

APPENDIX VI

-- Socioeconomy --

- 1. Population**
- 2. Labour Force**
- 3. Economic Growth**
- 4. Investment**
- 5. International Balance of Payments**
- 6. Excessive Centralization in Cairo and Alexandria**
- 7. Future Prospects**
- 8. Housing**

6.1 Population

(1) Population and Vital Statistics in Egypt 1952 ~ 1983

(Rates per thousand population)

Year	Population *1 ('000)	Birth Rate	Death Rate	Rate of Natural Increase
1952	21,437	45.2	17.8	27.4
1953	21,943	42.6	19.6	23.0
1954	22,460	42.6	17.9	24.7
1955	22,990	40.3	17.6	22.7
1956	23,532	40.7	16.4	24.3
1957	24,087	38.0	17.8	20.2
1958	24,655	41.1	16.6	24.5
1959	25,237	42.8	16.3	26.5
1960	25,832	43.1	16.9	26.2
1961	26,474	44.1	15.8	28.3
1962	27,147	41.5	17.9	23.6
1963	27,832	43.0	15.5	27.5
1964	28,538	42.3	15.7	26.6
1965	29,263	41.7	14.1	27.6
1966	30,007	41.2	15.9	25.3
1967	31,101	38.9	14.2	24.7
1968	31,826	37.9	16.0	21.9
1969	32,555	36.8	14.4	22.4
1970	33,260	35.0	15.1	19.9
1971	33,967	35.0	13.1	21.9
1972	34,692	34.3	14.4	19.9
1973	35,421	35.7	13.0	22.7
1974	36,282	35.6	12.6	23.0
1975	37,120	36.0	12.1	23.9
1976	38,020	36.4	11.7	24.7
1977	38,950	37.3	11.8	25.5
1978	39,917	37.3	10.4	26.9
1979	41,033	40.0	10.8	29.2
1980*2	42,289	37.4	10.0	27.4
1981*2	43,465	38.3	10.2	28.1
1982*2	44,673	37.2	10.3	26.9
1983*2	45,915	36.9	10.1	26.8

Note * 1 Includes Egyptians living abroad, estimated in the 1976 census at 1.425 million; before 1970 the number of Egyptians living abroad was negligible.

* 2 Preliminary.

Source: CAPMAS

(2) Population by Urban/Rural in Egypt

('000)

Year	Total	Urban		Rural	
		Population	%	Population	%
1947	18,967	6,363	33.5%	12,604	66.5%
1960	25,984	9,864	38.0%	16,120	62.0%
1966	30,076	12,385	41.2%	17,691	58.8%
1976	36,626	16,036	43.8%	20,590	56.2%

Note: Excluding Egyptian abroad

Source: CAPMAS, Statistical Year Book, 1984

(3) Population Growth Rate of Main Cities

('000)

Year	Cairo	Kalyubia	Giza	G. Cairo	Alexandria	Suez	Egypt
Population							
1947	2,076	717	846	3,639	949	107	18,976
1960	3,349	988	1,337	5,674	1,516	204	26,085
1966	4,220	1,212	1,650	7,082	1,801	264	30,076
1976	5,074	1,681	2,417	9,172	2,318	194	38,198
1982	5,785	1,996	2,879	10,660	2,635	231	44,673
Growth Rate							
1947-1960	3.7%	2.5%	3.6%	3.5%	3.7%	5.1%	2.5%
1960-1966	3.9%	3.5%	3.6%	3.8%	2.9%	4.4%	2.4%
1966-1976	1.9%	3.3%	3.9%	2.6%	2.6%	-3.0%	2.4%
1976-1982	2.2%	2.9%	3.0%	2.5%	2.2%	3.0%	2.6%

Note: The data for Kalyubia, Giza and Alexandria include the population of the rural areas.

Source: CAPMAS

6.2 Labour Force

(1) Labour Force by Sector in Egypt

('000)

Sector	Year	1976	1977	1978	1979	1980/81	1981/82	1982/83	1983/84	Growth (pa) 76-83/84
Agriculture		4,067.8	4,103.5	4,135.0	4,165.0	4,200.0	4,247.5	4,285.7	4,324.3	0.8%
Industry *		1,200.0	1,247.1	1,297.0	1,351.2	1,449.7	1,487.2	1,561.8	1,640.2	4.3%
Utilities *		100.4	102.6	111.9	116.7	127.1	130.4	138.2	146.5	5.2%
Construction		480.0	457.0	538.0	629.2	657.0	664.1	697.2	752.9	6.2%
Transportation		414.4	444.3	448.6	452.0	459.8	452.1	461.1	470.3	1.7%
Commerce & Finance		1,014.2	1,050.6	1,093.9	1,125.5	1,206.5	1,175.7	1,211.1	1,247.4	2.8%
Housing		144.0	144.8	146.5	155.0	166.0	171.3	178.2	185.3	3.4%
Other Services		2,224.8	2,335.6	2,566.4	2,833.2	3,173.0	3,396.6	3,736.3	4,109.9	8.5%
Total		9,645.6	9,885.5	10,337.3	10,827.8	11,439.1	11,724.9	12,269.6	12,876.8	3.9%
Population ('000)		38,198	38,794	39,767	40,889	42,126	43,465	44,673	45,756	
Labour/Pop. (%)		25.3%	25.5%	26.0%	26.5%	27.2%	27.0%	27.5%	28.1%	

Note: Industry consists of industry, mining and petroleum; Utilities consists of "Electricity" and "Public Utilities".
Source: CAPMAS, Statistical Yearbook, 1984.

(2) Labour Force (12 - 65 Years) in 1982

(in hundred)

Sector Area	Agriculture, Hunting and Fishing	Mining and Quarry Production	Construction Industry	Electricity Gas and Water	Construction Industry	Commerce Restaurants and Hotels	Transportation, Means of Communication and Storage	Finance and Insurance	Services	Unclassified Activities	Total
Egypt	36.8% 39,500	0.2% 214	14.5% 15,502	0.7% 760	5.3% 5,639	8.6% 9,195	5.3% 5,709	1.4% 1,501	20.1% 21,589	7.0% 7,599	100.0% 107,208
Suez (Suez/Egypt)	8.9% 52 (0.1%)	2.1% 12 (5.6%)	21.8% 127 (0.8%)	1.4% 8 (1.1%)	10.3% 60 (1.1%)	9.5% 55 (0.6%)	11.3% 66 (1.2%)	0.9% 5 (0.3%)	18.4% 107 (0.5%)	15.5% 90 (1.2%)	100.0% 582 (0.5%)
Cairo (Cairo/Egypt)	0.5% 84 (0.2%)	0.5% 78 (36.4%)	27.2% 4,266 (27.5%)	1.2% 181 (23.8%)	8.4% 1,322 (23.4%)	13.8% 2,170 (23.7%)	7.6% 1,200 (21.0%)	3.1% 488 (32.5%)	28.6% 4,491 (20.8%)	9.1% 1,432 (18.8%)	100.0% 15,712 (14.7%)

Source: Labour Force Sample Survey, May, 1982

6.3 Economic Growth

(1) GDP at Current Prices by Sector

Sector	(million LE)											Growth (Pa) 1974-1983/84
	Year	1974	1975	1976	1977	1978	1979	1980/81	1981/82	1982/83	1983/84	
Agriculture	1,280	1,468	1,744	2,038	2,286	2,530	3,427	3,742	4,375	4,814	4,814	15.0%
Industry	746	880	993	1,120	1,319	1,650	2,144	2,670	3,152	3,474	3,474	17.6%
Petroleum	106	149	247	468	626	1,908	3,105	2,668	2,286	3,192	3,192	43.1%
Electricity	51	69	75	83	94	102	108	128	161	214	214	16.3%
Construction	129	243	279	357	517	647	761	909	1,006	1,188	1,188	26.3%
Transportation	177	260	501	491	689	992	1,311	1,791	2,141	2,280	2,280	30.9%
Trade & Finance	630	772	954	1,188	1,544	2,067	2,498	3,812	4,646	5,337	5,337	25.2%
Housing	203	209	222	244	262	287	321	373	420	461	461	9.0%
Public Utilities	14	19	21	23	27	30	27	50	56	61	61	16.8%
Other Services	855	987	1,229	1,522	1,657	1,888	2,454	3,427	3,915	4,535	4,535	19.2%
GDP at Factor Cost	4,191	5,056	6,265	7,534	9,021	12,101	16,156	19,570	22,158	25,556	25,556	
Growth Rate (%)		20.5%	23.9%	20.3%	19.7%	34.1%	21.2%	21.1%	13.2%	15.3%	15.3%	21.0%

Source: CAPMAS

(2) GDP at Constant 1981/82 Prices by Sector

Sector	(million LE)											Growth (Pa) 1974-1983/84
	Year	1974	1975	1976	1977	1978	1979	1980/81	1981/82	1982/83	1983/84	
Agriculture	3,145	3,336	3,393	3,292	3,474	3,625	3,855	3,742	3,855	3,965	3,965	2.5%
Industry	1,676	1,785	1,924	2,055	2,169	2,340	2,653	2,670	2,863	3,130	3,130	6.8%
Petroleum	412	611	929	1,436	1,754	1,933	2,508	2,668	3,056	3,500	3,500	25.3%
Electricity	61	81	89	99	97	115	109	128	144	158	158	10.5%
Construction	358	428	411	464	603	664	717	909	973	1,045	1,045	11.9%
Transportation	320	451	839	798	926	1,253	1,463	1,791	1,873	1,969	1,969	21.1%
Trade & Finance	1,226	1,369	1,484	1,636	1,897	2,242	2,657	3,812	4,090	4,357	4,357	14.3%
Housing	223	230	247	267	285	306	350	373	399	430	430	7.2%
Public Utilities	17	22	25	28	26	34	27	50	50	45	45	10.8%
Other Services	1,934	1,978	2,438	2,562	2,437	2,446	2,817	3,427	3,632	3,843	3,843	7.5%
GDP at Factor Cost	9,372	10,291	11,779	12,637	13,670	14,958	17,156	19,570	20,935	22,442	22,442	
Growth Rate (%)		9.8%	14.5%	7.3%	8.2%	9.4%	9.6%	14.1%	7.0%	7.2%	7.2%	9.6%
GDP Deflator	44.7	49.1	53.2	59.6	66.0	80.9	94.2	100.0	105.8	113.9	113.9	

Source: The Study Team estimate, based on the data of IMF and IBRD.

(3) Per Capita GDP at Current and 1981/82 Prices

Year	1975	1976	1977	1978	1979	1980/81	1981/82	1982/83	1983/84	Growth (Pa) 1975-1983/84
GDP at current prices* (million LE)	5,246.6	6,704.6	8,209.9	9,787.0	12,610.2	18,041.2	20,290.5	24,634.4	27,595.2	
Growth Rate (%)	27.8%	22.5%	19.2%	28.8%		43.1%	12.5%	21.4%	12.0%	21.6%
GDP at 1981/82 prices* (million LE)	12,418.9	14,067.6	15,548.5	16,827.4	18,959.3	19,755.6	20,290.5	21,847.1	22,616.1	
Growth Rate (%)	13.3%	10.5%	8.2%	12.7%		4.2%	2.7%	7.7%	3.5%	7.3%
Population*2 ('000)	35,792	36,626	37,347	38,284	39,454	40,711	41,844	43,006	44,202	
Growth Rate (%)	2.3%	2.0%	2.5%	3.1%		3.2%	2.8%	2.8%	2.8%	2.5%
Per Capita GDP at current prices (LE)	146.6	183.1	219.8	255.6	319.6	443.2	484.9	572.8	624.3	
Growth Rate (%)	24.9%	20.1%	16.3%	25.0%		38.7%	9.4%	18.1%	9.0%	18.6%
Per Capita GDP at 1981/82 prices (LE)	347.0	384.1	416.3	439.5	480.5	485.3	484.9	508.0	511.7	
Growth Rate (%)	10.7%	8.4%	5.6%	9.3%		1.0%	-0.1%	4.8%	0.7%	4.7%

Note: *1Gross Domestic Product at market prices

*2Population, excluding Egyptians living abroad

Source: Ministry of Planning and CAPMAS

(4) Index Number of Consumer Prices and Wholesale Prices

Year	1977	1978	1979	1980	1981	1982	1983	1984	Average Increase 1977-1984
Consumer Price (Urban) 1966/67=100	185.1	205.6	226.0	272.7	301.2	345.8	401.4	469.9	
Rate of Increase	11.1%	9.9%	20.7%	20.7%	10.5%	14.8%	16.1%	17.1%	14.2%
Consumer Price (Rural) 1966/67=100	206.7	234.2	248.7	311.0	353.4	402.8	499.8	545.4	
Rate of Increase	13.3%	6.2%	25.1%	25.1%	13.6%	14.0%	24.1%	9.1%	14.9%
Wholesale Price 1965/66=100	186.6	214.1	234.6	285.2	308.9	337.7	391.1	430.9	
Rate of Increase	14.7%	9.6%	21.6%	21.6%	8.3%	9.3%	15.8%	10.2%	12.7%

Note: : The figures are the averages of all items.

Source: CAPMAS

(5) Industrial Output by Sector in Suez and Sinai

('000 LE)

	1976		1977		1978		1979		1980/81	
SUEZ										
Mining	246	1.9%	480	2.5%	147	0.6%	231	0.8%	143	0.3%
Foodstuff	639	5.0%	1068	5.5%	1060	4.0%	1364	4.6%	2797	5.6%
Spinning & Weaving	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4280	8.6%
Wood Products	0	0.0%	128	0.7%	215	0.8%	0	0.0%	195	0.4%
Paper & Paper Products	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Chemicals & Oil Products	9956	78.3%	15459	79.4%	22217	84.8%	25442	85.4%	37927	76.5%
Non-metal Products	38	0.3%	59	0.3%	170	0.6%	157	0.5%	385	0.8%
Essential Metal	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Metal Products, Machinery	1630	12.8%	2082	10.7%	2119	8.1%	2314	7.8%	3531	7.1%
Other Manufacturing	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Repair Services	210	1.7%	189	1.0%	262	1.0%	284	1.0%	305	0.6%
Total	12719	100.0%	19465	100.0%	26190	100.0%	29792	100.0%	49563	100.0%
SINAI										
Mining	54610	100.0%	62243	100.0%	102955	100.0%	431892	100.0%	741867	100.0%
Foodstuff	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Spinning & Weaving	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Wood Products	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Paper & Paper Products	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Chemicals & Oil Products	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Non-metal Products	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Essential Metal	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Metal Products, Machinery	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other Manufacturing	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Repair Services	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	54610	100.0%	62243	100.0%	102955	100.0%	431892	100.0%	741867	100.0%

Source: CAPHAS

6.4 Investment

(1) Gross Fixed Capital Formation at Current Prices

(million LE)

Sector	Year	1976	1977	1978	1979	80/81	81/82	82/83	83/84	Share (%)		Growth Rate 76-83/84
										76	83/84	
Agriculture		98.5	146.4	191.3	258.0	370.2	450.4	482.3	531.8	6.7	8.0	25.2
Industry		378.7	561.0	765.0	1,010.2	1,288.1	1,277.1	1,499.0	1,445.7	25.7	21.9	19.6
Petroleum		185.9	205.7	201.0	448.0	606.4	1,007.2	990.7	299.7	12.6	4.5	6.6
Electricity		59.4	109.0	202.7	234.0	481.5	372.0	547.9	509.2	4.0	7.7	33.2
Construction		80.3	48.4	132.3	160.3	184.0	239.9	224.2	185.6	5.5	2.8	11.8
Commodity Sector		802.8	1,070.5	1,492.3	2,110.5	2,930.2	3,346.6	3,744.1	2,972.0	54.6	45.0	19.1
Transportation & Communication		372.9	443.3	691.8	903.5	986.1	1,190.7	1,761.9	1,638.4	25.3	24.8	21.8
Finance and Trade		25.9	29.8	36.8	70.0	117.6	170.7	125.9	112.9	1.8	1.7	21.7
Housing		127.8	125.5	156.4	221.0	659.8	668.0	884.8	828.4	8.7	12.5	28.3
Public Utilities		45.0	66.2	95.6	165.0	300.5	388.0	366.3	554.3	3.1	8.4	39.8
Other Services		96.7	138.0	211.9	293.0	340.2	522.5	418.1	505.4	6.6	7.6	24.7
Service Sector		668.3	802.8	1,192.5	1,652.5	2,404.2	2,939.9	3,557.0	3,639.4	45.4	55.0	25.4
Grand Total		1,471.1	1,873.3	2,684.8	3,763.0	5,334.4	6,286.5	7,301.1	6,611.4	100.0	100.0	22.2

Note: Including the portion of foreign partners.

Source: CAPMAS

(2) Investment by the Public Sector in Egypt

Sector	Year	1976	1977	1978	1979	1980/81	1981/82	1982/83
Agriculture		48,672	69,943	65,364	78,982	115,375	123,964	43,458
Irrigation		35,919	50,719	106,637	244,468	196,770	225,407	46,699
Industry		189,240	306,183	614,572	563,963	685,318	841,519	572,010
Petroleum		25,018	96,338	101,079	86,247	69,289	90,867	49,611
Construction		14,900	16,782	50,432	74,252	67,700	64,870	31,724
Electricity		47,770	90,200	162,070	313,222	310,602	359,015	259,923
Transportation		232,777	415,546	671,502	843,575	903,275	929,403	436,929
Finance & Trade		13,376	43,993	39,268	44,395	54,190	204,092	67,670
Housing		87,865	44,310	79,765	93,886	103,166	40,242	26,729
Public Utilities		37,270	66,662	122,890	158,461	310,734	386,421	248,386
Other Services		47,596	87,792	177,341	34,487	343,581	456,394	172,633
Total		780,403	1,288,468	2,190,920	2,535,938	3,160,000	3,722,195	1,955,772

Source: CAPHAS

(3) Investment by the Public Sector in Suez

SUEZ ('000 LE)	1976	1977	1978	1979	1980/81	1981/82	1982/83
Agriculture	17	715	125	1,212	2,902	3,934	420
Irrigation	258	0	0	515	1,515	950	1,770
Industry	1,900	2,548	21,239	5,140	8,370	9,150	12,851
Petroleum	5,930	7,949	6,714	17,923	21,950	23,740	10,156
Construction	2,400	0	0	1,380	500	875	695
Electricity	2,120	2,559	2,516	6,903	40,053	35,348	22,245
Transportation	11,621	52,217	4,667	31,701	32,623	32,282	24,109
Finance & Trade	561	1,468	3,241	4,367	4,828	2,225	3,084
Housing	5,900	4,380	3,885	1,900	4,450	1,172	655
Public Utilities	1,420	704	1,191	2,071	13,673	8,663	6,998
Other Services	645	455	796	911	2,905	4,023	4,053
Total	32,772	72,994	44,375	74,022	133,769	122,362	87,036
Sectoral Composition	1976	1977	1978	1979	1980/81	1981/82	1982/83
Agriculture	0.1%	1.0%	0.3%	1.6%	2.2%	3.2%	0.5%
Irrigation	0.8%	0.0%	0.0%	0.7%	1.1%	0.8%	2.0%
Industry	5.8%	3.5%	47.9%	6.9%	6.3%	7.5%	14.8%
Petroleum	18.1%	10.9%	15.1%	24.2%	16.4%	19.4%	11.7%
Construction	7.3%	0.0%	0.0%	1.9%	0.4%	0.7%	0.8%
Electricity	6.5%	3.5%	5.7%	9.3%	29.9%	28.9%	25.6%
Transportation	35.5%	71.5%	10.5%	42.8%	24.4%	26.4%	27.7%
Finance & Trade	1.7%	2.0%	7.3%	5.9%	3.6%	1.8%	3.5%
Housing	18.0%	6.0%	8.8%	2.6%	3.3%	1.0%	0.8%
Public Utilities	4.3%	1.0%	2.7%	2.8%	10.2%	7.1%	8.0%
Other Services	2.0%	0.6%	1.8%	1.2%	2.2%	3.3%	4.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SUEZ Share in EGYPT	1976	1977	1978	1979	1980/81	1981/82	1982/83
Agriculture	0.0%	1.0%	0.2%	1.5%	2.5%	3.2%	1.0%
Irrigation	0.7%	0.0%	0.0%	0.2%	0.8%	0.4%	3.8%
Industry	1.0%	0.8%	3.5%	0.9%	1.2%	1.1%	2.2%
Petroleum	23.7%	8.3%	6.6%	20.8%	31.7%	26.1%	20.5%
Construction	16.1%	0.0%	0.0%	1.9%	0.7%	1.3%	2.2%
Electricity	4.4%	2.8%	1.6%	2.2%	12.9%	9.8%	8.6%
Transportation	5.0%	12.6%	0.7%	3.8%	3.6%	3.5%	5.5%
Finance & Trade	4.2%	3.3%	8.3%	9.8%	8.9%	1.1%	4.6%
Housing	6.7%	9.9%	4.9%	2.0%	4.3%	2.9%	2.5%
Public Utilities	3.8%	1.1%	1.0%	1.3%	4.4%	2.2%	2.8%
Other Services	1.4%	0.5%	0.4%	2.6%	0.8%	0.9%	2.3%
Total	4.2%	5.7%	2.0%	2.9%	4.2%	3.3%	4.5%

