Costs LE 1000	Total LE 1000
COMMON TO ALL			
Base cost	19,877	22,878	42,755
Extra capacity cost			
Maximum day	2,016	5,595	7,611
Maximum hour	179	441	620
Customer cost			
Meters and services	813	1,014	1,827
Bills	260		260
COMMON TO ALL EXCEPT WHOLESALE			
Base cost	1,358	4,306	5,664
Extra capacity cost			
Maximum hour	1,204	3,819	5,023
SPECIAL SERVICE			
Raw water cost	545	1,461	2,006
Sub total	26,252	39,514	65,766
CONTRIBUTION FOR SERVICES		2,883	2,883
Total Cost of Services	26,252	42,397	68,649

TABLE 6.6

GREATER CAIRO/HELWAN WATER UTILITY

SUMMARY OF ALLOCATION OF UTILITY BASIS
COST OF SERVICE TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

Cost Component	Operation & Maintenance Expense LE 1000	Utility Basis Capital Related Costs LE 1000	Total LE 1000
COMMON TO ALL			
Base cost	19,877	27,014	46,891
Extra capacity cost			
Maximum day	2,016	6,603	8,619
Maximum hour	179	500	679
Customer cost			
Meters and services	813	1,719	2,532
Bills	260		260
COMMON TO ALL EXCEPT WHOLESALE			
Base cost	1,358	5,103	6,461
Extra capacity cost			
Maximum hour	1,204	4,502	5,706
SPECIAL SERVICE			
Raw water cost	545	1,701	2,246
Sub total	26,252	47,142	73,394
CONTRIBUTION FOR SERVICES		2,883	2,883
Total Cost of Services	26,252	50,025	76,277

TABLE 7.1

GREATER CAIRO/HELWAN WATER UTILITY

UNITS OF SERVICE

1984 TEST YEAR

Customer Class	Annual Water Sales 000 m3	Average Day Water Sales 1000 m3/d	Extra Capacity Factors: Maximum Day Factor %	Maximum Day Units 1000 m3/d	Maximum Hour Factor %	Maximum Hour Units 1000 m3/d	Number of Equivalent Meters	Number of Bills
General	484,600	1,328	75	996	225	2,988	746,100	1,736,800
Commercial and Institutional	90,900	250	45	112	160	404	58,700	51,000
Industrial	24,500	67	15	10	125	84	12,200	7,200
Fountains	7,300	20	10	2	120	24	2,600	3,600
Fire Protection				15		36		
Special Wholesale	81,000	222	70	155	220	488	400	100
	688,300	1,887		1,290		4,024	820,000	1,798,700
Raw Water	26,000							1,300
	714,300							1,800,000

TABLE 7.2

GREATER CAIRO/HELWAN WATER UTILITY

UNIT COST OF SERVICE
CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

Cost Component	Cash Basis Cost of Service LE 1000	Units of Service	Unit Cost of Service LE/Unit
COMMON TO ALL			
Base cost	42,755	688,300 m^3	0.062
Extra capacity cost			
Maximum day	7,611	1,290 1000 m^3/d	5.900
Maximum hour	620	4,024 1000 m^3/d	0.154
Customer cost			
Meters and services	1,827	820,000 Eq.Meters	2.228
Bills	260	1,800,000 Bills	0.144
COMMON TO ALL EXCEPT WHOLESALE			
Base cost	5,664	607,300 1000 m^3	0.009
Extra capacity cost			
Maximum hour	5,023	3,536 1000 m^3/d	1.420
SPECIAL SERVICE			
Raw water cost	2,006	Direct	
Total	65,766		

TABLE 7.3

GREATER CAIRO/HELWAN WATER UTILITY

UNIT COST OF SERVICE
UTILITY BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

Cost Component	Utility Basis Cost of Service LE 1000	Units of Service	Unit Cost of Service LE/Unit
COMMON TO ALL			
Base cost	46,891	688,300 m^3	0.068
Extra capacity cost			
Maximum day	8,619	1,290 1000 m^3/d	6.681
Maximum hour	679	4,024 1000 m^3/d	0.169
Customer cost			
Meters and services	2,532	820,000 Eq.Meters	3.088
Bills	260	1,800,000 Bills	0.144
COMMON TO ALL EXCEPT WHOLESALE			
Base cost	6,461	607,400 1000 m^3	0.011
Extra capacity cost			
Maximum hour	5,706	3,536 1000 m^3	1.614
SPECIAL SERVICE			
Raw water cost	2,246	Direct	
Total	73,394		

TABLE 7.4

GREATER CAIRO/HELWAN WATER UTILITY

ALLOCATION OF CASH BASIS COST OF SERVICE TO CUSTOMER CLASSES

1984 TEST YEAR

	Common to All					Common to All Except Wholesale			
		Extra Capacity Cost		Customer Cost					
	Base Cost	Maximum Day	Maximum Hour	Equiv. Meters	Bills	Base Cost	Extra Capacity Max.Hour	Other Direct Cost	Total
Customer Class									
Unit Cost of Service (LE)	0.062	5.900	0.154	2.228	0.144	0.009	1.420		
Unit	1000 m^3	1000 m^3/d	1000 m^3/d	Eq.Mtrs.	Bills	1000 m^3	1000 m^3/d		
Units of Service									
General	484,600	996	2,988	746,100	1,736,800	484,600	2,988		
Commercial and Institutional	90,900	112	404	58,700	51,000	91,100	404		
Industrial	24,500	10	84	12,200	7,200	24,500	84		
Public Fountains	7,300	2	24	2,600	3,600	7,200	24		
Wholesale	81,000	155	488	400	100				
Other Special Customers					1,300				
Fire Protection		15	36				36		
Total	688,300	1,290	4,024	820,000	1,800,000	607,400	3,536		
Cost of Service	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000	LE1000
General	30,103	5,876	460	1,662	251	4,519	4,245		47,116
Commercial and Institutional	5,646	661	62	131	7	850	574		7,931
Industrial	1,522	59	13	27	1	228	119		1,969
Public Fountains	453	12	4	6		67	34		576
Wholesale	5,031	915	75	1					6,022
Other Special Customers									
Raw Water Service					1			2,006	2,007
Fire Protection		88	6				51		145
Total	42,755	7,611	620	1,827	260	5,664	5,023	2,006	65,766
Contribution for Services									2,883
Total Cost of Service									68,649

TABLE 7.5

GREATER CAIRO/HELWAN WATER UTILITY

ALLOCATION OF UTILITY BASIS COST OF SERVICE TO CUSTOMER CLASSES

1984 TEST YEAR

	Common to All					Common to All Except Wholesale			
		Extra Capacity Cost		Customer Cost					
	Base Cost	Maximum Day	Maximum Hour	Equiv. Meters	Bills	Base Cost	Extra Capacity Max.Hour	Other Direct Cost	Total
Customer Class									
Unit Cost of Service (LE)	0.068	6.681	0.169	3.088	0.144	0.011	1.614		
Unit	1000 m^3	1000 m^3/d	1000 m^3/d	Eq.Mtrs.	Bills	1000 m^3	1000 m^3/d		
Units of Service									
General	484,600	996	2,988	746,100	1,736,800	484,600	2,988		
Commercial and Institutional	90,900	112	404	58,700	51,000	91,100	404		
Industrial	24,500	10	84	12,200	7,200	24,500	84		
Public Fountains	7,300	2	24	2,600	3,600	7,200	24		
Wholesale	81,000	155	488	400	100				
Other Special Customers					1,300				
Fire Protection		15	36				36		
Total	688,300	1,290	4,024	820,000	1,800,000	607,400	3,536		
Cost of Service	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000
General	33,014	6,654	505	2,304	249	5,155	4,822		52,703
Commercial and Institutional	6,193	748	68	181	8	969	652		8,819
Industrial	1,669	67	14	38	1	261	136		2,186
Public Fountains	497	13	4	8	1	76	39		638
Wholesale	5,518	1,036	82	1					6,637
Other Special Customers									
Raw Water Service					1			2,246	2,247
Fire Protection		101	6				57		164
Total	46,891	8,619	679	2,532	260	6,461	5,706	2,246	73,394
Contribution for Services									2,883
Total Cost of Service									76,277

TABLE 8.1

GREATER CAIRO/HELWAN WATER UTILITY

BILL FREQUENCY DISTRIBUTION

Usage Block m3	Domestic Cumulative Number of Bills %	Domestic Cumulative Billed Usage(a) %	Commercial Cumulative Number of Bills %	Commercial Cumulative Billed Usage(a) %	Industrial Cumulative Number of Bills %	Industrial Cumulative Billed Usage(a) %
0	5.0	0	2.2	0	5.2	0
1-10	9.1	2.4	2.4	0.3	5.2	0.2
11-25	19.2	5.8	3.7	0.6	8.4	0.5
26-50	33.8	10.6	5.9	1.3	11.4	1.0
51-100	51.4	18.0	7.6	2.5	13.1	1.9
101-200	68.8	28.1	12.9	4.8	21.2	3.8
201-500	84.5	44.8	18.0	11.4	32.6	8.5
501-1,00	91.8	59.5	22.9	21.9	46.7	14.8
1,001-2,000	95.9	74.4	32.4	40.8	56.7	25.3
2,001-3,000	97.3	83.2	44.6	57.0	71.9	33.0
3,001-5,000	99.6	89.8	87.0	73.8	88.4	40.8
5,001-10,000	99.8	92.8	96.0	81.6	92.2	50.3
Over 10,000	100.0	100.0	100.0	100.0	100.0	100.0

(a) Cumulative usage in block of bills stopping in or passing through the block.

TABLE 9.1

GREATER CAIRO/HELWAN WATER UTILITY

RECOMMENDED "ABILITY TO PAY" WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

BILLS ISSUED BI-MONTHLY

	Rate Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
POTABLE WATER RETAIL SERVICE					
Volume Charge					
Applicable to all except Special Customers					
Charge per cubic meter for all measured or estimated water use per billing period					
First 100 cubic meters	0.008	0.011	0.014	0.017	0.020
Next 400 cubic meters	0.013	0.019	0.025	0.032	0.040
Next 500 cubic meters	0.018	0.030	0.040	0.055	0.070
Next 9,000 cubic meters	0.023	0.045	0.065	0.085	0.120
Over 10,000 cubic meters	0.042	0.080	0.120	0.160	0.220
Service Charge					
Domestic Customers					
Charge per living unit per billing period	0.150	0.250	0.350	0.550	0.700
Non Domestic Customers					
Charge per connection per billing period based on water meter size					
Meter Size mm					
20 and under	0.150	0.250	0.350	0.550	0.800
25	0.225	0.375	0.525	0.825	1.200
30	0.300	0.450	0.650	1.000	1.500
40	0.450	0.650	1.000	1.500	2.250
50	0.600	0.900	1.400	2.100	3.200
80	1.250	1.900	2.900	4.400	6.600
100	1.800	2.750	4.150	6.300	9.500
150	3.500	5.400	8.150	12.250	18.500
200	5.750	8.750	15.000	20.000	30.000
300	10.000	15.000	25.000	35.000	55.000

TABLE 9.1 (Continued)

GREATER CAIRO/HELWAN WATER UTILITY

RECOMMENDED "ABILITY TO PAY" WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

BILLS ISSUED BI-MONTHLY

	Rate Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
Special Customers					
Wholesale Water Service					
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.015	0.025	0.035	0.055	0.080
Service Charge Charge per connection per billing period	2.000	3.000	4.500	7.000	10.000
Public Fountains					
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.025	0.035	0.045	0.060	0.080
Service Charge Charge per fountain per billing period	0.400	0.600	0.900	1.400	2.000
Fire Protection Service					
Annual charge per hydrant	3.000	4.500	6.500	10.000	15.000
NON POTABLE WATER SERVICE					
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.015	0.023	0.035	0.052	0.077
Service Charge Charge per connection per billing period	0.200	0.300	0.450	0.700	1.000

TABLE 9.2

GREATER CAIRO/HELWAN WATER UTILITY

PROPOSED STANDARD BLOCK COST OF SERVICE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Rate LE
POTABLE WATER RETAIL SERVICE	
Applicable to all except Special Customers	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	
First 100 cubic meters	0.100
Next 1,900 cubic meters	0.095
Next 3,000 cubic meters	0.085
Over 5,000 cubic meters	0.080
Service Charge Charge per connection per billing period based on water meter size	
Meter Size mm	
20 and under	0.800
25	1.200
30	1.500
40	2.250
50	3.200
80	6.600
100	9.500
150	18.500
200	30.000
300	55.000

TABLE 9.2 (Continued)

GREATER CAIRO/HELWAN WATER UTILITY

PROPOSED STANDARD BLOCK COST OF SERVICE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Rate LE.
Special Customers	
Wholesale Water Service	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.080
Service Charge Charge per connection per billing period	10.000
Public Fountains	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.080
Service Charge Charge per fountain per billing period	2.000
Fire Protection Service	
Annual charge per hydrant	15.000
NON POTABLE WATER SERVICE	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.077
Service Charge Charge per connection per billing period	1.000

TABLE 9.3

GREATER CAIRO/HELWAN WATER UTILITY

PROPOSED SERVICE CHARGE-VOLUME CHARGE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Domestic Customer LE	Non Domestic Customer LE
POTABLE WATER RETAIL SERVICE		
Volume Charge		
Charge per cubic meter for all measured or estimated water use per billing period	0.098	0.090
Service Charge		
Charge per connection per billing period based on water meter size		
Meter Size mm		
20 and under	1.150	3.000
25	1.750	4.500
30	2.300	6.000
40	3.800	10.000
50	5.500	14.000
80	12.000	30.000
100	16.000	40.000
150	32.000	85.000
200	NA	135.000
300	NA	250.000

TABLE 9.3 (Continued)

GREATER CAIRO/HELWAN WATER UTILITY

PROPOSED SERVICE CHARGE-VOLUME CHARGE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Rate LE
Special Customers	
Wholesale Water Service	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.080
Service Charge Charge per connection per billing period	10.000
Public Fountains	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period.	0.080
Service Charge Charge per fountain per billing period	2.000
Fire Protection Service	
Annual charge per hydrant	15.000
NON POTABLE WATER SERVICE	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.077
Service Charge Charge per connection per billing period	1.000

TABLE 9.4

GREATER CAIRO/HELWAN WATER UTILITY

PROPOSED COMBINED "ABILITY TO PAY" - SERVICE CHARGE
VOLUME CHARGE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Rate LE
POTABLE WATER RETAIL SERVICE	
Domestic Customers Only	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	
First 100 cubic meters	0.025
Next 400 cubic meters	0.050
Next 500 cubic meters	0.100
Next 9,000 cubic meters	0.145
Over 10,000 cubic meters	0.220
Service Charge	
Charge per living unit per billing period	0.250
Nondomestic Customers	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	0.090
Service Charge	
On following page	

TABLE 9.4 (Continued)

GREATER CAIRO/HELWAN WATER UTILITY

PROPOSED COMBINED "ABILITY TO PAY" - SERVICE CHARGE - VOLUME CHARGE WATER RATES BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Rate LE
Nondomestic Customers (Cont'd.)	
Service Charge	
Charge per connection per billing period based on meter size	
Meter Size mm	
20 and under	3.000
25	4.500
30	6.000
40	10.000
50	14.000
80	30.000
100	40.000
150	85.000
200	135.000
300	250.000
Special Customers	
Wholesale Water Service	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	0.080
Service Charge	
Charge per connection per billing period	10.000

TABLE 9.4 (Continued)

GREATER CAIRO/HELWAN WATER UTILITY

PROPOSED COMBINED "ABILITY TO PAY" - SERVICE CHARGE
VOLUME CHARGE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Rate LE
Public Fountains	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.080
Service Charge Charge per fountain per billing period	2.000
Fire Protection Service	
Annual charge per hydrant	15.000
NON POTABLE WATER SERVICE	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.077
Service Charge Charge per connection per billing period	1.000

TABLE 9.5

GREATER CAIRO/HELWAN WATER UTILITY

PROPOSED "ABILITY TO PAY" WATER RATES
BASED ON UTILITY BASIS REVENUE REQUIREMENTS

BILLS ISSUED BI-MONTHLY

	Rate Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
POTABLE WATER RETAIL SERVICE					
Volume Charge					
Applicable to all Except Special Customers					
Charge per cubic meter for all measured or estimated water use per billing period					
First 100 cubic meters	0.008	0.011	0.014	0.017	0.020
Next 400 cubic meters	0.015	0.025	0.035	0.040	0.045
Next 500 cubic meters	0.020	0.035	0.050	0.060	0.075
Next 9,000 cubic meters	0.025	0.055	0.090	0.120	0.145
Over 10,000 cubic meters	0.045	0.090	0.135	0.180	0.220
Service Charge					
Domestic Customers					
Charge per living unit per billing period	0.150	0.250	0.350	0.550	0.700
Non Domestic Customers					
Charge per connection per billing period based on water meter size					
Meter Size mm					
20 and under	0.150	1.100	2.000	3.000	4.000
25	0.225	1.650	3.000	4.500	6.000
30	0.300	2.200	4.000	6.000	8.000
40	0.500	3.600	7.000	10.000	13.000
50	0.700	5.000	9.000	14.000	19.000
80	1.500	11.000	20.000	30.000	40.000
100	2.000	15.000	28.000	40.000	55.000
150	4.000	30.000	56.000	85.000	110.000
200	7.000	50.000	90.000	135.000	180.000
300	12.000	95.000	170.000	260.000	350.000

TABLE 9.5 (Continued)

GREATER CAIRO/HELWAN WATER UTILITY

PROPOSED "ABILITY TO PAY" WATER RATES
BASED ON UTILITY BASIS REVENUE REQUIREMENTS

BILLS ISSUED BI-MONTHLY

	Rate Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
Special Customers					
Wholesale Water Service					
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.020	0.030	0.040	0.060	0.086
Service Charge Charge per connection per billing period	2.000	3.000	4.500	7.000	10.000
Public Fountains					
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.028	0.040	0.050	0.070	0.091
Service Charge Charge per fountain per billing period	0.500	0.750	1.100	1.750	2.500
Fire Protection Service					
Annual charge per hydrant	3.000	6.000	10.000	13.000	16.500
NON POTABLE WATER SERVICE					
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.028	0.040	0.050	0.070	0.091
Service Charge Charge per connection per billing period	0.200	0.300	0.450	0.700	1.000

TABLE 9.6

GREATER CAIRO/HELWAN WATER UTILITY

LONG-RUN AVERAGE INCREMENTAL COST OF WATER
1978 COST LEVELS

Year	Capital Costs LE 1000	Operating Expenses LE 1000	Total LE 1000	Incremental Volume 1000 m3
1977	6,180	-	6,180	-
1978	24,632	-	24,632	-
1979	39,394	-	39,394	-
1980	33,712	-	33,712	-
1981	24,073	90	24,163	7,787
1982	9,419	754	10,173	63,851
1983	2,500	1,709	4,209	122,251
1984 to 2020	-	4,298	4,298	287,717

Discount Rate %	Long-run Incremental Average Cost milliemes/m3
10	80
12	96
15	123
20	178

TABLE 10.1

GREATER CAIRO/HELWAN WATER UTILITY

COMPARISON OF REVENUE FROM WATER SALES AT PROPOSED RATES WITH COST OF SERVICE BY CUSTOMER CLASS

1984 TEST YEAR

	Cost of Service(a) LE 1000	Revenue at Recommended Rates(b) LE 1000	Per Cent Revenue Of Cost %
General	47,116	42,794	90.8
Commercial and Institutional	7,931	11,002	138.7
Industrial	1,969	3,704	188.1
Public Fountains	576	559	97.0
Wholesale	6,022	6,156	102.2
Non Potable Water	2,007	1,903	94.8
Fire Protection	145	145	100.0
Total	65,766	66,263	100.7

(a) Based on Cash Basis Revenue Requirements

(b) At recommended "Ability to Pay" rates. Table 9.2

TABLE 10.2

GREATER CAIRO/HELWAN WATER UTILITIES

COMPARISON OF REVENUE FROM WATER SALES AT PROPOSED RATES WITH COST OF SERVICE BY CUSTOMER CLASS

1984 TEST YEAR

	Cost of Service[a] LE 1000	Revenue At Proposed Rates[b] LE 1000	Per Cent Revenue Of Cost %
General	47,116	44,721	94.9
Commercial and Institutional	7,931	7,883	99.4
Industrial	1,969	2,045	103.8
Public Fountains	576	559	97.0
Wholesale	6,022	6,156	102.2
Non Potable Water	2,007	1,903	94.8
Fire Protection	145	145	100.0
Total	65,766	63,412	96.4

(a) Based on Cash Basis Revenue Requirements

(b) At proposed Standard Block Cost of Service Notes, Table 9.1

TABLE 10.3

GREATER CAIRO/HELWAN WATER UTILITY

COMPARISON OF REVENUE FROM WATER SALES AT PROPOSED RATES WITH COST OF SERVICE BY CUSTOMER CLASS

1984 TEST YEAR

	Cost of Service(a) LE 1000	Revenue at Proposed Rates(b) LE 1000	Per Cent Revenue Of Cost %
General	47,116	47,016	99.8
Commercial and Institutional	7,931	7,913	99.8
Industrial	1,969	2,116	107.5
Public Fountains	576	561	97.4
Wholesale	6,022	6,156	102.2
Non Potable Water	2,007	1,914	95.4
Fire Protection	145	145	100.0
Total	65,766	65,821	100.1

(a) Based on Cash Basis Revenue Requirements

(b) At proposed "Service" Charge - Volume Charge rates, Table 9.3

TABLE 10.4

GREATER CAIRO/HELWAN WATER UTILITY

COMPARISCN OF REVENUE FROM WATER SALES
AT PROPOSED RATES WITH COST OF SERVICE
BY CUSTOMER CLASS

1984 TEST YEAR

	Cost of Service(a) LE 1000	Revenue At Proposed Rates(b) LE 1000	Per Cent Revenue Of Cost %
General	47,116	46,587	98.9
Commercial and Institutional	7,931	7,913	99.8
Industrial	1,969	2,116	107.5
Public Fountains	576	561	97.4
Wholesale	6,022	6,156	102.2
Non Potable Water	2,007	1,914	95.4
Fire Protection	145	145	100.0
Total	65,766	65,392	99.4

(a) Based on Cash Basis Revenue Requirements

(b) At combined rates with Domestic Customers on "Ability to Pay" rates and Non Domestic Customers on "Service Charge - Volume Charge" Rates, Table 9.4.

TABLE 10.5

GREATER CAIRO/HELWAN WATER UTILITY

COMPARISON OF REVENUE FROM WATER SALES AT PROPOSED RATES WITH COST OF SERVICE BY CUSTOMER CLASS

1984 TEST YEAR

	Cost of Service[a] LE 1000	Revenue At Proposed Rates[b] LE 1000	Per Cent Revenue Of Cost %
General	52,703	47,654	90.4
Commercial and Institutional	8,819	13,735	155.7
Industrial	2,186	4,299	196.7
Public Fountains	638	639	100.2
Wholesale	6,637	6,619	99.7
Non Potable Water	2,247	2,249	100.1
Fire Protection	164	164	100.0
Total	73,394	75,359	102.7

(a) Based on Utility Basis Revenue Requirements

(b) At Proposed "Ability to Pay" rates, Table 9.5

TABLE 10.6

GREATER CAIRO/HELWAN WATER UTILITY

SUBSIDY REQUIRED TO RECOVER REVENUE REQUIREMENTS

Year	Total Revenue Requirements[a] LE 1000	Revenues at Recommended Rates[b] LE 1000	Required Subsidy LE 1000
1980	26,781	11,687	15,094
1981	35,169	21,641	13,528
1982	42,436	32,309	10,127
1983	50,089	46,052	4,037
1984	65,766	66,263	NONE

(a) Net Cash Basis Revenue Requirements after deducting other income.

(b) At recommended "Ability to Pay" Rates (Table 9.1) to be implemental in annual increments beginning January 1, 1980.

TABLE 10.7

GREATER CAIRO/HELWAN WATER UTILITY

SUBSIDY REQUIRED TO RECOVER
REVENUE REQUIREMENTS

Year	Total Revenue Requirements(a) LE 1000	Revenues at Proposed Rates(b) LE 1000	Required Subsidy LE 1000
1980	40,706	13,136	27,570
1981	49,391	26,162	23,229
1982	56,713	41,585	15,128
1983	65,145	58,017	7,128
1984	73,394	75,359	NONE

(a) Net Utility Basis Revenue Requirements aft deducting other income

(b) At proposed "Ability to Pay" rates (Table 9.5) to be implemented in annual increments beginning January 1, 1980

TABLE 12.1

GREATER CAIRO/HELWAN WATER UTILITY

PROFORMA STATEMENT OF INCOME.

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
OPERATING INCOME											
Revenues from water sales[a]	11,687	21,641	32,309	46,052	66,264	71,851	82,953	90,980	103,520	123,632	267,979
Other operating income	1,737	1,986	2,274	2,605	2,883	3,265	3,574	3,912	4,284	5,142	12,963
Total Operating Income	13,424	23,627	34,583	48,657	69,147	75,116	86,527	94,892	107,804	128,774	280,942
OPERATING EXPENSE											
Operation and maintenance expense	14,971	17,202	19,830	22,799	26,251	28,870	31,825	35,095	38,692	46,983	126,522
Depreciation expense	7,772	10,875	13,256	15,651	18,125	20,125	22,096	24,797	28,003	34,638	66,185
Total Operating Expense	22,743	28,077	33,086	38,450	44,376	48,995	53,921	59,892	66,695	81,621	192,707
Net Operating income	(9,319)	(4,450)	1,497	10,207	24,771	26,121	32,606	35,000	41,109	47,153	88,235
NON OPERATING INCOME	280	310	340	370	390	410	440	470	500	500	500
Gross Income	(9,039)	(4,140)	1,837	10,577	25,161	26,531	33,046	35,470	41,609	47,653	88,735
INCOME DEDUCTIONS											
Interest expense	10,750	14,836	18,700	22,383	27,011	30,010	32,569	35,549	38,423	44,442	65,408
Net Income (Loss)	(19,789)	(18,976)	(16,863)	(11,806)	(1,850)	(3,479)	477	(79)	3,186	3,211	23,327
NET UTILITY PLANT IN SERVICE (LE MILLIONS)[b]	328.5	338.0	432.3	437.7	531.6	556.1	594.4	651.9	715.6	831.9	1141.6
Return on Investment- %[c]	-	-	0.3	2.1	4.6	4.7	5.5	5.4	5.7	5.7	7.7

(a) With revenues computed on Cash Basis "Ability to Pay" Rates, Tables 9.1, 10.6.

(b) Net Plant in Service from Table 5.4 consists of RCLD at December 31, 1978 together with additions at cost subsequent thereto and an allowance for depreciation.

(c) Return on Investment is computed by dividing Net Operating Income by Net Plant in Service.

TABLE 12.2

GREATER CAIRO/HELWAN WATER UTILITY

PROFORMA STATEMENT OF INCOME

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
OPERATING INCOME											
Revenues from water sales[a]	13,136	26,162	41,585	58,017	75,359	79,130	86,047	95,080	105,311	126,379	248,244
Other operating income	1,737	1,986	2,274	2,605	2,883	3,265	3,574	3,912	4,284	5,142	12,963
Total Operating income	14,873	28,148	43,859	60,622	78,242	82,395	89,621	98,992	109,595	131,521	261,207
OPERATING EXPENSE											
Operation and maintenance expense	14,971	17,202	19,830	22,799	26,251	28,870	31,825	35,095	38,692	46,983	126,522
Depreciation expense	7,772	10,875	13,256	15,651	18,125	20,125	22,096	24,797	28,003	34,638	66,185
Total Operating Expense	22,743	28,077	33,086	38,450	44,376	48,995	53,921	59,892	66,695	81,621	192,707
Net Operating Income	(7,870)	71	10,773	22,172	33,866	33,400	35,700	39,100	42,900	49,900	68,500
NON OPERATING INCOME	280	310	340	370	390	410	440	470	500	500	500
Gross Income	(7,590)	381	11,113	22,542	34,256	33,810	36,140	39,570	43,400	59,400	69,000
INCOME DEDUCTIONS											
Interest expense	10,750	14,836	18,700	22,383	27,011	30,010	32,569	35,549	38,423	44,442	65,408
Net Income (Loss)	(18,340)	(14,455)	(7,587)	159	7,245	3,800	3,571	4,021	4,977	5,958	3,592
NET UTILITY PLANT IN SERVICE (LE MILLIONS)[b]	328.5	338.0	432.3	487.7	531.6	556.1	594.4	651.9	715.6	831.9	1141.8
Return on Investment[c]	-	-	2.5	4.5	6.3	6.0	6.0	6.0	6.0	6.0	6.0

a) With revenues computed on Cash Basis "Ability to Pay" Rates, Tables 9.5, 10.7.

b) Net Plant in Service from Table 5.4 consists of RCLD at December 31, 1978 together with additions at cost subsequent thereto and an allowance for depreciation.

c) Return on Investment is computed by dividing Net Operating Income by Net Plant in Service.