Source: CAPMAS

(4) Investment by the Public Sector in Sinai

SINAI ('000 LE)	1976	1977	1978	1979	1980/81	1981/82	1982/83
Agriculture	0	0	203	1,472	1,944	4,778	2,793
Irrigation	0	107	0	2,565	2,260	0	4,400
Industry	0	289	713	200	8,155	7,745	8,128
Petroleum	1,200	143	31,386	2,950	3,750	2,550	5,000
Construction	0	0	0	500	200	250	312
Electricity	0	31	292	805	4,150	4,320	9,758
Transportation	1	198	0	560	8,360	9,726	24,271
Finance & Trade	0	60	5	0	1,580	775	544
Housing	0	500	4,166	2,333	6,380	3,020	3,880
Public Utilities	82	97	486	3,206	11,800	12,150	16,720
Other Services	260	133	207	873	6,404	8,083	8,171
Total	1,543	1,558	37,459	15,463	54,983	53,396	83,976
Sectoral Composition	1976	1977	1978	1979	1980/81	1981/82	1982/83
Agriculture	0.0%	0.0%	0.5%	9.5%	3.5%	8.9%	3.3%
Irrigation	0.0%	6.9%	0.0%	16.6%	4.1%	0.0%	5.2%
Industry	0.0%	18.6%	1.9%	1.3%	14.8%	14.5%	9.7%
Petroleum	77.8%	9.2%	83.8%	19.1%	6.8%	4.8%	6.0%
Construction	0.0%	0.0%	0.0%	3.2%	0.4%	0.5%	0.4%
Electricity	0.0%	2.0%	0.8%	5.2%	7.5%	8.1%	11.6%
Transportation	0.1%	12.7%	0.0%	3.6%	15.2%	18.2%	28.9%
Finance & Trade	0.0%	3.9%	0.0%	0.0%	2.9%	1.5%	0.6%
Housing	0.0%	32.1%	11.1%	15.1%	11.6%	5.7%	4.6%
Public Utilities	5.3%	6.2%	1.3%	20.7%	21.5%	22.8%	19.9%
Other Services	16.8%	8.5%	0.6%	5.6%	11.6%	15.1%	9.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SINAI Share in EGYPT	1976	1977	1978	1979	1980/81	1981/82	1982/83
Agriculture	0.0%	0.0%	0.3%	1.9%	1.7%	3.9%	6.4%
Irrigation	0.0%	0.2%	0.0%	1.0%	1.1%	0.0%	9.4%
Industry	0.0%	0.1%	0.1%	0.0%	1.2%	0.9%	1.4%
Petroleum	4.8%	0.1%	31.1%	3.4%	5.4%	2.8%	10.1%
Construction	0.0%	0.0%	0.0%	0.7%	0.3%	0.4%	1.0%
Electricity	0.0%	0.0%	0.2%	0.3%	1.3%	1.2%	3.8%
Transportation	0.0%	0.0%	0.0%	0.1%	0.9%	1.0%	5.6%
Finance & Trade	0.0%	0.1%	0.0%	0.0%	2.9%	0.4%	0.8%
Housing	0.0%	1.1%	5.2%	2.5%	6.2%	7.5%	14.5%
Public Utilities	0.2%	0.1%	0.4%	2.0%	3.8%	3.1%	6.7%
Other Services	0.5%	0.2%	0.1%	2.5%	1.9%	1.8%	4.7%
Total	0.2%	0.1%	1.7%	0.6%	1.7%	1.4%	4.3%

Source: CAPHAS

(5) Resource Balance at Current Prices

Year	(million LE)											
	1975	1976	1977	1978	1979	1980/81	1981/82	1982/83	1983/84	Growth (Pa) 1975-83/84		
Resources												
GDP at Market Prices	5,246.6	6,704.6	8,209.9	9,787.5	12,610.2	18,041.2	20,290.5	24,634.4	27,595.2	21.6%	21.6%	
GDP at Factor Cost	5,061.3	6,164.2	7,399.9	9,013.2	12,067.7	17,015.1	19,571.0	22,155.6	25,557.0	21.0%	21.0%	
Net Indirect Taxes	185.3	540.4	810.0	774.3	542.5	1,026.1	719.5	2,478.8	2,038.2	32.6%	32.6%	
Resource Gap (Import-Export)	922.2	720.8	802.6	1,370.5	2,072.1	1,132.1	2,365.6	1,990.4	2,565.9	12.8%	12.8%	
Imports *	1,886.3	1,871.8	2,575.1	3,315.5	5,420.6	8,360.4	8,175.6	8,088.7	8,701.1	19.7%	19.7%	
Exports *	964.1	1,151.0	1,772.5	1,945.0	3,348.5	7,228.3	5,810.0	6,098.3	6,135.2	24.3%	24.3%	
Total Resources	6,168.8	7,425.4	9,012.5	11,158.0	14,682.3	19,173.3	22,656.1	26,624.8	30,161.1	20.5%	20.5%	
Uses												
Final Consumption	4,445.0	5,536.5	6,613.7	8,104.1	10,382.3	14,020.4	16,076.1	19,039.8	21,868.1	20.6%	20.6%	
Public	1,344.1	1,571.4	1,696.8	1,840.6	2,044.1	2,940.4	3,584.0	4,154.0	4,131.0	14.3%	14.3%	
Private	3,100.9	3,965.1	4,916.9	6,263.5	8,338.2	11,080.0	12,492.1	14,885.8	17,677.1	22.7%	22.7%	
Gross Investment	1,723.8	1,888.9	2,398.8	3,053.9	4,300.0	5,152.9	6,580.0	7,585.0	8,293.0	20.3%	20.3%	
Fixed Capital Formation	1,265.3	1,450.1	1,838.3	2,637.8	3,707.0	4,887.0	6,150.0	7,201.0	7,720.0	23.7%	23.7%	
Public												
Private												
Change in Stocks	458.5	438.8	560.5	416.1	593.0	265.9	430.0	384.0	573.0	2.7%	2.7%	
Total Uses	6,168.8	7,425.4	9,012.5	11,158.0	14,682.3	19,173.3	22,656.1	26,624.8	30,161.1	20.5%	20.5%	
Gross Domestic Saving	802	1,168	1,596	1,683	2,228	4,021	4,214	5,595	5,727	26.0%	26.0%	

(5) (Continued)

Year	1975	1976	1977	1978	1979	1980/81	1981/82	1982/83	1983/84
Resources									
GDP at Market Prices	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
GDP at Factor Cost	96.5%	91.9%	90.1%	92.1%	95.7%	94.3%	96.5%	89.9%	92.6%
Net Indirect Taxes	3.5%	8.1%	9.9%	7.9%	4.3%	5.7%	3.5%	10.1%	7.4%
Resource Gap (Import- Exports * Export)	17.6%	10.8%	9.8%	14.0%	16.4%	6.3%	11.7%	8.1%	9.3%
Imports *	36.0%	27.9%	31.4%	33.9%	43.0%	46.3%	40.3%	32.8%	31.5%
Exports *	18.4%	17.2%	21.6%	19.9%	26.6%	40.1%	28.6%	24.8%	22.2%
Total Resources	117.6%	110.8%	109.8%	114.0%	116.4%	106.3%	111.7%	108.1%	109.3%
Uses									
Final Consumption	84.7%	82.6%	80.6%	82.8%	82.3%	77.7%	79.2%	77.3%	79.2%
Public	25.6%	23.4%	20.7%	18.8%	16.2%	16.3%	17.7%	16.9%	15.2%
Private	59.1%	59.1%	59.9%	64.0%	66.1%	61.4%	61.6%	60.4%	64.1%
Gross Investment	32.9%	28.2%	29.2%	31.2%	34.1%	28.6%	32.4%	30.8%	30.1%
Fixed Capital Formation	24.1%	21.6%	22.4%	27.0%	29.4%	27.1%	30.3%	29.2%	28.0%
Public									
Private									
Change in Stocks	8.7%	6.5%	6.8%	4.3%	4.7%	1.5%	2.1%	1.6%	2.1%
Total Uses	117.6%	110.8%	109.8%	114.0%	116.4%	106.3%	111.7%	108.1%	109.3%
Gross Domestic Saving	15.3%	17.4%	19.4%	17.2%	17.7%	22.3%	20.8%	22.7%	20.8%

Note: *Imports and Exports include trade of goods and non-factor services.
Source: MOP and Central Bank of Egypt.

6.5 International Balance of Payments

(1) Balance of Payments-Current Account

(million US\$)

Year	1974	1975	1976	1977	1978	1979	1980/81	1981/82	1982/83	1983/84
Trade balance	-1,800	-2,733	-2,490	-2,764	-3,440	-4,216	-5,078	-4,965	-5,126	-5,180
Exports (F.O.B.)	1,818	1,875	2,169	2,346	2,558	2,857	3,985	4,144	3,555	3,900
Imports (C.I.F.)	-3,618	-4,608	-4,659	-5,110	-5,998	-7,073	-9,063	-9,109	-8,681	-9,080
Services (net)	162	217	1,040	1,245	2,025	2,798	3,464	2,605	3,815	4,309
Receipts	709	1,080	1,977	2,552	3,446	4,854	6,455	6,156	7,377	8,020
Suez Canal	0	85	311	428	514	589	780	909	957	1,000
Worker's remittances	189	366	755	897	1,761	2,445	2,855	2,082	3,166	3,900
Tourism	265	332	464	728	702	475	512	393	304	300
Others	255	297	447	499	469	1,345	2,308	2,772	2,950	2,820
Payments	-547	-863	-937	-1,307	-1,421	-2,056	-2,991	-3,551	-3,562	-3,711
Current Account Balance	-1,638	-2,516	-1,450	-1,519	-1,415	-1,418	-1,614	-2,360	-1,311	-871

Source: Ministry of Finance, Central Bank of Egypt and IMF.

(2) The Balance of Trade Between Egypt and Foreign Countries at Current Prices

('000 LE)

Year	Exports	Imports	Difference + or -
1952	150,172	227,698	-77,526
1976	595,450	1,490,108	-894,658
1977	668,478	1,884,278	-1,215,800
1978	679,754	2,632,180	-1,952,426
1979	1,287,813	2,686,212	-1,398,399
1980	2,132,178	3,401,999	-1,269,821
1981	2,262,982	6,187,486	-3,924,504
1982	2,184,122	6,354,517	-4,170,395
1983	2,250,295	7,192,657	-4,942,362
1984	2,197,934	7,536,067	-5,338,133

Source: CAPMAS

(3) Exports of Principal Commodities

Exports ('000 LE)	1977	1978	1979	1980	1981	1982	1983	1984	Growth(pa) 77-84(%)
Petroleum Oil Crude	119,124	140,671	396,490	123,280	1,230,530	1,211,240	1,070,660	1,030,511	36.1%
Raw Cotton	182,268	131,523	267,277	296,372	319,964	286,021	308,775	340,062	9.3%
Cotton Yarn	68,614	89,613	130,098	135,871	108,603	86,625	137,142	154,350	12.3%
Cotton Fabrics	24,539	27,161	41,012	26,723	23,524	15,802	28,311	37,701	6.3%
Made up Clothes	15,124	13,591	14,996	17,738	15,717	14,348	12,596	5,669	-13.1%
Shale Oils Other than Crude	29,606	41,375	115,500	98,095	85,741	96,618	98,516	81,229	15.5%
Unraught Aluminium	0	29,019	32,116	35,090	77,803	46,237	5,823	1,753	-37.4**1
Sugar Cane Refined	10,249	7,228	8,894	3,014	10,422	6,172	5,532	0	-9.8**2
Oranges	21,350	20,741	14,410	27,239	32,980	36,835	50,660	53,473	14.0%
Rice	23,378	19,882	22,072	24,648	29,825	8,129	4,955	15,761	-5.5%
Potatoes	16,404	5,784	18,812	22,744	17,928	28,762	41,436	25,569	6.5%
Sections of Aluminium	12,528	3,908	31,035	15,269	14,413	34,708	61,064	90,757	32.7%
Total(including others)	668,478	679,754	1,287,813	2,132,178	2,262,982	2,184,122	2,250,295	2,197,934	18.5%

Share of Total Exports (%)	1977	1978	1979	1980	1981	1982	1983	1984
Petroleum Oil Crude	17.8%	20.7%	30.8%	5.8%	54.4%	55.5%	47.6%	46.9%
Raw Cotton	27.3%	19.3%	20.8%	13.9%	14.1%	13.1%	13.7%	15.5%
Cotton Yarn	10.3%	13.2%	10.1%	6.4%	4.8%	4.0%	6.1%	7.0%
Cotton Fabrics	3.7%	4.0%	3.2%	1.3%	1.0%	0.7%	1.3%	1.7%
Made up Clothes	2.3%	2.0%	1.2%	0.8%	0.7%	0.7%	0.6%	0.3%
Shale Oils Other than Crude	4.4%	6.1%	9.0%	4.6%	3.8%	4.4%	4.4%	3.7%
Unraught Aluminium	0.0%	4.3%	2.5%	1.6%	3.4%	2.1%	0.3%	0.1%
Sugar Cane Refined	1.5%	1.1%	0.7%	0.1%	0.5%	0.3%	0.2%	0.0%
Oranges	3.2%	3.1%	1.1%	1.3%	1.5%	1.7%	2.3%	2.4%
Rice	3.5%	2.9%	1.7%	1.2%	1.3%	0.4%	0.2%	0.7%
Potatoes	2.5%	0.9%	1.5%	1.1%	0.8%	1.3%	1.8%	1.2%
Sections of Aluminium	1.9%	0.6%	2.4%	0.7%	0.6%	1.6%	2.7%	4.1%
Total(including others)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: *1 1978-1984

*2 1977-1983

Source: CAPHAS

(4) Imports of Principal Commodities

Imports ('000 LE)	1977	1978	1979	1980	1981	1982	1983	1984	Growth(pa) 77-84(%)
Wheat	128,604	169,001	174,340	308,890	531,202	492,235	347,638	375,865	16.6%
Wheat Flour	49,368	74,799	68,419	71,720	250,819	192,187	205,588	271,909	27.6%
Maize	30,010	37,974	31,346	71,346	219,864	210,101	142,034	174,186	28.6%
Heat Chilled/Frozen	22,904	34,610	49,495	118,739	208,619	157,023	100,504	196,386	35.9%
Dairy Products	26,144	49,019	49,171	78,106	150,852	117,233	158,719	165,742	30.2%
Sugar Refined	16,768	40,628	34,862	84,742	164,419	98,302	54,670	54,999	18.5%
Truck	55,122	111,365	102,611	117,768	221,959	168,696	190,729	253,863	24.4%
Automobiles	53,466	73,347	83,688	83,542	83,107	177,938	215,335	197,494	20.5%
Parts for Motor Vehicles	39,621	83,506	84,488	44,580	161,140	165,271	199,387	186,039	24.7%
Iron for Construction	18,631	29,920	99,933	180,394	152,231	172,192	180,020	225,725	42.8%
Machinery	35,922	61,458	67,544	78,103	95,109	132,673	109,482	52,768	5.6%
Chemicals	64,069	69,839	52,629	86,091	130,138	122,307	138,212	190,117	16.8%
Cement	25,693	44,452	99,001	103,996	164,910	250,129	321,489	312,375	42.9%
Total(including others)	1,884,278	2,632,180	2,686,212	3,401,999	6,187,486	6,354,517	7,192,657	7,536,067	21.9%
Share of Total Imports (%)	1977	1978	1979	1980	1981	1982	1983	1984	
Wheat	6.8%	6.4%	6.5%	9.1%	8.6%	7.7%	4.8%	5.0%	
Wheat Flour	2.6%	2.8%	2.5%	2.1%	4.1%	3.0%	2.9%	3.6%	
Maize	1.6%	1.4%	1.2%	2.1%	3.6%	3.3%	2.0%	2.3%	
Heat Chilled/Frozen	1.2%	1.3%	1.8%	3.5%	3.4%	2.5%	1.4%	2.6%	
Dairy Products	1.4%	1.9%	1.8%	2.3%	2.4%	1.8%	2.2%	2.2%	
Sugar Refined	0.9%	1.5%	1.3%	2.5%	2.7%	1.5%	0.8%	0.7%	
Truck	2.9%	4.2%	3.8%	3.5%	3.6%	2.7%	2.7%	3.4%	
Automobiles	2.8%	2.8%	3.1%	2.5%	1.3%	2.8%	3.0%	2.6%	
Parts for Motor Vehicles	2.1%	3.2%	3.1%	1.3%	2.6%	2.6%	2.8%	2.5%	
Iron for Construction	1.0%	1.1%	3.7%	5.3%	2.5%	2.7%	2.5%	3.0%	
Machinery	1.9%	2.3%	2.5%	2.3%	1.5%	2.1%	1.5%	0.7%	
Chemicals	3.4%	2.7%	2.0%	2.5%	2.1%	1.9%	1.9%	2.5%	
Cement	1.4%	1.7%	3.7%	3.0%	2.7%	3.9%	4.5%	4.1%	
Total(including others)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

Source: CAPHAS

6.6 Excessive Centralization in Cairo and Alexandria

(1) Centralization Ratios

Area	Greater Cairo					Suez	Egypt Total
	Cairo	Giza	Kalyubia	Total	Alexandria		
Population ('000)	5,777.0 13.6%	2,845.0 6.7%	1,963.0 4.6%	10,585.0 24.9%	2,635.0 6.2%	230.0 0.5%	42,553.0 100.0%
Labour Force ('000)	1,571.2 14.7%	718.3 6.7%	487.9 4.6%	2,777.4 25.9%	727.8 6.8%	58.2 0.5%	10,720.8 100.0%
Investment * (million LE)	878.2 17.2%	186.3 3.6%	159.4 3.1%	1,223.9 23.9%	462.2 9.0%	87.0 1.7%	5,111.0 100.0%
Industrial Output (million LE)	1,944.3 20.9%	23.6 0.3%	31.0 0.3%	1,998.9 21.5%	1,162.3 12.5%	49.5 0.5%	9,313.7 100.0%

Note: * Investment by public sector

Source: CAPMAS

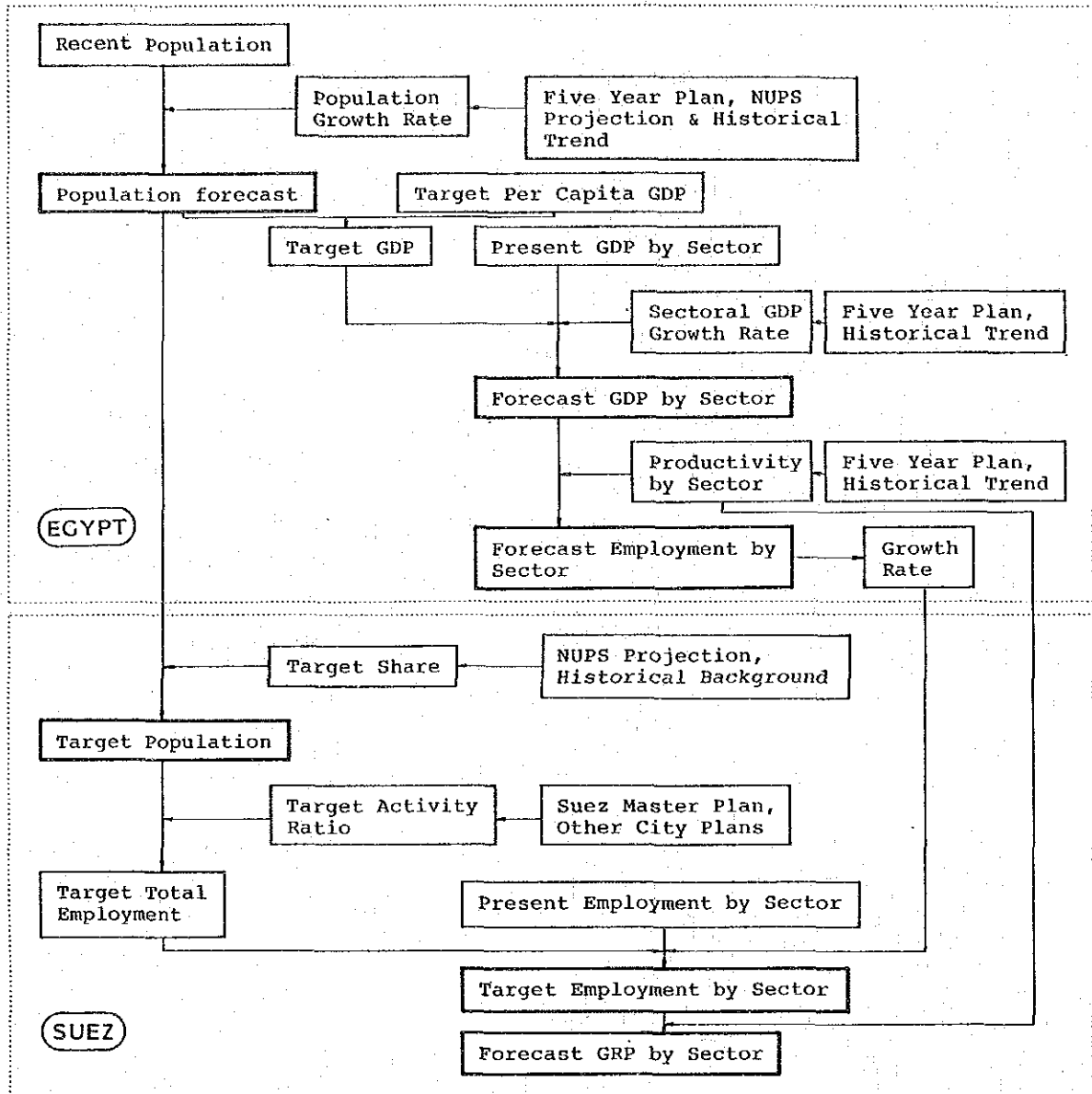
(2) Population Density

City	Year	Population ('000)	Area (sq.km)	Density (/sq.km)
Tokyo	1981	8,335	592.4	14,070
Bangkok	1981	5,350	1,565.2	3,418
G. London	1978	6,918	1,601.0	4,321
New York	1980	7,071	1,479.0	4,781
Mexico City	1980	9,373	786.6	11,916
Cairo	1982	5,785	214.2	27,007

Source: Tokyo Metropolitan Government, Statistics of World Large Cities, 1983.