TABLE 12.3

GREATER CAIRO/HELWAN WATER UTILITY

PROFORMA STATEMENT OF SOURCE AND APPLICATION OF OPERATING FUNDS

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
SOURCE OF FUNDS											
Net Operating Income[a]	(9,319)	(4,450)	1,497	10,207	24,771	26,121	32,606	35,000	41,109	47,153	88,235
Depreciation Expense	7,772	10,875	13,256	15,651	18,125	20,125	22,096	24,797	28,003	34,638	66,185
Sub total	(1,547)	6,425	14,753	25,858	42,896	46,246	54,702	59,797	69,112	81,791	154,420
Non Operating Income	280	310	340	370	390	410	440	470	500	500	500
Operating Subsidy	15,094	13,528	10,127	4,037							
Total Available Operating Fund	13,827	20,263	25,220	30,265	43,286	46,656	55,142	60,267	69,612	82,291	154,920
APPLICATION OF FUNDS											
Routine Improvements	2,700	4,000	5,000	6,000	8,500	9,000	11,000	12,000	14,000	16,500	31,000
Debt Service Charges											
Interest	10,750	14,836	18,700	22,383	27,011	30,010	32,569	35,549	38,423	44,442	65,408
Principal	97	1,117	1,179	1,512	6,886	7,236	11,133	12,248	16,689	20,849	58,012
Total Debt Service	10,847	15,953	19,879	23,895	33,897	37,246	43,702	47,797	55,112	65,291	123,420
Total Application of Operating Funds	13,547	19,953	24,879	29,895	42,397	46,246	54,702	59,797	69,112	81,791	154,420
Net Operating Fund Changes	280	310	341	370	889	410	440	470	500	500	500

(a) Based on revenues from water sales computed on Cash Basis Revenue Requirements.

TABLE 12.4

GREATER CAIRO/HELWAN WATER UTILITY

PROFORMA STATEMENT OF SOURCE AND APPLICATION OF OPERATING FUNDS

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
SOURCE OF FUNDS											
Net Operating Income[a]	(7,870)	71	10,773	22,172	33,866	33,400	35,700	39,100	42,900	49,900	68,500
Depreciation Expense	7,772	10,875	13,256	15,651	18,125	20,125	22,096	24,797	28,003	34,638	66,185
Sub total	(98)	10,946	24,029	37,823	51,991	53,525	57,796	63,897	70,903	84,538	134,685
Non Operating Income	280	310	340	370	390	410	440	470	500	500	500
Operating Subsidy	27,570	23,229	15,128	7,128							
Total Available Operating Funds	27,752	34,485	39,497	45,321	52,381	53,935	58,236	64,367	71,403	85,038	135,185
APPLICATION OF FUNDS											
Routine Improvements	2,700	4,000	5,000	6,000	8,500	9,000	11,000	12,000	14,000	16,500	31,000
Debt Service Charges											
Interest	10,750	14,836	18,700	22,383	27,011	30,010	32,569	35,549	38,423	44,442	65,408
Principal	97	1,117	1,179	1,512	6,886	7,236	11,133	12,248	16,689	20,849	58,012
Total Debt Service	10,847	15,953	19,879	23,895	33,897	37,246	43,702	47,797	55,112	65,291	123,420
Total Application of Operating Funds	13,547	19,953	24,879	29,895	42,397	46,246	54,702	59,797	69,112	81,791	154,420
Net Operating Fund Changes	14,205	14,532	14,618	15,426	9,984	7,689	3,534	4,570	2,291	3,247	(19,235)

(a) Based on revenes from water sales computed on Utility Basis Revenue Requirements.

TABLE 12.5

GREATER CAIRO/HELWAN WATER UTILITY

PROFORMA BALANCE SHEET

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
ASSETS											
Utility Plant in Service[a]	267,407	340,376	400,600	474,299	538,934	586,113	649,136	734,077	828,414	1,015,834	1,865,999
Accumulated Provision for Depreciation[a]	26,755	37,630	50,884	65,935	84,060	104,185	126,281	151,078	179,081	245,039	764,926
Net Utility Plant in Service	240,652	302,746	349,716	408,364	454,874	481,928	522,855	582,999	649,333	770,795	1,101,073
Current Assets											
Cash	1,871	2,150	2,479	2,850	3,281	3,609	3,978	4,387	4,837	5,873	15,815
Accounts Payable	2,715	4,169	6,613	10,427	16,442	17,963	20,738	22,745	25,880	30,908	66,995
Material and Supplies	3,026	3,479	4,005	4,605	5,299	5,839	6,440	7,104	7,835	9,529	25,538
Total Current Assets	7,612	9,798	13,097	17,882	25,022	27,411	31,156	34,236	38,552	46,310	108,348
Total Assets	248,264	312,544	362,813	426,246	479,896	509,339	554,011	617,235	687,885	817,105	1,209,421
LIABILITIES AND EQUITY											
Greater Cairo/Helwan Water Utility Equity Capital	32,682	28,738	42,881	39,632	45,024	43,087	46,377	48,363	54,765	64,931	224,303
Long Term Debt	213,087	280,939	316,627	382,814	430,497	461,440	502,330	563,023	626,671	744,343	964,031
Current Liabilities											
Accounts Payable	2,495	2,867	3,305	3,800	4,375	4,812	5,304	5,849	6,449	7,831	21,087
Total Liabilities and Equity	248,264	312,544	362,813	426,246	479,896	509,339	554,011	617,235	687,885	817,105	1,209,421

(a) Based on original cost at December 31, 1978 and projected additions at cost subsequent thereto.

APPENDIX II

ALEXANDRIA

WATER UTILITY

TABLE 2.1

ALEXANDRIA WATER UTILITY

HISTORICAL AND PROPOSED CAPITAL IMPROVEMENT PROGRAM

Year	Major Projects Local LE 1000	Major Projects Foreign LE 1000	Major Projects Total LE 1000	Routine Projects LE 1000	Total LE 1000
			HISTORICAL		
1973					389
1974					657
1975					3,762
1976					11,107[a]
1977					2,121
1978					7,058
			PROPOSED[b]		
1979	14,849	20,788	35,637	873	36,510
1980	5,303	7,424	12,727	1,457	14,184
1981	7,848	10,988	18,836	2,077	20,913
1982	2,899	1,192	4,091	3,681	7,772
1983	5,774	4,501	10,275	3,800	14,075
1984	6,632	4,973	11,605	4,216	15,821
1985	6,450	4,667	11,117	4,387	15,504
1986	2,852	1,165	4,017	4,687	8,704
1987	3,749	1,419	5,168	4,866	10,034
1988	2,780	1,237	4,017	5,092	9,109
After 1988	94,639	65,608	160,247	90,155	250,402
Total,	1979-2000				403,028

(a) Includes increase in value from a revaluation of fixed assets of about LE 4,349,000.

(b) Based on AWGA long range plan for capital improvements adjusted for inflation.

TABLE 2.2

ALEXANDRIA WATER UTILITY

DEBT SERVICE CHARGES ON EXISTING AND PROPOSED CONSTRUCTION LOANS

Year	Local Currency Loans		Foreign Currency Loans		Total
	Existing LE1000	Proposed LE1000	Existing* LE1000	Proposed LE1000	LE1000
1979		181	1,565		1,746
1980		514	2,399		2,913
1981		974	3,180		4,154
1982		1,423	5,864	75	7,362
1983		1,788	5,649	162	7,599
1984		2,673	5,375	383	8,431
1985		3,013	5,161	600	8,774
1986		3,618	4,946	809	9,373
1987		3,882	4,731	1,118	9,731
1988		4,443	4,516	1,225	10,184
1990		5,137	4,087	1,695	10,919
2000		12,444		6,895	19,339

* Debt service on existing foreign loans consists of amortization of the following total loan amounts:

International Bank for Reconstruction and Development (IBRD)	$	56,000,000
Czeckoslovakia	LE	281,763

TABLE 3.1

ALEXANDRIA WATER UTILITY

PROJECTED POPULATION, CONNECTIONS AND WATER USE

Year	Population 1000	Average Number of Water Subscriptions (a)	Water Use (b) 1000 m3
		HISTORICAL	
1973			203,074
1974			216,171
1975			231,332
1976	2,304	218,178	252,841
1977	2,344	226,373	263,652
1978	2,385	232,138	291,697
		PROJECTED	
1979	2,429	234,100	251,120
1980	2,473	237,800	259,515
1981	2,520	241,700	268,640
1982	2,568	245,700	277,765
1983	2,619	249,900	286,890
1984	2,671	254,300	297,110
1985	2,726	258,900	305,140
1986	2,784	263,400	316,090
1987	2,845	268,100	327,770
1988	2,908	273,000	339,085
1990	3,046	283,600	366,460
2000	4,570	388,300	622,690

(a) Water connections reported by the AWGA include metered and unmetered customers, turbid water and high pressure customers. Metered customers are classified as "subscriptions". Since many living units have individual metering, the number of connections represents buildings served, and the number of subscriptions represents the number of customers normally billed.

(b) Historical numbers are unmetered amounts from AWGA records. Projected production based on quantities which reflect reduced pumpage estimates.

TABLE 4.1

ALEXANDRIA WATER UTILITY
EXISTING AWGA WATER RATE SCHEDULES

	Alexandria Governorate and Western Desert milliemes per cubic meter
Metered Filtered Water	
Residential	
First Ten cubic meters (minimum)	10.0
Over Ten cubic meters	15.2
Non Residential	
Up to 1976 Consumption	40.0
Over 1976 Consumption	60.0
Government Administrations and Related Units	75.0
Charitable Societies, Youth Centers, Places of Worship	
Up to 1976 Consumption	20.0
Over 1976 Consumption	30.0
Youth Centers	
Up to 1976 Consumption	10.0
Over 1976 Consumption	15.0
Ships in Harbor	
Through water conveyors, minimum $25m^3$	550.0
Through quay taps, no minimum	550.0

Billing Period Every Two Months

	Alexandria Governorate Only
Unmetered Filtered Water - Monthly Subscription according to rental value	milliemes
Annual Rental Value from 1 to 12 LE	100
12 to 15 LE	150
15 to 30 LE	200
30 to 40 LE	300
40 to 60 LE	400
60 to 80 LE	500
80 to 120 LE	650
Over 120 LE	800

Plus four percent water treatment charge over 300 mms
(Note: Not available for new subscriptions)

TABLE 4.1 (Continued)

ALEXANDRIA WATER UTILITY
EXISTING AWGA WATER RATE SCHEDULES

Raw Water for Garden Supply
Turbid Water For Gardens in Ramleh

Monthly Metered Rate 0 - 50 m^3	400.0 Minimum
Over 50 m^3	7.5 per m^3

Unmetered Water According to Surface Area - Every Three Months

0-400 sq. rods	1,232
400-800 sq. rods	1,760
800-4000 sq. rods	528
For every 800 sq. rods Over 4000 sq. rods	352

Fire Hydrants Installation
Potable Water Network

Milliemes

200/month ID 3" internal fire hydrants
300/month 4" internal fire hydrants
400/month 6" internal fire hydrants
600/month 8" internal fire hydrants
200/month all external fire hydrants
500/month Alexandria Governorate all external fire hydrants
015/annum For each sprinkler

High Pressure Network For Fire Fighting

LE 12.000/annum For each hydrant
.075/annum For each internal or external sprinkler

METER RENTAL VALUE AND DEPOSITS

Diameter inches	Deposits for Authority Meter LE	Meter Rent Value For Authority Meter mms	Observation Fees Sub.Owned Meters mms
.5 vertical	11.500	120	60
.5	11.500	090	45
3/4	12.100	150	75
1	18.800	180	90
1.5	20.720	210	105
1.75	33.800	300	150
2	190.240	330	165
3	215.180	420	210
4	257.870	900	450
6	410.640	1500	750
8	532.000	1800	900

TABLE 4.1 (Continued)

ALEXANDRIA WATER UTILITY
EXISTING AWGA WATER RATE SCHEDULES

	Western Desert Only milliemes per cubic meter
Metered Filtered Water for Housing Units	
Abdel Kader, Bahig and Borg El Arab and Gharbaniyyat	40.000
El Hammam	50.000
Alamein	70.000
El Dabbah	150.000
Government Consumption -	
El Nabareya	17.340
Marint El Gedia	20.000
Borg El Arab	53.300
El Gharbaniyyat, Abdel Kader, El Hammam, El Amid	78.830
Alamein	110.110
Ghazal, El Dabbah	160.900
Fauka	224.336
Marsa Matrouh	
1st 500 m^3 daily	140.000
Over 500 m^3 daily	275.000

TABLE 4.2

ALEXANDRIA WATER UTILITY

HISTORICAL REVENUES

	1973 LE	1974 LE	1975 LE	1976 LE	1977 LE	1978 LE
OPERATING REVENUES						
Revenue from Water Sales						
Metered	1,858,067	1,814,093	1,981,559	2,294,413	4,113,699	5,312,262
Unmetered	13,474	7,656	8,439	8,131	7,850	7,759
Raw water	7,050	6,729	6,827	6,734	6,585	6,125
Total Water Sales Revenues	1,878,591	1,828,478	1,996,825	2,309,278	4,128,134	5,326,146
Other Operating Income						
Installation and connections	271,553	325,042	310,193	402,911	442,778	663,428
Total Operating Revenues	2,150,144	2,153,520	2,307,018	2,712,189	4,570,912	5,989,574
NON OPERATING REVENUES						
Investment Income	3,398	1,210	3,036	6,065	3,378	4,082
Rents	1,758	1,716	1,831	1,794	2,046	1,986
Miscellaneous	18,744	19,900	13,406	22,702	42,501	216,974
Total Non Operating Revenue	23,900	22,826	18,273	30,561	47,925	223,042
SUBSIDIES AND LOANS						
Operating Subsidy Loan	506,490	814,000	NI	NI	NI	NI
Operating Loss	385,149	511,657	1,306,990	1,986,895	1,150,183	NI
Project Loans	2,018,700	3,223,000	5,984,000	6,247,000	3,571,618	NI
Total Subsidies and Loans	2,910,339	4,548,657	7,290,990	8,233,895	4,721,801	

NI - Not identified from available records

TABLE 4.3

ALEXANDRIA WATER UTILITY

PROJECTED REVENUES

Year	Operating Revenues Water Sales LE	Operating Revenues Other LE	Miscellaneous Non operating Revenues LE	Total LE
1979	5,427,000	468,200	45,000	5,940,200
1980	5,614,000	475,600	50,000	6,139,600
1981	5,812,000	483,400	55,000	6,350,400
1982	6,009,000	491,400	60,000	6,560,400
1983	6,207,000	499,800	65,000	6,771,800
1984	6,422,000	508,600	70,000	7,000,600
1985	6,600,000	517,800	75,000	7,192,800
1986	6,837,000	526,800	80,000	7,443,800
1987	7,083,000	536,200	85,000	7,704,200
1988	7,329,000	546,000	90,000	7,965,000
1990	7,921,000	567,200	100,000	8,588,200
2000	13,459,000	776,600	100,000	14,335,600

TABLE 5.1

ALEXANDRIA WATER UTILITY

OPERATION AND MAINTENANCE EXPENSE

Year	Operating Articles				Service Articles	
	Wages LE	Fuel and Power LE	Chemicals LE	Other LE	Maintenance and Other LE	Total LE
			HISTORICAL			
1973	731,938	391,681	168,555	140,383	227,667	1,660,224
1974	840,942	427,091	209,261	156,456	194,521	1,828,271
1975	993,599	682,268	317,107	269,990	212,307	2,475,271
1976	1,201,850	739,273	323,172	376,888	364,474	3,005,657
1977	1,353,873	861,985	451,267	434,471	350,814	3,452,410
1978	1,593,798	908,738	681,110	707,787	522,727	4,414,160
			PROJECTED			
1979	1,811,400	1,032,800	774,100	804,400	594,100	5,016,800
1980	2,058,800	1,173,900	879,800	914,300	675,200	5,702,000
1981	2,340,000	1,334,200	1,000,000	1,039,200	767,500	6,480,900
1982	2,659,500	1,516,400	1,136,500	1,181,100	872,300	7,365,800
1983	3,022,700	1,723,500	1,291,800	1,342,300	991,400	8,371,700
1984	3,435,500	1,958,800	1,468,200	1,525,700	1,126,800	9,515,000
1985	3,735,600	2,129,900	1,596,500	1,659,000	1,225,200	10,346,200
1986	4,062,000	2,316,000	1,735,900	1,803,900	1,332,300	11,250,100
1987	4,416,800	2,518,300	1,887,600	1,961,500	1,448,700	12,232,900
1988	4,802,700	2,738,300	2,052,500	2,132,900	1,575,200	13,301,600
1990	5,678,500	3,237,700	2,426,800	2,521,800	1,862,500	15,727,300
2000	15,717,100	8,961,400	6,717,000	6,979,900	5,155,100	43,530,500

TABLE 5.2

ALEXANDRIA WATER UTILITY

DEBT SERVICE CHARGES WITH COVERAGE REQUIREMENTS

Year	Debt Service Charges LE 1000	Debt Coverage[a] LE 1000	Total LE 1000
1979	1,746	873	2,619
1980	2,913	1,457	4,370
1981	4,154	2,077	6,231
1982	7,362	3,681	11,043
1983	7,599	3,800	11,399
1984	8,431	4,216	12,647
1985	8,774	4,387	13,161
1986	9,373	4,687	14,060
1987	9,731	4,866	14,597
1988	10,184	5,092	15,276
1990	10,919	5,460	16,377
2000	19,339	9,670	29,009

(a) Provisions of the loan with the International Bank for Reconstruction and Development require fifty percent debt service coverage to acquire additional debt.

TABLE 5.3

ALEXANDRIA WATER UTILITY

ESTIMATED DEPRECIATION EXPENSE

Year	Water Plant in Service: Annual Additions LE 1000	Cumulative Balance LE 1000	Land LE 1000	Depreciable Balance LE 1000	Average Balance LE 1000	Depreciation Expense[b] LE 1000
1978[a]		39,490	776			
1979	36,510	76,000	1,500	74,500	56,607	1,698
1980	14,184	90,184	1,800	88,384	81,442	2,443
1981	20,913	111,097	2,200	108,897	98,640	2,959
1982	7,772	118,869	2,300	116,568	112,733	3,382
1983	14,075	132,944	2,600	130,344	123,457	3,704
1984	15,821	148,765	2,900	145,865	138,105	4,143
1985	15,504	164,269	3,200	161,069	153,467	4,604
1986	8,704	172,973	3,400	169,573	165,321	4,960
1987	10,034	183,007	3,600	179,407	174,490	5,235
1988	9,109	192,116	3,800	188,316	183,862	5,516
1990	11,178	214,479	4,200	210,279	202,690	6,081
1991 to 2000	228,039	442,518	8,700	433,818	425,127	12,754

(a) Estimated original cost at December 31,1978

(b) At composite rate of depreciation of 3.00 per cent

TABLE 5.4

ALEXANDRIA WATER UTILITY

PROFORMA RETURN ON INVESTMENT

Year	Estimated Construction Cost LE 1000	Cumulative Balance* LE 1000	Cumulative Allowance for Depreciation LE 1000	Net Plant in Service LE 1000	Required Return @ 6 Percent LE 1000
1978		86,300			
1979	36,500	122,800	3,100	119,700	7,200
1980	14,200	137,000	7,000	130,000	7,800
1981	20,900	157,900	11,400	146,500	8,800
1982	7,800	165,700	16,100	149,600	9,000
1983	14,100	179,800	21,200	158,600	9,500
1984	15,800	195,600	26,700	168,900	10,100
1985	15,500	211,100	32,700	178,400	10,700
1986	8,700	219,800	39,100	180,700	10,800
1987	10,000	229,800	45,800	184,000	11,000
1988	9,100	238,900	52,700	186,200	11,200
1990	11,200	261,300	67,100	194,200	11,700
2000	228,000	489,300	185,900	303,400	18,200

* Based on RCLD at December 31, 1978 and additions at cost subsequent thereto.

TABLE 5.5

ALEXANDRIA WATER UTILITY

COMPARATIVE SUMMARY OF REVENUE REQUIREMENTS

Year	Cash Basis				Utility Basis			
	Operation & Maintenance Expense LE 1000 (a)	Debt Service LE 1000 (b)	Routine Annual Improvements LE 1000 (c)	Total LE 1000	Operation & Maintenance Expense LE 1000 (a)	Depreciation Expense LE 1000 (d)	Return on Investment LE 1000 (e)	Total LE 1000
1979	5,016	1,746	873	7,635	5,016	1,698	7,200	13,914
1980	5,702	2,913	1,457	10,072	5,702	2,443	7,800	15,945
1981	6,481	4,154	2,077	12,712	6,481	2,959	8,800	18,240
1982	7,366	7,362	3,681	18,409	7,366	3,382	9,000	19,748
1983	8,372	7,599	3,800	19,771	8,372	3,704	9,500	21,576
1984	9,515	8,431	4,216	22,162	9,515	4,143	10,100	23,758
1985	10,346	8,774	4,387	23,507	10,346	4,604	10,700	25,650
1986	11,250	9,373	4,687	25,310	11,250	4,960	10,800	27,010
1987	12,233	9,731	4,866	26,830	12,233	5,235	11,000	28,468
1988	13,302	10,184	5,092	28,578	13,302	5,516	11,200	30,018
1990	15,727	10,919	5,460	32,106	15,727	6,081	11,700	33,508
2000	43,531	19,339	9,670	72,540	43,531	12.754	18,200	74,485

(a) Table 5.1
(b) Table 2.2
(c) Table 5.2
(d) Table 5.3
(e) Table 5.4

TABLE 6.1

ALEXANDRIA WATER UTILITY

COINCIDENTAL DEMAND FACTORS

	DEMAND FACTORS		
	Maximum Day %	Base %	Extra Capacity %
Coincidental maximum day demand factors	130	100	30
Ratio	100	77	23
	Maximum Hour %	Base %	Extra Capacity %
Coincidental maximum hour demand factors	170	100	70
Ratio	100	59	41

TABLE 6.2

ALEXANDRIA WATER UTILITY

ALLOCATION OF OPERATION AND MAINTENANCE EXPENSE
TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

		Common to All					Common to All Except Western Desert				
			Extra Capacity					Extra			
	Total	Base Cost	Maximum Day	Maximum Hour	Meters & Services	Bills	Base Cost	Capacity Max.Hour	Western Desert	Raw Water	Fire Protection
	LE1000	LE1000	LE1000	LE1000	LE1000	LE1000	LE1000	LE1000	LE1000	LE1000	LE1000
Water Treatment Expense											
Chemicals	1,468	1,468									
Other	212	163	49								
Pumping Expense											
Power	1,956	1,747	191	3					15		
Other	118	31		20					67		
Transmission and Distribution Expense											
Transmission mains	2,458	1,665	497						296		
Distribution mains	956						564	392			
Meters and services	839				839						
Customer Accounts Expense											
Meter reading, billing and accounting	257					257					
Special Expense											
High pressure fire protection	9										9
Raw Water Expense	8									8	
Administrative and General Expense.	1,234	473	139	5	213	65	143	100	92	2	2
Total	9,515	5,547	876	28	1,052	322	707	492	470	10	11

TABLE 6.3

ALEXANDRIA WATER UTILITY

ALLOCATION OF UTILITY PLANT IN SERVICE
TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

		Common to All				Common to All Except Western Desert				
			Extra Capacity Cost							
	Total LE1000	Base Cost LE1000	Maximum Day LE1000	Maximum Hour LE1000	Meters & Services LE1000	Base Cost LE1000	Extra Capacity Max.Hour LE1000	Western Desert LE1000	Raw Water LE1000	Fire Protection LE1000
Source of Supply Plant	4,910	3,780	1,130							
Treatment Plant	47,230	36,370	10,860					2,300		
Pumping Plant	25,130	13,470		9,360						
Transmission and Distribution Plant										
Transmission mains	62,630	40,350	12,050					10,230		
Distribution mains	33,140					18,040	12,540	2,560		
Services	9,890				9,890					
Meters	6,320				6,320					
General Plant	10,300	5,120	1,310	510	880	980	640	820		
Sub Total	199,550	99,090	25,350	9,870	17,090	19,020	13,220	15,910		
Special Plant										
High pressure fire protection	270									270
Raw Water Facilities	210								210	
Total	200,030	99,090	25,350	9,870	17,090	19,020	13,220	15,910	210	270
Percent of Total	100.0	49.5	12.7	4.9	8.6	9.5	6.6	8.0	0.1	0.1

TABLE 6.4

ALEXANDRIA WATER UTILITY

ALLOCATION OF CAPITAL COSTS
TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

Cost Component	Ratio %	Cash Basis Capital Cost LE 1000	Utility Basis Capital Cost LE 1000
COMMON TO ALL			
Base cost	49.5	6,265	7,050
Extra capacity cost Maximum day	12.7	1,603	1,809
Maximum hour	4.9	624	698
Meters and services	8.6	571	715
COMMON TO ALL EXCEPT WESTERN DESERT			
Base cost	9.5	1,203	1,353
Extra capacity cost Maximum hour	6.6	836	940
SPECIAL COST			
Western Desert cost	8.0	1,006	1,139
Raw Water cost	0.1	13	13
Fire Protection cost	0.1	17	17
Sub total		12,138	13,734
CONTRIBUTION FOR SERVICES*		509	509
Total Capital Cost	100.0	12,647	14,243

* Contributions for services are deducted from allocated costs of meters and services.

TABLE 6.5

ALEXANDRIA WATER UTILITY

SUMMARY OF ALLOCATION OF CASH BASIS
COST OF SERVICE TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

Cost Component	Operation & Maintenance Expense LE 1000	Cash Basis Capital Related Costs LE 1000	Total LE 1000
COMMON TO ALL			
Base Cost	5,547	6,265	11,812
Extra capacity cost			
Maximum day	876	1,603	2,479
Maximum hour	28	624	652
Customer cost			
Meters and services	1,052	571	1,623
	322		322
COMMON TO ALL EXCEPT WESTERN DESERT			
Base Cost	707	1,203	1,910
Extra capacity cost			
Maximum hour	492	836	1,328
SPECIAL SERVICE			
Raw water cost	10	13	23
Fire protection cost	11	17	28
Western Desert cost	470	1,006	1,476
Sub total	9,515	12,138	21,653
CONTRIBUTION FOR SERVICES		509	509
Total Cost of Service	9,515	12,647	22,162

TABLE 6.6

ALEXANDRIA WATER UTILITY

SUMMARY OF ALLOCATION OF UTILITY BASIS
COST OF SERVICE TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

Cost Component	Operation & Maintenance Expense LE 1000	Utility Basis Capital Related Cost LE 1000	Total LE 1000
COMMON TO ALL			
Base Cost	5,547	7,050	12,597
Extra capacity cost			
Maximum day	876	1,809	2,685
Maximum hour	28	698	726
Customer cost			
Meters and services	1,052	715	1,767
Bills	322		322
COMMON TO ALL EXCEPT WESTERN DESERT			
Base Cost	707	1,353	2,060
Extra capacity cost			
Maximum hour	492	940	1,432
SPECIAL SERVICE			
Raw water cost	10	13	23
Fire protection cost	11	17	28
Western Desert cost	470	1,139	1,609
Sub total	9,515	13,734	23,249
CONTRIBUTION FOR SERVICES		509	509
Total Cost of Service	9,515	14,243	23,758

TABLE 7.1

ALEXANDRIA WATER UTILITY

UNITS OF SERVICE

1984 TEST YEAR

Customer Class	Annual Water Sales 1000 m3	Average Day Water Sales 1000 m3/d	Extra Capacity Factors: Maximum Day Factor %	Maximum Day Units 1000 m3/d	Maximum Hour Factor %	Maximum Hour Units 1000 m3/d	Number of Equivlent Meters	Number of Bills
General	157,200	430	75	323	225	967	305,500	979,200
Commercial and Institutional	67 200	184	55	101	175	322	116,000	312,100
Industrial	6,900	19	15	3	125	24	4,300	6,400
Fountains	2,100	6	10	1	120	7	900	2,100
Fire Protection				15		36		
Special								
Western Desert	4,000	11	70	8	220	24	1,000	100
Harbor & Ships	200	1	100	1	250	3	1,000	100
	237,600	651		452		1,383	428,700	1,300,000

TABLE 7.2

ALEXANDRIA WATER UTILITY

UNIT COST OF SERVICE
CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

Cost Component	Cost of Service LE 1000	Units of Service	Unit Cost of Service LE/Unit
COMMON TO ALL			
Base cost	11,812	237,600 1000 m^3	0.050
Extra capacity cost			
Maximum day	2,479	452 1000 m^3/d	5.485
Maximum hour	652	1,383 1000 m^3/d	0.471
Customer cost			
Meters and services	1,623	428,700 Eq. Meters	3.786
Bills	322	1,300,000 Bills	0.248
COMMON TO ALL EXCEPT WESTERN DESERT			
Base cost	1,910	233,400 1000 m^3	0.008
Extra Capacity Cost			
Maximum hour	1,328	1,356 1000 m^3/d	0.979

TABLE 7.3

ALEXANDRIA WATER UTILITY

UNIT COST OF SERVICE
UTILITY BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

Cost Component	Cost of Service LE 1000	Units of Service		Unit Cost of Service LE/Unit
COMMON TO ALL				
Base cost	12,597	237,600	1000 m^3	0.053
Extra capacity cost				
Maximum day	2,685	452	1000 m^3/d	5.940
Maximum hour	726	1,383	1000 m^3/d	0.525
Customer cost				
Meters and services	1,767	428,700	Eq. Meters	4.122
Bills	322	1,300,000	Bills	0.248
COMMON TO ALL EXCEPT WESTERN DESERT				
Base cost	2,060	233,400	1000 m^3	0.009
Extra capacity cost				
Maximum hour	1,432	1,356	1000 m^3	1.056

TABLE 7.4

ALEXANDRIA WATER UTILITY

ALLOCATION OF CASH BASIS COST OF SERVICE TO CUSTOMER CLASSES

1984 TEST YEAR

	Common to All					Common to All Except Western Desert			
		Extra Capacity Cost		Customer Cost			Extra		
	Base Cost	Maximum Day	Maximum Hour	Equiv. Meters	Bills	Base Cost	Capacity Max.Hour	Other Direct Cost	Total
Customer Class									
Unit Cost of Service (LE)	0.050	5.485	0.471	3.786	0.248	0.008	0.979		
Unit	1000 m^3	1000 m^3/d	1000 m^3/d	Eq.Mtrs	Bills	1000 m^3	1000 m^3/d		
Units of Service									
General	157,200	323	967	305,500	979,200	157,200	967		
Commercial and Institutional	67,200	101	322	116,000	312,100	67,200	322		
Industrial	6,900	3	24	4,300	6,400	6,900	24		
Public Fountains	2,100	1	7	900	2,100	2,100	7		
Fire Protection		15	36				36		
Other Special Customers									
Western Desert	4,000	8	24	1,000	100				
Harbour and Ships	200	1	3	1,000	100				
Total	237,600	452	1,383	428,700	1,300,000	233,400	1,356		
Cost of Service									
General	7,815	1,773	456	1,157	242	1,287	948		13,678
Commercial and Institutional	3,341	554	152	439	77	550	315		5,428
Industrial	343	16	12	16	2	56	23		468
Public Fountains	104	5	3	3	1	17	7		140
Fire Protection		82	17				35		134
Other Special Customers									
Raw Water Service								23	23
Western Desert	199	44	11	4				1,476	1,734
High Pressure Fire								28	28
Harbour and Ships	10	5	1	4					20
Total	11,812	2,479	652	1,623	322	1,910	1,328	1,527	21,653
Contribution for Services									509
Total Cost of Service									22,162

TABLE 7.5

ALEXANDRIA WATER UTILITY

ALLOCATION OF UTILITY BASIS COST OF SERVICE TO CUSTOMER CLASSES

1984 TEST YEAR

	Common to All					Common to All Except Western Desert			
		Extra Capacity Cost		Customer Cost			Extra Capacity		
	Base Cost	Maximum Day	Maximum Hour	Equiv. Meters	Bills	Base Cost	Max.Hour	Other Direct Cost	Total
Customer Class									
Unit Cost of Service (LE)	0.053	5.940	0.525	4.122	0.248	0.009	1.056		
Unit	1000 m^3	1000 m^3/d	1000 m^3/d	Eq.Mtrs	Bills	1000 m^3	1000 m^3/d		
Units of Service									
General	157,200	323	967	305,500	979,200	157,200	967		
Commercial and Institutional	67,200	101	322	116,000	312,100	67,200	322		
Industrial	6,900	3	24	4,300	6,400	6,900	24		
Public Fountains	2,100	1	7	900	2,100	2,100	7		
Fire Protection		15	36				36		
Other Special Customers									
Western Desert	4,000	8	24	1,000	100				
Harbour and Ships	200	1	3	1,000	100				
Total	237,600	452	1,383	428,700	1,300,000	233,400	1,356		
Cost of Service									
General	8,334	1,918	508	1,259	242	1,387	1,022		14,670
Commercial and Insitutional	3,563	600	168	478	77	593	340		5,819
Industrial	366	18	13	18	2	61	25		503
Public Fountains	111	6	4	4	1	19	7		152
Fire Protection		89	18				38		145
Other Special Customers									
Raw Water Service								23	23
Western Desert	212	48	13	4				1,609	1,886
High Pressure Fire								28	28
Harbour and Ships	11	6	2	4					23
Total	12,597	2,685	726	1,767	322	2,060	1,432	1,660	23,249
Contribution for Services									509
Total Cost of Service									23,758

TABLE 8.1

ALEXANDRIA WATER UTILITY

BILL FREQUENCY DISTRIBUTION

sage Block	Domestic		Commercial		Industrial	
	Cumulative Number of Bills %	Cumulative Billed Usage[a] %	Cumulative Number of Bills %	Cumulative Billed Usage[a] %	Cumulative Number of Bills %	Cumulative Billed Usage[a] %
0	7.9	0	10.2	0	11.4	0
1 - 10	15.6	10.6	18.9	3.7	25.0	0.8
11 - 25	35.1	24.2	27.2	8.8	35.6	1.7
26 - 50	61.0	39.5	38.0	16.1	49.5	3.1
51 - 100	80.5	56.1	55.4	27.8	68.3	5.0
101 - 200	91.7	71.6	75.0	42.6	80.6	7.3
201 - 500	98.6	84.9	94.3	59.5	92.2	11.1
501 - 1,000	99.9	88.1	99.3	64.6	95.2	14.1
1,001 - 2,000	99.9	89.3	99.6	66.9	96.9	17.8
2,001 - 3,000	99.9	90.1	99.7	68.5	97.1	20.6
3,001 - 5,000	99.9	91.5	99.7	71.2	97.8	25.3
,001 - 10,000	99.9	93.4	99.8	76.2	98.3	34.2
Over 10,000	100.0	100.0	100.0	100.0	100.0	100.0

a) Cumulative usage in block of bills stopping in or passing through the block.

TABLE 9.1

ALEXANDRIA WATER UTILITY

RECOMMENDED ABILITY TO PAY WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

BILLS ISSUED BI-MONTHLY

	Rate Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
POTABLE WATER RETAIL SERVICE					
Volume Charge					
Applicable to all except Special Customers					
Charge per cubic meter for all measured or estimated water use per billing period.					
First 50 cubic meters	0.008	0.010	0.012	0.015	0.020
Next 50 cubic meters	0.015	0.020	0.025	0.030	0.040
Next 100 cubic meters	0.030	0.036	0.047	0.070	0.085
Next 800 cubic meters	0.038	0.045	0.060	0.080	0.110
Next 9,000 cubic meters	0.045	0.055	0.075	0.105	0.140
Over 10,000 cubic meters	0.053	0.064	0.085	0.120	0.170
Service Charge					
Domestic Customers					
Charge per living unit per billing period	0.150	0.250	0.350	0.550	0.700
Non Domestic Customers					
Charge per connection per billing period based on water meter size					
Meter Size mm					
20 and under	0.450	0.550	0.700	0.900	1.150
25	0.650	0.850	1.100	1.400	1.750
30	1.000	1.200	1.500	2.000	2.500
40	1.250	1.500	2.000	2.500	3.250
50	2.000	2.500	3.250	4.000	5.250
80	3.750	4.750	6.250	7.750	10.000
100	5.750	7.250	9.250	12.000	15.000
150	11.000	15.000	20.000	25.000	30.000
200	20.000	25.000	30.000	40.000	50.000
300	35.000	45.000	55.000	70.000	90.000

TABLE 9.1 (Continued)

ALEXANDRIA WATER UTILITY

RECOMMENDED ABILITY TO PAY WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

BILLS ISSUED BI-MONTHLY

	Rate Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
Special Customers					
Western Desert Service					
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period.					
El Noubaria	0.040	0.050	0.060	0.080	0.100
Maryut	0.100	0.120	0.150	0.200	0.250
Bahig	0.150	0.200	0.250	0.300	0.400
Borg El Arab	0.170	0.220	0.280	0.350	0.450
El Gharbaniat	0.200	0.250	0.300	0.400	0.500
El Hammam	0.230	0.300	0.370	0.470	0.600
El Omayed	0.300	0.400	0.500	0.650	0.850
El Alamein	0.350	0.450	0.600	0.750	0.950
Sidi Abdel Rahman	0.400	0.550	0.670	0.850	1.100
El Dabbah	0.500	0.650	0.850	1.100	1.400
Fouka	0.550	0.750	0.950	1.200	1.500
Ras El Hekma	0.800	1.000	1.300	1.650	2.100
Garawla	0.900	1.200	1.500	2.000	2.450
Semla	1.000	1.250	1.600	2.050	2.600
Marsa Matrouh	1.050	1.350	1.750	2.200	2.800
Service Charge Charge per delivery point per billing period	4.000	5.000	6.000	8.000	10.000
Public Fountains					
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.025	0.035	0.045	0.055	0.070
Service Charge Charge per fountain per billing period	0.800	1.000	1.200	1.600	2.000
Ship Service					
Volume Charge Charge per cubic meter for all measured or estimated water use	0.040	0.050	0.060	0.080	0.100
Service Charge Charge per individual ship service	4.000	5.000	6.000	8.000	10.000

TABLE 9.1 (Continued)

ALEXANDRIA WATER UTILITY

RECOMMENDED ABILITY TO PAY WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

BILLS ISSUED BI-MONTHLY

	Rate Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
NON POTABLE WATER SERVICE					
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.005	0.006	0.007	0.009	0.012
Service Charge Charge per connection per billing period	4.000	5.000	6.000	8.000	10.000
Unmetered Service Minimum charge per billing period for up to 1000 square meters of irrigated area	0.800	1.100	1.400	1.700	2.000
Over 1000 square meters per 100 square meters	0.080	0.110	0.140	0.170	0.200

TABLE 9.2

ALEXANDRIA WATER UTILITY

PROPOSED STANDARD BLOCK COST OF SERVICE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Rate LE
POTABLE WATER RETAIL SERVICE	
Applicable to all except Special Customers	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	
First 100 cubic meters	0.090
Next 900 cubic meters	0.080
Over 1,000 cubic meters	0.060
Service Charge Charge per connection per billing period based on water meter size	
Meter Size mm	
20 and under	1.150
25	1.750
30	2.500
40	3.250
50	5.250
80	10.000
100	15.000
150	30.000
200	50.000
300	90.000

TABLE 9.2 (Continued)

ALEXANDRIA WATER UTILITY

PROPOSED STANDARD BLOCK COST OF SERVICE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Rate LE
Special Customers	
Western Desert Service	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period.	
El Noubaria	0.100
Maryut	0.250
Bahig	0.400
Borg El Arab	0.450
El Gharabaniat	0.500
El Hammam	0.600
El Omayed	0.850
El Alamein	0.950
Sidi Abdel Rahman	1.100
El Dabbah	1.400
Fouka	1.500
Ras El Hekma	2.100
Garawla	2.450
Semla	2.600
Marsa Matrouh	2.800
Service Charge Charge per delivery point per billing period	10.000
Public Fountains	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.070
Service Charge Charge per fountain per billing period	2.000
Ship Service	
Volume Charge Charge per cubic meter for all measured or estimated water use	0.100
Service Charge Charge per individual ship service	10.000

TABLE 9.2 (Continued)

ALEXANDRIA WATER UTILITY

PROPOSED STANDARD BLOCK COST OF SERVICE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Rate LE
NON POTABLE WATER SERVICE	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.012
Service Charge Charge per connection per billing period	10.000
Unmetered Service Minimum charge per billing period for up to 1000 square meters of irrigated area	2.000
Over 1000 square meters per 100 square meters	0.200

TABLE 9.3

ALEXANDRIA WATER UTILITY

PROPOSED SERVICE CHARGE - VOLUME CHARGE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Domestic Customers LE	Non Domestic Customers LE
POTABLE WATER RETAIL SERVICE		
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.082	0.076
Service Charge Charge per connection per billing period based on water meter size		
Meter Size mm		
20 and under	1.150	1.150
25	1.750	1.750
30	2.500	2.500
40	3.250	3.250
50	5.250	5.250
80	10.000	10.000
100	15.000	15.000
150	30.000	30.000
200	50.000	50.000
300	90.000	90.000

TABLE 9.3 (Continued)

ALEXANDRIA WATER UTILITY

PROPOSED SERVICE CHARGE - VOLUME CHARGE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Rate LE
Special Customers	
Western Desert Service	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	
El Noubaria	0.100
Maryut	0.250
Bahig	0.400
Borg El Arab	0.450
El Gharabaniat	0.500
El Hammam	0.600
El Omayed	0.850
El Alamein	0.950
Sidi Abdel Rahman	1.100
El Dabbah	1.400
Fouka	1.500
Ras El Hekma	2.100
Garawla	2.450
Semla	2.600
Marsa Matrouh	2.800
Service Charge	
Charge per delivery point per billing period	10.000
Public Fountains	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	0.070
Service Charge	
Charge per fountain per billing period	2.000
Ship Service	
Volume Charge	
Charge per cubic meter for all measured or estimated water use	0.100
Service Charge	
Charge per individual ship service	10.000

TABLE 9.3 (Continued)

ALEXANDRIA WATER UTILITY

PROPOSED SERVICE CHARGE - VOLUME CHARGE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Rate LE
NON POTABLE WATER SERVICE	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.012
Service Charge Charge per connection per billing period	10.000
Unmetered Service Minimum charge per billing period for up to 1000 square meters of irrigated area	2.000
Over 1000 square meters per 100 square meters	0.200

TABLE 9.4

ALEXANDRIA WATER UTILITY

PROPOSED COMBINED "ABILITY TO PAY" AND
SERVICE CHARGE - VOLUME CHARGE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Rate LE
POTABLE WATER RETAIL RATES	
Domestic Customers Only	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	
First 50 cubic meters	0.020
Next 50 cubic meters	0.070
Next 100 cubic meters	0.105
Next 800 cubic meters	0.140
Next 9,000 cubic meters	0.170
Over 10,000 cubic meters	0.195
Service Charge	
Charge per living unit per billing period	0.700
Non Domestic Customers	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	0.076
Service Charge	
Charge per connection per billing period based on meter size	
Meter Size mm	
20 and under	1.150
25	1.750
30	2.500
40	3.250
50	5.250
80	10.000
100	15.000
150	30.000
200	50.000
300	90.000

TABLE 9.4 (Continued)

ALEXANDRIA WATER UTILITY

PROPOSED COMBINED "ABILITY TO PAY" AND SERVICE CHARGE - VOLUME CHARGE WATER RATES BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Rate LE
Special Customers	
Western Desert Service	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	
El Noubaria	0.100
Maryut	0.250
Bahig	0.400
Borg El Arab	0.450
El Gharabaniat	0.500
El Hammam	0.600
El Omayed	0.850
El Alamein	0.950
Sidi Abdel Rahman	1.100
El Dabbah	1.400
Fouka	1.500
Ras El Hekma	2.100
Garawla	2.450
Semla	2.600
Marsa Matrouh	2.800
Service Charge	
Charge per delivery point per billing period	10.000
Public Fountains	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	0.070
Service Charge	
Charge per fountain per billing period	2.000
Ship Service	
Volume Charge	
Charge per cubic meter for all measured or estimated water use	0.100
Service Charge	
Charge per individual ship service	10.000

TABLE 9.4 (Continued)

ALEXANDRIA WATER UTILITY

PROPOSED COMBINED "ABILITY TO PAY" AND SERVICE CHARGE - VOLUME CHARGE WATER RATES BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED BI-MONTHLY

	Rate LE
NON POTABLE WATER SERVICE	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.012
Service Charge Charge per connection per billing period	10.000
Unmetered Service Minimum charge per billing period for up to 1000 square meters of irrigated area	2.000
Over 1000 square meters per 100 square meters	0.200

TABLE 9.5

ALEXANDRIA WATER UTILITY

PROPOSED "ABILITY TO PAY" WATER RATES
BASED ON UTILITY BASIS REVENUE REQUIREMENTS

BILLS ISSUED BI-MONTHLY

	Rate Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
POTABLE WATER RETAIL SEPVICE					
Volume Charge					
Applicable to all except Special Customers					
Charge per cubic meter for all measured or estimated water use per billing period					
First 50 cubic meters	0.008	0.011	0.014	0.017	0.020
Next 50 cubic meters	0.015	0.022	0.030	0.037	0.045
Next 100 cubic meters	0.035	0.050	0.065	0.080	0.100
Next 800 cubic meters	0.040	0.060	0.080	0.100	0.125
Next 9,000 cubic meters	0.045	0.070	0.100	0.125	0.155
Over 10,000 cubic meters	0.055	0.080	0.110	0.140	0.170
Service Charge					
Domestic Customers					
Charge per living unit per billing period	0.250	0.350	0.450	0.550	0.700
Non Domestic Customers					
Charge per connection per billing period based on water meter size					
Meter Size mm					
20 and under	0.500	0.650	0.850	1.050	1.250
25	0.850	1.150	1.450	1.750	2.150
30	1.250	1.650	2.150	2.650	3.150
40	1.650	2.250	2.850	3.500	4.150
50	2.500	3.400	4.300	5.250	6.250
80	5.000	6.500	8.500	10.500	12.500
100	8.000	11.000	14.000	17.000	20.000
150	16.000	22.000	28.000	35.000	42.000
200	25.000	34.000	43.000	52.000	62.500
300	40.000	55.000	70.000	85.000	100.000

TABLE 9.5 (Continued)

ALEXANDRIA WATER UTILITY

PROPOSED "ABILITY TO PAY" WATER RATES
BASED ON UTILITY BASIS REVENUE REQUIREMENTS

BILLS ISSUED BI-MONTHLY

	Rate Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
Special Customers					
Western Desert Service					
Volume Charge					
Charge per cubic meter for all measured or estimated water use per billing period					
El Noubaria	0.045	0.060	0.075	0.090	0.110
Maryut	0.110	0.150	0.190	0.230	0.270
Bahig	0.160	0.230	0.300	0.375	0.450
Borg El Arab	0.180	0.260	0.340	0.420	0.500
El Gharbaniat	0.210	0.290	0.370	0.460	0.550
El Hammam	0.240	0.340	0.440	0.540	0.650
El Omayed	0.320	0.460	0.600	0.750	0.900
El Alamein	0.370	0.540	0.710	0.880	1.050
Sidi Abdel Rahman	0.430	0.620	0.810	1.000	1.200
El Dabbah	0.540	0.780	0.920	1.160	1.500
Fouka	0.590	0.855	1.120	1.385	1.650
Ras El Hekma	0,860	1.220	1.580	1.940	2.300
Garawla	0.970	1.390	1.810	2.230	2.650
Semla	1.080	1.510	1.940	2.370	2.800
Marsa Matrouh	1.130	1.600	2.050	2.550	3.000
Service Charge					
Charge per delivery point per billing period	4.000	5.000	6.000	8.000	10.000
Public Fountains					
Volume Charge					
Charge per cubic meter for all measured or estimated water use per billing period	0.025	0.037	0.050	0.062	0.074
Service Charge					
Charge per fountain per billing period	0.500	1.000	1.500	2.000	2.500
Ship Service					
Volume Charge					
Charge per cubic meter for all measured or estimated water use	0.040	0.060	0.080	0.100	0.120
Service Charge					
Charge per individual ship service	4.000	5.000	6.000	8.000	10.000

TABLE 9.5 (Continued)

ALEXANDRIA WATER UTILITY

PROPOSED "ABILITY TO PAY" WATER RATES
BASED ON UTILITY BASIS REVENUE REQUIREMENTS

BILLS ISSUED BI-MONTHLY

	Rate Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
NON POTABLE WATER SERVICE					
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.005	0.006	0.008	0.010	0.012
Service Charge Charge per connection per billing period	4.000	5.000	6.000	8.000	10.000
Unmetered Service Minimum charge per billing period for up to 1000 square meters of irrigated area	0.800	1.100	1.400	1.700	2.000
Over 1000 square meters per 100 square meters	0.080	0.110	0.140	0.170	0.200

TABLE 9.6

ALEXANDRIA WATER UTILITY
(Excluding Western Desert)

LONG-RUN AVERAGE INCREMENTAL COST OF WATER
1977 COST LEVELS

Year	Capital Cost LE 1000	Operating Expenses LE 1000	Total LE 1000	Incremental Volume 1000 m3
1977	179		179	
1978	2,161		2,161	
1979	11,737		11,737	
1980	11,892	157	12,049	7,492
1981	9,282	158	9,440	7,750
1982	4,663	775	5,438	40,077
1983		2,326	2,326	131,500
1984		2,355	2,355	136,023
1985		2,384	2,384	140,702
1986		2,414	2,414	145,542
1987		2,445	2,445	150,549
1988		2,478	2,478	155,728
1989		2,510	2,510	161,086
1990		2,547	2,547	166,625
1991		2,603	2,603	175,690
1992 to 2021		2,662	2,662	185,244

Discount Rate %	Long-run Incremental Average Cost milliemes/m3
10	45
12	52
15	64
20	87

TABLE 10.1

ALEXANDRIA WATER UTILITY

COMPARISON OF REVENUES FROM WATER SALES AT RECOMMENDED RATES WITH COST OF SERVICE BY CUSTOMER CLASS

1984 TEST YEAR

Customer Class	Cost of Service[a] LE 1000	Revenue at Recommended Rates[b] LE 1000	Percent Revenue of Cost %
General	13,678	11,626	85.0
Commercial and Institutional	5,428	6,975	128.5
Industrial	468	1,017	217.3
Special			
Public Fountains	140	140	100.0
Western Desert	1,734	1,734	100.0
Ship Service	20	20	100.0
Non potable Water	23	23	100.0
Fire Protection	162	162	100.0
Total	21,653	21,697	100.2

(a) Based on Cash Basis Revenue Requirements.

(b) At Recommended Ability to Pay Rates.

TABLE 10.2

ALEXANDRIA WATER UTILITY

COMPARISON OF REVENUES FROM WATER SALES AT PROPOSED RATES WITH COST OF SERVICE BY CUSTOMER CLASS

1984 TEST YEAR

Customer Class	Cost of Service (a) LE 1000	Revenue at Proposed Rates (b) LE 1000	Percent Revenue of Cost %
General	13,678	13,846	101.2
Commercial and Institutional	5,428	5,357	98.7
Industrial	468	433	92.5
Special			
Public Fountains	140	143	102.1
Western Desert	1,734	1,734	100.0
Ship Service	20	20	100.0
Non potable Water	23	23	100.0
Fire Protection	162	162	100.0
Total	21,653	21,718	100.3

(a) Based on Cash Basis Revenue Requirements.

(b) At Proposed Standard Block Cost of Service Rates.

TABLE 10.3

ALEXANDRIA WATER UTILITY

COMPARISON OF REVENUE FROM WATER SALES AT PROPOSED RATES WITH COST OF SERVICE BY CUSTOMER CLASS

1984 TEST YEAR

Customer Class	Cost of Service (a) LE 1000	Revenue at Proposed Rates (b) LE 1000	Percent Revenue of Cost %
General	13,678	13,690	100.1
Commercial and Institutional	5,428	5,370	98.9
Industrial	468	519	110.9
Special			
Public Fountains	140	140	100.0
Western Desert	1,734	1,734	100.0
Ship Service	20	20	100.0
Non potable Water	23	23	100.0
Fire Protection	162	162	100.0
Total	21,653	21,658	100.0

(a) Based on Cash Basis Revenue Requirements

(b) At Proposed Service Charge - Volume Charge Rates.

TABLE 10.4

ALEXANDRIA WATER UTILITY

COMPARISON OF REVENUES FROM WATER SALES AT PROPOSED RATES WITH COST OF SERVICE BY CUSTOMER CLASS

1984 TEST YEAR

Customer Class	Cost of Service (a) LE 1000	Revenue at Proposed Rates (b) LE 1000	Percent Revenue of Cost %
General	13,678	13,745	100.5
Commercial and Institutional	5,428	5,370	98.9
Industrial	468	519	110.9
Special			
Public Fountains	140	140	100.0
Western Desert	1,734	1,734	100.0
Ship Service	20	20	100.0
Non potable Water	23	23	100.0
Fire Protection	162	162	100.0
Total	21,653	21,713	100.2

(a) Based on Cash Basis Revenue Requirements.

(b) At Proposed Combined "Ability to Pay" and Service Charge - Commodity Rates.

TABLE 10.5

ALEXANDRIA WATER UTILITY

COMPARISON OF REVENUES FROM WATER SALES AT PROPOSED RATES WITH COST OF SERVICE BY CUSTOMER CLASS

1984 TEST YEAR

Customer Class	Cost of Service (a) LE 1000	Revenue at Proposed Rates (b) LE 1000	Percent Revenue of Cost %
General	14,670	12,259	83.6
Commercial and Institutional	5,819	7,517	129.2
Industrial	503	1,049	208.5
Special			
Public Fountains	152	152	100.0
Western Desert	1,886	1,939	102.8
Ship Service	23	23	
Non potable Water	23	23	100.0
Fire Protection	173	173	100.0
Total	23,249	23,135	99.5

(a) Based on Utility Basis Revenue Requirements

(b) At Proposed "Ability to Pay" Rates.

TABLE 10.6

ALEXANDRIA WATER UTILITY

SUBSIDY REQUIRED TO RECOVER
CASH BASIS REVENUE REQUIREMENTS

Year	Total Revenue Requirements (a) LE 1000	Revenues at Recommended Rates (b) LE 1000	Required Subsidy LE 1000
1980	9,597	6,504	3,093
1981	12,229	8,400	3,829
1982	17,918	11,285	6,633
1983	19,271	15,573	3,698
1984	21,653	21,699	None

(a) Net requirements after deducting other income.

(b) At recommended "Ability to Pay" Rates based On Cash Basis Revenue Requirements.

TABLE 10.7

ALEXANDRIA WATER UTILITY

SUBSIDY REQUIRED TO RECOVER UTILITY BASIS REVENUE REQUIREMENTS

Year	Total Revenue Requirements[a] LE 1000	Revenues at Proposed Rates[b] LE 1000	Required Subsidy LE 1000
1980	15,469	6,861	8,608
1981	17,757	8,952	8,805
1982	19,257	14,161	5,096
1983	21,076	18,621	2,455
1984	23,249	23,135	None

(a) Net requirements after deducting other income.

(b) At Proposed "Ability to Pay" Rates based on Utility Basis Revenue Requirements.