6.7 Future Prospects

(1) Detailed Procedure of Forecast



(2) NUPS Projections

1) Demographic Projections: NUPS

(‘000)

	1985	1990	1995	2000
Total Population				
High	48,041	54,754	62,174	70,331
Medium	47,745	53,811	60,347	67,493
Low	47,303	52,806	58,540	64,652
Urban Population	22,500	26,600	31,400	37,000
Medium (%)	(47.1)	(49.4)	(52.0)	(54.8)
Labour Force	14,319	16,292	18,589	21,236
Medium (%)	(30.0)	(30.3)	(30.8)	(31.5)

2) NUPS Recommendations

Settlement Zone	Total Urban 1976	Total Urban 2000	Urban Change 1976 ~ 2000
Cairo	6,843,000	16,500,000	9,657,000
Alexandria	2,319,000	5,500,000	3,181,000
Canal	630,000	2,089,000	1,459,000
Delta	3,668,000	6,952,000	3,284,000
Northern Upper Egypt	983,000	1,821,000	838,000
Southern Upper Egypt	1,488,000	3,748,000	2,260,000
Remote Areas	151,800	400,000	248,200
Read Sea	56,400	110,000	53,600
New Valley	34,400	100,000	65,600
Sinai	10,000	100,000	90,000
Matruh	51,000	90,000	39,000
Total Urban	16,082,800	37,010,000	20,927,200

3) Special Emphasis Cities (Population 1976 ~ 2000)

Settlement Zone	Urban Pop. 1976	Urban Pop. 2000	Change 1976 - 2000
Special Emphasis for Growth Encouragement (Excluding Alex.)			
Port Said	262,600	650,000	387,000
Ismailia	147,000	500,000	353,000
Suez	190,200	850,000	659,800
Assiut	213,900	600,000	386,100
Naga Hamadi	19,800	175,000	155,200
Qena	93,800	225,000	131,200
Aswan	144,400	450,000	305,600
Special Emphasis for Growth Management			
Tanta	285,000	575,000	290,000
Mansoura	258,000	550,000	292,000

(3) Target Growth Rate of Productivity by Sector

Sector	Growth (pa) 1987-2005	Five Year Plan (Pa) 1982/83-1984/87
Agriculture	1.5%	2.2%
Industry*	5.6%	5.6%
Utilities*2	3.2%	6.0%
Construction	2.8%	2.1%
Transportation	2.4%	0.4%
Commerce & Finance	1.4%	1.4%
Housing	1.8%	0.6%
Other Services	5.4%	6.2%
Total	4.3%	4.4%

Note: * 1 Industry consists of manufacturing mining and petroleum.
 * 2 Utilities consists of electricity and other public utilities.
 This definition of sector is adopted at (3) - (13).

Source: The Study Team estimates, based on Five Year Plan and historical trend of productivity.

(4) Sectoral Productivity at 1981/82 Prices in Egypt

Sector	(LE)							Growth (pa) 76-82/83	
	Year	1976	1977	1978	1979	1980/81	1981/82		1982/83
Agriculture		834	802	840	870	918	881	900	1.2%
Industry		2,378	2,799	3,025	3,162	3,560	3,589	3,799	7.4%
Utilities		1,135	1,238	1,117	1,277	1,070	1,365	1,404	3.3%
Construction		856	1,015	1,121	1,055	1,091	1,369	1,396	7.8%
Transportation		2,025	1,796	2,064	2,772	3,182	3,962	4,062	11.3%
Commerce & Finance		1,463	1,557	1,734	1,992	2,202	3,242	3,377	13.7%
Housing		1,715	1,844	1,945	1,974	2,108	2,177	2,239	4.2%
Other Services		1,096	1,097	950	863	888	1,009	972	-1.8%

Source: The study team calculations based on the data provided by CAPMAS

(5) Sectoral Projection of Productivity at 1981/82 Prices in Egypt

Sector	(LE)					
	Year	1985/86	1990/91	1995/96	2000/01	2005/06
Agriculture		960	1,042	1,122	1,209	1,302
Industry		4,463	5,868	7,717	10,149	13,347
Utilities		1,672	2,010	2,353	2,754	3,224
Construction		1,485	1,694	1,944	2,232	2,563
Transportation		4,111	4,538	5,109	5,753	6,477
Commerce & Finance		3,521	3,768	4,032	4,313	4,615
Housing		2,280	2,463	2,693	2,944	3,219
Other Services		1,164	1,524	1,978	2,568	3,335
Total		1,970	2,444	3,020	3,739	4,632

Source: The Study Team estimates.

(6) Sectoral Projection of Labour Force in Egypt

('000)

Sector \ Year	1985/86	1990/91	1995/96	2000/01	2005/06	Growth (pa) 1987-2005
Agriculture	4,477	4,817	5,184	5,579	6,003	1.5%
Industry	1,829	2,169	2,514	2,915	3,379	3.0%
Utilities	160	202	254	319	400	4.7%
Construction	832	1,036	1,266	1,546	1,889	4.1%
Transportation	601	755	897	1,066	1,267	3.5%
Commerce & Finance	1,415	1,837	2,386	3,099	4,024	5.4%
Housing	224	283	347	425	520	4.1%
Other Services	3,897	4,157	4,428	4,717	5,024	1.3%
Total	13,435	15,257	17,276	19,664	22,507	2.6%

Source: The Study Team estimates.

(7) Target Sectoral GDP Growth Rate in Egypt

Sector	Growth (pa) 1987-2005
Agriculture	3.0%
Industry	8.8%
Utilities	8.0%
Construction	7.0%
Transportation	6.0%
Commerce & Finance	6.8%
Housing	6.0%
Other Services	6.7%
Total	7.0%

Source: The Study Team estimates.

(8) Projection of Sectoral GDP at 1981/82 Prices

(million LE)

Sector \ Year	1985/86	1990/91	1995/96	2000/01	2005/06
Agriculture	4,299	5,018	5,817	6,743	7,817
Industry	8,161	12,728	19,404	29,582	45,100
Utilities	268	406	597	878	1,289
Construction	1,236	1,755	2,461	3,451	4,841
Transportation	2,473	3,424	4,583	6,133	8,207
Commerce & Finance	4,982	6,923	9,619	13,366	18,572
Housing	510	698	934	1,250	1,673
Other Services	4,537	6,334	8,760	12,115	16,755
GDP at Factor Cost	26,466	37,285	52,175	73,518	104,254

Source: The Study Team estimates.

(9) Projection of Sectoral Labour Force in Suez

('000)

Sector \ Year	1985/86	1990/91	1995/96	2000/01	2005/06	Growth (pa) 1986-2005
Agriculture	5.4	5.8	6.3	6.7	7.3	1.5%
Industry	24.3	36.2	56.0	86.5	133.6	9.1%
Utilities	0.9	1.5	2.5	4.1	6.9	10.8%
Construction	7.1	11.1	18.1	29.5	48.0	10.2%
Transportation	8.3	12.9	20.4	32.3	51.1	9.6%
Commerce & Finance	6.9	11.3	19.5	33.7	58.3	11.6%
Other Services	14.0	19.1	27.1	38.5	54.7	7.3%
Total	67.0	97.9	149.8	231.4	360.0	9.0%
Population ('000)	249	343	473	653	900	6.6%
Labour/Pop. (%)	26.9%	28.5%	31.7%	35.5%	40.0%	
Suez/Egypt (%)	0.5%	0.6%	0.9%	1.2%	1.6%	

Source: The Study Team estimates.

(10) Sectoral Composition of Labour Force in Suez

(%)

Sector \ Year	1985/86	1990/91	1995/96	2000/01	2005/06
Agriculture	8.1	5.9	4.2	2.9	2.0
Industry	36.3	37.0	37.4	37.4	37.1
Utilities	1.4	1.5	1.7	1.8	1.9
Construction	10.6	11.4	12.1	12.7	13.3
Transportation	12.3	13.1	13.6	13.9	14.2
Commerce & Finance	10.3	11.5	13.0	14.6	16.2
Other Services	20.9	19.5	18.1	16.7	15.2
Total	100.0	100.0	100.0	100.0	100.0

Source: The Study Team estimates.

(11) Projection of Sectoral Gross Regional Product in Suez at 1981/82 Prices

(million LE)

Sector \ Year	1985/86	1990/91	1995/96	2000/01	2005/06	Suez/Egypt Share (%)	Growth (pa) 1986-2005
Agriculture	5.2	6.1	7.0	8.1	9.4	0.1%	3.5%
Industry	108.4	212.7	432.1	877.9	1,783.7	4.0%	15.2%
Utilities	1.6	3.0	5.8	11.4	22.4	1.7%	14.4%
Construction	10.6	18.8	35.2	65.8	123.1	2.5%	13.3%
Transportation	34.0	58.4	104.1	185.7	331.1	4.0%	12.3%
Commerce & Finance	24.4	42.4	78.5	145.4	269.2	1.4%	13.1%
Other Services	16.3	29.1	53.7	99.0	182.4	1.1%	13.0%
Total	200.4	370.5	716.5	1,393.3	2,721.3	2.6%	14.2%

Source: Study Team estimates.

(12) Estimated Sectoral Employment by Area in 1985

('000)

Sector \ Area	City of Suez	Ataqa-Adabiya	El-Sadat & Ain Sukhna	Sub Total	Ras Sudr & Other	Total
Agriculture & Fishing	5.4	N.A.	N.A.	5.4	N.A.	5.4
Manufacturing	16.1	7.5	0.8	24.4	N.A.	24.4
Construction	7.1	—	0	7.1	N.A.	7.1
Utility	0.6	0.3	0	0.9	N.A.	0.9
Transport & Communication	8.3	N.A.	0	8.3	N.A.	8.3
Commerce & Finance	6.9	N.A.	0	6.9	N.A.	6.9
Service & Others	14.0	N.A.	0	14.0	N.A.	14.0
Total	58.4	7.8	0.8	67.0	N.A.	67.0

Note: The number of employment is estimated based on the historical employment statistics of Suez and the questionnaire survey for existing factories in Suez that was conducted by the Study Team on July, 1985.

(13) Projected Sectoral Employment by Area in 1995

('000)

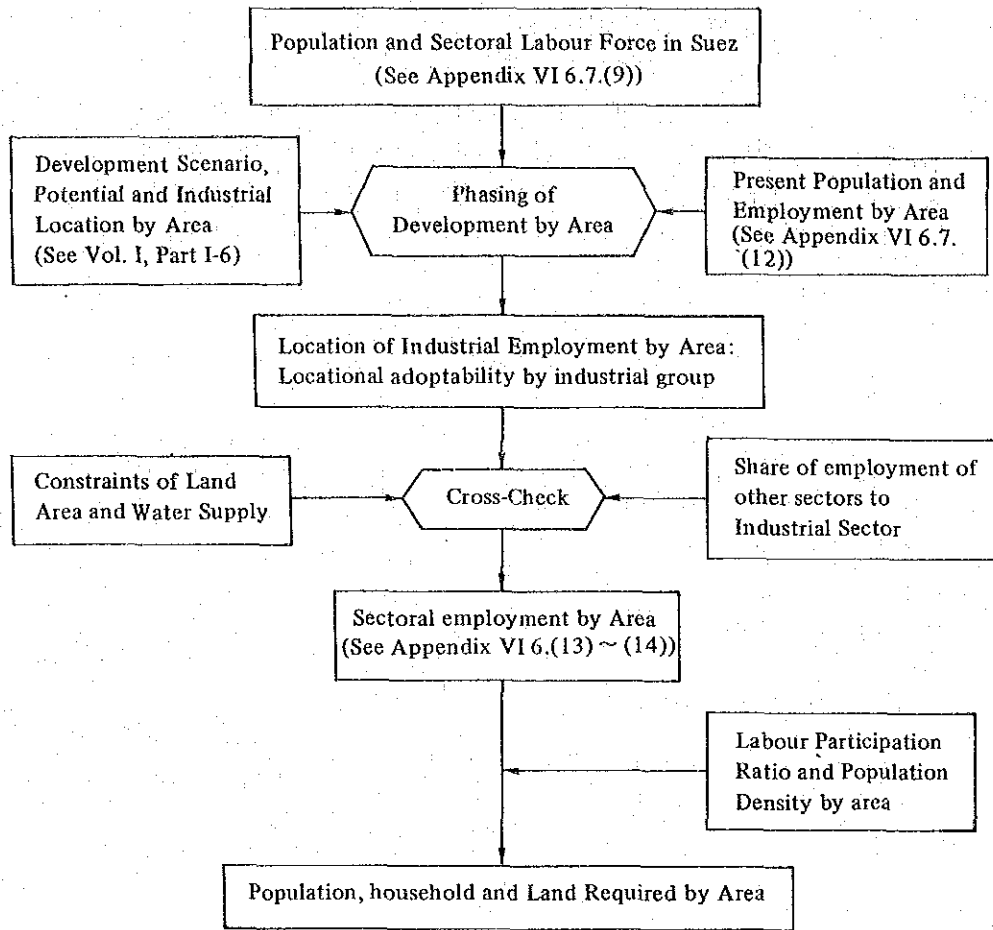
Sector \ Area	Suez	Ataqa Adabiya	El-Sadat & Ain-Sukhna	Sub-Total	Rus-Sudr & Other	Total
Agriculture	4.4	1.6	—	6.0	0.3	6.3
Industry	24.0	29.8	1.9	55.7	0.3	56.0
Construction	13.1	4.0	0.9	18.0	0.1	18.1
Utilities	1.1	0.7	—	1.8	0.7	2.5
Transportation	18.1	2.0	—	20.1	0.3	20.4
Commerce & Finance	14.0	1.3	1.7	17.0	2.5	19.5
Other Services	24.9	0.5	1.2	26.6	0.5	27.1
Total	99.6	39.9	5.7	145.2	4.7	149.9
Population ('000)	407.6	30.0	14.4	452.0	21.0	473.0

(14) Projected Sectoral Employment and Land Required in 2005

('000)

Sector \ Area	Suez	Ataqa Adabiya	El-Sadat & Ain-Sukhna	Sub-Total	Rus-Sudr & Other	Total
Agriculture	4.4	2.0	0.5	6.9	0.4	7.3
Industry	31.0	60.1	40.6	131.7	2.0	133.7
Construction	29.1	4.0	14.1	47.2	0.8	48.0
Utilities	2.4	0.7	1.8	4.9	2.0	6.9
Transportation	38.2	2.0	10.0	50.2	0.9	51.1
Commerce & Finance	32.7	2.0	14.3	49.0	9.3	58.3
Other Services	29.9	1.1	19.1	50.1	4.6	54.7
Total	167.7	71.9	100.4	340.0	20.0	360.0
Population (000)	565.0	35.0	250.0	850.0	25.0	900.0
Land Required (ha)	4,439	996	2,918	8,353	333	8,686
Density (Pop./ha)	250	40	86	102	75	104

(15) Forecasting Procedure of Population and Employment by each Area



6.8 Housing

The National Housing Plan was developed under the Ministry of Housing in 1979, and includes a construction program for 1981 through 1985 with a projected construction of 675 thousand units at a total cost of LE 7.5 billion (at 1979 prices).

This plan proposed that the public sector share of housing construction would be 26 percent. About 40 percent of the plan's projected costs would be comprised of housing and local community services. The plan projected that about 40 percent of financing for construction would have to be derived from foreign aid and grants.

The outline of the plan is as follows:

(at 1979 Constant Prices)

Program	1981 ~ 1985
Number of Housing Units	
Total ('000)	675
Public Sector Share	26%
Total Cost of Plan (million LE)	7,348 (100%)
Housing Cost (including Community Services)	3,243 (44%)
Infrastructure (Water, Sewers, Electricity, Roads, Transport)	2,180 (30%)
Construction Equipment	600 (8%)
Investment, Building Materials Industry	1,325 (18%)
Source of Funds	
(Foreign Currency as % of Total)	40%
G.D.P. at Market Price (million LE)	69,585
Total Cost as % of G.D.P.	10.6%
Housing and Infrastructure as % of G.D.P.	7.8%

Source: National Housing Plan of 1979

APPENDIX VII

– Utilities –

- 1. Water Supply**
- 2. Sewerage**
- 3. Power Supply**
- 4. Solid Waste Disposal**

7.1 Water Supply

(1) General

In this study, the requirement of each customer, i.e., customer demand, is first obtained. Water requirement at the intake points, i.e., source demand, is then estimated considering the water treatment (filtration) plant use and unaccounted for water use including leakage as follows:

$$SD = CD / ((1 - UA \text{ ratio}) \times (1 - TP \text{ ratio}))$$

where,

UA ratio = Unaccounted for Water/Treatment Plant Output

TP ratio = Water used for Treatment Plant/Intake Water Volume

The UA ratio and TP ratio are assumed as 0.15 and 0.05, respectively based on the records for SCA water supply from 1975 to 1984 and the data for advanced countries in recent years, giving thought to the expected improvement in the proposed water supply system as well as its operation and management.

(2) Domestic Water Demand

Domestic water demand, in this study, comprises residential demand, public (government) and commercial demand and green area irrigation requirements which are estimated as follows in terms of customer demand:

Residential = Population × Unit Water Use per Capita

Public & Commercial = Number of Employees in Tertiary Sector × Unit Water Use per Employee

Irrigation = Hecterage of Green Area × Unit Irrigation Requirement per ha

Unit water use per capita is assumed at 160 l/cap/day in 2005 based on the projection made in the Suez Water Facilities Master Plan, 1979 considering that the ongoing expansion scheme for water supply in Suez city is being implemented basically following the line of its proposals. The figure for 1995 is estimated as 150 l/cap/day based on the assumed figure in 2005 and the actual figure in 1978, 137 l/cap/day, assuming a linear increase during the 1978 ~ 2005 period. No historical record is available for public and commercial water use per employee in the tertiary sector in the Study area, and no reliable projection for it is available in the past studies. The unit water use for the target years is assumed as 285 l/employee/day referring to the figure in Japan in around 1970 when the ratio of tertiary sector employment to total employment was at the same level as is expected in the Study Area in the target years.

Unit irrigation water use for green areas is assumed at $75 \text{ m}^3/\text{ha}/\text{day}$ based on the current practice in Egypt.

In the Ataqqa-Adabiya area, the domestic water demand is estimated for residential areas and centers in the industrial and IFZ zones according to the proposed land use plans in order to design the water distribution system as well as the sewerage system in the area as given in Section 1.2.6, Vol. III.

(3) Industrial Water Demand

Industrial water demand is defined as the water use required for producing manufactured products including cooling, processing, washing and boiler use. Net fresh water use which is equal to the volume of water to be supplied from the water source is estimated per hectare by manufacturing industry group deducting recyclic water use mainly for cooling. Considering the expected introduction of advanced water-saving manufacturing systems and devices, net water use per ha in the Study Area in 1995 and 2005 is assumed equal to the level in Japan in the early 1980's.

In the Ataqqa-Adabiya area, water demand is estimated for each block in the Ataqqa IE and Adabiya IFZ as shown in Figs. 7.1.1 and 7.1.2 in order to design the water distribution systems as well as the sewerage systems in these zones. The projected water demand for the blocks in the zones is shown in Table 7.1.1.