TABLE 12.1

ALEXANDRIA WATER UTILITY

PROFORMA STATEMENT OF INCOME

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
OPERATING INCOME											
Revenue from water sales[a]	6,504	8,400	11,285	15,573	21,699	22,989	24,783	26,294	28,032	31,539	71,763
Other operating income	476	483	491	500	509	518	527	536	546	567	777
Total Operating Income	6,980	8,883	11,776	16,073	22,208	23,507	25,310	26,830	28,578	32,106	72,540
OPERATING EXPENSE											
Operation and maintenance expense	5,702	6,481	7,366	8,372	9,515	10,346	11,250	12,233	13,302	15,727	43,531
Depreciation expense	2,443	2,959	3,382	3,704	4,143	4,604	4,960	5,235	5,516	6,081	12,754
Total Operating Expense	8,145	9,440	10,748	12,076	13,658	14,950	16,210	17,468	18,818	21,808	56,285
Net Operating Income	(1,165)	(557)	1,028	3,997	8,550	8,557	9,100	9,362	9,760	10,298	16,255
NON OPERATING INCOME	50	55	60	65	70	75	80	85	90	100	100
Gross Income	(1,115)	(502)	1,088	4,062	8,620	8,632	9,180	9,447	9,850	10,398	16,355
INCOME DEDUCTIONS											
Interest expense	2,857	4,089	4,779	5,016	5,361	5,671	5,946	6,096	6,147	6,168	10,757
Net Income (Loss)	(3,972)	(4,591)	(3,691)	(954)	3,259	2,961	3,234	3,351	3,703	4,230	5,598
NET UTILITY PLANT IN SERVICE (LE MILLIONS)[b]	130.0	146.5	149.6	158.6	168.9	178.4	180.7	184.0	186.2	194.2	303.4
Return on Investment—%[c]			0.7	2.6	5.1	4.8	5.0	5.1	5.2	5.3	5.4

(a) With revenues computed on Cash Basis "Ability to Pay" rates (Tables 9.1, 10.6).

(b) Net Plant in Service from Table 5.4 consists of RCLD at December 31, 1978 with additions at cost subsequent thereto together with allowances for depreciation.

(c) Return on Investment is computed by dividing Net Operating Income by Net Plant in Service.

TABLE 12.2

ALEXANDRIA WATER UTILITY

PROFORMA STATEMENT OF INCOME

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
ERATING INCOME											
Revenue from water sales[a]	6,861	8,952	14,161	18,621	23,135	25,132	26,483	27,932	29,472	32,941	73,708
Other operating income	476	483	491	50[illegible]	509	518	527	536	546	567	777
Total Operating Income	7,337	9,435	14,652	19,121	23,644	25,650	27,010	28,468	30,018	33,508	74,485
ERATING EXPENSE											
Operation and maintenance expense	5,702	6,481	7,366	8,372	9,515	10,346	11,250	12,233	13,302	15,727	43,531
Depreciation expense	2,443	2,959	3,382	3,704	4,143	4,604	4,960	5,235	5,516	6,081	12,754
Total Operating Expense	8,145	9,440	10,748	12,076	13,658	14,950	16,210	17,468	18,818	21,808	56,285
Net Operating Income	(808)	(5)	3,904	7,045	9,986	10,700	10,800	11,000	11,200	11,700	18,200
OPERATING INCOME	50	55	60	65	70	75	80	85	90	100	100
Gross Income	(758)	50	3,964	7,110	10,056	10,775	10,880	11,085	11,290	11,800	18,300
OME DEDUCTIONS											
nterest expense	2,857	4,089	4,779	5,016	5,361	5,671	5,946	6,096	6,147	6,168	10,757
Net Income (Loss)	(3,615)	(4,039)	(815)	2,094	4,695	5,104	4,934	4,989	5,143	5,632	7,543
UTILITY PLANT IN RVICE (LE MILLIONS)[b]	130.0	146.5	149.6	158.6	168.9	178.4	180.7	184.0	186.2	194.2	303.4
Return on Investment- %[c]			2.6	4.4	5.9	6.0	6.0	6.0	6.0	6.0	6.0

With revenues computed on Utility Basis "Ability to Pay" rates (Tables 9.5, 10.7).

Net Plant in Service from Table 5.4 consists of RCLD at December 31, 1978 with additions at cost subsequent thereto together with allowance for depreciation.

Return on Investment is computed by dividing Net Operating Income by Net Plant in Service.

TABLE 12.3

ALEXANDRIA WATER UTILITY

PROFORMA STATEMENT OF SOURCE AND APPLICATION OF OPERATING FUNDS

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
SOURCE OF FUNDS											
Net Operating Income (a)	(1,165)	(557)	1,028	3,997	8,550	8,557	9,100	9,362	9,760	10,298	16,255
Depreciation Expense	2,443	2,959	3,382	3,704	4,143	4,604	4,960	5,235	5,516	6,081	12,754
Sub total	1,278	2,402	4,410	7,701	12,693	13,161	14,060	14,597	15,276	16,379	29,009
Non Operating Income	50	55	60	65	70	75	80	85	90	100	100
Operating Subsidy	3,093	3,829	6,633	3,698							
Total Available Operating Funds	4,421	6,286	11,103	11,464	12,763	13,236	14,140	14,682	15,366	16,479	29,109
APPLICATION OF FUNDS											
Routine Improvements	1,457	2,077	3,681	3,800	4,216	4,387	4,687	4,866	5,092	5,460	9,670
Debt Service Charges											
Interest	2,857	4,098	4,779	5,016	5,361	5,671	5,946	6,096	6,147	6,168	10,757
Principal	56	56	2,583	2,583	3,070	3,103	3,427	3,635	4,037	4,751	8,582
Total Debt Service	2,913	4,154	7,362	7,599	8,431	8,774	9,373	9,731	10,184	10,919	19,339
Total Application of Operating Funds	4,370	6,231	11,043	11,399	12,647	13,161	14,060	14,597	15,276	16,379	29,009
Net Operating Fund Change	51	55	60	65	116	75	80	85	90	100	100

(a) Based on revenues from water sales computed on Cash Basis Revenue Requirements.

TABLE 12.4

ALEXANDRIA WATER UTILITY

PROFORMA STATEMENT OF SOURCE AND APPLICATION OF OPERATING FUNDS

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
SOURCE OF FUNDS											
Net Operating Income[a]	(808)	(5)	3,904	7,045	9,986	10,700	10,800	11,000	11,200	11,700	18,200
Depreciation Expense	2,443	2,959	3,382	3,704	4,143	4,604	4,960	5,235	5,516	6,081	12,754
Sub total	1,635	2,954	7,286	10,749	14,129	15,304	15,760	16,235	16,716	17,781	30,954
Non Operating Income	50	55	60	65	70	75	80	85	90	100	100
Operating Subsidy	8,608	8,805	5,096	2,455							
Total Available Operating Funds	10,293	11,814	12,442	13,269	14,199	15,379	15,840	16,320	16,806	17,881	31,054
APPLICATION OF FUNDS											
Routine Improvements	1,457	2,077	3,681	3,800	4,216	4,387	4,687	4,866	5,092	5,460	9,670
Debt Service Charges											
Interest	2,857	4,098	4,779	5,016	5,361	5,671	5,946	6,096	6,147	6,168	10,757
Principal	56	56	2,583	2,583	3,070	3,103	3,427	3,635	4,037	4,751	8,582
Total Debt Service	2,913	4,154	7,362	7,599	8,431	8,774	9,373	9,731	10,184	10,919	19,339
Total Application of Operating Funds	4,370	6,231	11,043	11,399	12,647	13,161	14,060	14,597	15,276	16,379	29,009
Net Operating Fund Change	5,923	5,583	1,399	1,870	1,552	2,218	1,780	1,723	1,530	1,502	2,045

(a) Based on revenues from water sales computed on Utility Basis Revenue Requirements.

TABLE 12.5

ALEXANDRIA WATER UTILITY

PROFORMA BALANCE SHEET

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1999 LE1000	2000 LE1000
ASSETS											
Utility Plant in Service[a]	90,184	111,097	118,869	132,944	148,765	164,269	172,973	183,027	192,116	214,479	442,518
Accumulated Provision for Depreciation	12,356	15,315	18,697	22,401	26,544	31,148	36,108	41,343	46,859	58,739	156,201
Net Utility Plant in Service	77,828	95,782	100,172	110,543	122,221	133,121	136,865	141,684	145,257	155,740	286,317
Current Assets											
Cash	723	810	921	1,047	1,189	1,293	1,406	1,529	1,663	1,966	5,441
Accounts Receivable	1,793	2,366	3,118	4,104	5,413	5,748	6,196	6,573	7,008	7,885	17,943
Material and Supplies	887	1,020	1,159	1,317	1,497	1,628	1,770	1,925	2,093	2,475	6,849
Total Current Assets	3,403	4,196	5,198	6,468	8,099	8,669	9,372	10,027	10,764	12,326	30,233
Total Assets	81,231	99,978	105,370	117,011	130,320	141,790	146,237	151,711	156,021	168,066	316,550
LIABILITIES AND EQUITY											
Alexandria Water Utility Equity Capital	21,040	31,866	35,602	39,383	43,968	47,285	50,991	55,737	58,534	69,249	128,715
Long Term Debt	59,240	67,032	68,540	76,232	84,767	92,781	93,371	93,935	95,270	96,196	180,580
Current Liabilities											
Accounts Payable	951	1,080	1,228	1,396	1,585	1,724	1,875	2,039	2,217	2,621	7,255
Total Liabilities and Equity	81,231	99,978	105,370	117,011	130,320	141,790	146,237	151,711	156,021	168,066	316,550

(a) Based on original cost at December 31, 1978 and projected additions at cost subsequent thereto.

APPENDIX III

ISMAILIA

WATER UTILITY

TABLE 2.1

ISMAILIA WATER UTILITY

HISTORICAL AND PROPOSED CAPITAL IMPROVEMENT PROGRAM

Year	Major Projects Local LE 1000	Major Projects Foreign LE 1000	Major Projects Total LE 1000	Routine Projects LE 1000	Total LE 1000
			HISTORICAL[a]		
1973					
1974					
1975					
1976					
1977					
1978					
			PROPOSED[b]		
1979		10	10	63	73
1980	2,659	3,776	6,435	94	6,529
1981	5,957	6,093	12,050	182	12,232
1982	5,598	5,502	11,100	299	11,399
1983	5,206	3,702	8,908	437	9,345
1984	4,280	2,152	6,432	581	7,013
1985	6,316	2,569	8,885	804	9,689
1986	5,061	2,129	7,190	919	8,109
1987	4,485	1,869	6,354	1,139	7,493
1988	4,334	1,647	5,981	1,256	7,237
After 1988	78,606	30,141	108,747	29,054	137,801
Total, 1979-2000					216,920

(a) No historical data was available, by city, of the annual investment in utility plant in service of the SCA.

(b) Adopted from Ismailia Water Works and Wastewater Facilities Master Plan, Draft Final Report, Part II, Staged Development, Volume II Waterworks, Metcalf & Eddy, 1979.

TABLE 2.2

ISMAILIA WATER UTILITY

DEBT SERVICE CHARGES ON
PROPOSED CONSTRUCTION LOANS

Year	Local Currency Loans LE 1000	Foreign Currency Loans* LE 1000	Total LE 1000
1979		71	71
1980	78	296	374
1981	220	506	726
1982	472	725	1,197
1983	767	981	1,748
1984	1,082	1,240	2,322
1985	1,631	1,586	3,217
1986	1,940	1,735	3,675
1987	2,527	2,029	4,556
1988	2,836	2,186	5,022
1990	3,763	2,594	6,357
2000	8,999	4,774	13,773

* Includes estimated debt service on $ 8,277,000 U.S. AID loan.

TABLE 3.1

ISMAILIA WATER UTILITY

PROJECTED POPULATION, CONNECTIONS AND WATER USE

Year	Population 1000	Water Connections	Water Use 1000 m3
		HISTORICAL	
1973			
1974			
1975			
1976	166	5,070	9,868
1977	195	5,271	12,760
1978	220	6,900	15,148
			16,790
		PROJECTED	
1979	230	7,900	17,922
1980	240	8,600	19,163
1981	250	9,400	20,440
1982	261	10,400	21,827
1983	273	11,300	23,287
1984	284	12,400	24,784
1985	297	13,400	26,426
1986	310	14,600	28,251
1987	323	15,900	30,076
1988	337	17,000	32,120
1990	361	19,900	36,646
2000	561	37,900	70,308

TABLE 4.1

ISMAILIA WATER UTILITY
EXISTING SCA WATER RATE SCHEDULES

	Rate milliemes per cubic meter
Potable Water	
Public	18
Commercial	18
Industrial	18
Government Office	6
Government Housing	6
Political Building - Labor Union	4.5
Clubs, YMCA	9
Beach Area	30
Fire Protection	No Charge
Public Fountains	No Charge
Mosques and Church	No Charge
Raw Water	
SCA Buildings	No Charge
City Council	5
All Other	6

TABLE 4.2

ISMAILIA WATER UTILITY

HISTORICAL REVENUES

Year	Operating Revenues Water Sales LE	Operating Revenues Other[b] LE	Non Operating Revenues(b) LE	Subsidies[c] LE	Total LE
1973[a]					
1974[a]					
1975[a]					
1976	81,808	81,284		489,052	652,144
1977	89,161	42,700		455,435	587,296
1978[d]	104,100	55,200		556,900	716,200

(a) No Historical data Available prior to 1976.

(b) Detailed records were not available to support any Other Operating or Non Operating revenues.

(c) It is the practise of SCA to provide an operating subsidy for the difference between operating revenues and operating expense. The amount shown is the difference between Operating Revenue and Operation and Maintenance expense. In addition a capital subsidy equal to the cost of improvements would also have been provided by SCA. The amount of capital improvements was not identified by city. No estimate of the amount applicable to Ismailia has been made.

(d) Estimated

TABLE 4.3

ISMAILIA WATER UTILITY

PROJECTED REVENUES

Year	Operating Revenues		Miscellneous Non Operating Revenues	Total
	Water Sales LE	Other LE	LE	LE
1979	111,200	63,200	1,000	175,400
1980	118,800	68,800	2,000	189,600
1981	126,700	75,200	3,000	204,900
1982	135,200	83,200	4,000	222,400
1983	144,300	90,400	5,000	239,700
1984	153,600	99,200	6,000	258,800
1985	163,800	107,200	7,000	278,000
1986	175,100	116,800	8,000	299,900
1987	186,400	127,200	9,000	322,600
1988	199,100	136,000	10,000	345,100
1990	227,200	159,200	10,000	396,400
2000	436,200	303,200	10,000	749,400

TABLE 5.1

ISMAILIA WATER UTILITY

OPERATION AND MAINTENANCE EXPENSE

Year	Operating Articles				Service Articles	Total
	Wages LE	Fuel and Power LE	Chemicals LE	Other LE	LE	LE
			HISTORICAL			
1975	62,682	19,207	19,278	2,440	12,607	116,214
1976	109,565	11,513	25,867	182,010	323,189	652,144
1977	140,727	16,041	30,311	338,338	61,879	587,296
1978	171,600	19,600	37,000	412,600	75,400	716,200
			PROJECTED			
1979	201,500	23,000	43,400	421,400	88,600	777,900
1980	237,000	27,000	51,000	500,800	104,200	920,000
1981	278,000	31,700	59,900	593,500	122,200	1,085,300
1982	326,600	37,200	70,300	702,300	143,600	1,280,000
1983	383,300	43,700	82,600	831,600	168,500	1,509,700
1984	448,700	51,100	96,600	979,900	197,300	1,773,600
1985	502,300	57,300	108,200	1,100,900	220,900	1,989,600
1986	563,900	64,300	121,500	1,238,900	247,900	2,236,500
1987	630,300	71,900	135,800	1,388,600	277,200	2,503,800
1988	706,800	80,600	152,200	1,563,600	310,800	2,814,000
1990	889,100	101,300	191,500	1,978,800	390,900	3,551,600
2000	2,778,500	316,700	598,500	6,378,000	1,221,800	11,293,500

TABLE 5.2

ISMAILIA WATER UTILITY

DEBT SERVICE CHARGES WITH COVERAGE REQUIREMENTS

Year	Debt Service Charges LE 1000	Debt Coverage LE 1000	Total LE 1000
1979	71	17	88
1980	374	94	468
1981	726	182	908
1982	1,197	299	1,496
1983	1,748	437	2,185
1984	2,322	581	2,903
1985	3,217	804	4,021
1986	3,675	919	4,594
1987	4,556	1,139	5,695
1988	5,022	1,256	6,278
1990	6,357	1,589	7,946
2000	13,773	3,443	17,216

TABLE 5.3

ISMAILIA WATER UTILITY

ESTIMATED DEPRECIATION EXPENSE

Year	Annual Additions LE 1000	Cumulative Balance LE 1000	Land LE 1000	Depreciable Balance LE 1000	Average Balance LE 1000	Depreciation Expense(b) LE 1000
1978(a)		3,354	67			
1979	73	3,427	67	3,360	3,324	83
1980	6,529	9,956	200	9,756	6,558	164
1981	12,232	22,188	443	21,745	15,750	394
1982	11,399	33,587	671	32,916	27,330	683
1983	9,345	42,932	858	42,074	37,495	937
1984	7,013	49,945	998	48,947	45,510	1,138
1985	9,689	59,634	1,191	58,443	53,695	1,342
1986	8,109	67,743	1,353	66,390	62,417	1,560
1987	7,493	75,236	1,503	73,733	70,061	1,752
1988	7,237	82,473	1,647	80,826	77,280	1,932
1990	10,460	105,903	2,115	103,788	97,503	2,438
1991 to 2000	114,374	220,277	4,400	215,877	211,020	5,275

(a) Estimated Original Cost at December 31, 1978

(b) At composite rate of depreciation of 2 .50 percent.

TABLE 5.4

ISMAILIA WATER UTILITY

PROFORMA RETURN ON INVESTMENT

Year	Estimated Construction Cost LE 1000	Cumulative Balance* LE 1000	Cumulative Allowance For Depreciation LE 1000	Net Plant in Service LE 1000	Required Return @ 6 Percent LE 1000
1978		6,800			
1979	100	6,900	200	6,700	400
1980	6,500	13,400	300	13,100	800
1981	12,200	25,600	1,200	24,400	1,500
1982	11,400	37,000	2,400	34,600	2,100
1983	9,300	46,300	4,500	41,800	2,500
1984	7,000	53,300	5,600	47,700	2,900
1985	9,700	63,000	7,500	55,500	3,300
1986	8,100	71,100	9,600	61,500	3,700
1987	7,500	78,600	11,900	66,700	4,000
1988	7,200	85,800	14,400	71,400	4,300
1990	10,500	109,300	20,100	89,200	5,400
2000	114,400	223,700	65,500	158,200	9,500

* Based on RCLD at December 31, 1978 and additions at cost subsequent thereto.

TABLE 5.5

ISMAILIA WATER UTILITY

COMPARATIVE SUMMARY OF REVENUE REQUIREMENTS

Year	Cash Basis				Utility Basis			
	Operation & Maintenance Expense LE 1000	Debt Service LE 1000	Annual Improvements LE 1000	Total LE 1000	Operation & Maintenance Expense LE 1000	Depreciation Expense LE 1000	Return on Investment LE 1000	Total LE 1000
	(a)	(b)	(c)		(a)	(d)	(e)	
1979	778	71	17	866	778	83	400	1,261
1980	920	374	94	1,388	920	164	800	1,884
1981	1,085	726	182	1,993	1,085	394	1,500	2,979
1982	1,280	1,197	299	2,776	1,280	683	2,100	4,063
1983	1,510	1,748	437	3,695	1,510	937	2,500	4,947
1984	1,774	2,322	581	4,677	1,774	1,138	2,900	5,812
1985	1,990	3,217	804	6,011	1,990	1,342	3,300	6,632
1986	2,237	3,675	919	6,831	2,237	1,560	3,700	7,497
1987	2,504	4,556	1,139	8,199	2,504	1,752	4,000	8,256
1988	2,814	5,022	1,256	9,092	2,814	1,932	4,300	9,046
1990	3,552	6,357	1,589	11,498	3,552	2,438	5,400	11,390
2000	11,294	13,773	3,443	28,510	11,294	5,275	9,500	26,069

(a) Table 5.1
(b) Table 2.2
(c) Table 5.2
(d) Table 5.3
(e) Table 5.4

TABLE 6.1

ISMAILIA WATER UTILITY

COINCIDENTAL DEMAND FACTORS

1984 TEST YEAR

	DEMAND FACTORS		
	Maximum Day %	Base %	Extra Capacity %
Coincidental maximum day demand factors	150	100	50
Ratio	100	67	33
	Maximum Hour %	Base %	Extra Capacity %
Coincidental maximum hour demand factors	300	100	200
Ratio	100	33	67

TABLE 6.2

ISMAILIA WATER UTILITY

ALLOCATION OF OPERATION AND MAINTENANCE EXPENSE
TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

	Total LE1000	Base Cost LE1000	Extra Capacity Cost: Maximum Day LE1000	Extra Capacity Cost: Maximum Hour LE1000	Meters & Services LE1000	Bills LE1000	Raw Water Cost LE1000
Pumping Expense							
Power	51	46	5				
Other	39	26	13				
Raw water expense	26						26
Water Treatment Expense							
Chemicals	97	97					
Other	409	274	135				
Transmission and Distribution Expense							
Transmission mains	536	359	177				
Distribution mains	325	107		218			
Meters and services	48				48		
Customer Accounts Expense							
Meter reading, billing and accounting	46					46	
Administrative and General Expense	197	105	45	30	7	6	4
Total	1,774	1,014	375	248	55	52	30

TABLE 6.3

ISMAILIA WATER UTILITY

ALLOCATION OF UTILITY PLANT IN SERVICE
TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

	Total LE 1000	Base Cost LE 1000	Extra Capacity Cost: Maximum Day LE 1000	Extra Capacity Cost: Maximum Hour LE 1000	Customer Meters & Services LE 1000	Raw Water System LE 1000
Source of supply and treatment	11,257	7,542	3,715			
Transmission mains	12,992	8,705	4,287			
Distribution mains	8,662	2,858		5,804		
Services	260				260	
Meters	1,579				1,579	
Raw Water Facilities	5,307					5,307
General Plant	2,150	1,072	449	326	103	200
Total	42,207	20,177	8,451	6,130	1,942	5,507
Percent of Total	100.0	47.8	20.0	14.5	4.6	13.1

TABLE 6.4

ISMAILIA WATER UTILITY

ALLOCATION OF CAPITAL COSTS
TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

Cost Component	Ratio %	Cash Basis Capital Cost LE 1000	Utility Basis Capital Cost LE 1000
COMMON TO ALL			
Base cost	47.8	1,388	1,930
Extra capacity cost			
Maximum day	20.0	581	808
Maximum hour	14.5	422	585
Meters and services*	4.6	34	87
SPECIAL SERVICE			
Non Potable water service	13.1	379	529
Sub total		2,804	3,939
CONTRIBUTION FOR SERVICES*		99	99
Total capital cost	100.0	2,903	4,038

* Contribution for Services is deducted from allocated cost of meters and services.

TABLE 6.5

ISMAILIA WATER UTILITY

SUMMARY OF ALLOCATION OF CASH BASIS COST OF SERVICE TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

Cost Component	Operation & Maintenance Expense LE 1000	Cash Basis Capital Related Costs LE 1000	Total LE 1000
COMMON TO ALL			
Base Cost	1,014	1,388	2,402
Extra Capacity Cost			
Maximum day	375	581	956
Maximum hour	248	422	670
Customer Cost			
Meters and services	55	34	89
Bills	52		52
SPECIAL SERVICE			
Non Potable Water Service	30	379	409
Sub total	1,774	2,804	4,578
CONTRIBUTION FOR SERVICE		99	99
Total Cost of Service	1,774	2,903	4,677

TABLE 6.6

ISMAILIA WATER UTILITY

SUMMARY OF ALLOCATION OF UTILITY BASIS COST OF SERVICE TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

Cost Component	Operation & Maintenance Expense LE 1000	Utility Basis Capital Related Costs LE 1000	Total LE 1000
COMMON TO ALL			
Base Cost	1,014	1,930	2,944
Extra Capacity Cost			
Maximum day	375	808	1,183
Maximum hour	248	585	833
Customer Cost			
Meters and services	55	87	142
Bills	52		52
SPECIAL SERVICE			
Non Potable water service	30	529	559
Sub total	1,774	3,939	5,713
CONTRIBUTION FOR SERVICE		99	99
Total Cost of Service	1,774	4,038	5,812

TABLE 7.1

ISMAILIA WATER UTILITY

UNITS OF SERVICE

1984 TEST YEAR

Customer Class	Annual Water Sales 1000 m3	Average Day Water Sales 1000 m3/d	Extra Capacity Factors: Maximum Day Factor %	Maximum Day Units 1000 m3/d	Maximum Hour Factor %	Maximum Hour Units 1000 m3/d	Number of Equivalent Meters	Number of Bills
General	7,100	19.4	75	14.6	225	43.7	9,700	32,500
Commercial and Institutional	11,800	32.3	55	17.8	175	56.6	100	100
Industrial	300	0.8	15	0.1	125	1.0	100	100
SCA	1,800	4.9	25	1.2	135	6.7	100	
Fountains	600	1.6	10	0.2	120	2.0	100	100
Fire Protection				1.0		2.0		
Total	21,600	59.0		34.9		112.0	10,100	32,800

TABLE 12.1

ISMAILIA WATER UTILITY

PROFORMA STATEMENT OF INCOME

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
OPERATING INCOME											
Revenues from water sales[a]	773	1,525	2,313	3,278	4,583	5,904	6,714	8,072	8,956	11,339	28,207
Other operating income	69	75	83	90	99	107	117	127	136	159	303
Total Operating Income	842	1,600	2,396	3,368	4,682	6,011	6,831	8,199	9,092	11,498	28,510
OPERATING EXPENSE											
Operation and maintenance expense	920	1,085	1,280	1,510	1,774	1,990	2,237	2,504	2,814	3,552	11,294
Depreciation expense	164	394	683	937	1,138	1,342	1,560	1,752	1,932	2,438	5,275
Total Operating Expense	1,084	1,479	1,963	2,447	2,912	3,332	3,797	4,256	4,746	5,990	16,569
Net Operating Income	(242)	121	433	921	1,770	2,679	3,034	3,943	4,346	5,508	11,941
NON OPERATING INCOME	2	3	4	5	6	7	8	9	10	10	10
Gross Income	(240)	124	437	926	1,776	2,686	3,042	3,952	4,356	5,518	11,951
INCOME DEDUCTIONS											
Interest expense	374	726	1,197	1,682	2,184	2,642	3,066	3,440	3,838	4,587	7,647
Net Income (Loss)	(614)	(602)	(760)	(756)	(408)	44	(24)	512	518	931	4,304
NET UTILITY PLANT IN SERVICE (LE MILLIONS)[b]	0.5	24.4	34.6	41.8	47.7	55.5	61.5	66.7	71.4	89.2	158.2
Return on Investment- %[c]		0.5	1.3	2.2	3.7	4.8	4.9	5.9	6.1	6.2	7.5

(a) With revenues computed on Cash Basis "Ability to Pay" Rates, Tables 9.1, 10.6.

(b) Net Plant in Service from Table 5.4 consists of RCLD at December 31, 1978 together with additions at cost subsequent thereto and an allowance for depreciation.

(c) Return on Investment is computed by dividing Net Operating Income by Net Plant in Service.

TABLE 12.2

ISMAILIA WATER UTILITY

PROFORMA STATEMENT OF INCOME

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
OPERATING INCOME											
Revenues from water sales[a]	880	1,880	3,010	4,283	5,696	6,525	7,380	8,129	8,910	11,231	25,766
Other operating income	69	75	83	90	99	107	117	127	136	159	303
Total Operating Income	949	1,955	3,093	4,373	5,795	6,632	7,497	8,256	9,046	11,390	26,069
OPERATING EXPENSE											
Operation and maintenance expense	920	1,085	1,280	1,510	1,774	1,990	2,237	2,504	2,814	3,552	11,294
Depreciation expense	164	394	683	937	1,138	1,342	1,560	1,752	1,932	2,438	5,275
Total Operating Expense	1,084	1,479	1,963	2,447	2,912	3,332	3,797	4,256	4,746	5,990	16,569
Net Operating Income	(135)	476	1,130	1,926	2,883	3,300	3,700	4,000	4,300	5,400	9,500
NON OPERATING INCOME	2	3	4	5	6	7	8	9	10	10	10
Gross Income	(133)	479	1,134	1,931	2,889	3,307	3,708	4,009	4,310	5,410	9,510
INCOME DEDUCTIONS											
Interest expense	374	726	1,197	1,682	2,184	2,642	3,066	3,440	3,838	4,587	7,647
Net Income (Loss)	(507)	(247)	(63)	249	705	665	634	569	472	823	1,863
NET UTILITY PLANT IN SERVICE (LE MILLIONS)[b]	13.1	24.4	34.6	41.8	47.7	55.5	61.5	66.7	71.4	89.2	158.2
Return on Investment- %[c]		1.9	3.3	4.6	6.0	6.0	6.0	6.0	6.0	6.0	6.0

(a) With revenues computed on Utility Basis "Ability to Pay" Rates, Tables 9.5, 10.7.