(4) Port Water Demand

Water demand at the ports is estimated as follows:

$$\text{Port Water Demand} = \text{Number of Ships} \times \text{Unit Water Use per Ship} + \text{Washing Water for Coal Quay}$$

Unit water use per ship is assumed as 218 m^3 , considering the ship supply record for the port of Suez in 1983/84 and historical data in Japan as well as the type and size of the ships projected to enter the ports in the target years. The washing water requirement for the coal quay is estimated based on the unit water use per m^2 and the area of the quay. The coal quay area to be washed will be $30,000 \text{ m}^2$ in 1995 and will double in 2005. The unit water use per m^2 is assumed as 0.033 m^3 .

Table 7.1.1 Industrial Water Demand in Ataqa – Adabiya Area (1995)

(m³/day)

Block	Avg. Day (C.D.)	Max. Day	Peak Hour	S.D.
Industrial Estate				
AAN1 (IA)	2,040	2,652	2,652	
" (IB)	1,747	2,271	2,271	
" (IC)	1,456	1,893	1,893	
" (ID)	2,604	3,385	3,385	
" (IE)	1,612	2,096	2,096	
" (IF)	1,612	2,096	2,096	
" (IG)	2,604	3,385	3,385	
" (IH)	1,850	2,405	2,405	
" (II)	3,155	4,102	4,102	
" (IJ)	3,494	4,542	4,542	
" (IK)	8,070	10,491	10,491	
" (IL)	2,309	3,002	3,002	
Sub Total	32,553	42,320	42,320	40,313
Industrial Free Zone				
AAC (IA)	409	532	532	
" (IB)	136	177	177	
" (IC)	106	138	138	
" (ID)	676	879	879	
" (IE)	79	103	103	
" (IF)	264	343	343	
" (IG)	330	429	429	
Sub Total	2,000	2,601	2,601	2,476
Total	34,553	44,921	44,921	42,789

Note: Avg. Day : Accumulated customer demand (C.D.) in terms of average day demand
 Max. Day : Max. day demand = Avg. day x 1.3
 S.D. : Accumulated demand in terms of average day demand at intake point
 No hourly fluctuation is assumed for industrial water demand.

Fig. 7.1.1.1 Ataqa-Adabiya Industrial Estate (Phase 1)

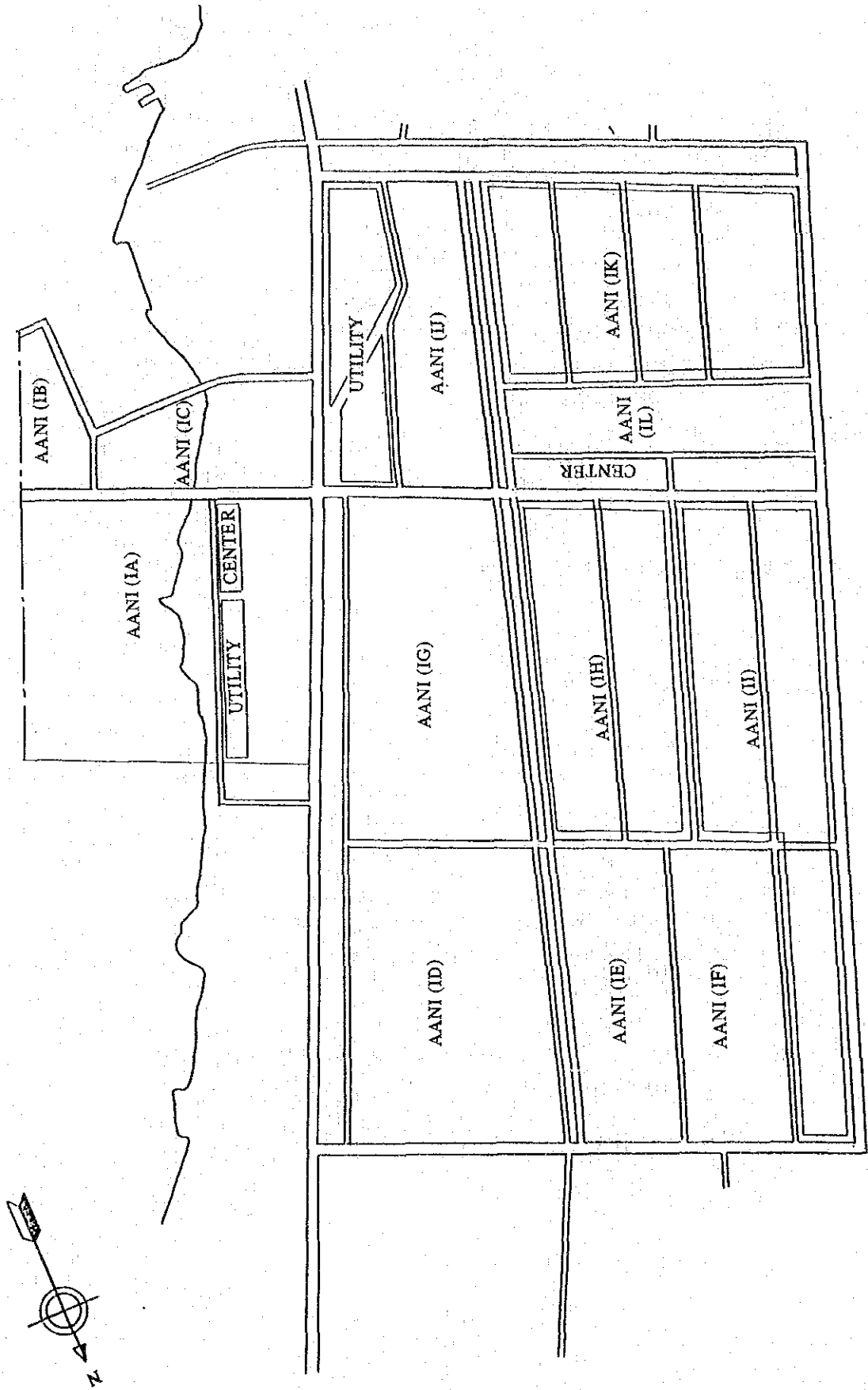
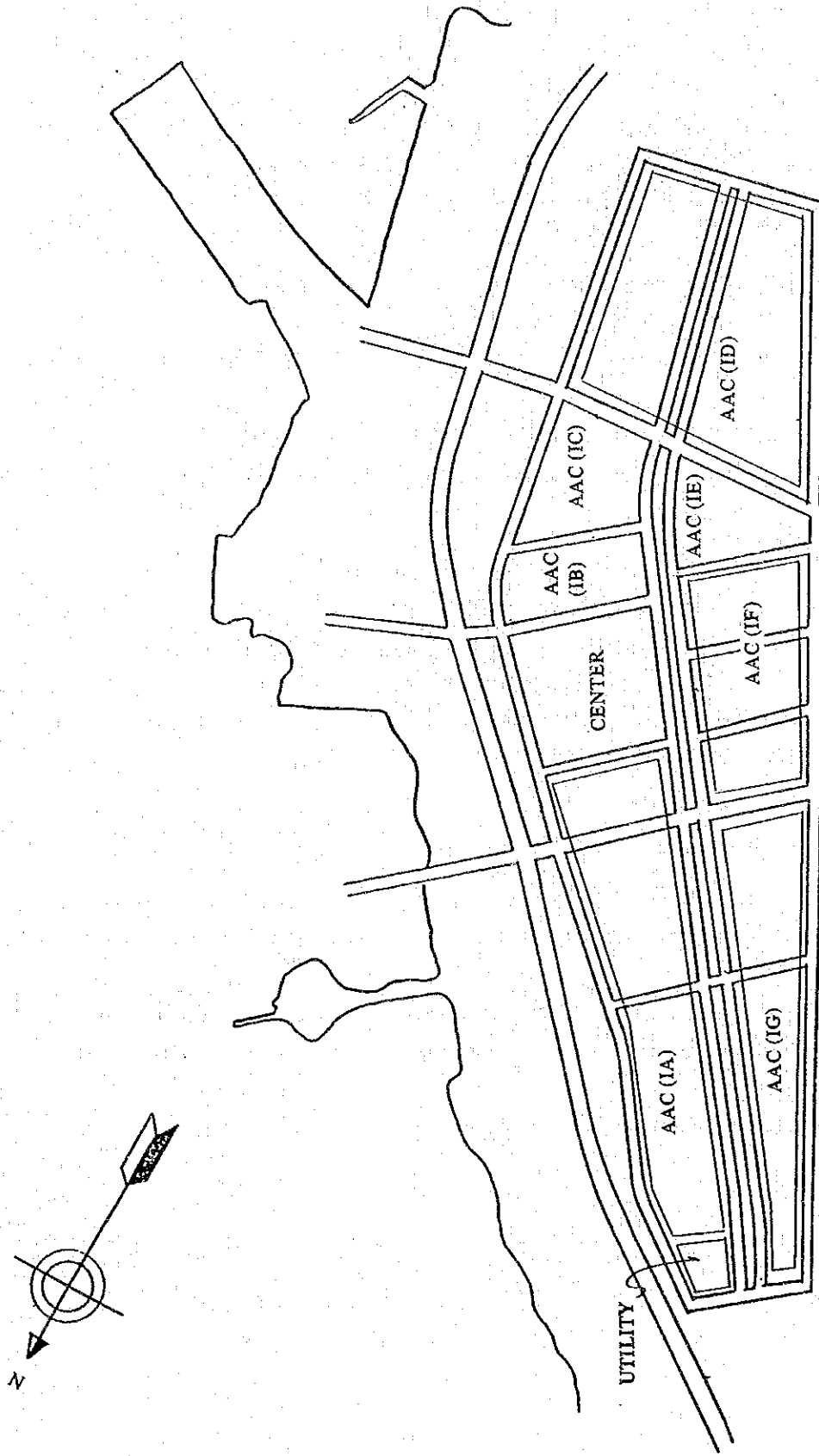


Fig. 7.1.2 Ataqa-Adabiya Industrial Free Zone (Phase 1)



(5) Tourism Water Demand

Tourism water demand comprising water use in hotels and irrigation water use for the green spaces attached to hotels is estimated assuming unit water use per guest by type of hotel and unit green space per guest.

The following figures are assumed based on the standards set in the Tenth of Ramadan new town plan and the figures adopted in the previous studies including Suez Canal Regional Tourism Plan, 1979 and Structure Plan for Suez Governorate, 1980.

Unit Water Use per Tourist:	500 ℓ/day for international and second class hotels, 250 ℓ/day for villas and bungalows and 50 ℓ/day for beach cabins.
Irrigation area requirement per tourist:	20 m ²
Irrigation water requirement:	10 ℓ/m ² /day

7.2 Sewerage

Sewage discharge is estimated based on the projected water use and assumed discharge rate as well as the rate of infiltration of groundwater into the sewers.

No record is available for the discharge rate in the Study Area. No groundwater infiltration data are obtainable, either. The following figures adopted in the Suez Wastewater Facilities Master Plan, 1979 are assumed, therefore, for estimating the expected sewage and wastewater discharge in the area:

Discharge ratio:	80% of the water consumed by users
Infiltration ratio:	10% of the average day discharge from the users

In the Ataq-Adabiya area, sewage and wastewater discharge is estimated for Industrial and IFZ zones as well as for residential areas as given in Section 1.2.6, Vol. III.

In the Ataq IE and Adabiya IFZ, wastewater discharge is estimated for each block as shown in Fig. 7.1.1 and 7.1.2 in order to design the sewerage system in these zones.

The estimated discharge for the blocks is shown in Table 7.2.1.

Table 7.2.1 Industrial Wastewater Discharge in Ataqā – Adabiya Area (1995)

(m³/day)

Block	Sewage	Infiltration	Avg. Day	Max. Day
Industrial Estate				
AAN1 (IA)	1,632	163	1,795	2,285
" (IB)	1,398	140	1,538	1,957
" (IC)	1,165	117	1,282	1,632
" (ID)	2,083	208	2,291	2,916
" (IE)	1,290	129	1,419	1,806
" (IF)	1,290	129	1,419	1,806
" (IG)	2,083	208	2,291	2,916
" (IH)	1,480	148	1,628	2,072
" (II)	2,524	252	2,776	3,533
" (IJ)	2,795	279	3,075	3,913
" (IK)	6,456	646	7,102	9,039
" (IL)	1,847	185	2,032	2,586
Sub Total	26,043	2,604	28,647	36,461
Industrial Free Zone				
AAC (IA)	327	33	360	458
" (IB)	109	11	120	153
" (IC)	85	9	94	120
" (ID)	541	54	595	757
" (IE)	63	6	69	88
" (IF)	211	21	232	295
" (IG)	264	26	290	369
Sub Total	1,600	160	1,760	2,240
Total	27,643	2,764	30,407	38,701

Note: Sewage : Average day water demand in terms of customers demand (C.D.) × 0.8

Infiltration : Sewage × 0.1

Avg. Day : Sewage + Infiltration

Max. Day : Sewage × 1.3 + Infiltration

7.3 Power Supply

(1) General

Power demand is projected for the Study Area for the target years of 1995 and 2005. The demand is categorized as follows:

- Domestic
- Industrial
- Port
- Tourism

Electricity energy demand is first estimated under these categories. Based on the assumed load factor, power demand is then obtained.

(2) Domestic Power Demand

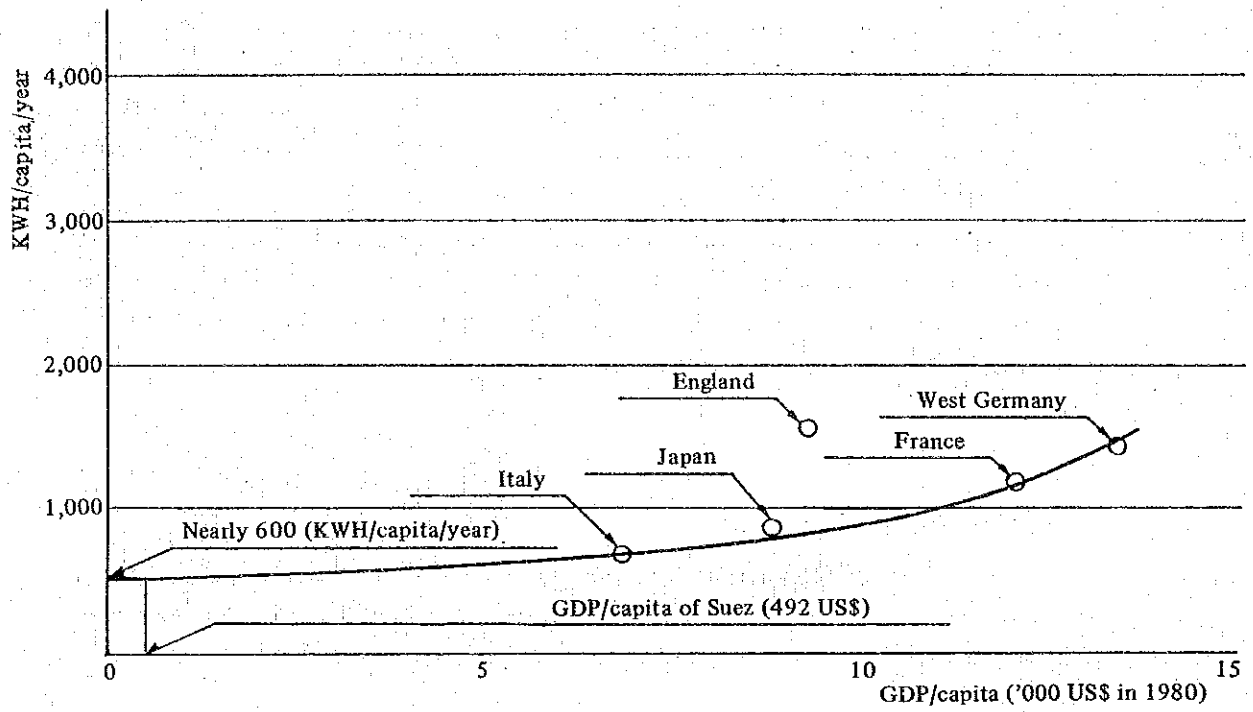
Domestic power demand comprises residential, public (governmental) and commercial demands. Unit residential power demand per capita is forecast at 600 KWH in 2000 based on the target figure for Tenth of Ramadan City which is 560 KWH in 2002. The assumed figure is checked against the figures in the advanced countries considering the per capita GDP-per capita electricity consumption relation as shown in Fig. 7.3.1, and judged reasonable.

The figure in 1995 is estimated based on the target figure of 70 KWH/capita, assuming a linear increase during the 1980 ~ 2005 period.

In the Five Year Plan (1981/82 ~ 86/87), it is planned that the electricity consumption of the public and commercial sector will be about half of that of residential use in the last year of the plan period. Public and commercial electricity consumption per capita in this study is assumed, therefore, at 50% of that of residential use.

In the Ataq-Adabiya area, the domestic power demand is estimated for residential areas and centers in the industrial and IFZ zones according to the proposed land use in order to work out the electricity distribution system in the area as given in Section 1.2.6, Vol. III.

Fig. 7.3.1 Per Capita GDP – Per Capita Electricity Consumption Relation



(3) Industrial Power Demand

Electric energy demand is estimated based on the net area and the energy density of each industrial group. Considering the current energy use per ha of the industries in the Suez Area and the expected improvement of productivity per ha, the energy density of Japan in the early 1980's is applied for estimating the energy demand for the Study Area in 1995 and 2005. To estimate power demand, the annual load factor of each industrial group in the same period in Japan is applied.

In the Ataq-Adabiya area, power demand is estimated for each block in the Ataq IE and Adabiya IFZ as shown in Figs. 7.1.1 and 7.1.2 in order to work out the electricity distribution system in the area. The projected power demand for the blocks in the zones is shown in Table 7.3.1.

(4) Port Power Demand

Port power demand comprising loading and unloading facilities use, lighting and other uses is estimated based on the capacity of the facilities and the floor area of the buildings. In estimating the power demand, an annual load factor of 0.64 is applied.

(5) Tourism Power Demand

Electric energy demand is estimated based on the floor area of the tourist accommodation facilities including hotels, villas and bungalows and energy density per ha of floor area. Energy density is assumed at 3,680 MWH/ha/year based on the current figures in Egypt and the data of Japan. To estimate power demand, an annual load factor of 0.60 is used.

**Table 7.3.1 Industrial Electric Power Demand in Ataqā —
Adabiya Area (1995)**

Block	GWH/year	MW
Industrial Estate		
AAN1 (IA)	17.1	5.0
" (IB)	18.7	5.3
" (IC)	10.1	2.9
" (ID)	95.6	27.3
" (IE)	27.6	6.3
" (IF)	27.6	6.3
" (IG)	95.7	27.3
" (IH)	31.7	7.2
" (II)	18.7	5.3
" (IJ)	26.7	6.6
" (IK)	10.1	2.9
" (IL)	16.7	4.3
Sub Total	396.3	106.7
Industrial Free Zone		
AAC (IA)	5.9	1.7
" (IB)	1.7	0.5
" (IC)	4.7	1.4
" (ID)	19.9	5.7
" (IE)	2.6	0.6
" (IF)	13.9	4.0
" (IG)	4.7	1.3
Sub Total	53.4	15.2
Total	449.7	121.9

Note: Power demand is shown in terms of maximum day demand.

7.4 Solid Waste

Projection of Future Generation Rate of Household & Street Waste.

The elasticity of the solid waste generation rate with regard to GNP per capita or individual income is estimated to be 0.7 ~ 0.8 as shown in the figures below.

The growth rate of the GDP per capita in Egypt is forecast in the chapter on socio-economy as 4.7%/year.

The future solid waste generation rate can be estimated in combination with the generation rate of 330 g/person·day (p·d) in 1980 and the growth rate of GDP and elasticity as shown below.

$$\text{Generation Rate 1995} = 330 \text{ g/d}\cdot\text{p} \times (1.047)^{15} \times (0.7 \sim 0.8) = 500 \text{ g/d}\cdot\text{p}$$

$$\text{Generation Rate 2005} = 320 \times (1.047)^{25} \times (0.7 \sim 0.8) = 800$$

Fig. 7.4.1 Elasticity of Solid Waste Generation Rate with Regard to Individual Income (1970)

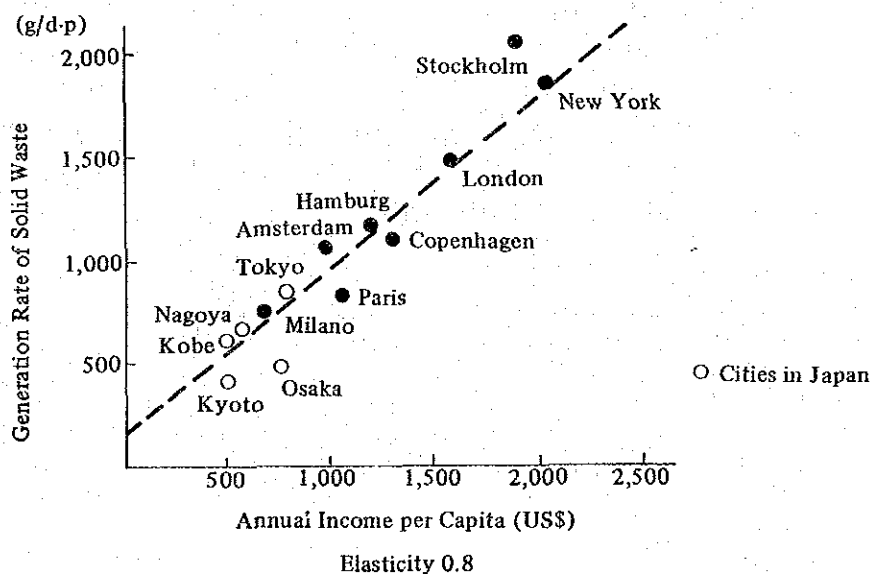
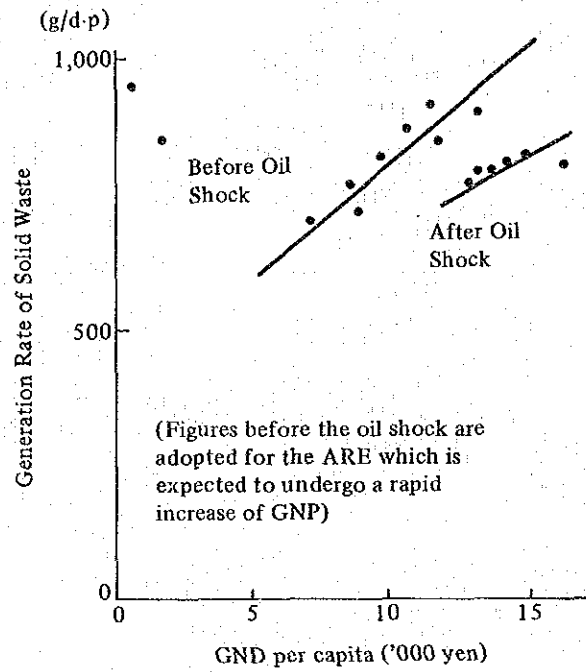


Fig. 7.4.2 Elasticity of Solid Waste Generation Rate with Regard to GNP in Japan



$$\frac{\text{Generation Rate ('73)}}{\text{Generation Rate ('65)}} = 1.28$$

$$\frac{\text{GNP ('73)}}{\text{GNP ('65)}} = 1.88$$

} Elasticity 0.7

APPENDIX VIII ECONOMIC ANALYSIS

- 1. Cargo Demand Forecast**
- 2. Berth Occupancy Rate**
- 3. Cargo Throughput by Item in the "With" Case**
- 4. Ship Cost**
- 5. Berth Waiting Cost**
- 6. Transportation Costs of Trucks at Economic Prices**
- 7. Coal Ship Cost Comparison between "With" and "Without" Cases**
- 8. Flow Chart for Estimation of Value Added arising from Industry**
- 9. Contribution Ratio of Investment in Infrastructures**

8.1 Cargo Demand Forecast

('000 tons)

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99
Cargo Throughput													
Wheat	607	669	737	813	897	989	1,090	1,202	1,326	1,462	1,516	1,571	1,639
Wheat (Bagging)	147	163	179	198	218	240	265	292	322	355	394	409	424
Fertilizer	51	45	40	34	28	23	17	11	6	0	0	0	0
Rice	5	5	6	8	9	11	13	15	18	21	23	24	26
Sugar	3	5	7	11	17	27	42	64	100	153	165	176	188
Salt/Sulphur	3	5	6	7	8	10	11	12	14	15	15	16	16
Cotton	4	5	5	6	7	7	8	9	11	12	12	12	12
Paper/Pulp	2	4	5	7	10	15	21	31	44	63	66	69	72
Iron Ore	109	152	196	240	283	327	370	414	457	501	518	535	553
Bulk Cargo Total	177	221	265	313	363	419	482	557	649	767	799	832	867
Coal	0	0	0	0	0	0	1,083	1,135	1,190	1,248	1,308	1,372	1,438
Timber	24	28	33	38	44	50	58	67	78	90	98	107	117
Iron & Steel	89	97	106	116	127	139	152	166	181	198	209	220	232
Heavy Equipment & Car	8	9	10	11	12	14	15	17	19	21	22	23	25
Special Cargo Total	121	134	148	165	183	203	225	250	278	309	329	350	373
General Cargo													
Import	484	515	548	582	619	659	701	745	793	843	898	956	1,018
Export	114	119	124	130	135	141	147	154	160	167	194	225	262
General Cargo Total	599	634	672	712	755	800	848	899	953	1,010	1,092	1,182	1,280
Container Cargo													
Containerization Ratio	16.4%	16.9%	17.5%	18.0%	18.5%	19.0%	19.5%	20.1%	20.6%	21.1%	21.5%	22.1%	22.7%
Full Container (TEU)	9,828	10,744	11,734	12,806	13,964	15,216	16,569	18,030	19,608	21,311	23,006	25,161	29,011
Empty Container (TEU)	6,071	7,389	8,139	8,956	9,846	10,815	11,870	13,017	14,264	15,216	16,180	17,143	17,143
Container Total (TEU)	15,899	18,133	19,873	21,762	23,810	26,031	28,439	31,047	33,872	36,527	39,186	42,304	46,154
Vanning	19	20	22	23	25	27	29	31	33	35	42	50	59
Devanning	79	87	96	105	115	125	137	149	163	178	194	212	231
General Cargo (ex. Container)	500	527	555	584	615	648	682	718	757	797	856	920	990
Grand Total	1,508	1,658	1,823	2,003	2,197	2,410	3,729	4,043	4,396	4,796	5,044	5,307	5,588

8.1 (continued)

('000 tons)

	'99/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
1,689	1,751	1,815	1,991	1,950	2,022	2,096	2,173	2,253	2,335	2,421	2,510	2,602	2,697	2,796	2,899	3,005	
439	455	472	489	507	526	545	565	586	607	629	653	676	701	727	754	781	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
28	31	33	36	39	42	45	49	52	57	61	66	71	77	83	89	96	
201	214	228	243	259	277	295	315	336	358	382	407	434	463	494	526	561	
16	16	17	17	17	18	18	18	19	19	19	20	20	20	21	21	22	
12	11	11	11	11	11	11	11	11	11	11	11	10	10	10	10	10	
76	79	83	87	91	95	100	105	110	115	120	126	132	138	145	152	159	
571	591	610	631	652	673	696	719	743	768	794	820	848	876	905	936	967	
904	942	983	1,025	1,069	1,116	1,165	1,216	1,270	1,327	1,387	1,449	1,515	1,585	1,658	1,734	1,815	
1,508	1,581	1,657	1,737	1,821	1,910	2,002	2,099	2,200	2,307	2,419	2,536	2,658	2,787	2,922	3,063	3,212	
128	139	152	166	181	197	215	235	256	279	305	332	363	396	432	471	514	
244	257	271	286	301	317	334	352	371	391	412	434	457	482	507	535	563	
26	27	29	31	32	34	36	38	40	42	45	47	50	53	55	58	62	
398	424	452	482	514	548	585	624	667	712	761	813	869	930	994	1,064	1,139	
1,085	1,155	1,230	1,310	1,396	1,486	1,583	1,686	1,796	1,912	2,037	2,169	2,310	2,461	2,621	2,791	2,973	
304	353	411	477	554	644	748	869	1,010	1,173	1,363	1,583	1,839	2,137	2,482	2,884	3,350	
1,389	1,509	1,641	1,787	1,950	2,130	2,331	2,555	2,805	3,085	3,399	3,752	4,149	4,597	5,103	5,675	6,323	
23.2%	23.7%	24.2%	24.7%	25.3%	25.8%	26.3%	26.8%	27.3%	27.9%	28.4%	28.9%	29.4%	29.9%	30.5%	31.0%	31.5%	
32,194	35,754	39,743	44,220	49,251	54,916	61,305	68,524	76,694	85,956	96,475	108,441	122,077	137,641	155,434	175,808	199,172	
18,090	19,002	19,854	20,616	21,253	21,719	21,960	21,911	21,490	20,603	19,132	16,941	13,863	9,599	4,214	2,874	1,899	
50,284	54,756	59,597	64,836	70,504	76,635	83,288	90,435	98,184	106,558	115,507	125,382	135,939	147,340	159,648	178,682	211,070	
71	84	99	118	140	166	197	233	276	327	387	458	541	640	756	893	1,055	
251	274	298	324	353	383	416	452	491	533	578	627	680	737	798	865	936	
1,067	1,151	1,243	1,345	1,457	1,581	1,718	1,870	2,038	2,226	2,435	2,668	2,929	3,221	3,549	3,917	4,331	
5,887	6,206	6,547	6,913	7,305	7,726	8,179	8,668	9,195	9,767	10,387	11,060	11,794	12,595	13,473	14,435	15,493	

8.2 Berth Occupancy Rate

	No. of Berth	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/07	1997/98	1998/99	1999/2000	2000/01		
(%)														
With Case														
Bulk Cargo Berths	2	27.5%	31.7%	36.5%	42.2%	49.2%	58.1%	60.5%	63.0%	63.0%	63.0%	63.0%		
Grain Berth	1	17.4%	19.2%	19.2%	21.1%	23.3%	25.7%	26.6%	27.6%	28.6%	29.7%	30.8%		
Coal Berth	1			33.5%	35.1%	36.8%	38.6%	40.4%	42.1%	44.1%	46.6%	48.9%		
General Cargo Berths	6(7:00/01-92/93)	68.2%	62.6%	66.4%	62.9%	66.3%	69.8%	71.0%	71.0%	74.9%	74.9%	74.9%		
Special Cargo Berth	1			22.0%	22.0%	24.4%	27.2%	28.9%	30.8%	32.9%	35.0%	37.3%		
Multi-Purpose Berths	2			22.7%	22.7%	24.7%	27.0%	29.4%	48.0%	53.3%	53.3%	53.3%		
Without Case														
General Cargo Berth	7	78.1%	84.2%	90.8%	90.8%	90.8%	90.8%	90.8%	90.8%	90.8%	90.8%	90.8%		

2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%
31.9%	33.1%	34.3%	35.5%	36.8%	38.2%	39.6%	41.0%	42.5%	44.1%	45.7%	47.4%	49.1%	50.9%	52.8%
51.2%	53.7%	56.3%	56.3%	56.3%	56.3%	56.3%	56.3%	56.3%	56.3%	56.3%	56.3%	56.3%	56.3%	56.3%
74.9%	74.9%	74.9%	74.9%	74.9%	74.9%	74.9%	74.9%	74.9%	74.9%	74.9%	74.9%	74.9%	74.9%	74.9%
39.7%	42.4%	45.2%	48.2%	51.4%	54.8%	58.6%	58.6%	58.6%	58.6%	59.6%	59.6%	59.6%	59.6%	59.6%
53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%	53.3%
90.8%	90.8%	90.8%	90.8%	90.8%	90.8%	90.8%	90.8%	90.8%	90.8%	90.8%	90.8%	90.8%	90.8%	90.8%

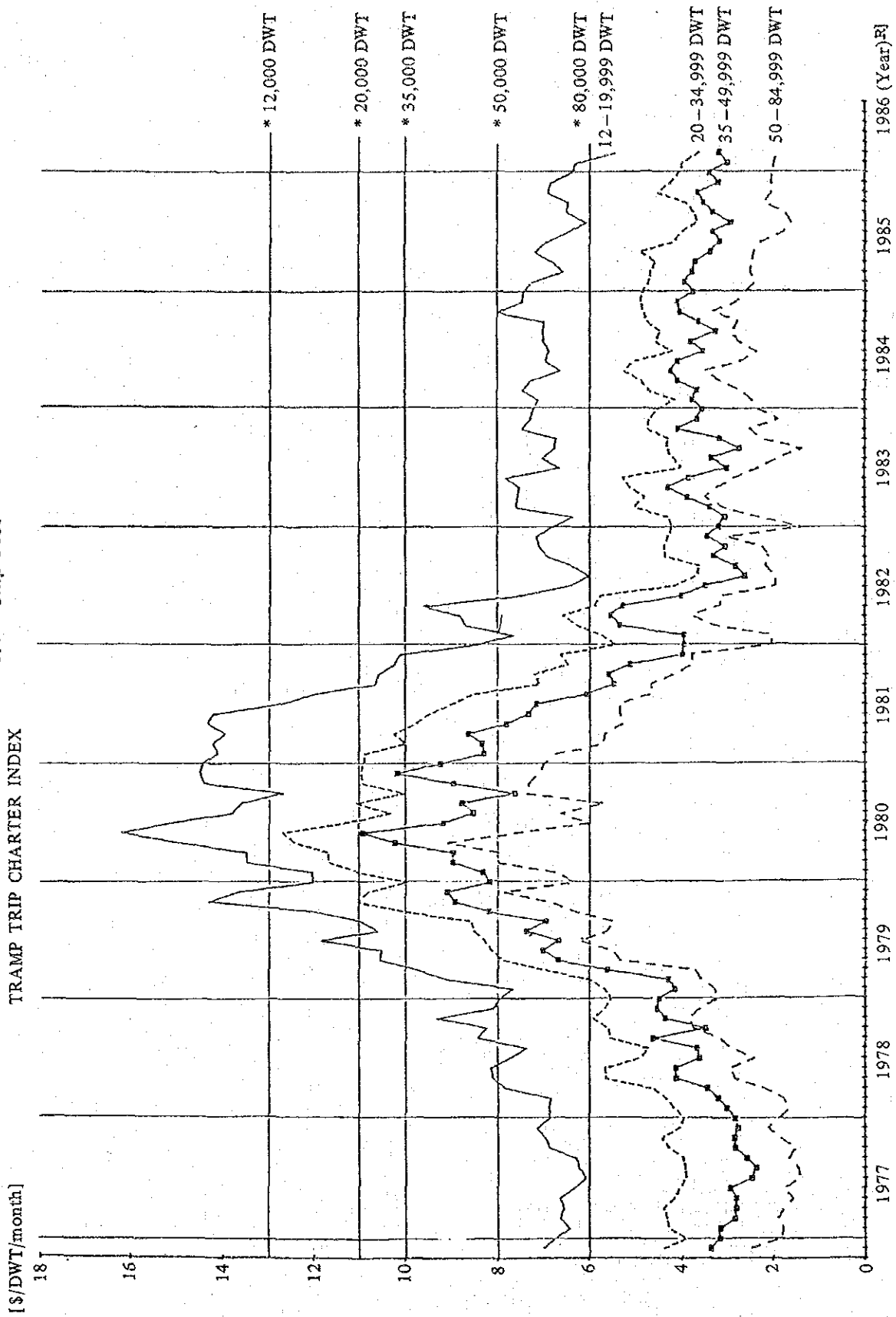
8.3 Cargo Throughput by Item in the "With" Case

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000
Cargo Throughput('000Tons)														
Grain Berth						989	1,090	1,202	1,326	1,492	1,516	1,571	1,629	1,689
Wheat (Bagging)						240	265	292	322	355	394	409	424	439
Fertilizer					28	23	17	11	6	0	0	0	0	0
Rice					9	11	13	15	18	21	23	24	26	26
Sugar					17	27	42	64	100	155	165	176	188	201
Salt/Sulphur					8	10	11	12	14	15	15	16	16	16
Cotton					7	7	8	9	11	12	12	12	12	12
Paper/Pulp					10	15	21	31	44	63	66	69	72	76
Iron Ore					283	327	370	414	457	501	518	535	553	571
Bulk Cargo Berth					363	419	482	557	649	787	799	832	867	904
Coal Berth	0	0	0	0	0	0	1,093	1,135	1,190	1,248	1,308	1,372	1,438	1,508
Timber		28	33	38	44	50	58	67	78	90	98	107	117	128
Iron & Steel		97	106	119	127	139	152	166	181	198	209	220	232	244
Heavy Equipment & Car		9	10	11	12	14	15	17	19	21	22	23	25	26
Special Cargo Berth		134	148	165	183	203	225	250	278	309	329	350	373	398
General Cargo Berth	1,503	1,524	1,675	1,838	1,652	800	848	899	953	1,010	1,092	1,182	1,280	1,280
General Cargo Total														
Container Cargo														
Full Container (TEU)								18,030	19,608	21,311	23,606	26,161	29,011	29,011
Empty Container (TEU)								11,870	13,017	14,264	15,215	16,180	17,143	17,143
Container Total(TEU)								29,899	32,624	35,575	38,822	42,341	46,154	46,154
Vanilias								31	33	35	42	50	59	59
Devannings								149	163	178	194	212	231	231
General Cargo (ex. Container)	1,503	1,524	1,675	1,838	1,652	800	848	848	718	797	856	920	990	990
Grand Total ('000Tons)	1,503	1,658	1,823	2,003	2,197	2,410	3,729	4,043	4,996	4,796	5,044	5,307	5,588	5,778
Total except Coal	1,503	1,658	1,823	2,003	2,197	2,410	2,648	2,908	3,206	3,548	3,735	3,935	4,150	4,270

8.3 (Continued)

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
1.751	1.815	1.881	1.950	2.022	2.095	2.173	2.253	2.335	2.421	2.510	2.602	2.697	2.796	2.899	3.005	
455	472	489	507	526	545	565	586	607	629	653	676	701	727	754	781	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
31	33	36	36	36	36	36	36	36	36	36	36	36	36	36	36	
214	228	243	243	243	243	243	243	243	243	243	243	243	243	243	243	
16	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	
11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	
79	83	87	87	87	87	87	87	87	87	87	87	87	87	87	87	
591	610	631	631	631	631	631	631	631	631	631	631	631	631	631	631	
942	983	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	
1.581	1.657	1.737	1.821	1.910	2.002	2.099	2.200	2.307	2.419	2.536	2.656	2.786	2.936	3.106	3.296	
139	152	168	181	197	215	235	256	279	304	331	360	391	424	460	499	
257	271	286	301	317	334	352	371	391	412	434	457	481	506	532	559	
27	29	31	32	34	36	38	40	42	44	46	48	50	52	54	56	
424	452	482	514	548	585	624	667	714	764	817	874	934	997	1.064	1.134	
1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	
29.011	29.011	29.011	29.011	29.011	29.011	29.011	29.011	29.011	29.011	29.011	29.011	29.011	29.011	29.011	29.011	
17.143	17.143	17.143	17.143	17.143	17.143	17.143	17.143	17.143	17.143	17.143	17.143	17.143	17.143	17.143	17.143	
46.154	46.154	46.154	46.154	46.154	46.154	46.154	46.154	46.154	46.154	46.154	46.154	46.154	46.154	46.154	46.154	
59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	
231	231	231	231	231	231	231	231	231	231	231	231	231	231	231	231	
990	990	990	990	990	990	990	990	990	990	990	990	990	990	990	990	
5.978	6.187	6.406	6.591	6.785	6.988	7.202	7.425	7.654	7.892	8.137	8.389	8.648	8.914	9.187	9.466	
4.397	4.529	4.668	4.769	4.875	4.986	5.103	5.225	5.357	5.499	5.652	5.814	5.986	6.164	6.347	6.534	

8.4 Ship Cost



Source: General Council of British Shipping

8.5 Berth Waiting Cost

	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99
Bulk Cargo Berth									
Number of Berths	2	2	2	2	2	2	2	2	2
Cargo Throughput (DWT)	363	419	482	557	649	767	799	832	832
Ship Size (Tons/Vessel)	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Average Load (Days)	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Average Stay (Days)	5	5	5	5	5	5	5	5	5
Available Work Days	330	330	330	330	330	330	330	330	330
Lambda	0.110	0.127	0.146	0.169	0.197	0.232	0.242	0.252	0.252
Mu	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
Rho	0.275	0.317	0.365	0.422	0.492	0.581	0.605	0.630	0.630
No. of Vessels (Vessels/Year)	36	41	48	55	64	76	79	83	83
Total Length of Queue (Days/Year)	0.045	0.071	0.112	0.184	0.315	0.588	0.699	0.829	0.829
Total Waiting Time (Days)	14.7	23.0	36.9	59.8	102.6	192.3	228.0	272.9	272.9
Average Waiting Time (1000\$/Day)	0.41	0.56	0.77	1.09	1.60	2.53	2.89	3.29	3.29
Waiting Unit Cost per Ship (1000\$/Year)	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
Total Waiting Cost	109.0	170.1	272.9	442.8	759.4	1,422.9	1,687.0	2,019.5	2,019.5

	1999/2000	2000/01	2001/02	2002/03	2003/04	2015/16
2	2	2	2	2	2	2
832	832	832	832	832	832	832
20,000	20,000	20,000	20,000	20,000	20,000	20,000
10,000	10,000	10,000	10,000	10,000	10,000	10,000
5	5	5	5	5	5	5
330	330	330	330	330	330	330
0.252	0.252	0.252	0.252	0.252	0.252	0.252
0.200	0.200	0.200	0.200	0.200	0.200	0.200
0.630	0.630	0.630	0.630	0.630	0.630	0.630
83	83	83	83	83	83	83
0.829	0.829	0.829	0.829	0.829	0.829	0.829
272.9	272.9	272.9	272.9	272.9	272.9	272.9
3.29	3.29	3.29	3.29	3.29	3.29	3.29
7.4	7.4	7.4	7.4	7.4	7.4	7.4
2,019.5	2,019.5	2,019.5	2,019.5	2,019.5	2,019.5	2,019.5