(b) Net Plant in Service from Table 5.4 consists of RCLD at December 31, 1978 together with additions at cost subsequent thereto and an allowance for depreciation.

(c) Return on Investment is computed by dividing Net Operating Income by Net Plant in Service.

TABLE 12.3

ISMAILIA WATER UTILITY

PROFORMA STATEMENT OF SOURCE AND APPLICATION OF OPERATING FUNDS

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
SOURCE OF FUNDS											
Net Operating Income[a]	(242)	121	433	921	1,770	2,679	3,034	3,943	4,346	5,508	11,941
Depreciation Expense	164	394	683	937	1,138	1,342	1,560	1,752	1,932	2,438	5,275
Sub total	(78)	515	1,116	1,858	2,908	4,021	4,594	5,695	6,278	7,946	17,216
Non Operating Income	2	3	4	5	6	7	8	9	10	10	10
Operating Subsidy	546	393	380	327							
Total Available Operating Fund	470	911	1,500	2,190	2,914	4,028	4,602	5,704	6,288	7,956	17,226
APPLICATION OF FUNDS											
Routine Improvements	94	182	299	437	581	804	919	1,139	1,256	1,589	3,443
Debt Service Charges											
Interest	374	726	1,197	1,682	2,184	2,642	3,066	3,440	3,838	4,587	7,647
Principal				66	138	575	609	1,116	1,184	1,770	6,126
Total Debt Service	374	726	1,197	1,748	2,322	3,217	3,675	4,556	5,022	6,357	13,773
Total Application of Operating Fund	468	908	1,496	2,185	2,903	4,021	4,594	5,695	6,278	7,946	17,216
Net Operating Fund Changes	2	3	4	5	11	7	8	9	10	10	10

(a) Based on revenues from water sales computed on Cash Basis Revenue Requirements.

TABLE 12.4

ISMAILIA WATER UTILITY

PROFORMA STATEMENT OF SOURCE AND APPLICATION OF OPERATING FUNDS

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
SOURCE OF FUNDS											
Net Operating Income[a]	(135)	476	1,130	1,926	2,883	3,300	3,700	4,000	4,300	5,400	9,500
Depreciation Expense	164	394	683	937	1,138	1,342	1,560	1,752	1,932	2,438	5,275
Sub total	29	870	1,813	2,863	4,021	4,642	5,260	5,752	6,232	7,838	14,775
Non Operating Income	2	3	4	5	6	7	8	9	10	10	10
Operating Subsidy	935	1,024	970	574							
Total Available Operating Fund	966	1,897	2,787	3,442	4,027	4,649	5,268	5,761	6,242	7,848	14,785
APPLICATION OF FUNDS											
Routine Improvements	94	182	299	437	581	804	919	1,139	1,256	1,589	3,443
Debt Service Charges											
Interest	374	726	1,197	1,682	2,184	2,642	3,066	3,440	3,838	4,587	7,647
Principal				66	138	575	609	1,116	1,184	1,770	6,126
Total Debt Service	374	726	1,197	1,748	2,322	3,217	3,675	4,556	5,022	6,357	13,773
Total Application of Operating Fund	468	908	1,496	2,185	2,903	4,021	4,594	5,695	6,278	7,946	17,216
Net Operating Fund Changes	498	989	1,291	1,257	1,124	628	674	66	(36)	(98)	(2,431)

(a) Based on revenues from water sales computed on Utility Basis Revenue Requirements.

TABLE 12.5

ISMAILIA WATER UTILITY

PROFORMA BALANCE SHEET

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
ASSETS											
Utility Plant in Service[a]	9,956	22,188	33,587	42,932	49,945	59,634	67,743	75,236	82,473	105,903	220,277
Accumulated Provision for Depreciation	1,234	1,628	2,311	3,248	4,386	5,728	7,288	9,040	10,972	15,595	55,568
Net Utility Plant in Service	8,722	20,560	31,276	39,684	45,559	53,906	60,455	66,196	71,501	90,308	164,709
Current Assets											
Cash	115	136	160	189	222	249	280	313	352	444	1,412
Accounts Receivable	73	145	288	575	1,145	1,476	1,679	2,018	2,239	2,835	7,052
Material and Supplies	276	327	386	457	538	605	680	762	858	1,085	3,489
Total Current Assets	464	608	834	1,221	1,905	2,330	2,639	3,093	3,449	4,364	11,953
Total Assets	9,186	21,168	32,110	40,905	47,464	56,236	63,094	69,289	74,950	94,672	176,662
LIABILITIES AND EQUITY											
Ismailia Water Utility Equity Capital	(1,567)	(105)	1,263	2,216	2,437	2,863	3,099	4,012	4,824	7,491	39,901
Long Term Debt	10,600	21,092	30,634	38,437	44,731	53,041	59,622	64,860	69,657	86,589	134,878
Current Liabilities											
Accounts Payable	153	181	213	252	296	332	373	417	469	592	1,883
Total Liabilities and Equity	9,186	21,168	32,110	40,905	47,464	56,236	63,094	69,289	74,950	94,672	176,662

(a) Based on Original Cost at December 31, 1978 and projected additions at cost subsequent thereto.

TABLE 7.2

ISMAILIA WATER UTILITY

UNIT COST OF SERVICE
CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

Cost Component	Cost of Service LE 1000	Units of Service	Unit Cost of Service LE/Unit
COMMON TO ALL			
Base Cost	2,402	21,600 1000 m^3	0.111
Extra Capacity Cost			
Maximum day	956	34.9 1000 m^3/d	27.393
Maximum hour	670	112.0 1000 m^3/d	5.982
Customer Cost			
Meters and Services	89	10,000 Eq.Meters	8.812
Bills	52	32,800 Bills	1.585

TABLE 7.3

ISMAILIA WATER UTILITY

UNIT COST OF SERVICE
UTILITY BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

Cost Component	Cost of Service LE 1000	Units of Service	Unit Cost of Service LE/Unit
COMMON TO ALL			
Base Cost	2,944	21,600 1000 m^3	0.136
Extra Capacity Cost			
Maximum day	1,183	34.9 1000 m^3/d	33.900
Maximum hour	833	112.0 1000 m^3/d	7.438
Customer Cost			
Meters and Services	142	10,100 Eq.Meters	14.059
Bills	52	32,800 Bills	1.585

TABLE 7.4

ISMAILIA WATER UTILITY

ALLOCATION OF CASH BASIS COST OF SERVICE TO CUSTOMER CLASSES

1984 TEST YEAR

	Base Cost	Extra Capacity Costs: Maximum Day	Extra Capacity Costs: Maximum Hour	Customer Costs: Equiv. Meters	Customer Costs: Bills	Other Direct Cost	Total
Customer Class							
Unit Cost of Service (LE)	0.111	27.393	5.982	8.812	1.585		
Unit	1000 m^3	100 m3/d	100 m3/d	Eq.Mtrs.	Bills		
Units of Service							
General	7,100	14.6	43.7	9,700	32,500		
Commercial and Institutional	11,800	17.8	56.6	100	100		
Industrial	300	0.1	1.0	100	100		
SCA	1,800	1.2	6.7	100			
Fountains	600	0.2	2.0	100	100		
Fire Protection		1.0	2.0				
Total	21,600	34.9	112.0	10,100	32,800		
Cost of Service	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000
General	790	400	261	85	51		1,587
Commercial and Institutional	1,312	488	339	1	1		2,141
Industrial	33	3	6	1			43
SCA	200	33	40	1			274
Fountains	67	5	12	1			85
Fire Protection		27	12				39
Non Potable water service						409	409
Total	2,402	956	670	89	52	409	4,578
Contribution for Services							99
Total Cost of Service							4,677

TABLE 7.5

ISMAILIA WATER UTILITY

ALLOCATION OF UTILITY BASIS COST OF SERVICE TO CUSTOMER CLASSES

1984 TEST YEAR

	Base Cost	Extra Capacity Costs		Customer Costs		Other Direct Cost	Total
		Maximum Day	Maximum Hour	Equiv. Meters	Equiv. Bills		
Customer Class							
Unit Cost of Service(LE)	0.136	33.900	7.438	14.059	1.585		
Unit	1000 m^3	100 m3/d	100 m3/d	Eq.Mtrs.	Bills		
Units of Service							
General	7,100	14.6	43.7	9,700	32,500		
Commercial and Institutional	11,800	17.8	56.6	100	100		
Industrial	300	0.1	1.0	100	100		
SCA	1,800	1.2	6.7	100	-		
Fountains	600	0.2	2.0	100	100		
Fire Protection	-	1.0	2.0	-	-		
Total	21,600	34.9	112.0	10,100	32,800		
Cost of Service	LE1000	LE1000	LE1000	LE1000	LE1000	LE1000	LE1000
General	968	495	325	138	52		1,978
Commercial and Institutional	1,607	603	421	1			2,632
Industrial	41	3	7	1			52
SCA	246	41	50	1			338
Fountains	82	7	15	1			105
Fire Protection		34	15				49
Non Potable water service						559	559
Total	2,944	1,183	833	142	52	559	5,713
Contribution for Service							99
Total Cost of Service							5,812

TABLE 8.1

ISMAILIA WATER UTILITY

BILL FREQUENCY DISTRIBUTION

	Domestic		Commercial		Industrial	
	Cumulative Number of Bills %	Cumulative Billed Usage(a) %	Cumulative Number of Bills %	Cumulative Billed Usage(a) %	Cumulative Number of Bills %	Cumulative Billed Usage(a) %
0	6.0	0	21.9	0	0	0
1 - 10	11.8	5.0	30.1	1.7	0	0.6
11 - 25	26.0	11.6	43.8	3.8	0	1.5
26 - 50	43.6	20.5	46.6	6.9	0	3.1
51 - 100	63.0	32.9	49.3	12.7	0	6.1
101 - 200	79.2	47.9	49.3	24.1	16.7	12.3
101 - 500	91.9	68.1	58.9	55.7	33.3	26.3
201- 1,000	97.1	81.9	90.4	80.2	50.0	42.9
1,001- 2,000	99.1	90.8	95.9	95.7	50.0	73.6
2,001- 3,000	99.5	94.2	100.0	100.0	83.3	96.8
3,001- 5,000	99.8	97.4			100.0	100.0
5,001-10,000	99.9	99.5				
Over 10,000	100.0	100.0				

(a) Cumulative usage in block of bills stopping in or passing through the block.

TABLE 9.1

ISMAILIA WATER UTILITY

RECOMMENDED "ABILITY TO PAY" WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

BILLS ISSUED QUARTERLY

	Rates Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
POTABLE WATER RETAIL SERVICE					
Volume Charge					
Applicable to all except Special Customers					
Charge per cubic meter for all measured or estimated water use per billing period					
First 50 cubic meters	0.014	0.015	0.016	0.018	0.020
Next 50 cubic meters	0.023	0.029	0.036	0.043	0.050
Next 100 cubic meters	0.032	0.052	0.073	0.094	0.115
Next 800 cubic meters	0.041	0.073	0.105	0.137	0.170
Next 9,000 cubic meters	0.050	0.093	0.137	0.181	0.225
Over 10,000 cbuic meters	0.060	0.115	0.170	0.225	0.285
Service Charge					
Domestic Customers					
Charge per living unit per billing period	0.080	0.150	0.300	0.500	1.000
Non Domestic Customers					
Charge per connection per billing period based on water meter size.					
Meter Size mm					
20 and under	0.500	0.850	1.500	3.000	5.500
25	0.700	1.150	2.250	4.500	8.000
30	0.800	1.450	2.700	5.000	9.500
40	1.200	2.250	4.250	8.000	15.000
50	1.500	3.000	5.700	10.000	20.000
80	3.250	6.000	11.000	21.000	40.000
100	4.500	8.000	15.000	30.000	55.000
150	9.000	17.000	30.000	60.000	110.000
200	15.000	30.000	50.000	100.000	180.000
300	25.000	50.000	100.000	175.000	330.000

TABLE 9.1 (Cont'd)

ISMAILIA WATER UTILITY

RECOMMENDED "ABILITY TO PAY" WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

BILLS ISSUED QUARTERLY

	Rates Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
Special Customers					
Public Fountains					
Volume Charge					
Charge per cubic meter for all measured or estimated water use per billing period	0.010	0.020	0.040	0.080	0.150
Service Charge					
Charge per fountain per billing period	1.000	1.500	3.000	5.000	10.000
Fire Protection					
Annual charge per hydrant	20.000	35.000	65.000	120.000	225.000
Raw Water Service					
Rate is omitted. Connection and consumption data is not available.					

TABLE 9.2

ISMAILIA WATER UTILITY

PROPOSED STANDARD BLOCK COST OF SERVICE WATER RATES

BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Rate LE
POTABLE WATER RETAIL SERVICE	
Applicable to all except Special Customers	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	
First 100 cubic meters	0.220
Next 900 cubic meters	0.200
Over 1,000 cubic meters	0.180
Service Charge Charge per connection per billing period based on water meter size	
Meter Size mm	
20 and under	5.500
25	8.000
30	9.500
40	15.000
50	20.000
80	40.000
100	55.000
150	110.000
200	180.000
300	330.000

TABLE 9.2 (Continued)

ISMAILIA WATER UTILITY

PROPOSED STANDARD BLOCK COST OF SERVICE WATER RATES

BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Rate LE
Special Customers	
Public Fountains	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.150
Service Charge Charge per fountain per billing period	10.000
Fire Protection	
Annual charge per hydrant	225.000

RAW WATER SERVICE

The raw water service rate has been omitted. No information was available on the volume of usage. The projected cost of service is LE 409,000. This may be translated into a rate by dividing an estimated volume into the cost of service.

TABLE 9.3

ISMAILIA WATER UTILITY

PROPOSED SERVICE CHARGE-VOLUME CHARGE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Domestic Customers LE	Non Domestic Customers LE
POTABLE WATER RETAIL SERVICE		
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.215	0.190
Service Charge Charge per connection per billing period based on water meter size		
Meter Size mm		
20 and under	3.700	5.000
25	5.500	7.500
30	7.500	10.000
40	12.000	16.000
50	17.000	23.000
80	37.000	50.000
100	50.000	70.000
150	100.000	140.000
200	165.000	225.000
300	315.000	425.000

TABLE 9.3 (Continued)

ISMAILIA WATER UTILITY

PROPOSED SERVICE CHARGE-VOLUME CHARGE WATER RATES
BASED ON CASH BASIC REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Rate LE
Special Customers	
Public Fountains	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.150
Service Charge Charge per fountain per billing period	10.000
Fire Protection Annual charge per hydrant	225.000

RAW WATER SERVICE

The raw water service rate has been omitted. No information was available on the volume of usage. The projected cost of service is LE 409,000. This may be translated into a rate by dividing an estimated volume into the cost of service.

TABLE 9.4

ISMAILIA WATER UTILITY

PROPOSED COMBINED "ABILITY TO PAY" AND SERVICE CHARGE-
VOLUME CHARGE WATER RATES BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Rate LE
POTABLE WATER RETAIL SERVICE.	
Domestic Customers Only	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	
First 50 cubic meters	0.020
Next 50 cubic meters	0.065
Next 100 cubic meters	0.135
Next 800 cubic meters	0.270
Next 9,000 cubic meters	0.540
Over 10,000 cubic meters	0.800
Service Charge	
Charge per living unit per billing period	1,000
Non Domestic Customers	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	0.190
Service Charge	
Charge per connection per billing period based on water meter size	
Meter Size mm	
20 and under	5.000
25	7.500
30	10.000
40	16.000
50	23.000
80	50.000
100	70.000
150	140.000
200	225.000
300	425.000

TABLE 9.4 (Continued)

ISMAILIA WATER UTILITY

PROPOSED COMBINED "ABILITY TO PAY" AND SERVICE CHARGE-VOLUME CHARGE WATER RATES BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Rate LE
Special Customers	
Public Fountains	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.150
Service Charge Charge per fountain per billing period	10.000
Fire Protection	
Annual charge per hydrant	225.000

RAW WATER SERVICE

The raw water service rate has been omitted. No information was available on the volume of usage. The projected cost of service is LE 409 000. This may be translated into a rate by dividing an estimated volume into the cost of service.

TABLE 9.5

ISMAILIA WATER UTILITY

PROPOSED "ABILITY TO PAY" WATER RATES
BASED ON UTILITY BASIS REVENUE REQUIREMENTS

BILLS ISSUED QUARTERLY

	Rates Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
POTABLE WATER RETAIL SERVICE					
Volume Charge					
Applicable to all except Special Customers					
Charge per cubic meter for all measured or estimated water use per billing period.					
First 50 cubic meters	0.014	0.015	0.016	0.018	0.020
Next 50 cubic meters	0.023	0.029	0.036	0.043	0.050
Next 100 cubic meters	0.028	0.055	0.085	0.110	0.140
Next 800 cubic meters	0.042	0.085	0.125	0.170	0.210
Next 9,000 cubic meters	0.055	0.110	0.170	0.225	0.280
Over 10,000 cubic meters	0.070	0.140	0.210	0.280	0.350
Service Charge					
Domestic Customers					
Charge per living unit per billing period	0.080	0.150	0.300	0.500	1.000
Non Domestic Customers					
Charge per connection per billing period based on water meter size.					
Meter Size mm					
20 and under	0.400	0.600	1.200	2.200	4.000
25	0.600	0.900	1.800	3.300	4.000
30	0.800	1.200	2.400	4.400	8.000
40	1.300	2.000	4.000	7.000	13.000
50	1.800	2.700	5.500	10.000	18.000
80	4.000	6.000	12.000	22.000	46.000
100	5.500	8.000	16.000	30.000	55.000
150	11.000	16.000	32.000	60.000	110.000
200	18.000	27.000	54.000	100.000	180.000
300	34.000	50.000	100.000	190.000	340.000

TABLE 9.5 (Cont'd)

ISMAILIA WATER UTILITY

PROPOSED "ABILITY TO PAY" WATER RATES
BASED ON UTILITY BASIS REVENUE REQUIREMENTS

BILLS ISSUED QUARTERLY

	Rates Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
Special Customers					
Public Fountains					
Volume Charge					
Charge per cubic meter for all measured or estimated water use per billing period	0.020	0.030	0.055	0.090	0.180
Service Charge					
Charge per fountain per billing period	1.000	1.500	3.000	5.000	10.000
Fire Protection					
Annual charge per hydrant	30.000	45.000	85.000	145.000	285.000

RAW WATER SERVICE

The raw water service rate has been omitted. No information was available on the volume of usage. The projected cost of service is LE 747,000. This may be translated into a rate by dividing an estimated volume into the cost of service

TABLE 9.6

ISMAILIA WATER UTILITY

LONG-RUN AVERAGE INCREMENTAL COST OF WATER
1978 COST LEVELS

Year	Capital Costs LE 1000	Operating Expenses LE 1000	Total LE 1000	Incremental Volume 1000 m3
1979	9		9	
1980	4,458		4,458	
1981	7,964		7,964	
1982	7,504		7,504	
1983	5,348	250	5,598	7,638
1984	3,232	284	3,607	8,673
1985		303	303	9,248
1986		324	324	9,886
1987		345	345	10,525
1988		368	368	11,240
1989		393	393	12,006
1990 to 2020		420	420	12,824

Discount Rate %	Long-run Incremental Average Cost milliemes/m3
10	301
12	358
15	450
20	618

TABLE 10.1

ISMAILIA WATER UTILITY

COMPARISON OF REVENUE FROM WATER SALES
AT RECOMMENDED RATES WITH COST OF SERVICE
BY CUSTOMER CLASS

1984 TEST YEAR

Customer Class	Cost of Service(a) LE 1000	Revenue At Proposed Rates(b) LE 1000	Percent Revenue Of Cost %
General	1,587	931	58.7
Commercial and Institutional	2,141	2,735	127.7
Industrial	43	56	130.2
Suez Canal Authority	274	325	118.6
Special			
Fountains	85	86	101.2
Fire Protection	39	39	100.0
Non Potable Water	409	409	100.0
Total	4,578	4,581	100.1

(a) Based on Cash Basis Revenue Requirements

(b) At Recommended "Ability to Pay" Rates, Table 9.1

TABLE 10.2

ISMAILIA WATER UTILITY

COMPARISON OF REVENUE FROM WATER SALES
AT PROPOSED RATES WITH COST OF SERVICE
BY CUSTOMER CLASS

1984 TEST YEAR

Customer Class	Cost of Service(a) LE 1000	Revenue at Proposed Rates(b) LE 1000	Percent Revenue Of Cost %
General	1,587	1,532	96.5
Commercial and Institutional	2,141	2,089	97.6
Industrial	43	57	132.5
Suez Canal Authority	274	323	117.9
Special			
Fountains	85	86	101.2
Fire Protection	39	39	100.0
Non Potable Water	409	409	100.0
Total	4,578	4,535	99.1

(a) Based on Cash Basis Revenue Requirements.

(b) At Proposed Standard Block Cost of Service Rates, Table 9.2

TABLE 10.3

ISMAILIA WATER UTILITY

COMPARISON OF REVENUE FROM WATER SALES
AT PROPOSED RATES WITH COST OF SERVICE
BY CUSTOMER CLASS

1984 TEST YEAR

Customer Class	Cost of Service(a) LE 1000	Revenue at Proposed Rates(b) LE 1000	Percent Revenue Of Cost %
General	1,587	1,587	100.0
Commercial and Institutional	2,141	2,131	99.5
Industrial	43	56	130.2
Suez Canal Authority	274	325	118.6
Special			
Fountains	85	86	101.2
Fire Protection	39	39	100.0
Non Potable Water	409	409	100.0
Total	4,578	4,633	101.2

(a) Based on Cash Basis Revenue Requirements

(b) At Proposed Service Charge - Volume Charge Water Rates, Table 9.3

TABLE 10.4

ISMAILIA WATER UTILITY

COMPARISON OF REVENUE FROM WATER SALES
AT PROPOSED RATES WITH COST OF SERVICE
BY CUSTOMER CLASS

1984 TEST YEAR

Customer Class	Cost of Service(a) LE 1000	Revenue at Proposed Rates(b) LE 1000	Percent Revenue Of Cost %
General	1,587	1,589	100.1
Commercial and Institutional	2,141	2,131	99.5
Industrial	43	56	130.2
Suez Canal Authority	274	325	118.6
Special			
Fountains	85	86	101.2
Fire Protection	39	39	100.0
Non-Potable Water	409	409	100.0
Total	4,578	4,635	101.2

(a) Based on Cash Basis Revenue Requirements

(b) At Proposed Combined "Ability to Pay" Water rates applicable to Domestic Customers and Service Charge - Volume Charge water Rates applicable to Non Domestic Customers.

TABLE 10.5

ISMAILIA WATER UTILITY

COMPARISON OF REVENUE FROM WATER SALES
AT PROPOSED RATES WITH COST OF SERVICE
BY CUSTOMER CLASS

1984 TEST YEAR

Customer Class	Cost of Service(a) LE 1000	Revenue Proposed Rates(b) LE 1000	Percent Revenue Of Cost %
General	1,978	1,153	58.3
Commercial and Institutional	2,632	3,359	127.6
Industrial	52	69	132.6
Suez Canal Authority	338	403	119.2
Special			
Fountains	105	104	99.0
Fire Protection	49	49	100.0
Non Potable Water	559	559	100.0
Total	5,713	5,696	99.7

(a) Based on Utility Basis Revenue Requirements.

(b) At Proposed "Ability To Pay" Water Rates, Table No. 9.5

TABLE 10.6

ISMAILIA WATER UTILITY

SUBSIDY REQUIRED TO RECOVER CASH BASIS REVENUE REQUIREMENTS

Year	Total Revenue Requirements[a] LE 1000	Revenues at Recommended Rates(b) LE 1000	Required Subsidy LE 1000
1980	1,319	773	546
1981	1,918	1,525	393
1982	2,693	2,313	380
1983	3,605	3,278	327
1984	4,578	4,583	None

(a) Net requirements after deducting other income.

(b) At recommended "Ability-to-Pay" rates based on Cash Basis Revenue Requirements.

TABLE 10.7

ISMAILIA WATER UTILITY

SUBSIDY REQUIRED TO RECOVER CASH BASIS REVENUE REQUIREMENTS

Year	Total Revenue Requirements (a) LE 1000	Revenues at Proposed Rates (b) LE 1000	Required Subsidy LE 1000
1980	1,815	880	935
1981	2,904	1,880	1,024
1982	3,980	3,010	970
1983	4,857	4,283	574
1984	5,713	5,696	None

(a) Net requirements after deducting other income.

(b) At proposed "Ability-to-Pay" rates based on Utility Basis Revenue Requirements.

APPENDIX IV

PORT SAID

WATER UTILITY

TABLE 2.1

PORT SAID WATER UTILITY

HISTORICAL AND PROPOSED CAPITAL IMPROVEMENT PROGRAM

Year	Major Projects Local LE 1000	Major Projects Foreign LE 1000	Major Projects Total LE 1000	Routine Projects LE 1000	Total LE 1000
			HISTORICAL (a)		
1973					
1974					
1975					
1976					
1977					
1978					
			PROPOSED (b)		
1979	207	217	424	87	511
1980	3,844	3,217	7,061	123	7,184
1981	3,718	2,182	5,900	188	6,088
1982	3,453	2,029	5,482	255	5,737
1983	2,853	599	3,452	336	3,788
1984	3,068	678	3,746	443	4,189
1985	8,502	1,852	10,354	553	10,907
1986	11,650	2,917	14,567	801	15,368
1987	12,445	3,163	15,608	935	16,543
1988	4,011	1,196	5,207	1,163	6,370
After 1988	36,280	14,448	50,728	25,468	76,196
Total 1979 - 2000					152,881

(a) No historical data was available by city, of the annual investment in utility plant in service of the SCA.

(b) Adopted from Port Said Water and Wastewater Master Plan, Part II - Staged Development, Draft Final Report, Volume 2, Water Facilities, Hazen & Sawyer, 1979.

TABLE 2.2

PORT SAID WATER UTILITY

DEBT SERVICE CHARGES ON
PROPOSED CONSTRUCTION LOANS

Year	Local Currency Loans LE 1000	Foreign Currency Loans* LE 1000	Total LE 1000
1979	36	57	93
1980	103	134	237
1981	241	267	508
1982	414	350	764
1983	608	454	1,062
1984	911	601	1,512
1985	1,220	694	1,914
1986	1,822	868	2,690
1987	2,351	1,009	3,360
1988	3,052	1,167	4,219
1990	4,400	1,528	5,928
2000	6,944	2,365	9,309

* Includes amortization of $ 3,035,000 loan from U.S. AID.

TABLE 3.1

PORT SAID WATER UTILITY

PROJECTED POPULATION, CONNECTIONS AND WATER USE

Year	Population 1000	Average Number of Water Connections	Water Production 1000 m^3
		HISTORICAL	
1973			
1974			
1975		7,675	22,092
1976	263	7,699	29,752
1977	273	7,947	27,923
1978	284	8,900	30,113
		PROJECTED	
1979	295	9,700	31,609
1980	306	10,700	33,252
1981	318	11,800	34,894
1982	330	12,900	36,719
1983	342	14,100	38,508
1984	356	15,000	40,369
1985	369	16,300	42,596
1986	383	17,500	44,786
1987	398	18,800	47,085
1988	414	20,200	49,494
1990	446	22,700	54,495
2000	650	39,400	90,410

TABLE 4.1

PORT SAID WATER UTILITY
EXISTING SCA WATER RATE SCHEDULES

	Rate milliemes per cubic meter
Potable Water	
Public	18
Commercial	18
Industrial	18
Government Office	6
Government Housing	6
Ship Water	100
Political Building - Labor Union	4.5
Irrigation	3.8575
Clubs, YMCA	9
Free Zone - Port Said	35
Fire Protection	No Charge
Public Fountains	No Charge
Mosques and Church	No Charge

TABLE 4.2

PORT SAID WATER UTILITY

HISTORICAL REVENUES

Year	Operating Revenues Water Sales LE	Operating Revenues Other(b) LE	Non Operating Revenues(b) LE	Subsidies(c) LE	Total LE
1973(a)					
1974(a)					
1975(a)	211,429	31,498		332,358	625,339
1976	242,086	50,895		232,052	589,984
1977	284,072	73,860		298,300	706,300
1978(d)	325,700	82,300			

(a) No historical available prior to 1976.

(b) Detailed records were not avialable to support any Other Operating or Non Operating Revenues.

(c) It is the practise of SCA to provide an operating subsidy for the difference between operating revenues and operating expense. The amount shown is the difference between operating revenue and operation and maintenance expense. In addition a capital subsidy equal to the cost of improvements is also provided by SCA. The amount of capital improvements was not identified by City. No estimate of the amount applicable to Port Said has been made.

(d) Estimated.

TABLE 4.3

PORT SAID WATER UTILITY

PROJECTED REVENUES

Year	Operating Revenues		Non Operating Revenue	Total
	Water Sales	Other		
	LE	LE	LE	LE
1979	341,000	87,900	1,000	429,900
1980	358,700	94,900	2,000	455,600
1981	377,000	102,600	3,000	482,600
1982	396,700	110,300	4,000	511,000
1983	414,900	118,700	5,000	538,600
1984	436,100	125,000	6,000	567,100
1985	460,200	134,100	7,000	601,300
1986	483,900	142,500	8,000	634,400
1987	508,000	151,600	9,000	668,600
1988	533,600	161,400	10,000	705,000
1990	625,300	178,900	10,000	814,200
2000	977,100	295,800	10,000	1,282,900

TABLE 5.1

PORT SAID WATER UTILITY

OPERATION AND MAINTENANCE EXPENSE

Year	Operating Articles				Maintenance and Service	Total
	Wages LE	Fuel and Power LE	Chemicals LE	Other LE	LE	LE
			HISTORICAL			
1975	71,640	NA	NA	NA	14,407	NA
1976	113,480	68,709	98,847	17,503	326,800	625,339
1977	157,623	95,673	88,761	188,527	59,400	589,984
1978	187,000	113,500	105,300	230,000	70,500	706,300
			PROJECTED			
1979	215,900	131,000	121,600	269,600	81,400	819,500
1980	249,800	151,600	140,700	315,700	94,100	951,900
1981	288,400	175,000	162,400	368,300	108,700	1,102,800
1982	333,800	202,600	188,000	431,600	125,800	1,281,800
1983	385,100	233,700	216,900	503,400	145,100	1,484,200
1984	444,100	269,500	250,100	589,300	167,300	1,720,300
1985	492,000	298,600	277,100	655,100	185,400	1,908,200
1986	543,200	329,700	305,900	726,700	204,700	2,110,200
1987	599,600	363,900	337,700	805,800	226,000	2,333,000
1988	661,800	401,700	372,700	893,300	249,400	2,578,900
1990	803,300	487,600	452,400	1,097,100	302,700	3,143,100
2000	2,171,000	1,317,700	1,222,600	3,118,400	818,000	8,647,700

NA- Not Available

TABLE 5.2

PORT SAID WATER UTILITY

DEBT SERVICE CHARGES WITH COVERAGE REQUIREMENTS

Year	Debt Service Charges LE 1000	Debt Coverage LE 1000	Total LE 1000
1979	93	23	116
1980	237	59	296
1981	508	127	635
1982	764	191	955
1983	1,062	266	1,328
1984	1,512	378	1,890
1985	1,914	479	2,393
1986	2,690	673	3,363
1987	3,360	840	4,200
1988	4,219	1,055	5,274
1990	5,928	1,482	7,410
2000	9,309	2,327	11,636

TABLE 5.3

PORT SAID WATER UTILITY

ESTIMATED DEPRECIATION EXPENSE

Year	Water Plant in Service: Annual Additions LE 1000	Cumulative Balance LE 1000	Land LE 1000	Depreciable Balance LE 1000	Average Balance LE 1000	Depreciation Expense (b) LE 1000
1978 (a)		2,531	57			
1979	511	3,042	69	2,973	2,724	68
1980	7,184	10,226	230	9,996	6,485	162
1981	6,088	16,314	367	15,947	12,972	324
1982	5,737	22,051	497	21,554	18,750	469
1983	3,788	25,839	586	25,257	23,405	585
1984	4,189	39,028	676	29,352	27,305	683
1985	10,907	40,935	922	40,013	34,683	867
1986	15,368	56,303	1,268	55,035	47,524	1,188
1987	16,543	72,846	1,641	71,205	63,120	1,578
1988	6,370	79,216	1,784	77,432	74,319	1,858
1990	8,257	94,718	2,133	92,585	89,044	2,226
1991 to 2000	60,694	155,412	3,500	151,912	146,145	3,655

(a) Estimated original cost at December 31, 1978
(b) At composite rate of depreciation of 2.5 percent

TABLE 5.4

PORT SAID WATER UTILITY

PROFORMA RETURN OF INVESTMENT

Year	Estimated Construction Cost LE 1000	Cumulative Balance LE 1000	Cumulative Allowance for Depreciation LE 1000	Net Plant in Service LE 1000	Required Return @ 6 Percent LE 1000
1978		7,100[a]			
1979	500	7,600	200	7,400	400
1980	7,200	14,800	300	14,500	900
1981	6,100	20,900	400	20,500	1,200
1982	5,700	26,600	600	26,000	1,600
1983	3,800	30,400	700	29,700	1,800
1984	4,200	34,600	800	33,800	2,000
1985	10,900	45,500	1,000	44,500	2,700
1986	15,400	60,900	1,300	59,600	3,600
1987	16,500	77,400	1,700	75,700	4,500
1988	6,400	83,800	2,000	81,800	4,900
1990	8,300	99,300	2,400	96,900	5,800
1991 to 2000	60,700	160,000	3,800	156,200	9,400

(a) Based on RCLD at December 31, 1978 and additions at cost subsequent thereto.

TABLE 5.5

PORT SAID WATER UTILITY

COMPARATIVE SUMMARY OF REVENUE REQUIREMENTS

Year	Cash Basis				Utility Basis			
	Operation & Maintenance Expense LE 1000	Debt Service LE 1000	Annual Improvements LE 1000	Total LE 1000	Operation & Maintenance Expense LE 1000	Depreciation Expense LE 1000	Return on Investment LE 1000	Total LE 1000
	(a)	(b)	(c)		(a)	(d)	(e)	
1979	820	93	87	1,000	820	68	400	1,288
1980	952	237	123	1,312	952	162	900	2,014
1981	1,103	508	188	1,799	1,103	324	1,200	2,627
1982	1,282	764	255	2,301	1,282	469	1,600	3,351
1983	1,484	1,062	336	2,882	1,484	585	1,800	3,869
1984	1,720	1,512	443	3,675	1,720	683	2,000	4,403
1985	1,908	1,914	553	4,375	1,908	867	2,700	5,475
1986	2,110	2,690	801	5,601	2,110	1,188	3,600	6,898
1987	2,333	3,360	935	6,628	2,333	1,578	4,500	8,411
1988	2,579	4,219	1,163	7,961	2,579	1,858	4,900	9,337
1990	3,143	5,928	1,622	10,693	3,143	2,226	5,800	11,169
2000	8,648	9,309	2,787	20,744	8,648	3,655	9,400	21,703

(a) Table 5.1 (d) Table 5.3
(b) Table 5.2 (e) Table 5.4
(c) Table 2.1

TABLE 6.1

PORT SAID WATER UTILITY

COINCIDENTAL DEMAND FACTORS

	DEMAND FACTORS		
	Maximum Day %	Base %	Extra Capacity %
Coincidental maximum day demand factors	150	100	50
Ratio	100	67	33
	Maximum Hour %	Base %	Extra Capacity %
Coincidental maximum hour demand factors	220	100	120
Ratio	100	45	55

TABLE 6.2

PORT SAID WATER UTILITY

ALLOCATION OF OPERATION AND MAINTENANCE EXPENSE
TO FUNCTIONAL COST COMPONENTS

	Total LE 1000	Base Cost LE 1000	Extra Capacity Cost: Maximum Day LE 1000	Extra Capacity Cost: Maximum Hour LE 1000	Meters & Services LE 1000	Bills LE 1000
Pumping Expense						
Power	270	243	27			
Other	30	20	10			
Water Treatment Expense						
Chemicals	250	250				
Other	314	210	104			
Transmission and Distribution Expense						
Transmission mains	412	276	136			
Distribution mains	205	92		113		
Meters and services	53				53	
Customer Accounts Expense						
Meter reading billing and accounting	35					5
Administrative and General Expense	151	86	36	16	8	5
Total	1,720	1,177	313	129	61	)

TABLE 6.3

PORT SAID WATER UTILITY

ALLOCATION OF UTILITY PLANT IN SERVICE

TO FUNCTIONAL COST COMPONENTS

	Total LE 1000	Base Cost LE 1000	Extra Capacity Cost: Maximum Day LE 1000	Extra Capacity Cost: Maximum Hour LE 1000	Customer Meters & Services LE 1000
Source of Supply and Treatment	11,465	7,682	3,783		
Transmission Mains	9,608	6,437	3,171		
Distribution Mains	5,479	2,466		3,013	
Services	1,697				1,697
Meters	1,545				1,545
General Plant	1,467	817	342	148	160
Total	31,261	17,402	7,296	3,161	3,402
Percent of Total	100.0	55.7	23.3	10.1	10.9

TABLE 6.4

PORT SAID WATER UTILITY

ALLOCATION OF CAPITAL COSTS
TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

Cost Component	Ratio %	Cash Basis Capital Cost LE 1000	Utility Basis Capital Cost LE 1000
COMMON TO ALL			
Base cost	55.7	1,088	1,495
Extra capacity cost			
Maximum day	23.3	456	625
Maximum hour	10.1	198	271
Meters and services*	10.9	108	187
Sub total		1,850	2,578
CONTRIBUTION FOR SERVICES*		105	105
Total Capital Costs		1,955	2,683

* Contribution for Services is deducted from allocated cost of meters and services.

TABLE 6.5

PORT SAID WATER UTILITY

SUMMARY OF ALLOCATION OF CASH BASIS COST OF SERVICE TO FUNCTIONAL COST COMPONENTS

Cost Component	Operation & Maintenance Expense LE 1000	Cash Basis Capital Related Cost LE 1000	Total LE 1000
COMMON TO ALL			
Base cost	1,177	1,088	2,265
Extra capacity cost			
Maximum day	313	456	769
Maximum hour	129	198	327
Customer cost			
Meters and services	61	108	169
Bills	40		40
Sub total	1,720	1,850	3,570
CONTRIBUTION FOR SERVICES		105	105
Total Cost of Service	1,720	1,955	3,675

TABLE 6.6

PORT SAID WATER UTILITY

SUMMARY OF ALLOCATION OF UTILITY BASIS
COST OF SERVICE TO FUNCTIONAL COST COMPONENTS

Cost Component	Operation & Maintenance Expense LE 1000	Utility Basis Capital Related Cost LE 1000	Total LE 1000
COMMON TO ALL			
Base cost	1,177	1,495	2,672
Extra capacity cost			
Maximum day	313	625	938
Maximum hour	129	271	400
Customer cost			
Meters and services	61	187	248
Bills	40		40
Sub total	1,720	2,578	4,298
CONTRIBUTION FOR SERVICES		105	105
Total Cost of Service	1,720	2,683	4,403

TABLE 7.1

PORT SAID WATER UTILITY

UNITS OF SERVICE

1984 TEST YEAR

Customer Class	Annual Water Sales 1000 m3	Average Day Water Sales 1000 m3/d	Extra Capacity Factors: Maximum Day Factor %	Maximum Day Units 1000 m3/d	Maximum Hour Factor %	Maximum Hour Units 1000 m3/d	Number of Equivalent Meters	Number of Bills
General	11,500	31.5	75	23.6	225	70.9	15,700	52,500
Commercial and Institutional	18,600	51.0	50	25.5	170	86.6	3,800	3,600
Industrial	1,600	4.4	15	0.7	125	5.5	300	300
SCA	1,800	4.9	25	1.2	135	6.7	100	
Fountains	100	0.3	10		120	0.3	100	200
Fire Protection				2.0		6.0		
Special Use by Ships	500	1.4	100	1.4	250	3.4		
Total	34,100	93.5		54.4		179.4		

TABLE 7.2

PORT SAID WATER UTILITY

UNIT COST OF SERVICE
CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

Cost Component	Cost of Service LE 1000	Units of Service		Unit Cost of Service LE/Unit
COMMON TO ALL				
Base Cost	2,265	34,100	1000 m^3	0.066
Extra capacity cost				
Maximum day	769	54.4	1000 m^3/d	14.136
Maximum hour	327	179.4	1000 m^3/d	1.823
Customer cost				
Meters and services	169	20,000	Eq.Meters	8.450
Bills	40	56,600	Bills	0.706

TABLE 7.3

PORT SAID WATER UTILITY

UNIT COST OF SERVICE
UTILITY BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

Cost Component	Utility Basis Cost of Service LE 1000	Units of Service		Unit Cost of Service LE/Unit
COMMON TO ALL				
Base cost	2,672	34,100	1000 m^3	0.078
Extra capacity cost				
Maximum day	938	54.4	1000 m^3/d	17.243
Maximum hour	400	179.4	1000 m^3/d	2.230
Customer cost				
Meters and services	248	20,000	Eq. Meters	12.400
Bills	40	56,600	Bills	0.706

TABLE 7.4

PORT SAID WATER UTILITY

ALLOCATION OF CASH BASIS COST OF SERVICE TO CUSTOMER CLASSES

1984 TEST YEAR

	Base Cost	Extra Capacity Cost: Maximum Day	Extra Capacity Cost: Maximum Hour	Customer Cost: Equiv. Meters	Customer Cost: Bills	Total
Customer Class						
Unit Cost of Service(LE)	0.066	14.136	1.823	8.45	0.706	
Unit	1000 m^3	1000 m3/d	1000 m3/d	Eq.Mtrs	Bills	
Units of Service						
General	11,500	23.6	70.9	15,700	52,500	
Commercial and Institutional	18,600	25.5	86.6	3,800	3,600	
Industrial	1,600	0.7	5.5	300	300	
SCA	1,800	1.2	6.7	100	-	
Public Fountations	100	-	0.3	100	200	
Fire Protection		2.0	6.0			
Other Special Customers Use by Ships	500	1.4	3.4			
Total	34,100	54.4	179.4	20,000	56,600	
Cost of Service	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000
General	764	334	129	132	37	1,396
Commercial and Institutional	1,235	360	158	32	3	1,788
Industrial	106	10	10	3	-	129
SCA	120	17	12	1	-	150
Public Fountains	7	-	1	1	-	9
Fire Protection		28	11	-	-	39
Other Special Customers Use by Ships	33	20	6	-	-	59
Total	2,265	769	327	169	40	3,570
Contribution for Services						105
Total Cost of Service						3,675

TABLE 7.5

PORT SAID WATER UTILITY

ALLOCATION OF UTILITY BASIS COST OF SERVICE TO CUSTOMER CLASSES

1984 TEST YEAR

		Extra Capacity Cost		Customer Cost		
	Base Cost	Maximum Day	Maximum Hour	Equiv. Meters	Bills	Total
Customer Class						
Unit Cost of Service (LE)	0.078	17,243	2.230	12.400	0.706	
Unit	1000 m3	1000 m3/d	1000 m3/d	Eq. Mtrs.	Bills	
Units of Service						
General	11,500	23.6	70.9	15,700	52,500	
Commercial and Institutional	18,600	25.5	86.6	3,800	3,600	
Industrial	1,600	0.7	5.5	300	300	
SCA	1,800	1.2	6.7	100		
Public Fountains	100		0.3	100	200	
Fire Protection		2.0	6.0			
Other Special Customers Use by Ships	500	1.4	3.4			
Total	34,100	54.4	179.4	20,000	56,600	
Cost of Service	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000
General	901	407	158	195	37	1,698
Commercial and Institutional	1,457	440	193	47	3	2,140
Industrial	125	12	12	4		153
SCA	142	21	15	1		179
Public Fountains	8		1	1		10
Fire Protection		34	13			47
Other Special Customers Use by Ships	39	24	8			71
Total	2,672	938	400	248	40	4,298
Contribution for Services						105
Total Cost of Service						4,403

TABLE 8.1

PORT SAID WATER UTILITY

BILL FREQUENCY DISTRIBUTION

	Domestic		Commercial		Industrial	
	Cumulative Number of Bills %	Cumulative Billed Usage(a) %	Cumulative Number of Bills %	Cumulative Billed Usage(a) %	Cumulative Number of Bills %	Cumulative Billed Usage(a) %
0	5.1	0	22.1	0	23.3	0
1 - 10	7.7	3.8	23.0	1.3	23.9	0.5
11 - 25	12.5	9.2	23.0	3.3	24.8	1.3
26 - 50	22.7	17.6	27.0	6.5	28.0	2.5
51 - 100	41.6	31.3	36.1	12.3	32.6	4.9
101 - 200	65.3	49.7	61.5	21.1	40.6	9.2
201 - 500	87.2	75.3	77.0	35.4	59.2	19.5
501 - 1,000	96.0	90.2	82.0	52.2	73.5	30.8
1,001 - 2,000	99.4	97.4	89.3	75.9	81.1	46.3
2,001 - 3,000	99.8	98.8	95.9	88.3	86.8	57.5
3,001 - 5,000	99.9	99.5	99.2	98.7	91.9	71.4
5,001 - 10,000	100.0	100.0	100.0	100.0	97.4	87.1
Over 10,000					100.0	100.0

(a) Cumulative usage in block of bills stopping in or passing through the block.

TABLE 9.1

PORT SAID WATER UTILITY

RECOMMENDED "ABILITY TO PAY" WATER RATES

BASED ON CASH BASIS REVENUE REQUIREMENTS

BILLS ISSUED QUARTERLY

	Rates Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
POTABLE WATER RETAIL SERVICE					
Volume Charge					
Applicable to all except Special Customers					
Charge per cubic meter for all measured or estimated water use per billing period					
First 50 cubic meters	0.007	0.008	0.010	0.015	0.020
Next 50 cubic meters	0.010	0.012	0.015	0.023	0.030
Next 100 cubic meters	0.018	0.019	0.024	0.037	0.050
Next 800 cubic meters	0.035	0.038	0.048	0.074	0.100
Next 9,000 cubic meters	0.052	0.057	0.072	0.116	0.160
Over 10,000 cubic meters	0.060	0.065	0.081	0.125	0.170
Service Charge					
Domestic Customers					
Charge per living unit per billing period	0.080	0.150	0.300	0.500	1.000
Non Domestic Customers					
Charge per connection per billing period based on water meter size					
Meter Size mm					
20 and under	0.600	1.100	1.700	2.200	2.800
25	0.800	1.600	2.300	3.100	3.900
30	1.000	2.000	3.000	4.000	4.900
40	1.500	3.000	4.500	6.000	7.700
50	2.100	4.200	6.400	8.500	10.500
80	4.500	9.000	13.000	18.000	22.000
100	6.000	12.000	18.000	24.000	30.000
150	12.000	24.000	36.000	48.000	60.000
200	19.000	38.000	57.000	76.000	95.000
300	36.000	72.000	110.000	145.000	180.000

TABLE 9.1 (Continued)

PORT SAID WATER UTILITY

RECOMMENDED "ABILITY TO PAY" WATER RATES

BASED ON CASH BASIS REVENUE REQUIREMENTS

BILLS ISSUED QUARTERLY

	Rates Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
Special Customers					
Public Fountains					
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.015	0.030	0.045	0.060	0.075
Service Charge Charge per fountain per billing period	2.000	3.000	5.000	7.000	10.000
Ship Service					
Volume Charge Charge per cubic meter for all measured or estimated water use	0.020	0.030	0.050	0.080	0.120
Service Charge Charge per individual ship service	3.500	5.500	8.500	13.000	20.000
Fire Protection					
Annual charge per hydrant	15.000	25.000	35.000	50.000	67.000

TABLE 9.2

PORT SAID WATER UTILITY

PROPOSED STANDARD BLOCK COST OF SERVICE WATER RATES

BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Rate LE
POTABLE WATER RETAIL SERVICE	
Applicable to all except Special Customer	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	
First 100 cubic meters	0.125
Next 900 cubic meters	0.105
Over 1,000 cubic meters	0.090
Service Charge Charge per connection per billing period based on water meter size	
Meter Size mm	
20 and under	2.800
25	3.900
30	4.900
40	7.700
50	10.500
80	22.000
100	30.000
150	60.000
200	95.000
300	180.000

TABLE 9.2 (Continued)

PORT SAID WATER UTILITY

PROPOSED STANDARD BLOCK COST OF SERVICE WATER RATES

BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Rate LE
Special Customers	
Public Fountains	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.075
Service Charge Charge per fountain per billing period	10.000
Ship Service	
Volume Charge Charge per cubic meter for all measured or estimated water use	0.120
Service Charge Charge per individual ship service	20.000
Fire Protection	
Annual charge per hydrant	67.000

TABLE 9.3

PORT SAID WATER UTILITY

PROPOSED SERVICE CHARGE - VOLUME CHARGE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Domestic Customer LE	Non Domestic Customer LE
POTABLE WATER RETAIL SERVICE		
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.112	0.097
Service Charge Charge per connection per billing period based on water meter size.		
Meter Size mm		
20 and under	2.800	2.800
25	4.200	4.200
30	5.600	5.600
40	9.250	9.250
50	13.000	13.000
80	28.000	28.000
100	40.000	40.000
150	80.000	80.000
200	125.000	125.000
300	240.000	240.000

TABLE 9.3 (Continued)

PORT SAID WATER UTILITY

PROPOSED SERVICE CHARGE - VOLUME CHARGE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Rate LE
Special Customers	
Public Fountains	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.075
Service Charge Charge per fountain per billing period	10.000
Ship Service	
Volume Charge Charge per cubic meter for all measured or estimated water use	0.120
Service Charge Charge per individual ship service	20.000
Fire Protection	
Annual charge per fire hydrant	67.000

TABLE 9.4

PORT SAID WATER UTILITY

PROPOSED COMBINED "ABILITY TO PAY" AND SERVICE CHARGE - VOLUME CHARGE WATER RATES BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Rate LE
POTABLE WATER RETAIL SERVICE	
Domestic Customers Only	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	
First 50 cubic meters	0.020
Next 50 cubic meters	0.050
Next 100 cubic meters	0.100
Next 800 cubic meters	0.155
Next 9,000 cubic meters	0.200
Over 10,000 cubic meters	0.250
Service Charge	
Charge per living unit per billing period	1.000
Non Domestic Customers	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	0.097
Service Charge	
Charge per connection per billing period based on water meter size	
Meter Size mm	
20 and under	2.800
25	4.200
30	5.600
40	9.250
50	13.000
80	28.000
100	40.000
150	80.000
200	125.000
300	240.000

TABLE 9.4 (Continued)

PORT SAID WATER UTILITY

PROPOSED COMBINED "ABILITY TO PAY" AND SERVICE CHARGE
VOLUME CHARGE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Rate LE
Special Customers	
Public Fountains	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.075
Service Charge Charge per fountain per billing period	10.000
Ship Service	
Volume Charge Charge per cubic meter for all measured or estimated water use	0.120
Service Charge Charge per individual ship service	20.000
Fire Protection	
Annual charge per fire hydrant	67.000

TABLE 9.5

PORT SAID WATER UTILITY

PROPOSED "ABILITY TO PAY" WATER RATES

BASED ON UTILITY BASIS REVENUE REQUIREMENTS

BILLS ISSUED QUARTERLY

	Rates Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
POTABLE WATER RETAIL SERVICE					
Volume Charge					
Applicable to all except Special Customers					
Charge per cubic meter for all measured or estimated water use per billing period					
First 50 cubic meters	0.007	0.008	0.010	0.015	0.020
Next 50 cubic meters	0.015	0.020	0.030	0.040	0.045
Next 100 cubic meters	0.030	0.035	0.055	0.075	0.085
Next 800 cubic meters	0.045	0.050	0.080	0.115	0.130
Next 9,000 cubic meters	0.060	0.070	0.115	0.160	0.175
Over 10,000 cubic meters	0.070	0.080	0.130	0.180	0.200
Service Charge					
Domestic Customers					
Charge per living unit per billing period	0.080	0.150	0.300	0.500	1.000
Non Domestic Customers					
Charge per connection per billing period based on water meter size					
Meter Size mm					
20 and under	0.700	1.400	2.100	2.800	3.500
25	1.050	2.100	3.150	4.200	5.250
30	1.400	2.800	4.200	5.600	7.000
40	2.300	4.600	6.900	9.250	11.500
50	3.300	6.600	10.000	13.000	16.500
80	7.000	14.000	21.000	28.000	35.000
100	10.000	20.000	29.000	39.000	50.000
150	20.000	40.000	59.000	78.000	100.000
200	30.000	60.000	95.000	125.000	155.000
300	60.000	120.000	180.000	240.000	300.000

TABLE 9.5 (Continued)

PORT SAID WATER UTILITY

PROPOSED "ABILITY TO PAY" WATER RATES

BASED ON UTILITY BASIS REVENUE REQUIREMENTS

BILLS ISSUED QUARTERLY

	Rates Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
Special Customers					
Public Fountains					
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.020	0.040	0.050	0.070	0.095
Service Charge Charge per fountain per billing period	2.000	3.000	5.000	7.000	10.000
Ship Service					
Volume Charge Charge per cubic meter for all measured or estimated water use	0.030	0.060	0.090	0.120	0.150
Service Charge Charge per individual ship service	3.500	5.500	8.500	13.000	20.000
Fire Protection					
Annual charge per hydrant	20.000	30.000	50.000	65.000	80.000

TABLE 9.6

PORT SAID WATER UTILITY

LONG-RUN AVERAGE INCREMENTAL COST OF WATER
1978 COST LEVELS

Year	Capital Costs LE 1000	Operating Expenses LE 1000	Total LE 1000	Incremental Volume 1000 m^3
1979	400	323	723	16,114
1980	4,588	323	4,911	16,951
1981	4,476	386	4,862	17,789
1982	3,894	421	4,315	18,719
1983	2,208	441	2,649	19,631
1984	2,287	461	2,748	20,580
1985		505	505	21,715
1986		529	529	22,831
1987		554	554	24,003
1988		581	581	25,231
1989		608	608	26,475
1990		636	636	27,781
1991		667	667	29,202
1992		700	700	30,695
1993 to 2020		734	734	32,265

Discount Rate %	Long-run Incremental Average Cost milliemes/m^3
10	77
12	86
15	98
20	115

TABLE 10.1

PORT SAID WATER UTILITY

COMPARISON OF REVENUES FROM WATER SALES AT RECOMMENDED RATES WITH COST OF SERVICE BY CUSTOMER CLASSES

1984 TEST YEAR

Customer Class	Cost of Service[a] LE 1000	Revenues at Recommended Rates(b) LE 1000	Percent Revenue Of Cost %
General	1,396	973	69.7
Commercial and Institutional	1,788	2,063	115.4
Industrial	129	215	166.7
Suez Canal Authority	150	229	152.7
Special			
Public Fountains	9	9	100.0
Use by Ships	59	57	96.6
Fire Protection	39	39	100.0
Total	3,570	3,585	100.4

(a) Based on Cash Basis Revenue Requirements

(b) At Recommended "Ability to Pay" Rates, Table 9.1

TABLE 10.2

PORT SAID WATER UTILITY

COMPARISON OF REVENUES FROM WATER SALES
AT PROPOSED RATES WITH COST OF
SERVICE BY CUSTOMER CLASSES

1984 TEST YEAR

Customer Class	Cost of Service(a) LE 1000	Revenues at Proposed Rates(b) LE 1000	Percent Revenue Of Cost %
General	1,396	1,375	98.5
Commercial and Institutional	1,788	1,796	100.4
Industrial	129	146	113.2
Suez Canal Authority	150	163	108.7
Special			
Public Fountains	9	9	100.0
Use by Ships	59	57	96.6
Fire Protection	39	39	100.0
Total	3,570	3,585	100.4

(a) Based on Cash Basis Revenue Requirements

(b) At Proposed Standard Block Cost of Service Rate - Table 9.2

TABLE 10.3

PORT SAID WATER UTILITY

COMPARISON OF REVENUES FROM WATER SALES
AT PROPOSED RATES WITH COST OF
SERVICE BY CUSTOMER CLASSES

1984 TEST YEAR

Customer Class	Cost of Service[a] LE 1000	Revenues at Proposed Rates(b) LE 1000	Percent Revenue Of Cost %
General	1,396	1,398	100.1
Commercial and Institutional	1,788	1,733	96.9
Industrial	129	150	116.3
Suez Canal Authority	150	166	110.7
Special			
Public Fountains	9	9	100.0
Use by Ships	59	57	96.6
Fire Protection	39	39	100.0
Total	3,570	3,552	99.5

(a) Based on Cash Basis Revenue Requirements

(b) At Proposed Service Charge - Volume Charge Rates, Table 9.3

TABLE 10.4

PORT SAID WATER UTILITY

COMPARISON OF REVENUES FROM WATER SALES
AT PROPOSED RATES WITH COST OF
SERVICE BY CUSTOMER CLASSES

1984 TEST YEAR

Customer Class	Cost of Service[a] LE 1000	Revenues at Proposed Rates(b) LE 1000	Percent Revenue Of Cost %
General	1,396	1,394	99.9
Commercial and Institutional	1,788	1,733	96.9
Industrial	129	150	116.3
Suez Canal Authority	150	166	110.7
Special			
Public Fountains	9	9	100.0
Use by Ships	59	57	96.6
Fire Protection	39	39	100.0
Total	3,570	3,548	99.4

(a) Based on Cash Basis Revenue Requirements

(b) At Proposed Combined "Ability to Pay" Rates Applicable to Domestic Customers and Service Charge - Volume Charge Rates Applicable to Non Domestic Customers, Table 9.4

TABLE 10.5

PORT SAID WATER UTILITY

COMPARISON OF REVENUES FROM WATER SALES
AT PROPOSED RATES WITH COST OF
SERVICE BY CUSTOMER CLASSES

1984 TEST YEAR

Customer Class	Cost of Service[a] LE 1000	Rates[b] LE 1000	Percent Revenue Of Cost %
General	1,698	1,207	71.1
Commercial and Institutional	2,140	2,440	114.0
Industrial	153	250	163.4
Suez Canal Authority	179	263	146.9
Special			
Public Fountains	10	10	100.0
Use by Ships	71	72	101.4
Fire Protection	47	46	97.9
Total	4,298	4,288	99.8

(a) Based on Utility Basis Revenue Requirements

(b) At Proposed "Ability to Pay" Rates, Table 9.5

TABLE 10.6

PORT SAID WATER UTILITY

SUBSIDY REQUIRED TO RECOVER
CASH BASIS REVENUE REQUIREMENTS

Year	Total Revenue Requirements[a] LE 1000	Revenues at Recommended Rates(b) LE 1000	Required Subsidy LE 1000
1980	1,217	967	250
1981	1,696	1,121	575
1982	2,191	1,516	675
1983	2,763	2,475	288
1984	3,550	3,585	None

(a) Net requirements after deducting other income.