8.5 (Continued)

	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99
Grain Berth									
Number of Berths									
Cargo Throughput ('000 Tons)	989	1,090	1,202	1,326	1,452	1,516	1,571	1,629	
Ship Size (DWT)	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	
Average Load (Tons/Vessel)	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	
Average Stay (Days)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	
Available Work Days (Days)	330	330	330	330	330	330	330	330	
Lambda	0.060	0.066	0.073	0.080	0.089	0.092	0.095	0.099	
Mu	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	
Rho	0.174	0.192	0.211	0.233	0.257	0.266	0.276	0.286	
No. of Vessels (Vessels/Year)									
Total Length of Queue	19	21	24	26	29	30	31	32	
Total Waiting Time (Days/Year)	0.037	0.045	0.057	0.070	0.090	0.097	0.105	0.116	
Average Waiting Time (Days)	11.62	14.40	18.73	22.68	29.39	31.71	34.10	37.43	
Waiting Unit Cost per Ship (1000\$/Day)	0.61	0.69	0.78	0.87	1.01	1.06	1.10	1.17	
Total Waiting Cost (1000\$/Year)	185.9	230.4	299.7	362.8	470.2	507.3	545.7	599.7	
1999/2000 2000/01 2001/02 2002/03 2003/04 2004/05 2005/06 2006/07 2007/08									
Grain Berth									
Number of Berths									
Cargo Throughput ('000 Tons)	1,689	1,751	1,881	1,950	2,022	2,096	2,173	2,253	
Ship Size (DWT)	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	
Average Load (Tons/Vessel)	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	
Average Stay (Days)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	
Available Work Days (Days)	330	330	330	330	330	330	330	330	
Lambda	0.102	0.106	0.110	0.118	0.123	0.127	0.132	0.137	
Mu	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	
Rho	0.297	0.308	0.319	0.331	0.343	0.355	0.368	0.382	
No. of Vessels (Vessels/Year)									
Total Length of Queue	33	35	37	39	40	41	43	45	
Total Waiting Time (Days/Year)	0.124	0.136	0.149	0.163	0.178	0.198	0.215	0.237	
Average Waiting Time (Days)	40.07	45.01	52.98	58.74	64.56	69.31	77.52	86.33	
Waiting Unit Cost per Ship (1000\$/Day)	1.21	1.29	1.36	1.43	1.51	1.61	1.80	1.92	
Total Waiting Cost (1000\$/Year)	641.1	720.2	847.7	939.8	1,033.0	1,103.9	1,240.4	1,381.2	
2008/09 2009/10 2010/11 2011/12 2012/13 2013/14 2014/15 2015/16									
Grain Berth									
Number of Berths									
Cargo Throughput ('000 Tons)	2,335	2,421	2,510	2,602	2,697	2,796	2,899	3,005	
Ship Size (DWT)	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	
Average Load (Tons/Vessel)	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	
Average Stay (Days)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	
Available Work Days (Days)	330	330	330	330	330	330	330	330	
Lambda	0.142	0.147	0.152	0.158	0.163	0.169	0.176	0.182	
Mu	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	
Rho	0.410	0.425	0.441	0.457	0.474	0.491	0.509	0.528	
No. of Vessels (Vessels/Year)									
Total Length of Queue	46	48	50	52	53	55	57	60	
Total Waiting Time (Days/Year)	0.268	0.317	0.347	0.388	0.424	0.471	0.532	0.590	
Average Waiting Time (Days)	93.71	103.63	114.22	127.79	137.40	152.89	172.84	194.86	
Waiting Unit Cost per Ship (1000\$/Day)	2.04	2.16	2.28	2.46	2.59	2.78	3.03	3.24	
Total Waiting Cost (1000\$/Year)	1,469.3	1,659.1	1,827.6	2,044.7	2,198.3	2,446.3	2,762.9	3,109.8	

8.5 (Continued)

	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99
Special Cargo Berth									
Number of Berths	1	1	1	1	1	1	1	1	1
Cargo Throughput ('000 Tons)	250	278	309	329	350	350	350	350	373
Ship Size (DWT)	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Average Load (Tons/Vessel)	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Average Stay (Days)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Available Work Days (Days)	330	330	330	330	330	330	330	330	330
Lambda	0.076	0.084	0.094	0.100	0.106	0.113	0.113	0.113	0.113
Mu	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345
Rho	0.220	0.244	0.272	0.289	0.308	0.328	0.328	0.328	0.328
No. of Vessels									
Total Length of Queue (Vessels/Year)	25	27	30	32	35	35	35	35	37
Total Waiting Time (Days/Year)	0.062	0.078	0.102	0.118	0.136	0.160	0.160	0.160	0.160
Average Waiting Time (Days)	20.6	25.1	32.7	38.0	45.0	52.3	52.3	52.3	52.3
Waiting Unit Cost Per Ship (\$1000\$/Day)	0.82	0.93	1.09	1.19	1.29	1.41	1.41	1.41	1.41
Total Waiting Cost (\$1000\$/Year)	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
	152.2	186.1	242.2	281.3	333.2	386.9	386.9	386.9	386.9
1999/2000									
1	1	1	1	1	1	1	1	1	1
398	424	452	482	514	548	585	624	667	667
20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
330	330	330	330	330	330	330	330	330	330
0.121	0.128	0.137	0.146	0.156	0.166	0.177	0.189	0.202	0.202
0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345
0.350	0.373	0.397	0.424	0.452	0.482	0.514	0.548	0.586	0.586
2001/02									
1	1	1	1	1	1	1	1	1	1
42	45	48	51	54	58	62	66	66	66
0.190	0.219	0.262	0.311	0.374	0.447	0.531	0.628	0.728	0.828
61.3	71.6	86.0	102.2	122.4	145.3	177.1	218.0	270.5	320.5
1.57	1.71	1.91	2.13	2.40	2.69	3.05	3.52	4.10	4.10
7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
453.9	530.1	636.7	756.1	905.6	1,075.3	1,310.7	1,613.0	2,001.9	2,001.9
2002/03									
1	1	1	1	1	1	1	1	1	1
482	482	482	482	482	482	482	482	482	482
20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
330	330	330	330	330	330	330	330	330	330
0.146	0.146	0.146	0.146	0.146	0.146	0.146	0.146	0.146	0.146
0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345
0.424	0.424	0.424	0.424	0.424	0.424	0.424	0.424	0.424	0.424
2003/04									
1	1	1	1	1	1	1	1	1	1
514	514	514	514	514	514	514	514	514	514
20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
330	330	330	330	330	330	330	330	330	330
0.156	0.156	0.156	0.156	0.156	0.156	0.156	0.156	0.156	0.156
0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345
0.452	0.452	0.452	0.452	0.452	0.452	0.452	0.452	0.452	0.452
2004/05									
1	1	1	1	1	1	1	1	1	1
548	548	548	548	548	548	548	548	548	548
20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
330	330	330	330	330	330	330	330	330	330
0.166	0.166	0.166	0.166	0.166	0.166	0.166	0.166	0.166	0.166
0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345
0.482	0.482	0.482	0.482	0.482	0.482	0.482	0.482	0.482	0.482
2005/06									
1	1	1	1	1	1	1	1	1	1
585	585	585	585	585	585	585	585	585	585
20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
330	330	330	330	330	330	330	330	330	330
0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177
0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345
0.514	0.514	0.514	0.514	0.514	0.514	0.514	0.514	0.514	0.514
2006/07									
1	1	1	1	1	1	1	1	1	1
624	624	624	624	624	624	624	624	624	624
20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
330	330	330	330	330	330	330	330	330	330
0.189	0.189	0.189	0.189	0.189	0.189	0.189	0.189	0.189	0.189
0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345
0.548	0.548	0.548	0.548	0.548	0.548	0.548	0.548	0.548	0.548
2007/08									
1	1	1	1	1	1	1	1	1	1
667	667	667	667	667	667	667	667	667	667
20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
330	330	330	330	330	330	330	330	330	330
0.202	0.202	0.202	0.202	0.202	0.202	0.202	0.202	0.202	0.202
0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345
0.586	0.586	0.586	0.586	0.586	0.586	0.586	0.586	0.586	0.586
2015/16									
1	1	1	1	1	1	1	1	1	1
66	66	66	66	66	66	66	66	66	66
0.828	0.828	0.828	0.828	0.828	0.828	0.828	0.828	0.828	0.828
270.5	270.5	270.5	270.5	270.5	270.5	270.5	270.5	270.5	270.5
4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10
7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
2,001.9	2,001.9	2,001.9	2,001.9	2,001.9	2,001.9	2,001.9	2,001.9	2,001.9	2,001.9

8.5 (Continued)

	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	2015/16
General Cargo Berth								
Number of Berths	7	7	7	6	6	6	6	6
Cargo Throughput ('000 Tons)	1,035	1,003	848	718	797	856	856	856
Ship Size (DWT)	3,327	1,612	1,825	20,000	20,000	20,000	20,000	20,000
Average Load (Tons/Vessel)	2,859	2,611	2,611	1,500	1,500	1,500	1,500	1,500
Average Stay (Days)	330	330	330	2,600	2,600	2,600	2,600	2,600
Available Work Days	1,671	1,678	1,781	1,451	1,529	1,610	1,729	1,729
Lambda	0.350	0.383	0.383	0.385	0.385	0.385	0.385	0.385
Mu	0.682	0.626	0.664	0.629	0.663	0.598	0.748	0.748
Rho								
No. of Vessels	522	554	588	478	531	570	570	570
Total Length of Queue	0.588	0.327	0.488	0.393	0.547	0.767	1.256	1.256
Total Waiting Time (Days/Year)	183.6	108.0	161.2	129.7	252.8	413.9	413.9	413.9
Average Waiting Time (Days)	0.35	0.19	0.27	0.27	0.36	0.48	0.73	0.73
Waiting Unit Cost per Ship (\$1000\$/Day)	7.6	7.4	7.4	7.4	7.4	7.4	7.4	7.4
Total Waiting Cost (\$1000\$/Year)	1,395.3	799.2	1,192.7	959.5	1,335.0	1,871.0	3,062.7	3,062.7
Multi-Purpose Berth								
Number of Berth	2	2	2	2	2	2	2	2
Cargo Throughput (TEU)	29,899	32,624	35,575	42,341	38,822	46,154	46,154	46,154
Container Cargo (DWT)	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Ship Size : G.Cargo (DWT)	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Average Load : Container (TEU)	300	300	300	300	300	300	300	300
Average Load : G.Cargo (Tons/Vessel)	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Average Stay (Days)	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Available Work Days	330	330	330	330	330	330	330	330
Lambda	0.302	0.330	0.359	0.392	0.392	0.426	0.466	0.466
Mu	0.667	0.667	0.667	0.667	0.667	0.667	0.667	0.667
Rho	0.227	0.247	0.270	0.294	0.270	0.489	0.533	0.533
No. of Vessels	99	108	118	129	129	183	200	200
Total Length of Queue	0.024	0.032	0.042	0.074	0.056	0.097	0.097	0.097
Total Waiting Time (Days/Year)	8.0	10.6	13.8	18.3	18.3	31.5	41.7	41.7
Average Waiting Time (Days)	0.08	0.10	0.12	0.14	0.14	0.17	0.21	0.21
Waiting Unit Cost of Ship (\$1000\$/Day)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Total Waiting Cost (\$1000\$/Year)	41.8	55.0	71.9	95.2	95.2	164.0	216.9	216.9

	1990/91	1991/92	1992/93	2015/16
Without Case (General Cargo Berth)				
Number of Berth	7	7	7	7
Cargo Throughput ('000 tons)	2,015	2,208	2,420	2,420
General Cargo ('000 tons)	183	203	225	225
Special Cargo ('000 tons)	2,198	2,411	2,645	2,645
Average Stay (Days)	3,022	3,044	3,065	3,065
Available Work Days	330	330	330	330
Lambda	1.809	1.836	2.074	2.074
Mu	0.331	0.329	0.326	0.326
Rho	0.781	0.842	0.908	0.908
No. of Vessels	597	639	684	684
Total Length of Queue	1.593	3.078	7.324	7.324
Total Waiting Time (Days/Year)	526	1,016	2,415.3	2,415.3
Average Waiting Time (days)	0.88	1.59	3.53	3.53
Waiting Unit Cost per Ship (\$1000\$/day)	7.7	7.7	7.7	7.7
Total Waiting Cost (\$1000\$/year)	4,049.0	7,823.3	18,598.0	18,598.0

8.6 Transportation Cost of Trucks at Economic Prices

According to the following two tables, the costs per ton.km of trucks are estimated as follows:

8 ton Trucks (Paved 60 km/h) : $302.2 \text{ LE} \div 8 \text{ ton} \div 1,000 \text{ km} = 37.8 \text{ MME/ton-km}$

20 ton Trucks (Paved 60 km/h): $424.7 \text{ LE} \div 20 \text{ ton} \div 1,000 \text{ km} = 21.2 \text{ MME/ton-km}$

8 ton Trucks 90% + 20 ton Trucks 10%: $37.8 \times 0.9 + 21.2 \times 0.1 = 36 \text{ MME/ton-km}$

Truck 8T

Economic Costs, LE per 1,000 kms

Cost Item	Urban	Paved				Gravel
	20	40	60	80	100	40
Fuel	57.9	47.3	44.6	50.0	60.1	59.0
Engine Oil	6.5	5.4	5.4	5.4	5.4	6.0
Tyres	10.6	22.2	36.8	50.2	57.7	44.2
Maintenance – parts	22.3	18.5	19.8	22.3	24.8	24.1
– labour	12.0	10.0	10.7	12.0	13.3	13.1
Total Variable Costs	89.3	94.4	117.3	139.9	161.3	146.4
Capital Costs	147.0	99.7	77.9	65.7	57.7	104.6
Other Fixed Costs	213.8	142.6	107.0	85.6	71.3	149.7
Total Fixed Costs	360.8	242.3	184.8	151.3	129.0	254.3
Total Operating Costs	450.1	336.7	302.2	291.2	290.3	400.7
Poor Road Conditions Total Operating Costs		403.8	369.9			465.0

Truck/Trailer 20T

Economic Costs, LE per 1,000 kms

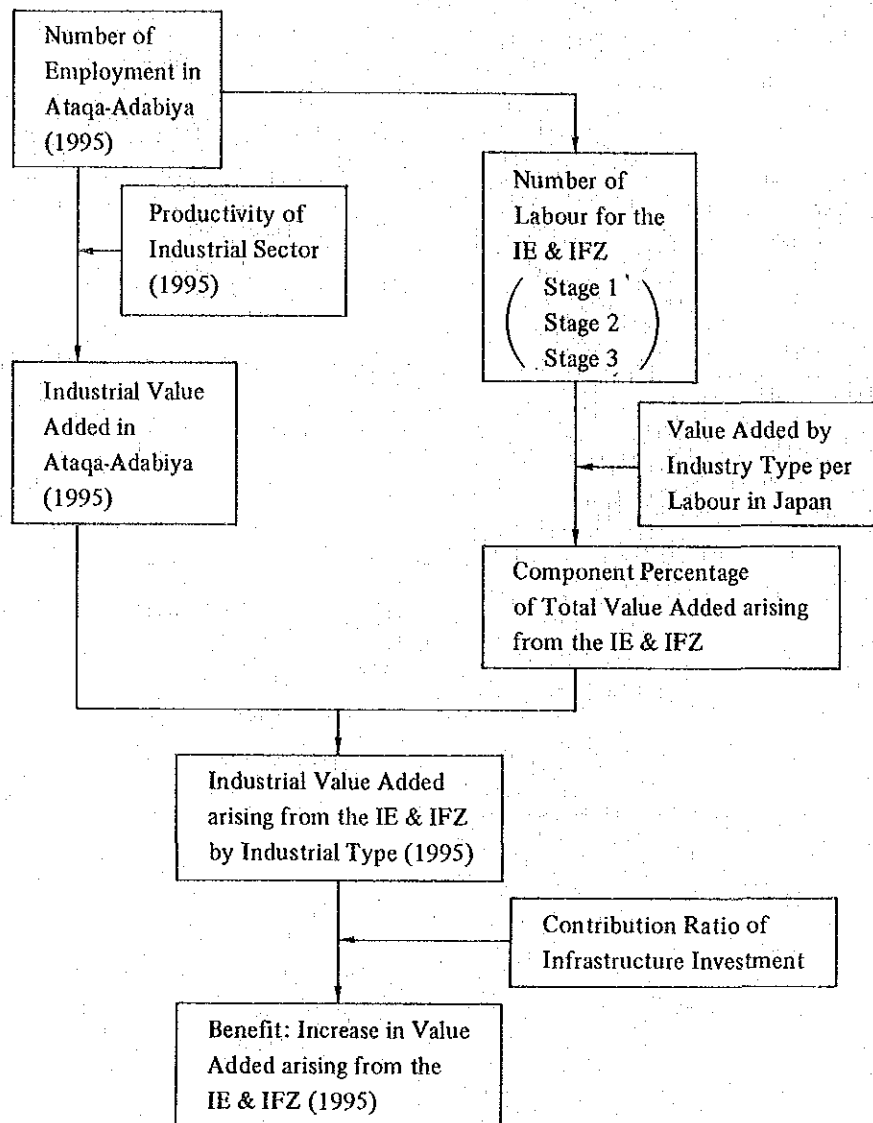
Cost Item	Urban	Paved				Gravel
	20	40	60	80	100	40
Fuel	146.7	119.6	112.9	126.4	152.4	149.6
Engine Oil	8.1	6.7	6.7	6.7	6.7	7.4
Tyres	22.2	46.2	76.9	104.5	120.4	92.3
Maintenance – parts	25.9	21.6	23.1	25.9	28.9	28.1
– labour	14.4	12.0	12.8	14.4	16.0	15.6
Total Variable Costs	217.3	206.1	232.4	277.9	324.4	293.0
Capital Costs	223.0	126.6	99.5	86.3	77.4	132.9
Other Fixed Costs	232.2	122.1	92.8	77.2	66.4	128.2
Total Fixed Costs	455.1	248.7	192.3	163.5	143.8	261.1
Total Operating Costs	672.5	454.8	424.7	441.4	468.2	554.1
Poor Road Conditions Total Operating Costs		555.0	540.8			622.1

Source: ENTS III

8.7 Coal Ship Cost Comparison between "With" and "Without" Cases

	'Without' Case	'With' Case
Ship Size	16,000	50,000
Unit Ship Cost	(1,000\$/day/vessel)	13.3
Distance	3,200	8,300
	(Rotterdam- Alexandria)	(Sydney- Suez)
Ship Speed	12.0	14.0
Days of Voyage (One Way)	11.1	24.7
Days of Anchorage	3	5
Freight	90	388
	(1,000\$/voyage)	
Unit Fuel A Cost	295	295
Unit Fuel C Cost	185	185
Fuel A Consumption on Voyage	1.0	2.0
Fuel A Consumption at Anchorage	1.0	1.4
Fuel C Consumption on Voyage	29.0	39.0
Fuel C Consumption at Anchorage	1.0	1.4
Fuel A Cost	4	16
Fuel C Cost	60	179
Total Fuel Cost	64	196
Port Charge	8.3	8.3
Other Cost	5.0	5.5
Transport Cost / One Return Trip	330	1,196
	(1,000\$/vessel)	
	(1,000\$/vessel)	
Cargo Volume in 1995	1,462,000	1,462,000
Loading Capacity	10,000	50,000
Number of Vessels in 1995	146	29
	(tons/year)	
	(tons/vessel)	
	(voyage/year)	
Total Transportation Cost : 1995	49,106	34,972
Transportation Cost/Ton : 1995	34	24
	(1,000\$/year)	
	(\$)	

8.8 Flow Chart for Estimation of Value Added Arising from Industry



8.9 Contribution Ratio of Investment in Infrastructures

[Kashima Industrial Area]

	Accumulated Amount (1962 ~ 1982) at 1980 Prices (Million ¥)	Share (%)
Investment in Industrial Infrastructures (excluding Housing and Agriculture)	563,083	17.9
Investment in Plant and Equipment	2,581,885	82.1
Total	3,144,968	100.0

Source: Ibaraki Prefecture

[Ooita New Industrial City]

	Accumulated Amount 1964 ~ 1975 at Current Prices (Billion ¥)	Share (%)
Investment in Industrial Infrastructures	145.5	25%
Investment in Plant and Equipment	436.4	75%
Total	581.9	100%

Source: Ooita Prefecture

APPENDIX IX

— Financial Analysis —

9.1 Additional Analysis

Here, an additional analysis is presented on the financial viability of SBDA and the profitability of the short-term development project itself under the fund raising plan mentioned below (hereinafter referred to as the "New Case"):

	F/C	L/C
Fund Raising	Barrowing	
Loan Condition		
Loan Period	20 Years	
Grace Period	5 Years	
Interest Rate	8.5% per annum	
Repayment of the Principal	Fixed Amount Repayment	

Projected financial statements of the new case are shown in Tables 9.1.1 – 9.1.9 and followings are the evaluation of this new case compared with the base case analyzed in Vol. III.