(b) At recommended "Ability-to-Pay" Rates. Based on Cash Basis Revenue Requirements.

TABLE 10.7

PORT SAID WATER UTILITY

SUBSIDY REQUIRED TO RECOVER
UTILITY BASIS REVENUE REQUIREMENTS

Year	Total Revenue Requirements[a] LE 1000	Revenues at Proposed Rates(b) LE 1000	Required Subsidy LE 1000
1980	1,919	1,191	728
1981	2,524	1,454	1,070
1982	3,241	2,472	769
1983	3,750	3,604	146
1984	4,278	4,288	None

(a) Net requirements after deducting other income.

(b) At Proposed "Ability to Pay" Rates based on Utility Basis Revenue Requirements.

TABLE 12.1

PORT SAID WATER UTILITY

PROFORMA STATEMENT OF INCOME

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
OPERATING INCOME											
Revenues from water sales[a]	967	1,121	1,516	2,475	3,585	4,241	5,458	6,476	7,800	10,514	20,448
Other operating income	95	103	110	119	125	134	143	152	161	179	296
Total Operating Income	1,062	1,224	1,626	2,594	3,710	4,375	5,601	6,628	7,961	10,693	20,744
OPERATING EXPENSE											
Operation and maintenance expense	952	1,103	1,282	1,484	1,720	1,908	2,110	2,333	2,579	3,143	8,648
Depreciation expense	162	324	469	585	683	867	1,188	1,578	1,858	2,226	3,655
Total Operating Expense	1,114	1,427	1,751	2,069	2,403	2,775	3,298	3,911	4,437	5,369	12,303
Net Operating Income	(52)	(203)	(125)	525	1,307	1,600	2,303	2,717	3,524	5,324	8,441
NON OPERATING INCOME	2	3	4	5	6	7	8	9	10	10	10
Gross Income	(50)	(200)	(121)	530	1,313	1,607	2,311	2,726	3,534	5,334	8,451
INCOME DEDUCTIONS											
Interest expense	237	508	764	1,035	1,286	1,673	2,154	2,792	3,422	4,360	4,748
Net Income (Loss)	(287)	(708)	(885)	(505)	27	(66)	157	(66)	112	974	3,703
NET UTILITY PLANT IN SERVICE (LE MILLIONS)[b]	14.5	20.5	26.0	29.7	33.8	44.5	59.6	75.7	81.8	96.9	156.2
Return on Investment- %[c]				1.8	3.9	3.6	3.9	3.6	4.3	5.5	5.4

(a) With revenues computed on Cash Basis "Abitlity to Pay" Rates Table 9.1

(b) Net Plant in Service from Table 5.4 consists of RCLD at December 31, 1978 together with additions at cost subsequent thereto and an allowance for depreciation.

(c) Return on Investment is computed by dividing Net Operating Income by Net Plant in Service.

TABLE 12.2

PORT SAID WATER UTILITY

PROFORMA STATEMENT OF INCOME

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
OPERATING INCOME											
Revenues from water sales[a]	1,191	1,454	2,472	3,604	4,288	5,341	6,755	8,259	9,176	10,990	21,507
Other operating income	95	103	110	119	125	134	143	152	161	179	296
Total Operating Income	1,286	1,557	2,582	3,723	4,413	5,475	6,898	8,411	9,337	11,169	21,803
OPERATING EXPENSE											
Operating and maintenance expense	952	1,103	1,282	1,484	1,720	1,908	2,110	2,333	2,579	3,143	8,648
Depreciation expense	162	324	469	585	683	867	1,188	1,578	1,858	2,226	3,655
Total Operating Expense	1,114	1,427	1,751	2,069	2,403	2,775	3,298	3,911	4,437	5,369	12,303
Net Operating Income	172	130	831	1,654	2,010	2,700	3,600	4,500	4,900	5,800	9,500
NON OPERATING INCOM	2	3	4	5	6	7	8	9	10	10	10
Gross Income	174	133	835	1,659	2,016	2,707	3,608	4,509	4,910	5,810	9,510
INCOME DEDUCTIONS											
Interest expense	237	508	764	1,035	1,286	1,673	2,154	2,792	3,422	4,360	4,748
Net Income (Loss)	(63)	(375)	71	624	730	1,034	1,454	1,717	1,488	1,450	4,762
NET UTILITY PLANT IN SERVICE (LE MILLIONS)[b]	14.5	20.5	26.0	29.7	33.8	44.5	59.6	75.7	81.8	96.9	156.2
Return on Investment- %[c]	1.2	0.6	3.2	5.6	6.0	6.0	6.0	6.0	6.0	6.0	6.0

(a) With revenues computed on Utility Basis "Ability to Pay" Rates, Table 9.5.

(b) Net Plant in Service from Table 5.4 consists of RCLD at December 31, 1978 together with additions at cost subsequent thereto and an allowance for depreciation.

(c) Return on Investment is computed by dividing Net Operating Income by Net Plant in Service

TABLE 12.3

PORT SAID WATER UTILITY

PROFORMA STATEMENT OF SOURCE AND APPLICATION OF OPERATING FUNDS

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
SOURCE OF FUNDS											
Net Operating Income (a)	(52)	(203)	(125)	525	1,307	1,600	2,303	2,717	3,524	5,324	8,441
Depreciation Expense	162	324	469	585	683	867	1,188	1,578	1,858	2,226	3,655
Sub total	110	121	344	1,110	1,990	2,467	3,491	4,295	5,382	7,550	12,096
Non Operating Income	2	3	4	5	6	7	8	9	10	10	10
Operating Subsidy	250	575	675	288							
Total Available Operating Fund	362	699	1,023	1,403	1,996	2,474	3,499	4,304	5,392	7,560	12,106
APPLICATION OF FUNDS											
Routine Improvements	123	188	255	336	443	553	801	935	1,163	1,622	2,787
Debt Service Charges											
Interest	237	508	764	1,035	1,286	1,673	2,154	2,792	3,422	4,360	4,748
Principal				27	226	241	536	568	797	1,568	4,561
Total Debt Service	237	508	764	1,062	1,512	1,914	2,690	3,360	4,219	5,928	9,309
Total Application of Operating Fund	360	696	1,019	1,398	1,955	2,467	3,491	4,295	5,382	7,550	12,096
Net Operating Fund Change	2	3	4	5	41	7	8	9	10	10	10

(a) Based on revenues from water sales computed on Cash Basis Revenue Requirements.

TABLE 12.4

PORT SAID WATER UTILITY

PROFORMA STATEMENT OF SOURCE AND APPLICATION OF OPERATING FUNDS

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
SOURCE OF FUNDS											
Net Operating Income[a]	172	130	831	1,654	2,010	2,700	3,600	4,500	4,900	5,800	9,500
Depreciation Expense	162	324	469	585	683	867	1,188	1,578	1,858	2,226	3,655
Sub total	334	454	1,300	2,239	2,693	3,567	4,788	6,078	6,758	8,026	13,155
Non Operating Incom	2	3	4	5	6	7	8	9	10	10	10
Operating Subsidy	728	1,070	769	146							
Total Available Operating Fund	1,064	1,527	2,073	2,390	2,699	3,574	4,796	6,087	6,768	8,036	13,165
APPLICATION OF FUNDS											
Routine Improvements	123	188	255	336	443	553	801	935	1,163	1,622	2,787
Debt Service Charges											
Interest	237	508	764	1,035	1,286	1,673	2,154	2,792	3,422	4,360	4,748
Principal				27	226	241	536	568	797	1,568	4,561
Total Debt Service	237	508	764	1,062	1,512	1,914	2,690	3,360	4,219	5,928	9,309
Total Application of Operating Fund	360	696	1,019	1,398	1,955	2,467	3,491	4,295	5,382	7,550	12,096
Net Operating Fund Changes	704	831	1,054	992	744	1,107	1,305	1,792	1,386	486	1,069

(a) Based on revenue from water sales computed on Utility Basis Revenue Requirements.

TABLE 12.5

PORT SAID WATER UTILITY

PROFORMA BALANCE SHEET

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1900 LE1000	2000 LE1000
ASSETS											
Utility Plant in Service [a]	10,226	16,314	22,051	25,839	39,028	40,935	56,303	72,846	79,216	94,718	155,412
Accumulated Provision for Depreciation	1,108	1,432	1,901	2,486	3,169	4,036	5,224	6,802	8,660	12,928	43,043
Net Utility Plant in Service	9,118	14,882	20,150	23,353	35,859	36,899	51,079	66,044	70,556	81,790	112,369
Current Assets											
Cash	119	138	160	186	215	239	264	292	322	393	1,081
Accounts Receivable	133	215	346	555	893	1,060	1,365	1,619	1,950	2,629	5,122
Material and Supplies	232	269	314	365	423	471	521	577	638	775	2,160
Total Current Assets	484	622	820	1,106	1,531	1,770	2,150	2,488	2,910	3,797	8,363
Total Assets	9,602	15,504	20,970	24,459	37,390	38,669	53,229	68,532	73,466	85,587	120,732
LIABILITIES AND EQUITY											
Port Said Water Utility Equity Capital	1,958	1,935	1,888	1,919	2,291	2,515	2,921	3,147	3,631	5,510	33,788
Long Term Debt	7,485	13,385	18,867	22,292	34,812	35,835	49,956	64,996	69,406	79,553	85,503
Current Liabilities											
Accounts Payable	159	184	215	248	287	319	352	389	429	524	1,441
Total Liabilities and Equity	9,602	15,504	20,970	24,459	37,390	38,669	53,229	68,532	73,466	85,587	120,732

(a) Based on Original Cost at December 31, 1978 and projected additions at cost subsequent thereto.

APPENDIX V

SUEZ

WATER UTILITY

TABLE 2.1

SUEZ WATER UTILITY

HISTORICAL AND PROPOSED CAPITAL IMPROVEMENT PROGRAM

Year	Local LE 1000	Foreign LE 1000	Total LE 1000	Routine Projects LE 1000	Total LE 1000
			HISTORICAL[a]		
1973					
1974					
1975					
1976					
1977					
1978					
			PROPOSED[b]		
1979	1,083	379	1,462	85	1,547
1980	9,970	15,232	25,202	257	25,459
1981	7,002	5,707	12,709	399	13,108
1982	3,985	2,966	6,951	763	7,714
1983	12,288	14,434	26,722	824	27,546
1984	8,875	11,147	20,022	1,180	21,202
1985	4,104	4,207	8,311	1,485	9,796
1986	3,812	1,553	5,365	1,749	7,114
1987	4,081	2,443	6,524	1,983	8,507
1988	4,967	2,745	7,712	2,242	9,954
After 1988	81,329	57,913	139,242	48,140	187,382
Total, 1979-2000					319,329

(a) No historical data was available, by city, of the annual investment in utility plant in service of the SCA.

(b) Adopted from Suez Water and Wastewater Facilities Master Plan, Draft Report, Prinie-Harris International, 1979.

TABLE 2.2

SUEZ WATER UTILITY

DEBT SERVICE CHARGES ON
PROPOSED CONSTRUCTION LOANS

Year	Local Currency Loans LE 1000	Foreign Currency Loans* LE 1000	Total LE 1000
1979	99	239	338
1980	282	747	1,029
1981	580	1,017	1,597
1982	910	1,437	2,347
1983	1,331	1,966	3,297
1984	2,122	2,600	4,722
1985	2,607	3,333	5,940
1986	3,315	3,680	6,995
1987	3,602	4,329	7,931
1988	4,420	4,549	8,969
1990	5,469	5,617	11,086
2000	11,203	9,885	21,088

* Includes amortization of $ 16,914,000 U.S. AID loan.

TABLE 3.1

SUEZ WATER UTILITY

PROJECTED POPULATION, CONNECTIONS AND WATER USE

Year	Population 1000	Average Number of Water Connections	Water Production 1000 m3
		HISTORICAL	
1973			
1974			
1975			
1976	194	8,114	13,834
1977	208	7,735	17,155
1978	222	8,800	16,936
		PROJECTED	
1979	238	10,100	18,579
1980	255	11,200	20,367
1981	273	12,400	22,302
1982	292	14,000	24,565
1983	313	15,500	26,828
1984	335	17,100	29,346
1985	359	19,100	32,266
1986	384	20,800	35,405
1987	411	23,000	38,836
1988	440	25,400	42,632
1990	505	30,400	51,137
2000	1,000	70,200	128.845

TABLE 4.1

SUEZ WATER UTILITY

EXISTING SCA WATER RATE SCHEDULES

	Rate milliemes per cubic meter
Potable Water	
Public	18
Commercial	18
Industrial	18
Government Office	6
Government Housing	6
Ship Water	100
Political Building - Labor Union	4.5
Irrigation	3.8575
Clubs, YMCA	9
Fire Protection	No Charge
Public Fountains	No Charge
Mosques and Church	No Charge

TABLE 4.2

SUEZ WATER UTILITY

HISTORICAL REVENUES

Year	Operating Revenues Water Sales LE	Operating Revenues Other(b) LE	Non Operating Revenues(b) LE	Subsidies(c) LE	Total LE
1973(a)					
1974(a)					
1975(a)	75,032	18,711		119,958	213,701
1976	136,053	18,123		469,176	623,352
1977	166,717	47,131		312,736	526,584
1978(a)	183,000	52,800		334,500	570,300

(a) No Historical data available prior to 1976.

(b) Detailed records were not available to support any Other Operating revenues.

(c) It is the practise of SCA to provide an operating subsidy for the difference between operating revenues and operating expense. The amount shown is the difference between operating revenue and operation and maintenance expense. In addition a capital subsidy equal to the cost of improvements would also have been provided by SCA. The amount of capital improvements was not identified by city. No estimate of the amount applicable to Ismailia has been made.

(d) Estimated.

TABLE 4.3

SUEZ WATER UTILITY

PROJECTED REVENUES

Year	Operating Revenues Water Sales LE	Operating Revenues Other LE	Non Operating Income LE	Total LE
1979	200,600	60,600	1,000	262,200
1980	219,900	67,200	2,000	289,100
1981	240,800	74,400	3,000	318,200
1982	265,000	84,000	4,000	353,000
1983	290,000	93,000	5,000	388,000
1984	317,000	102,600	6,000	425,600
1985	348,200	114,600	7,000	469,800
1986	382,300	124,800	8,000	515,100
1987	419,500	138,000	9,000	566,500
1988	460,100	152,400	10,000	622,500
1990	552,200	182,400	10,000	744,600
2000	1,389,600	421,200	10,000	1,820,800

TABLE 5.1

SUEZ WATER UTILITY

OPERATION AND MAINTENANCE EXPENSE

Year	Wages LE	Fuel and Power LE	Chemicals LE	Other LE	Maintenance and Services LE	Total LE
			HISTORICAL			
1975	125,370	22,827	27,086	13,206	25,212	213,701
1976	105,400	25,814	33,381	138,057	320,700	623,352
1977	135,096	39,279	40,046	242,863	69,300	526,584
1978	146,700	42,700	43,500	262,100	75,300	570,300
			PROJECTED			
1979	177,000	51,500	52,500	319,400	90,800	691,200
1980	213,500	62,100	63,300	391,000	109,500	839,400
1981	257,100	74,800	76,200	477,600	131,900	1,017,600
1982	311,600	90,600	92,400	584,800	159,800	1,239,200
1983	374,300	108,800	111,000	710,400	192,000	1,496,500
1984	450,400	131,000	133,500	864,100	231,000	1,810,000
1985	519,900	151,200	154,100	1,001,400	266,700	2,093,300
1986	599,000	174,200	177,600	1,134,000	307,300	2,392,100
1987	689,900	200,600	204,500	1,343,000	353,900	2,791,900
1988	795,200	231,200	235,700	1,554,600	407,900	3,224,600
1990	1,051,700	305,800	311,800	2,075,000	539,500	4,283,800
2000	4,316,200	1,255,100	1,279,500	8,843,700	2,214,100	17,908,600

TABLE 5.2

SUEZ WATER UTILITY

DEBT SERVICE CHARGES WITH COVERAGE REQUIREMENTS

Year	Debt Service Charges LE 1000	Debt Coverage LE 1000	Total LE 1000
1979	338	85	423
1980	1,029	257	1,286
1981	1,597	399	1,996
1982	2,347	587	2,934
1983	3,297	824	4,121
1984	4,722	1,180	5,902
1985	5,940	1,485	7,425
1986	6,995	1,749	8,744
1987	7,931	1,983	9,914
1988	8,969	2,242	11,211
1990	11,086	2,771	13,857
2000	21,088	5,272	26,360

TABLE 5.3

SUEZ WATER UTILITY

ESTIMATED DEPRECIATION EXPENSE

Year	Water Plant in Service: Annual Additions LE 1000	Cumulative Balance LE 1000	Land LE 1000	Depreciable Balance LE 1000	Average Balance LE 1000	Depreciation Expense(b) LE 1000
1978(a)		1,585	49			
1979	1,547	3,132	63	3,069	2,303	61
1980	25,459	28,591	572	28,019	15,544	412
1981	13,108	41,699	834	40,865	34,442	913
1982	7,714	49,413	988	48,425	44,645	1,183
1983	27,546	76,959	1,539	75,420	61,923	1,641
1984	21,202	98,161	1,963	96,198	85,809	2,274
1985	9,796	107,957	2,159	105,798	100,998	2,676
1986	7,114	115,071	2,301	112,770	109,284	2,896
1987	8,507	123,578	2,472	121,106	116,938	3,099
1988	9,954	133,532	2,671	130,861	125,984	3,339
1990	27,827	178,499	3,570	174,929	161,300	4,274
1991 to 2000	142,415	320,914	6,418	314,496	306,224	8,115

(a) Estimated Original Cost at December 31,1978.
(B) At composite rate of depreciation of 2.65 percent.

TABLE 5.4

SUEZ WATER UTILITY

ESTIMATED RETURN ON INVESTMENT

Year	Estimated Construction Cost LE 1000	Cumulative Balance LE 1000	Cumulative Allowance for Depreciation LE 1000	Net Plant in Service LE 1000	Required Return @ 6 Percent LE 1000
1978		3,500*			
1979	1,500	5,000	100	4,900	300
1980	25,500	30,500	500	30,000	1,800
1981	13,100	43,600	1,000	42,600	2,600
1982	7,700	51,300	1,200	50,100	3,000
1983	27,500	78,800	1,700	77,100	4,600
1984	21,200	100,000	2,300	97,700	5,900
1985	10,000	110,000	2,700	107,300	6,400
1986	7,100	117,100	3,000	114,100	6,800
1987	8,500	125,600	3,200	122,400	7,300
1988	10,000	135,600	3,400	132,200	7,900
1990	27,800	180,500	4,500	176,000	10,600
2000	142,400	322,900	8,200	314,700	18,900

* Based on RCLD at December 31,1978 together with additions at cost subsequent thereto

TABLE 5.5

SUEZ WATER UTILITY

COMPARATIVE SUMMARY OF REVENUE REQUIREMENTS

Year	Cash Basis				Utility Basis			
	Operation & Maintenance Expense LE 1000	Debt Service LE 1000	Annual Improvements LE 1000	Total LE 1000	Operation & Maintenance Expense LE 1000	Depreciation Expense LE 1000	Return on Investment LE 1000	Total LE 1000
		(b)	(c)		(a)	(d)	(e)	
1979	691	338	85	1,114	691	61	300	1,052
1980	839	1,029	257	2,125	839	412	1,800	3,051
1981	1,017	1,597	399	3,013	1,017	913	2,600	4,530
1982	1,239	2,347	763	4,349	1,239	1,183	3,000	5,422
1983	1,496	3,297	824	5,617	1,496	1,641	4,600	7,737
1984	1,810	4,722	1,180	7,712	1,810	2,274	5,900	9,984
1985	2,093	5,940	1,485	9,518	2,093	2,676	6,400	11,169
1986	2,392	6,995	1,749	11,136	2,392	2,896	6,800	12,088
1987	2,792	7,931	1,983	12,706	2,792	3,099	7,300	13,191
1988	3,225	8,969	2,242	14,436	3,225	3,339	7,900	14,464
1990	4,284	11,086	2,771	18,141	4,284	4,274	10,600	19,158
2000	17,909	21,088	5,272	44,269	17,909	8,115	18,900	44,924

(a) Table 5.1
(b) Table 2.2
(c) Table 2.1
(d) Table 5.3
(e) Table 5.4

TABLE 6.1

SUEZ WATER UTILITY

COINCIDENTAL DEMAND FACTORS

	DEMAND FACTORS		
	Maximum Day %	Base %	Extra Capacity %
Coincidental maximum day demand factors	130	100	30
Ratio	100	77	23
	Maximum Hour %	Base %	Extra Capacity %
Coincidental maximum hour demand factors	170	100	70
Ratio	100	59	41

TABLE 6.2

SUEZ WATER UTILITY

ALLOCATION OF OPERATION AND MAINTENANCE EXPENSE
TO FUNCTIONAL COST COMPONENTS

			Extra Capacity Cost			
	Total	Base Cost	Maximum Day	Maximum Hour	Meters & Services	Bills
	LE1000	LE1000	LE1000	LE1000	LE1000	LE1000
Pumping Expense						
Power	131	118	13			
Other	38	29	9			
Water Treatment Expense						
Chemicals	134	134				
Other	396	305	91			
Transmission and Distribution Expense						
Transmission mains	520	400	120			
Distribution mains	316	186		130		
Meters and services	40				40	
Customer Accounts Expense						
Meter reading, billing and accounting	45					45
Administrative and General Expense	190	129	31	18	6	6
Total	1,810	1,301	264	148	46	51

TABLE 6.3

SUEZ WATER UTILITY

ALLOCATION OF UTILITY PLANT IN SERVICE
TO FUNCTIONAL COST COMPONENTS

	Total LE 1000	Base Cost LE 1000	Extra Capacity Cost: Maximum Day LE 1000	Extra Capacity Cost: Maximum Hour LE 1000	Customer Meters & Services LE 1000
Source of Supply and Treatment	25,804	19,869	5,935		
Transmission Mains	31,849	24,524	7,325		
Distribution Mains	22,527	13,291		9,236	
Services	1,825				1,825
Meters	713				713
General Plant	4,090	2,852	656	457	125
Total	86,808	60,536	13,916	9,693	2,663
Percent of Total	100.0	69.7	16.0	11.2	3.1

TABLE 6.4

SUEZ WATER UTILITY

ALLOCATION OF CAPITAL COSTS
TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

Cost Component	Ratio %	Cash Basis Capital Cost LE 1000	Utility Basis Capital Cost LE 1000
COMMON TO ALL			
Base Cost	69.7	4,116	
Extra capacity cost			
Maximum day	16.0	946	
Maximum hour	11.2	659	
Meters and services*	3.1	78	
Sub total		5,799	
CONTRIBUTION FOR SERVICES		103	
Total Capital Costs	100.0	5,902	

* Contribution for Services is deducted from allocated cost of meters and services

TABLE 6.5

SUEZ WATER UTILITY

SUMMARY OF ALLOCATION OF CASH BASIS COST
OF SERVICE TO FUNCTIONAL COST COMPONENTS

1984 TEST YEAR

Cost Components	Operation & Maintenance Expense LE 1000	Cash Basis Capital Related Costs LE 1000	Total LE 1000
COMMON TO ALL			
Base Cost	1,301	4,116	5,417
Extra capacity cost			
Maximum day	264	946	1,210
Maximum hour	148	659	807
Customer cost			
Meters and services	46	78	124
Bills	51		51
Sub total	1,810	5,799	7,609
CONTRIBUTION FOR SERVICES		103	103
Total Cost of Service	1,810	5,902	7,712

TABLE 6.