(1) Port Sector

1) Financial Viability

Item	Base Case	New Case
Working Ratio	19.7 ~ 30.6%	
Operating Ratio	26.2 ~ 66.2%	
Return on Net Fixed Assets (below 7%)	5.7 ~ 62.8% (2 Years)	
Debt Service Ratio	4.0 ~ 31.8	1.3 ~ 58.3
Short-term Loan	Not Necessary	

2) FIRR

Case	FIRR	Lower Limit	
		Base Case	New Case
Cost Decrease by 10%	3.9	2.7	8.5
Revenue Increase by 10%	3.8		
Base Case	2.9		
Cost Increase by 10%	1.9		
Revenue Decrease by 10%	1.8		

(2) Industrial Sector

1) Financial Viability

('000 LE)

Classification	Base Case	New Case
Government Expenses		
Investment Funds (L/C Portion) (including Land Acquisition Cost)	62,158	—
Subsidy for Deficit (Net Operating Income – Interest on Long-term Loans)	—	99,617
Sub Total	62,158	99,617
Government Earnings		
Tax	43,106	—
Profit (Net Operating Income – Interest on Long-term Loans)	—	44,750
Sub Total	43,106	44,750
Earnings – Expenses	△19,052	△54,867
Earnings/Expenses	69.3%	44.9%

2) FIRR

Case	FIRR	Lower Limit	
		Base Case	New Case
Cost Decrease by 10%	13.8	1.7	8.5
Revenue Increase by 10%	13.3		
Base Case	8.9		
Cost Increase by 10%	4.2		
Revenue Decrease by 10%	3.7		

(3) Total Situation

1) Financial Viability

Item	Base Case	New Case
Working Ratio	16.8 ~ 24.6%	
Operating Ratio	22.0 ~ 52.2%	
Return on Net Fixed Assets (below 7%)	10.2 ~ 45.5% (Nil)	
Debt Service Ratio	3.5 ~ 31.8	1.2 ~ 44.5
Short-term Loan	Not Necessary	

2) FIRR

Case	FIRR	Lower Limit	
		Base Case	New Case
Cost Decrease by 10%	4.8	2.5	8.5
Revenue Increase by 10%	4.6		
Base Case	3.3		
Cost Increase by 10%	2.1		
Revenue Decrease by 10%	2.0		

Table 9.1.1 Projected Income Statement of the SBD's Port Sector

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01
Operating Revenues	17,614	18,641	21,188	24,118	27,091	27,909	37,240	35,134	39,445	44,698	49,480	54,858	60,392	61,612	62,879
Port Charges															
Operating Expenses															
Cash Expenses															
Personnel Cost	1,504	1,660	1,824	2,005	2,198	1,723	2,565	2,890	3,143	3,429	3,607	3,794	3,986	4,132	4,273
Other Administrative Cost	902	986	1,094	1,203	1,319	1,034	1,599	1,734	1,886	2,057	2,164	2,277	2,398	2,479	2,564
Maintenance & Repairs	1,144	1,144	1,258	2,256	4,175	5,547	6,078	6,135	6,135	6,135	6,135	6,135	6,173	6,173	6,180
Sub-Total	3,551	3,800	4,176	5,465	7,692	8,304	10,242	10,759	11,165	11,621	11,907	12,207	12,567	12,783	13,016
Non-Cash Charges															
Depreciation of Fixed Assets	1,229	1,371	1,371	1,435	2,200	4,149	7,190	7,691	8,076	8,076	8,076	8,076	8,076	8,325	8,325
Amortization of Deferred Ast.	0	0	0	0	4,808	4,808	4,808	4,808	4,808	4,808	4,808	4,808	4,808	4,808	4,808
Sub-Total	1,229	1,371	1,371	1,435	7,008	8,957	11,998	12,499	12,884	12,884	12,884	12,884	12,884	13,133	13,133
Operating Expenses Total	4,780	5,171	5,547	6,900	14,700	17,261	22,340	23,257	24,948	21,450	21,735	22,035	22,965	22,861	21,342
Net Operating Income (NOI)	12,834	13,470	15,642	17,218	12,391	10,648	14,901	11,377	23,249	27,744	32,822	37,997	38,751	41,537	41,537
Net before Depreciation	14,063	14,841	17,012	18,653	19,399	19,605	26,899	24,375	28,281	33,077	37,573	42,851	47,825	48,829	49,853
Other Income & Expenses															
Fund Management Income	0	272	498	715	926	1,104	1,236	1,482	1,590	1,793	2,063	2,075	2,319	2,528	2,859
Interest on Loans	443	619	1,370	4,428	7,462	12,498	16,215	17,309	17,290	16,985	16,488	15,655	14,572	13,413	12,250
Interest on Short-term Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Interest on Loans	443	619	1,370	4,428	7,462	12,498	16,215	17,309	17,290	16,985	16,488	15,655	14,572	13,413	12,250
Net Income	12,391	13,123	14,769	13,504	5,866	-744	-73	-3,951	-293	8,057	13,319	19,243	25,744	27,865	33,146
Tax	4,957	5,249	5,908	5,402	2,342	0	0	0	0	3,223	5,328	7,697	10,298	11,145	12,858
Net Income after Tax	7,435	7,874	8,862	8,103	3,524	-744	-79	-3,951	-293	4,834	7,991	11,546	15,446	16,719	19,288
Operating Revenues	64,274	65,611	67,276	68,057	68,913	69,929	71,010	71,724	72,589	73,500	74,457	75,334	76,389	77,499	78,610
Port Charges															
Operating Expenses															
Cash Expenses															
Personnel Cost	4,423	4,578	4,711	4,852	4,996	5,149	5,307	5,442	5,584	5,731	5,797	5,866	5,935	6,010	6,085
Other Administrative Cost	2,654	2,747	2,826	2,911	2,998	3,089	3,184	3,265	3,350	3,438	3,478	3,520	3,561	3,606	3,651
Maintenance & Repairs	6,180	6,180	6,221	6,221	6,221	6,221	6,221	6,244	6,270	6,270	6,270	6,270	6,290	6,296	6,296
Sub-Total	13,256	13,505	13,758	13,984	14,214	14,459	14,712	14,952	15,204	15,439	15,545	15,656	15,786	15,913	16,032
Non-Cash Charges															
Depreciation of Fixed Assets	8,325	8,325	8,325	8,599	8,599	8,599	8,599	8,599	8,755	8,755	8,755	8,755	8,755	8,866	8,866
Amortization of Deferred Ast.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub-Total	8,325	8,325	8,325	8,599	8,599	8,599	8,599	8,599	8,755	8,755	8,755	8,755	8,755	8,866	8,866
Operating Expenses Total	21,581	21,830	22,083	22,583	22,814	23,058	23,312	23,552	23,959	24,194	24,300	24,411	24,541	24,799	24,918
Net Operating Income (NOI)	42,693	43,781	45,192	45,473	46,100	46,871	47,699	48,173	48,630	49,305	50,156	50,923	51,847	52,699	53,691
Net before Depreciation	51,019	52,106	53,518	54,073	54,699	55,470	56,298	56,772	57,385	58,060	58,911	59,678	60,602	61,585	62,777
Other Income & Expenses															
Fund Management Income	3,147	3,324	3,750	4,053	4,520	5,054	5,387	5,934	6,429	7,098	7,936	8,672	9,791	10,664	11,785
Interest on Loans															
Interest on Long-term Loans	11,087	9,924	8,762	7,599	6,436	5,273	4,140	3,018	1,947	1,079	414	84	4	0	0
Interest on Short-term Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Interest on Loans	11,087	9,924	8,762	7,599	6,436	5,273	4,140	3,018	1,947	1,079	414	84	4	0	0
Net Income	34,753	37,181	40,181	41,928	44,184	46,652	48,946	51,089	53,113	55,324	57,678	59,511	61,574	63,363	65,676
Tax	13,901	14,872	16,072	16,771	17,874	18,661	19,578	20,435	21,245	22,130	23,071	23,804	24,690	25,345	26,271
Net Income after Tax	20,852	22,308	24,109	25,157	26,510	27,991	29,368	30,653	31,868	33,194	34,607	35,707	36,945	38,018	39,406

Table 9.1.2 Projected Cash Flow Statement of the SBDA's Port Sector

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01
Cash Beginning	0	11,336	20,749	29,792	38,564	45,985	51,492	61,747	66,244	74,709	85,940	86,460	96,609	105,320	119,121
Cash Inflow	17,614	18,641	21,188	24,118	27,091	27,909	37,240	35,134	39,445	44,698	49,480	54,858	60,392	61,612	62,879
Operating Revenues	2,070	8,842	35,974	35,691	59,221	44,106	13,359	733	0	0	0	0	0	0	0
Long-term Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Government Funds	817	57	87	296	512	141	469	96	93	105	66	69	83	50	54
Current Liabilities Increment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beginning	0	874	960	1,257	1,769	1,910	2,379	2,475	2,568	2,673	2,739	2,808	2,850	2,940	2,984
Ending	817	874	960	1,257	1,769	1,910	2,379	2,475	2,568	2,673	2,739	2,808	2,850	2,940	2,984
Fund Management Income	20,501	27,612	57,747	60,820	87,750	73,259	52,304	37,445	41,129	46,536	51,608	57,001	62,794	64,189	65,791
Cash Outflow	2,070	8,842	37,464	35,691	59,221	44,106	13,359	4,150	4,150	0	8,849	0	4,664	0	3,463
Investment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Loan Repayment	443	619	1,370	4,428	7,462	12,496	16,215	17,309	17,280	16,985	16,488	15,555	14,572	13,413	12,250
Interest on Loans	0	4,957	5,249	5,908	5,402	2,342	0	0	0	0	3,223	5,328	7,687	10,538	11,146
Tax	3,627	3,800	4,176	5,465	7,692	8,304	10,342	10,759	11,165	11,621	11,907	12,207	12,567	12,783	13,016
Cash Expenses	3,651	3,800	4,176	5,465	7,692	8,304	10,342	10,759	11,165	11,621	11,907	12,207	12,567	12,783	13,016
Current Assets Increment	0	3,101	3,283	3,727	4,264	4,836	4,894	6,641	6,296	7,041	7,947	8,769	9,692	10,614	10,858
Beginning	3,101	3,283	3,727	4,264	4,836	4,894	6,641	6,296	7,041	7,947	8,769	9,692	10,614	10,858	11,050
Ending	3,101	3,283	3,727	4,264	4,836	4,894	6,641	6,296	7,041	7,947	8,769	9,692	10,614	10,858	11,050
Cash Outflow Total	9,155	18,399	48,704	52,028	80,389	67,752	42,049	32,948	32,663	35,366	51,088	46,853	54,063	50,388	53,778
Cash Inflow-Outflow	11,336	9,413	9,043	8,792	7,401	5,507	10,255	4,497	8,465	11,291	520	10,149	8,711	13,801	12,013
Cash Ending	11,336	20,749	29,792	38,584	45,985	51,492	61,747	66,244	74,709	85,940	86,460	96,609	105,320	119,121	131,135
Cash Excess	11,336	20,749	29,792	38,584	45,985	51,492	61,747	66,244	74,709	85,940	86,460	96,609	105,320	119,121	131,135
Short-term Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cash Beginning	131,135	138,515	156,262	168,879	188,338	210,570	224,459	247,267	267,886	295,757	330,655	361,338	405,467	444,322	491,050
Cash Inflow	64,274	65,611	67,276	69,057	68,913	69,929	71,010	71,724	72,589	73,500	74,457	75,334	76,389	77,498	78,610
Operating Revenues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Long-term Loans	55	57	58	52	53	56	58	55	58	54	24	25	30	29	28
Government Funds	2,994	3,049	3,106	3,164	3,216	3,269	3,325	3,384	3,439	3,497	3,551	3,575	3,601	3,631	3,660
Current Liabilities Increment	3,049	3,106	3,164	3,216	3,269	3,325	3,384	3,439	3,497	3,551	3,575	3,601	3,631	3,660	3,687
Beginning	3,147	3,324	3,750	4,053	4,520	5,054	5,387	5,804	6,439	7,098	7,836	8,672	9,721	10,664	11,785
Ending	67,477	68,993	71,084	72,162	73,487	75,039	76,456	77,714	79,077	80,652	82,417	84,032	85,150	86,191	87,022
Fund Management Income	8,970	0	7,105	1,228	0	10,232	2,740	6,812	3,257	0	9,599	0	7,467	729	10,596
Cash Inflow Total	13,680	13,680	13,680	13,680	13,680	13,333	13,195	12,606	10,207	7,828	3,880	939	4	0	0
Investment	11,087	9,924	8,762	7,699	6,436	5,273	4,140	3,018	1,947	1,079	414	84	4	0	0
Loan Repayment	12,858	13,901	14,872	16,072	16,771	17,674	18,661	19,578	20,435	21,245	22,130	23,071	23,804	24,630	25,345
Interest on Loans	13,256	13,505	13,758	13,984	14,214	14,459	14,712	14,952	15,204	15,439	15,656	15,786	15,913	16,032	16,152
Tax	244	235	291	140	180	153	180	191	129	155	166	152	183	192	227
Cash Expenses	11,080	11,324	11,559	11,850	12,142	12,422	12,692	12,958	13,220	13,478	13,732	13,982	14,228	14,470	14,709
Current Assets Increment	11,324	11,559	11,850	12,142	12,422	12,692	12,958	13,220	13,478	13,732	13,982	14,228	14,470	14,709	14,947
Beginning	60,096	51,246	58,467	52,703	51,254	61,150	53,647	57,095	51,208	45,753	51,734	39,903	47,294	41,464	52,200
Ending	7,380	17,747	12,517	19,459	22,232	13,889	22,808	20,619	27,871	34,898	30,683	44,128	38,856	45,727	38,422
Cash Inflow-Outflow	138,515	156,262	168,879	188,338	210,570	224,459	247,267	267,886	295,757	330,655	361,338	405,467	444,322	491,050	529,472
Cash Ending	138,515	156,262	168,879	188,338	210,570	224,459	247,267	267,886	295,757	330,655	361,338	405,467	444,322	491,050	529,472
Cash Excess	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Short-term Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 9.1.3 Projected Balance Sheet of the SBDA's Port Sector

('000 LE)

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Assets															
Current Assets															
Cash & Deposit	107	114	125	184	231	249	310	322	335	349	357	366	377	384	390
Cash Minimum	20,749	29,792	38,584	45,985	51,492	61,747	66,244	74,709	85,940	96,609	105,320	119,121	131,123	141,525	150,525
Cash Excess	11,443	20,863	29,918	38,748	46,216	51,741	62,057	68,567	78,044	86,289	96,018	107,505	119,507	130,448	141,525
Other Current Assets	2,894	3,189	3,602	4,100	4,685	5,374	6,031	6,793	7,588	8,412	9,276	10,187	11,144	12,148	13,200
Fixed Assets	14,437	24,032	33,330	42,848	50,921	58,465	68,388	72,340	81,750	91,888	102,801	113,564	124,193	134,719	145,244
Non-depreciable Assets															
Land	3,000	3,047	3,094	3,087	3,084	3,081	3,078	3,075	3,072	3,069	3,066	3,063	3,060	3,057	3,054
Construction in Progress	0	463	18,653	13,348	7,422	5,048	0	0	0	0	0	0	0	0	0
Sub-Total	3,000	4,410	24,444	19,979	14,071	11,607	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849
Depreciable Assets															
Depreciable Assets	38,140	38,140	41,997	75,216	109,187	144,014	202,589	294,516	294,516	294,516	294,516	294,516	294,516	294,516	294,516
Accumulated Depreciation	(2,820)	(2,820)	(3,325)	(6,325)	(9,325)	(12,325)	(15,325)	(18,325)	(21,325)	(24,325)	(27,325)	(30,325)	(33,325)	(36,325)	(39,325)
Net Depreciable Assets	35,320	35,320	38,672	68,891	99,862	131,689	187,264	276,191	273,191	270,191	267,191	264,191	261,191	258,191	255,191
Total Fixed Assets	38,920	38,920	42,297	75,216	109,187	144,014	202,589	294,516	294,516	294,516	294,516	294,516	294,516	294,516	294,516
Deferred Charges															
Pre-Operating Expenditure	2,070	3,477	4,210	5,387	6,564	7,741	8,918	10,095	11,272	12,449	13,626	14,803	15,980	17,157	18,334
Deferred Dredging	2,070	3,477	4,210	5,387	6,564	7,741	8,918	10,095	11,272	12,449	13,626	14,803	15,980	17,157	18,334
Total Deferred Charges	4,140	6,954	8,420	10,774	13,305	15,835	17,859	20,194	22,541	24,898	27,255	29,612	31,969	34,326	36,683
Total Assets	56,428	73,434	119,074	162,658	222,848	263,658	276,522	272,725	269,052	271,361	271,723	272,366	277,465	281,402	288,775
Liabilities & Net Worth															
Liabilities															
Current Liabilities															
Short-term Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Current Liabilities	817	874	960	1,287	1,768	1,910	2,370	2,475	2,568	2,673	2,739	2,808	2,890	2,940	2,994
Total	817	874	960	1,287	1,768	1,910	2,370	2,475	2,568	2,673	2,739	2,808	2,890	2,940	2,994
Long-term Liabilities	2,278	16,121	52,085	97,786	147,007	192,075	203,639	203,772	193,835	193,972	184,172	174,431	157,789	144,119	130,439
Total Liabilities	3,095	16,995	52,045	98,073	148,772	194,075	206,018	206,247	197,673	196,645	188,911	178,239	162,008	148,558	133,433
Government Funds	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940
Retained Earnings	7,435	15,303	24,170	32,723	35,765	35,043	34,984	31,013	30,720	35,554	43,545	55,051	70,537	87,258	104,079
Net Income	12,391	13,123	14,769	13,504	14,886	14,744	14,744	14,744	14,744	14,744	14,744	14,744	14,744	14,744	14,744
Total Net Worth	48,331	56,438	66,018	73,615	74,080	70,983	70,983	70,983	70,983	70,983	70,983	70,983	70,983	70,983	70,983
Total Liabilities & Net Worth	56,428	73,434	119,074	162,658	222,848	263,658	272,725	272,725	269,052	271,361	271,723	272,366	277,465	281,402	288,775
Assets															
Current Assets															
Cash & Deposit	398	405	413	420	426	434	441	449	456	463	470	477	484	491	498
Cash Minimum	138,515	156,362	168,870	188,038	210,571	224,450	247,768	267,886	295,757	331,655	361,331	405,467	444,736	491,527	529,472
Cash Excess	138,117	156,667	169,232	187,768	210,398	224,024	247,321	267,142	295,302	330,984	360,682	404,936	444,256	490,557	528,980
Other Current Assets	19,827	11,154	11,437	11,578	11,888	12,072	12,193	12,340	12,495	12,658	12,807	12,966	13,175	13,398	13,630
Fixed Assets	149,830	187,821	180,729	200,327	222,712	246,780	260,528	260,528	260,528	260,528	260,528	260,528	260,528	260,528	260,528
Non-depreciable Assets															
Construction in Progress	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849
Sub-Total	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849	6,849
Depreciable Assets															
Depreciable Assets	205,893	205,993	207,363	207,363	207,363	208,141	209,015	209,015	209,015	209,015	209,015	209,015	209,015	209,015	209,015
Accumulated Depreciation	(65,438)	(73,783)	(83,354)	(95,225)	(99,692)	(96,543)	(99,109)	(105,480)	(114,235)	(112,391)	(122,146)	(124,089)	(132,459)	(130,749)	(134,749)
Net Depreciable Assets	140,455	132,210	124,009	112,138	107,671	110,602	109,033	103,535	94,780	96,624	86,869	65,581	77,424	74,266	74,266
Total Fixed Assets	147,295	138,879	137,650	139,287	121,688	123,320	117,469	115,682	110,184	101,429	102,373	93,518	92,230	84,073	85,763
Deferred Charges															
Pre-Operating Expenditure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deferred Dredging	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Deferred Charges	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Assets	397,144	396,701	318,387	330,614	344,400	360,101	377,249	396,210	418,797	445,043	476,736	512,251	550,012	588,775	629,124
Liabilities & Net Worth															
Liabilities															
Current Liabilities															
Short-term Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Current Liabilities	3,049	3,108	3,164	3,218	3,269	3,325	3,384	3,439	3,497	3,551	3,601	3,651	3,699	3,747	3,794
Total Current Liabilities	3,049	3,108	3,164	3,218	3,269	3,325	3,384	3,439	3,497	3,551	3,601	3,651	3,699	3,747	3,794
Long-term Liabilities	2,750	103,078	83,364	75,719	67,259	58,259	52,300	46,342	40,384	34,426	28,468	22,510	16,552	10,594	4,636
Total Liabilities	5,799	106,186	86,528	78,937	70,528	61,584	54,684	49,781	43,881	37,977	31,869	25,061	19,153	13,241	7,430
Net Worth	391,345	290,515	231,859	251,677	266,871	298,517	311,565	346,529	374,916	407,066	438,866	489,190	520,951	575,343	621,694
Government Funds	106,534	106,534	106,534	106,534	106,534	106,534	106,534	106,534	106,534	106,534	106,534	106,534	106,534	106,534	106,534
Retained Earnings	34,750	37,181	40,181	41,948	44,181	46,652	48,546	50,069	51,324	52,324	53,074	53,681	54,151	54,500	54,749
Net Income	177,231	200,516	225,855	251,080	279,083	298,071	308,558	309,867	308,572	306,129	303,261	300,312	297,363	294,414	291,465
Total Net Worth	391,345	290,515	231,859	251,677	266,871	298,517	311,565	346,529	374,916	407,066	438,866	489,190	520,951	575,343	621,694
Total Liabilities & Net Worth	397,144	396,701	318,387	330,614	344,400	360,101	377,249	396,210	418,797	445,043	476,736	512,251	550,012	588,775	629,124