SUEZ WATER UTILITY

SUMMARY OF ALLOCATION OF UTILITY BASIS COST OF SERVICE TO FUNCTIONAL COST COMPONENTS

Cost Component	Operation & Maintenance Expense LE 1000	Utility Basis Capital Related Costs LE 1000	Total LE 1000
COMMON TO ALL			
Base cost	1,301	5,698	6,999
Extra capacity cost			
Maximum day	264	1,308	1,572
Maximum hour	148	915	1,063
Customer cost			
Meters and services	46	150	196
Bills	51		51
Sub total	1,810	8,071	9.881
CONTRIBUTION FOR SERVICES		103	103
Total Cost of Service	1,810	8,174	9,984

TABLE 7.1

SUEZ WATER UTILITY

UNITS OF SERVICE

1984 TEST YEAR

Customer Class	Annual Water Sales 1000 m3	Average Day Water Sales 1000 m3/d	Extra Capacity Factors: Maximum Day Factor %	Maximum Day Units 1000 m3/d	Maximum Hour Factor %	Maximum Hour Units 1000 m3/d	Number of Equivalent Meters	Number of Bills
General	9,600	26.3	75	19.7	225	59.2	15,000	50,000
Commercial and Institutional	10,700	29.3	40	11.7	160	46.9	4,500	8,200
Industrial	1,800	4.9	15	0.7	125	6.2	300	300
SCA	600	1.6	25	0.4	135	2.2	100	
Fountains	800	2.2	10	0.2	120	2.6	400	800
Fire Protection				2.0		4.0		
Total	23,500	64.3		34.7		121.1	20,300	59,300

TABLE 7.2

SUEZ WATER UTILITY

UNIT COST OF SERVICE
CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

Cost Component	Cost of Service LE 1000	Units of Service	Unit Cost of Service LE/Unit
COMMON TO ALL			
Base Cost	5,417	23,500 1000 m^3	0.231
Extra capacity cos			
Maximum day	1,210	34.7 1000 m^3/d	34.870
Maximum hour	807	121.1 1000 m^3/d	6.664
Customer Cost			
Meters and Services	124	20,300 Eq.Meters	6.108
Bills	51	59,300 Bills	0.860

TABLE 7.3

SUEZ WATER UTILITY

UNIT COST OF SERVICE
UTILITY BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

Cost Component	Utility Basis Cost of Service LE 1000	Units of Service	Unit Cost of Service LE/Unit
COMMON TO ALL			
Base Cost	6,999	23,500 1000 m^3	0.298
Extra capacity cost			
Maximum day	1,572	34.7 1000 m^3/d	45.303
Maximum hour	1,063	121.1 1000 m^3/d	8.778
Customer Cost			
Meters and services	196	20,300 Eq.Meters	9.655
Bills	51	59,300 Bills	0.860

TABLE 7.4

SUEZ WATER UTILITY

ALLOCATION OF CASH BASIS COST OF SERVICE TO CUSTOMER CLASSES

1984 TEST YEAR

	Common to All					
		Extra Capacity Cost		Customer Cost		
	Base Cost	Maximum Day	Maximum Hour	Equiv. Meters	Bills	Total
Customer Class						
Unit Cost of Service (LE)	0.231	34.870	6.664	6.108	0.860	
Unit	1000 m^3	1000 m^3/d	1000 m^3/d	Eq.Mtrs	Bills	
Units of Service						
General	9,600	19.7	59.2	15,000	50,000	
Commercial and Institutional	10,700	11.7	46.9	4,500	8,200	
Industrial	1,800	0.7	6.2	300	300	
SCA	600	0.4	2.2	100		
Public Fountains	800	0.2	2.6	400	800	
Fire Protection		2.0	4.0			
Total	23,500	34.7	121.1	20,300	59,300	
Cost of Service	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000
General	2,213	687	394	92	43	3,429
Commercial and Institutional	2,467	408	313	28	7	3,223
Industrial	415	24	41	2		482
SCA	138	14	15			167
Public Fountains	184	7	17	2	1	211
Fire Protection		70	27			97
Total	5,417	1,210	807	124	51	7,609
Contribution for Services						103
Total Cost of Service						7,712

TABLE 7.5

SUEZ WATER UTILITY

ALLOCATION OF UTILITY BASIS COST OF SERVICE TO CUSTOMER CLASSES

1984 TEST YEAR

	Common to All					
		Extra Capacity Cost		Customer Cost		
	Base Cost	Maximum Day	Maximum Hour	Equiv. Meters	Equiv. Bills	Total
Customer Class						
Unit Cost of Service(LE)	0.298	45.303	8.778	9.655	0.860	
Unit	1000 m^3	1000 m3/d	1000 m^3/d	Eq.Mtrs	Bills	
Units of Service						
General	9,600	19.7	59.2	15,000	50,000	
Commercial and Institutional	10,700	11.7	46.9	4,500	8,200	
Industrial	1,800	0.7	6.2	300	300	
SCA	600	0.4	2.2	100		
Public Fountains	800	0.2	2.6	400	800	
Fire Protection		2.0	4.0			
Total	23,500	34.7	121.1	20,300	59,300	
Cost of Service	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000	LE 1000
General	2,860	892	520	145	43	4,460
Commercial and Institutional	3,188	530	412	43	7	4,180
Industrial	536	32	54	3		625
SCA	178	18	19	1		216
Public Fountains	237	9	23	4	1	274
Fire Protection		91	35			126
Total	6,999	1,572	1,063	196	51	9,881
Contribution for Services						103
Total Cost of Service						9,984

TABLE 8.1

SUEZ WATER UTILITY

BILL FREQUENCY DISTRIBUTION

	Cumulative Number of Bills %	Cumulative Billed Usage(a) %	Cumulative Number of Bills %	Cumulative Billed Usage(a) %	Cumulative Number of Bills %	Cumulative Billed Usage(a) %
0	12.6	0	11.9	0	11.0	0
1-10	14.4	3.9	12.6	0.4	11.0	0.1
11-25	18.1	9.5	13.2	1.0	15.3	0.2
21-50	26.4	18.2	14.6	2.0	18.1	0.4
51-100	46.0	32.4	16.6	4.0	18.1	0.8
101-200	70.3	50.4	21.9	7.9	20.8	1.5
201-500	91.0	71.9	37.1	18.1	25.0	3.6
501-1,000	96.5	84.3	58.9	29.3	29.2	6.9
1,001-2,000	98.9	93.2	68.2	46.6	40.3	12.9
2,001-3,000	99.6	96.3	79.5	58.7	54.2	17.8
3,001-5,000	99.9	98.2	90.7	72.6	62.5	25.2
5,001-10,000	100.0	100.0	98.0	82.4	72.2	40.5
Over 10,000			100.0	100.0	100.0	100.0

(a) Cumulative usage in block of bills stopping in or passing through the block

TABLE 9.1

SUEZ WATER UTILITY

RECOMMENDED "ABILITY TO PAY" WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

BILLS ISSUED QUARTERLY

	Rates Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
POTABLE WATER RETAIL SERVICE					
Volume Charge					
Applicable to all except Special Customers					
Charge per cubic meter for all measured or estimated water use per billing period					
First 50 cubic meters	0.007	0.008	0.010	0.015	0.020
Next 50 cubic meters	0.010	0.015	0.025	0.035	0.050
Next 100 cubic meters	0.025	0.035	0.050	0.070	0.100
Next 800 cubic meters	0.050	0.065	0.090	0.130	0.200
Next 9,000 cubic meters	0.075	0.100	0.150	0.250	0.400
Over 10,000 cubic meters	0.100	0.200	0.400	0.600	0.800
Service Charge					
Domestic Customers					
Charge per living unit per billing period	0.080	0.150	0.300	0.500	1.000
Non Domestic Customers					
Charge per connection per billing period based on water meter size					
Meter Size mm					
20 and under	0.200	0.400	0.600	0.800	1.000
25	0.300	0.600	0.900	1.200	1.500
30	0.400	0.800	1.200	1.600	2.000
40	0.700	1.400	2.100	2.800	3.500
50	0.950	1.900	2.850	3.800	4.750
80	2.000	4.000	6.000	8.000	10.000
100	2.800	5.600	9.400	12.000	14.000
150	5.600	10.000	15.000	22.000	28.000
200	9.000	18.000	25.000	35.000	45.000
300	17.000	35.000	50.000	65.000	85.000

TABLE 9.1 (Cotninued)

SUEZ WATER UTILITY

RECOMMENDED "ABILITY TO PAY" WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

BILLS ISSUED QUARTERLY

	Rates Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
Special Customers					
Public Fountains					
Volume Charge					
Charge per cubic meter for all measured or estimated water use per billing period	0.020	0.040	0.080	0.150	0.275
Service Charge					
Charge per fountain per billing period	0.800	1.600	2.400	3.200	4.000
Fire Protection					
Annual charge per hydrant	15.000	30.000	60.000	110.000	215.000

TABLE 9.2

SUEZ WATER UTILITY

PROPOSED STANDARD BLOCK COST OF SERVICE WATER RATES
BASED ON CASH REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Rate LE
POTABLE WATER RETAIL SERVICE	
Applicable to all except Special Customers	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	
First 100 cubic meters	0.370
Next 900 cubic meters	0.350
Next 4,000 cubic meters	0.320
Over 5,000 cubic meters	0.260
Service Charge Charge per connection per billing period based on water meter size	
Meter Size mm	
20 and under	3.500
25	5.250
30	7.000
40	11.500
50	16.500
80	35.000
100	50.000
150	100.000
200	150.000
300	300.000

TABLE 9.2 (Continued)

SUEZ WATER UTILITY

PROPOSED STANDARD BLOCK COST OF SERVICE WATER RATES
BASED ON CASH REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Rate LE
Special Customers	
Public Fountains	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	0.275
Service Charge	
Charge per fountain per billing period	4.000
Fire Protection	
Annual charge per hydrant	215.000

TABLE 9.3

SUEZ WATER UTILITY

PROPOSED SERVICE CHARGE - VOLUME CHARGE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Domestic Customers LE	Non Domestic Customers LE
POTABLE WATER RETAIL SERVICE		
Volume Charge Charge per cubic meter for all measured or estimated warer use per billing period.	0.360	0.310
Service Charge Charge per connection per billing period based on meter size		
Meter Size mm		
20 and under	2.350	1.000
25	3.500	1.500
30	4.700	2.000
40	7.750	3.500
50	11.000	4.750
80	23.000	10.000
100	33.000	14.000
150	66.000	28.000
200	105.000	45.000
300	200.000	85.000

TABLE 9.3 (Continued)

SUEZ WATER UTILITY

PROPOSED SERVICE CHARGE - VOLUME CHARGE WATER RATES
BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Rate LE
Special Customers	
Public Fountains	
Volume Charge Charge per cubic meter for all measured or estimated water use per billing period	0.275
Service Charge Charge per fountain per billing period	4.000
Fire Protection	
Annual charge per fire hydrant	215.000

TABLE 9.4

SUEZ WATER UTILITY

PROPOSED COMBINED "ABILITY TO PAY" AND SERVICE CHARGE - VOLUME CHARGE WATER RATES BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Rate LE
POTABLE WATER RETAIL SERVICE	
Domestic Customer Only	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	
First 50 cubic meters	0.020
Next 50 cubic meters	0.125
Next 100 cubic meters	0.250
Next 800 cubic meters	0.500
Next 9,000 cubic meters	0.800
Over 10,000 cubic meters	0.850
Service Charge	
Charge per living unit per billing period	1.000
Non Domestic Customers	
Volume Charge	
Charge per cubic meter for all measured or estimated water use per billing period	0.310
Service Charge	
Charge per connection per billing period based on water meter size	
Meter Size mm	
20 and under	1.000
25	1.500
30	2.000
40	3.500
50	4.750
80	10.000
100	14.000
150	28.000
200	45.000
300	85.000

TABLE 9.4 (Continued)

SUEZ WATER UTILITY

PROPOSED COMBINED "ABILITY TO PAY" AND SERVICE CHARGE - VOLUME CHARGE WATER RATES BASED ON CASH BASIS REVENUE REQUIREMENTS

1984 TEST YEAR

BILLS ISSUED QUARTERLY

	Rate LE
Special Customers	
Public Fountains	
Volume Charge Charge per cubic meter for all measured o estimated water use per billing period	0.275
Service Charge Charge per fountain per billing period	4.000
Fire Protection	
Annual charge per fire hydrant	215.000

TABLE 9.5

SUEZ WATER UTILITY

PROPOSED "ABILITY TO PAY" WATER RATES
BASED ON UTILITY BASIS REVENUE REQUIREMENTS

BILLS ISSUED QUARTERLY

	Rates Effective January 1				
	1980	1981	1982	1983	1984
	LE	LE	LE	LE	LE
POTABLE WATER RETAIL SERVICE					
Volume Charge					
Applicable to all except Special Customers					
Charge per cubic meter for all measured or estimated water use per billing period.					
First 50 cubic meters	0.007	0.008	0.010	0.015	0.020
Next 50 cubic meters	0.010	0.015	0.025	0.035	0.050
Next 100 cubic meters	0.030	0.040	0.060	0.090	0.150
Next 800 cubic meters	0.050	0.075	0.100	0.150	0.300
Next 9,000 cubic meters	0.080	0.110	0.175	0.300	0.600
Over 10,000 cubic meters	0.120	0.240	0.500	0.650	0.850
Service Charge					
Domestic Customers					
Charge per living unit per billing period	0.080	0.150	0.300	0.500	1.000
Non Domestic Customers					
Charge per connection per billing period based on water meter size					
Meter Size mm					
20 and under	0.250	0.450	0.700	0.900	1.300
25	0.400	0.750	1,150	1.550	1.950
30	0.500	1.000	1.500	2.000	2.600
40	0.850	1.200	2.550	3.400	4.300
50	1.200	2.400	3.600	4.800	6.000
80	2.500	5.000	7.500	10.000	13.000
100	3.500	7.000	10.000	14.000	18.000
150	7.000	14.000	21.000	28.000	36.000
200	12.000	24.000	36.000	48.000	60.000
300	20.000	40.000	65.000	90.000	110.000

TABLE 9.5 (Continued)

SUEZ WATER UTILITY

PROPOSED "ABILITY TO PAY" WATER RATES
BASED ON UTILITY BASIS REVENUE REQUIREMENTS

BILLS ISSUED QUARTERLY

	Rates Effective January 1				
	1980 LE	1981 LE	1982 LE	1983 LE	1984 LE
Special Customers					
Public Fountains					
Volume Charge					
Charge per cubic meter for all measured or estimated water use per billing period	0.050	0.100	0.175	0.250	0.355
Service Charge					
Charge per fountain per billing period	1.000	2.000	4.000	5.000	6.500
Fire Protection					
Annual charge per hydrant	50.000	100.000	150.000	210.000	280.000

TABLE 9.6

SUEZ WATER UTILITY

LONG-RUN AVERAGE INCREMENTAL COST OF WATER
1978 COST LEVELS

Year	Capital Costs LE 1000	Operating Expenses LE 1000	Total LE 1000	Incremental Volume 1000 m3
1979	1,598		1,598	
1980	25,202		25,202	
1981	11,699		11,699	
1982	5,895	550	6,445	13,091
1983	20,974	601	21,575	14,297
1984	14,588	658	15,246	15,639
1985		723	723	17,195
1986		793	793	18,868
1987		870	870	20,696
1988		955	955	22,719
1989		1,046	1,046	24,882
1990		1,146	1,146	27,252
1991		1,256	1,256	29,880
1992		1,378	1,378	32,761
1993		1,510	1,510	35,920
1994		1,656	1,656	39,384
1995		1,816	1,816	43,182
1996		1,992	1,992	47,379
1997		2,186	2,186	51,984
1998 to 2020		2,398	2,398	57,037

Discount Rate %	Long-run Incremental Average Cost milliemes/m3
10	296
12	363
15	476
20	689

TABLE 10.1

SUEZ WATER UTILITY

COMPARISON OF REVENUES FROM WATER SALES AT RECOMMENDED RATES WITH COST OF SERVICE BY CUSTOMER CLASSES

1984 TEST YEAR

Customer Class	Cost of Service[a] LE 1000	Revenues at Recommended Rates(b) LE 1000	Percent Revenue Of Cost %
General	3,429	1,571	45.8
Commercial and Institutional	3,223	4,210	130.6
Industrial	482	1,087	225.5
Suez Canal Authority	167	380	227.5
Special			
Public Fountains	211	212	100.5
Fire Protection	97	97	100.0
Total	7,609	7,557	99.3

(a) Based on Cash Basis Revenue Requirements.

(b) At Recommended "Ability to Pay" Rates, Table 9.1.

TABLE 10.2

SUEZ WATER UTILITY

COMPARISON OF REVENUES FROM WATER SALES
AT PROPOSED RATES WITH COST OF
SERVICE BY CUSTOMER CLASSES

1984 TEST YEAR

Customer Class	Cost of Service[a] LE 1000	Revenues at Proposed Rates(b) LE 1000	Percent Revenue Of Cost %
General	3,429	3,40[illegible]	99.2
Commercial and Institutional	3,223	3,268	101.4
Industrial	482	480	99.6
Suez Canal Authority	167	154	92.2
Special			
Public Fountains	211	212	100.5
Fire Protection	97	97	100.0
Total	7,609	7,613	100.1

(a) Based on Cash Basis Revenue Requirements.

(b) At Proposed Standard Block Cost of Service Rates, Table 9.2.

TABLE 10.3

SUEZ WATER UTILITY

COMPARISON OF REVENUES FROM WATER SALES
AT PROPOSED RATES WITH COST OF
SERVICE BY CUSTOMER CLASSES

1984 TEST YEAR

Customer Class	Cost of Service(a) LE 1000	Revenues at Proposed Rates(b) LE 1000	Percent Revenue Of Cost %
General	3,429	3,423	99.8
Commercial and Institutional	3,223	3,183	98.8
Industrial	482	532	110.4
Suez Canal Authority	167	177	106.0
Special			
Public Fountains	211	212	100.5
Fire Protection	97	97	100.0
Total	7,609	7,624	100.2

(a) Based on Cash Basis Revenue Requirements.

(b) At Proposed Service Charge - Volume Charge Rates, Table 9.3

TABLE 10.4

SUEZ WATER UTILITY

COMPARISON OF REVENUES FROM WATER SALES
AT PROPOSED RATES WITH COST OF
SERVICE BY CUSTOMER CLASSES

1984 TEST YEAR

Customer Class	Cost of Service[a] LE 1000	Revenues at Proposed Rates(b) LE 1000	Percent Revenue Of Cost %
General	3,429	3,435	100.2
Commercial and Institutional	3,223	3,183	98.9
Industrial	482	532	110.4
Suez Canal Authority	167	177	106.0
Special			
Public Fountains	211	212	100.5
Fire Protection	97	97	100.0
Total	7,609	7,636	100.4

(a) Based on Cash Basis Revenue Requirements.

(b) At Proposed Combined "Ability to Pay" Rates Applicable to Domestic Customers and Service Charge - Volume Charge Rates Applicable to Non Domestic Customers. Table 9.4

TABLE 10.5

SUEZ WATER UTILITY

COMPARISON OF REVENUES FROM WATER SALES
AT PROPOSED RATES WITH COST OF
SERVICE BY CUSTOMER CLASSES

1984 TEST YEAR

Customer Class	Cost of Service (a) LE 1000	Revenues at Proposed Rates (b) LE 1000	Percent Revenue Of Cost %
General	4,460	2,250	50.4
Commercial and Institutional	4,180	5,576	133.4
Industrial	625	1,262	201.9
Suez Canal Authority	216	437	202.3
Special			
Public Fountains	274	275	100.4
Fire Protection	126	126	100.0
Total	9,881	9,926	100.4

(a) Based on Utility Basis Revenue Requirements.

(b) At Proposed "Ability to Pay" Rates. Table 9.5.

TABLE 10.6

SUEZ WATER UTILITY

SUBSIDY REQUIRED TO RECOVER
CASH BASIS REVENUE REQUIREMENTS

Year	Total Revenue Requirements (a) LE 1000	Revenues at Recommended Rates (b) LE 1000	Required Subsidy LE 1000
1980	2,058	879	1,179
1981	2,939	1,582	1,357
1982	4,265	2,691	1,574
1983	5,524	4,588	936
1984	7,609	7,557	None

(a) Net requirements after deducting other income

(b) At recommended "Ability-to-Pay" Rates (Table 9.1) Based on Cash Basis Revenue Requirements.

TABLE 10.7

SUEZ WATER UTILITY

SUBSIDY REQUIRED TO RECOVER
UTILITY BASIS REVENUE REQUIREMENTS

Year	Total Revenue Requirements[a] LE 1000	Revenues at Proposed Rates(b) LE 1000	Required Subsidy LE 1000
1980	2,984	998	1,986
1981	4,456	1,736	2,720
1982	5,338	3,290	2,048
1983	7,644	5,323	2,321
1984	9,881	9,926	None

(a) Net requirements after deducting other incoı

(b) At Proposed "Ability to Pay" Rates (Table 9
Based on Utility Basis Revenue Requirements.

TABLE 12.1

SUEZ WATER UTILITY

PROFORMA STATEMENT OF INCOME

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
OPERATING INCOME											
Revenues from water sales[a]	879	1,582	2,691	4,588	7,557	9,403	11,011	12,568	14,284	17,959	43,848
Other operating income	67	74	84	93	103	115	125	138	152	182	421
Total Operating Income	946	1,656	2,775	4,681	7,660	9,518	11,136	12,706	14,436	18,141	44,269
OPERATING EXPENSE											
Operation and maintenance expense	839	1,017	1,239	1,496	1,810	2,093	2,392	2,792	3,225	4,284	17,909
Depreciation expense	412	913	1,183	1,641	2,274	2,676	2,896	3,099	3,339	4,274	8,115
Total Operating Expense	1,251	1,930	2,422	3,137	4,084	4,769	5,288	5,891	6,564	8,558	26,024
Net Operating Income	(305)	(274)	353	1,544	3,576	4,749	5,848	6,815	7,872	9,583	18,245
NON OPERATING INCOME	2	3	4	5	6	7	8	9	10	10	10
Gross Income	(303)	(271)	357	1,549	3,582	4,756	5,856	6,824	7,882	9,593	18,255
INCOME DEDUCTIONS											
Interest expense	1,029	1,597	2,347	3,146	4,110	4,966	5,672	6,122	6,480	7,634	10,522
Net Income (Loss)	(1,332)	(1,868)	(1,990)	(1,597)	(528)	(210)	184	702	1,402	1,959	7,733
NET UTILITY PLANT IN SERVICE (LE MILLIONS)[b]	30.0	42.6	50.1	77.1	97.7	107.3	114.1	122.4	132.2	176.0	314.7
Return on Investment- %[c]			0.7	2.0	3.7	4.4	5.1	5.6	5.9	5.4	5.8

(a) With revenues computed on Cash Basis "Ability to Pay" Rates. Table 9.1

(b) Net Plant in Service from Table 5.4 consists of RCLD at December 31, 1978 together with additions at cost subsequent thereto and an allowance for depreciation.

(c) Return on Investment is computed by dividing Net Operating Income

TABLE 12.2

SUEZ WATER UTILITY

PROFORMA STATEMENT OF INCOME

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
OPERATING INCOME											
Revenues from water sales[a]	998	1,736	3,290	5,323	9,926	11,054	11,963	13,053	14,312	18,976	44,503
Other operating income	67	74	84	93	103	115	125	138	152	182	421
Total Operating Income	1,065	1,810	3,374	5,416	10,029	11,169	12,088	13,191	14,464	19,158	44,924
OPERATING EXPENSE											
Operation and maintenance expense	839	1,017	1,239	1,496	1,810	2,093	2,392	2,792	3,225	4,284	17,909
Depreciation expense	412	913	1,183	1,641	2,274	2,676	2,896	3,099	3,339	4,274	8,115
Total Operating Expense	1,251	1,930	2,422	3,137	4,084	4,769	5,288	5,891	6,564	8,558	26,024
Net Operating Income	(186)	(120)	952	2,279	5,945	6,400	6,800	7,300	7,900	10,600	18,900
NON OPERATING INCOME	2	3	4	5	6	7	8	9	10	10	10
Gross Income	(184)	(117)	956	2,284	5,951	6,407	6,808	7,309	7,910	10,610	18,910
INCOME DEDUCTIONS											
Interest expense	1,029	1,597	2,347	3,146	4,110	4,966	5,672	6,122	6,480	7,634	10,522
Net Income (Loss)	(1,213)	(1,714)	(1,391)	(862)	1,841	1,441	1,136	1,187	1,430	2,976	8,388
NET UTILITY PLANT IN SERVICE (LE MILLIONS)[b]	30.0	42.6	50.1	77.1	97.7	107.3	114.1	122.4	132.2	176.0	314.7
Return on Investment- %[c]			1.9	2.9	6.0	6.0	6.0	6.0	6.0	6.0	6.0

(a) With revenues computed on Utility Basis "Ability to Pay" Rates, Table 9.5

(b) Net Plant in Service from Table 5.4 consists of RCLD at December 31, 1978 together with additions at cost subsequent thereto and an allowance for depreciation.

(c) Return on Investment is computed by dividing Net Operating Income by Net Plant in Service.

TABLE 12.3

SUEZ WATER UTILITY

PROFORMA STATEMENT OF SOURCE AND APPLICATION OF OPERATING FUNDS

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
SOURCE OF FUNDS											
Net Operating Income[a]	(305)	(274)	353	1,544	3,576	4,749	5,848	6,815	7,872	9,583	18,245
Depreciation Expense	412	913	1,183	1,641	2,274	2,676	2,896	3,099	3,339	4,274	8,115
Sub total	107	639	1,536	3,185	5,850	7,425	8,744	9,914	11,211	13,857	26,360
Non Operating Income	2	3	4	5	6	7	8	9	10	10	10
Operating Subsidy	1,179	1,357	1,574	936							
Total Available Operating Fund	1,288	1,999	3,114	4,126	5,856	7,432	8,752	9,923	11,221	13,867	26,370
APPLICATION OF FUNDS											
Routine Improvements	257	399	763	824	1,180	1,485	1,749	1,983	2,242	2,771	5,272
Debt Service Charges											
Interest	1,029	1,597	2,347	3,146	4,110	4,966	5,672	6,122	6,480	7,634	10,522
Principal				151	612	974	1,323	1,809	2,489	3,452	10,566
Total Debt Service	1,029	1,597	2,347	3,297	4,722	5,940	6,995	7,931	8,969	11,086	21,088
Total Application of Operating Funds	1,286	1,996	3,110	4,121	5,902	7,425	8,744	9,914	11,211	13,857	26,360
Net Operating Fund Change	2	3	4	5	(46)	7	8	9	10	10	10

(a) Based on revenues from water sales computed on Cash Basis Revenue Requirements.

TABLE 12.4

SUEZ WATER UTILITY

PROFORMA STATEMENT OF SOURCE AND APPLICATION OF OPERATING FUNDS

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
SOURCE OF FUNDS											
Net Operating Income[a]	(186)	(120)	952	2,279	5,945	6,400	6,800	7,300	7,900	10,600	18,900
Depreciation Expense	412	913	1,183	1,641	2,274	2,676	2,896	3,099	3,339	4,274	8,115
Sub total	226	793	2,135	3,920	8,219	9,076	9,696	10,399	11,239	14,874	27,015
Non Operating Income	2	3	4	5	6	7	8	9	10	10	10
Operating Subsidy	1,986	2,720	2,048	2,321							
Total Available Operating Fund	2,214	3,516	4,187	6,246	8,225	9,083	9.704	10.408	11.249	14.884	27.025
APPLICATION OF FUNDS											
Routine Improvements	257	399	763	824	1,180	1.485	1.749	1,983	2,242	2,771	5,272
Debt Service Charges											
Interest	1,029	1,597	2,347	3,146	4,110	4,966	5,672	6,122	6,480	7,634	10,522
Principal				151	612	974	1,323	1,809	2,489	3,452	10,566
Total Debt Service	1,029	1,597	2,347	3,297	4,722	5,940	6,995	7,931	8,969	11,086	21,088
Total Application of Operating Fund	1,286	1,996	3,110	4,121	5,902	7,425	8,744	9,914	11,211	13,857	26,360
Net Operating Fund Change	928	1,520	1,077	2,125	2,323	1,658	960	494	38	1,027	665

(a) Based on revenues from water sales computed on Utility Basis Revenue Requirements.

TABLE 12.5

SUEZ WATER UTILITY

PROFORMA BALANCE SHEET

	1980 LE1000	1981 LE1000	1982 LE1000	1983 LE1000	1984 LE1000	1985 LE1000	1986 LE1000	1987 LE1000	1988 LE1000	1990 LE1000	2000 LE1000
ASSETS											
Utility Plant in Service[a]	28,591	41,699	49,413	76,959	98,161	107,959	115,071	123,578	133,532	178,499	320,914
Accumulated Provision for Depreciation	1,030	1,943	3,126	4,767	7,041	9,717	12,613	15,622	18,961	27,042	90,9[illegible]
Net Utility Plant in Service	27.561	39,756	46,287	72,192	91,120	98.242	102.458	107.956	114.571	151.457	230.002
Current Assets											
Cash	105	127	155	187	226	262	299	349	403	536	2,239
Accounts Receivable	100	208	438	913	1,903	2,351	2,748	3,142	3,571	4,490	10,987
Material and Supplies	63	76	92	110	133	153	176	203	234	309	1,268
Total Current Assets	268	411	685	1,210	2,262	2,766	3,223	3,694	4,208	5,335	14,494
Total Assets	27,829	40,167	46,972	73,402	93,382	101,008	105,681	111,650	118,779	156,792	244,496
LIABILITIES AND EQUITY											
Suez Water Utility Equity Capital	1,025	624	441	258	775	1,012	1,593	2,781	4,614	9,245	64,700
Long Term Debt	26,664	39,373	46,324	72,895	92,305	99,647	103,689	108,404	113,627	146,833	176,811
Current Liabilities											
Accounts Payable	140	170	207	249	302	349	399	465	538	714	2,985
Total Liabilities and Equi	27,829	40,167	46,972	73,402	93,382	101,008	105,681	111,650	118,779	156,792	244,496

(a) Based on Original Cost at December 31, 1978 and projected additions at cost subsequent thereto.