Table 9.1.4 Projected Income Statement of the SBDA's Industrial Sector

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01
Operating Revenues															
Sales of Factory Site			14,858	8,915	16,711	13,592	22,614	19,005	12,392	12,392	12,392	8,970	8,970	2,076	2,076
Administrative Charge			233	357	607	811	1,150	1,435	1,821	1,821	1,821	1,842	2,076	2,076	2,076
Total Operating Revenues	0	0	15,091	9,272	17,318	14,403	23,764	20,440	14,213	14,213	14,213	10,812	11,046	2,076	2,076
Operating Expenses															
Cash Expenses															
Personnel Cost(I/E)	69	69	104	104	156	156	156	156	156	156	156	156	156	156	156
Personnel Cost(I/FZ)	61	61	104	104	104	104	104	104	104	104	104	104	104	104	104
Administrative Cost(I/E)	28	28	41	41	62	62	62	62	62	62	62	62	62	62	62
Administrative Cost(I/FZ)	24	24	41	41	41	41	41	41	41	41	41	41	41	41	41
Maintenance & Repairs	0	3	839	948	1,306	1,375	1,849	1,849	1,849	1,849	1,849	1,849	1,849	1,849	1,849
Sub-Total	0	182	1,120	1,239	1,669	1,738	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212
Non-Cash Charges															
Depreciation Expenses	0	0	7	1,270	1,411	1,976	2,063	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735
Amortization of Deferred Ast.	0	0	589	589	589	928	928	339	339	339	339	226	226	226	226
Sub-Total	0	0	596	1,859	2,000	2,904	2,991	3,074	3,074	3,074	3,074	2,961	2,961	2,961	2,961
Operating Expenses Total	0	182	1,716	3,097	3,669	4,642	5,203	5,286	5,286	5,286	5,286	5,173	5,173	5,173	5,173
Net Operating Income (NOI)	0	-182	13,365	6,174	13,649	9,761	18,561	15,154	8,927	8,927	8,927	5,639	5,873	3,097	-2,871
NOI before Depreciation	0	-182	13,961	8,033	15,649	12,666	21,552	18,228	11,801	11,801	11,997	8,699	8,834	-136	-136
Other Income & Expenses															
Fund Management Income	0	0	0	0	334	641	805	1,210	1,444	1,444	1,436	1,577	1,539	1,509	1,252
Interest on Loans	0	113	791	1,533	4,132	5,045	6,463	6,990	8,473	8,371	8,095	7,759	7,328	6,861	6,293
Interest on Long-term Loans	0	0	39	191	0	0	0	0	0	0	0	0	0	0	0
Interest on Short-term Loans	0	113	752	1,342	4,132	5,045	6,463	6,990	8,473	8,371	8,095	7,759	7,328	6,861	6,293
Total Interest on Loans	0	-294	-1,014	11,641	2,320	8,938	12,376	7,892	1,575	2,088	-444	84	-8,449	-7,911	0
Net Income	0	-294	12,351	5,160	11,329	10,706	16,287	13,268	10,352	10,352	9,483	7,333	7,333	6,372	33
Tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Income after Tax	0	-294	12,351	5,160	11,329	10,706	16,287	13,268	10,352	10,352	9,483	7,333	7,333	6,372	33
Net Income after Tax	0	-294	12,351	5,160	11,329	10,706	16,287	13,268	10,352	10,352	9,483	7,333	7,333	6,372	33

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Operating Revenues															
Sales of Factory Site															
Administrative Charge															
Total Operating Revenues	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076
Operating Expenses															
Cash Expenses															
Personnel Cost(I/E)	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156
Personnel Cost(I/FZ)	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
Administrative Cost(I/E)	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Administrative Cost(I/FZ)	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Maintenance & Repairs	1,849	1,849	1,849	1,849	1,849	1,849	1,849	1,849	1,849	1,849	1,849	1,849	1,849	1,849	1,849
Sub-Total	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212
Non-Cash Charges															
Depreciation Expenses	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735
Amortization of Deferred Ast.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub-Total	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735
Operating Expenses Total	4,947	4,947	4,947	4,947	4,947	4,947	4,947	4,947	4,947	4,947	4,947	4,947	4,947	4,947	4,947
Net Operating Income (NOI)	-2,871	-2,871	-2,871	-2,871	-2,871	-2,871	-2,871	-2,871	-2,871	-2,871	-2,871	-2,871	-2,871	-2,871	-2,871
NOI before Depreciation	-136	-136	-136	-136	-136	-136	-136	-136	-136	-136	-136	-136	-136	-136	-136
Other Income & Expenses															
Fund Management Income	988	690	419	152	0	0	0	0	0	0	0	0	0	0	0
Interest on Loans															
Interest on Long-term Loans	5,724	5,155	4,586	4,017	3,448	2,879	2,311	1,749	1,233	786	473	240	102	0	0
Interest on Short-term Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Interest on Loans	5,724	5,155	4,586	4,017	3,448	2,879	2,311	1,749	1,233	786	473	240	102	0	0
Net Income	-7,627	-7,336	-7,038	-6,736	-6,434	-6,132	-5,830	-5,528	-5,226	-4,924	-4,622	-4,320	-4,018	-3,716	-3,414
Tax															
Net Income after Tax	-7,627	-7,336	-7,038	-6,736	-6,434	-6,132	-5,830	-5,528	-5,226	-4,924	-4,622	-4,320	-4,018	-3,716	-3,414

Table 9.1.5 Projected Cash Flow Statement of the SBDA's Industrial Sector

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01
Cash Beginning	0	0	-258	-1,271	11,583	13,914	26,700	33,542	50,423	60,187	62,345	65,704	64,108	62,874	52,184
Cash Inflow	0	0	0	15,080	9,271	17,318	14,403	23,764	20,440	14,013	14,199	10,911	11,845	2,076	2,076
Operating Revenues	1,325	7,980	8,729	30,576	10,741	16,687	6,284	18,067	0	0	0	0	0	0	0
Long-term Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Government Funds	0	42	42	215	27	93	16	109	0	0	0	0	0	0	0
Current Liabilities Increment	0	42	42	258	384	285	384	400	509	509	509	509	509	509	509
Current Liabilities Beginning	0	42	42	258	384	285	384	400	509	509	509	509	509	509	509
Current Liabilities Ending	0	42	42	258	384	285	384	400	509	509	509	509	509	509	509
Fund Management Income	1,325	8,022	8,730	45,871	20,318	34,438	21,344	42,745	21,651	15,457	15,695	12,488	12,585	3,585	3,329
Total	1,325	8,022	8,730	45,871	20,318	34,438	21,344	42,745	21,651	15,457	15,695	12,488	12,585	3,585	3,329
Cash Outflow	0	182	185	1,120	1,239	1,669	1,738	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212
Operating Expenses	1,325	2,866	4,139	25,608	6,495	11,471	3,723	15,506	0	0	0	0	0	0	0
Addition to Assets	0	0	0	0	0	0	88	620	1,202	3,241	3,957	5,069	5,488	6,693	6,693
Loan Repayment	0	0	0	0	0	0	0	0	8,473	8,371	8,095	7,759	7,328	6,861	6,293
Interest on Loans	0	113	830	1,724	4,132	5,045	5,463	6,990	4,951	3,157	630	835	0	0	0
Tax	0	0	0	0	4,856	1,381	3,575	1,575	4,951	3,157	630	835	0	0	0
Current Assets Increment	0	5	0	2,592	-884	1,381	-493	1,506	-865	-1,093	32	-550	23	-1,535	0
Current Assets Beginning	0	0	0	5	2,592	1,613	2,994	2,501	4,106	3,541	2,449	2,480	1,944	1,944	419
Current Assets Ending	0	5	5	2,597	1,613	2,994	2,501	4,106	3,541	2,449	2,480	1,944	1,944	419	419
Inventories Increment	0	5,094	4,590	1,973	2,449	1,159	-592	-2,646	-4,385	-2,589	-2,589	-1,232	0	0	0
Inventories Beginning	0	5,094	9,684	11,657	14,107	15,265	14,673	12,027	7,641	5,053	2,464	1,232	0	0	0
Inventories Ending	0	5,094	9,684	11,657	14,107	15,265	14,673	12,027	7,641	5,053	2,464	1,232	0	0	0
Total	1,325	8,280	9,744	33,016	17,987	34,503	25,663	44,532	25,663	11,882	13,299	12,337	14,819	14,275	15,197
Cash Inflow-Outflow	0	-258	-1,271	11,583	13,914	26,700	33,542	50,423	60,187	62,345	65,704	64,108	62,874	52,184	40,316
Cash Ending	0	0	0	11,583	13,914	26,700	33,542	50,423	60,187	62,345	65,704	64,108	62,874	52,184	40,316
Cash Excess	0	0	0	11,583	13,914	26,700	33,542	50,423	60,187	62,345	65,704	64,108	62,874	52,184	40,316
Short-term Loan	0	258	1,271	0	0	0	0	0	0	0	0	0	0	0	0

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Cash Beginning	40,316	28,731	17,438	6,339	-10,404	-22,509	-38,902	-54,089	-71,670	-89,279	-107,025	-126,424	-147,387	-170,937	-318,203
Cash Inflow	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076
Operating Revenues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Long-term Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Government Funds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Current Liabilities Increment	509	509	509	509	509	509	509	509	509	509	509	509	509	509	509
Current Liabilities Beginning	509	509	509	509	509	509	509	509	509	509	509	509	509	509	509
Current Liabilities Ending	968	690	419	152	0	0	0	0	0	0	0	0	0	0	0
Fund Management Income	3,844	2,766	2,495	2,228	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076
Total	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212
Cash Outflow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Addition to Assets	0	103	6,049	268	3,309	301	1,510	0	0	0	0	0	0	21,490	0
Loan Repayment	6,693	6,693	6,693	6,693	6,693	6,693	6,693	6,693	6,693	6,693	6,693	6,693	6,693	6,693	6,693
Interest on Loans	5,734	5,155	4,546	4,017	5,009	6,256	8,146	9,863	11,984	14,158	16,527	19,204	22,210	25,641	32,730
Tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Current Assets Increment	419	419	419	419	419	419	419	419	419	419	419	419	419	419	419
Current Assets Beginning	419	419	419	419	419	419	419	419	419	419	419	419	419	419	419
Current Assets Ending	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838
Inventories Increment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inventories Beginning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inventories Ending	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	14,528	14,059	13,594	18,971	14,182	18,469	17,263	19,657	19,657	21,475	23,039	25,627	28,942	34,942	34,942
Cash Inflow-Outflow	-11,584	-11,294	-11,099	-16,742	-12,105	-16,303	-15,187	-17,581	-17,610	-17,746	-19,398	-20,363	-23,551	-27,866	-32,866
Cash Ending	28,731	17,438	6,339	-10,404	-22,509	-38,902	-54,089	-71,670	-89,279	-107,025	-126,424	-147,387	-170,937	-218,203	-251,069
Cash Excess	28,731	17,438	6,339	-10,404	-22,509	-38,902	-54,089	-71,670	-89,279	-107,025	-126,424	-147,387	-170,937	-218,203	-251,069
Short-term Loan	0	0	0	10,404	22,509	38,902	54,089	71,670	89,279	107,025	126,424	147,387	170,937	218,203	251,069

Table 9.1.6 Projected Balance Sheet of the SBDA's Industrial Sector

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	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01
Assets															
Current Assets															
Cash & Deposits	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
Cash Advances	28,731	17,438	6,329	0	0	0	0	0	0	0	0	0	0	0	0
Cash Excess	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Current Assets	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353
Current Assets Total	29,151	17,857	6,758	0	0	0	0	0	0	0	0	0	0	0	0
Inventories	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fixed Assets															
Non-Depreciable Assets															
Land/Construction in Progress	0	1,830	2,805	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753
Sub-Total	0	1,830	2,805	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753
Depreciable Assets															
Depreciable Assets	0	0	103	27,642	31,684	43,330	45,824	61,630	61,630	61,630	61,630	61,630	61,630	61,630	61,630
Accumulated Depreciation	0	0	0	1,377	2,697	4,063	5,429	7,216	9,461	12,196	14,931	17,665	20,401	23,136	25,871
Net Depreciable Assets	0	0	103	27,642	31,684	43,330	45,824	61,630	61,630	61,630	61,630	61,630	61,630	61,630	61,630
Total Fixed Assets	1,335	5,402	30,440	35,100	45,218	53,163	58,357	73,183	78,386	86,378	91,421	98,266	105,097	111,933	118,764
Deferred Assets	1,335	5,402	30,440	35,100	45,218	53,163	58,357	73,183	78,386	86,378	91,421	98,266	105,097	111,933	118,764
Total Assets	1,335	5,310	18,040	55,200	67,632	95,428	98,983	127,360	129,099	124,278	121,778	115,430	110,025	94,850	80,246
Liabilities & Net Worth															
Liabilities															
Current Liabilities															
Short-term Loans	0	258	1,271	0	0	0	0	0	0	0	0	0	0	0	0
Other Current Liabilities	0	42	132	258	284	340	400	509	509	509	509	509	509	509	509
Total Current Liabilities	0	300	1,403	258	284	340	400	509	509	509	509	509	509	509	509
Long-term Liabilities	1,335	9,695	19,338	48,867	59,638	76,422	82,633	100,159	88,937	95,748	91,790	86,730	81,232	74,540	67,647
Total Liabilities	1,335	9,995	20,741	50,125	60,922	77,164	83,033	100,668	89,446	97,247	93,529	88,230	82,962	75,089	70,196
Net Worth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Government Funds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retained Earnings	0	-294	-1,308	-1,308	-1,308	-1,308	-1,308	-1,308	-1,308	-1,308	-1,308	-1,308	-1,308	-1,308	-1,308
Net Income	0	-294	-1,014	11,641	2,320	6,238	3,055	12,376	7,592	11,575	2,088	26,444	28,754	20,310	13,269
Total Net Worth	1,335	9,701	18,732	10,333	8,724	8,916	8,668	11,068	6,282	10,266	15,432	15,432	10,928	9,180	80,246
Total Liabilities & Net Worth	1,335	19,696	39,473	60,458	69,646	86,080	91,701	111,736	95,728	107,513	109,001	104,158	93,890	84,269	158,442
Assets															
Current Assets															
Cash & Deposits	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
Cash Advances	28,731	17,438	6,329	0	0	0	0	0	0	0	0	0	0	0	0
Cash Excess	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Current Assets	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353
Current Assets Total	29,151	17,857	6,758	0	0	0	0	0	0	0	0	0	0	0	0
Inventories	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fixed Assets															
Non-Depreciable Assets															
Land/Construction in Progress	0	1,830	2,805	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753
Sub-Total	0	1,830	2,805	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753
Depreciable Assets															
Depreciable Assets	61,630	61,630	61,630	61,630	61,630	61,630	61,630	61,630	61,630	61,630	61,630	61,630	61,630	61,630	61,630
Accumulated Depreciation	28,608	31,341	33,973	30,859	33,126	32,552	34,866	36,210	36,946	41,861	44,416	47,151	49,886	51,621	53,356
Net Depreciable Assets	33,022	30,289	27,657	30,771	28,504	29,078	26,764	25,419	24,684	19,769	17,214	14,479	11,744	9,209	6,685
Total Fixed Assets	36,778	34,041	31,410	34,784	32,257	32,851	30,397	29,172	26,467	23,702	20,967	18,232	15,497	12,762	10,028
Deferred Assets	65,927	51,898	38,157	35,143	32,676	33,250	30,816	29,501	26,656	24,121	21,386	18,651	15,916	13,181	10,446
Total Assets	102,856	103,836	106,370	104,971	103,524	102,075	100,626	99,177	97,728	96,279	94,830	93,381	91,932	90,483	89,034
Liabilities & Net Worth															
Liabilities															
Current Liabilities															
Short-term Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Current Liabilities	509	509	509	509	509	509	509	509	509	509	509	509	509	509	509
Total Current Liabilities	509	509	509	509	509	509	509	509	509	509	509	509	509	509	509
Long-term Liabilities	60,546	53,953	47,280	40,568	33,875	27,163	20,578	14,306	3,016	2,525	2,034	1,543	1,052	561	10
Total Liabilities	61,055	54,462	47,789	41,077	34,384	27,672	20,886	14,612	5,545	5,034	4,543	4,052	3,561	3,070	2,579
Net Worth	41,801	49,374	58,581	63,894	69,140	74,383	79,626	84,565	92,183	91,245	90,287	89,339	88,391	87,443	86,495
Government Funds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retained Earnings	12,309	4,772	-2,564	-9,602	-16,338	-24,217	-33,344	-44,360	-57,093	-71,048	-86,977	-108,374	-130,449	-155,530	-184,041
Net Income	-7,627	-7,336	-7,038	-6,736	-6,434	-6,132	-5,830	-5,528	-5,226	-4,924	-4,622	-4,320	-4,018	-3,716	-3,414
Total Net Worth	4,772	-2,564	-9,602	-16,338	-24,217	-33,344	-44,360	-57,093	-71,048	-86,977	-108,374	-130,449	-155,530	-184,041	-219,552
Total Liabilities & Net Worth	65,827	51,898	38,157	35,143	32,676	33,250	30,816	29,501	26,656	24,121	21,386	18,651	15,916	13,181	10,446

Table 9.1.7 Projected Composite Income Statement

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2005/06	2010/11	2015/16	
Operating Revenues	17,614	18,641	21,188	24,118	27,091	27,909	37,340	35,134	38,445	44,698	49,430	54,858	60,392	61,612	62,573	68,013	73,500	74,310	
Port. & I.F.Z.	0	0	0	15,080	3,271	17,319	14,403	15,434	14,413	14,413	14,419	14,419	14,419	14,419	14,419	14,419	14,419	14,419	14,419
Operating Revenues Total	17,614	18,641	21,188	39,198	30,362	45,227	51,743	50,568	52,858	59,111	63,849	69,277	71,438	63,988	64,955	70,990	75,978	81,896	
Operating Expenses	3,551	3,800	4,176	5,465	7,692	8,304	10,342	10,749	11,165	11,621	11,907	12,207	12,567	12,783	13,016	14,214	15,439	16,032	
Port.	0	182	185	1,130	1,669	1,669	1,728	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	
Cash Expenses Total	3,551	3,981	4,360	6,595	9,361	9,973	12,070	12,971	13,377	13,833	14,119	14,419	14,779	14,995	15,228	16,426	17,651	18,244	
Non-Cash Charges	1,228	1,371	1,371	1,435	1,607	1,657	1,994	2,408	2,874	3,200	3,300	3,351	3,381	3,381	3,381	3,599	3,755	3,880	
Port. & I.F.Z.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Operating Expenses Total	4,780	5,352	5,731	8,030	10,968	11,630	14,064	15,380	16,245	17,033	17,419	17,770	18,160	18,376	18,609	20,025	21,404	22,124	
Net Operating Income (NOI)	12,834	13,289	15,457	30,582	19,397	24,297	34,662	34,819	36,693	47,487	46,430	51,860	53,278	49,013	46,736	50,965	54,574	59,772	
NOI before Depreciation	14,063	14,659	16,833	32,613	27,431	35,254	39,564	45,027	46,309	44,878	49,560	51,350	56,659	48,683	43,727	54,553	57,534	62,642	
Other Income & Expenses	0	544	997	1,408	2,430	3,011	3,940	4,844	5,354	7,008	7,776	8,093	8,695	9,147	9,450	11,389	15,397	25,635	
Interest on Loans	443	619	1,370	4,328	7,462	12,496	16,215	17,309	17,280	15,985	16,488	15,855	14,572	13,413	12,250	6,456	1,070	0	
Port. & I.F.Z.	0	113	791	1,533	5,035	6,463	6,483	6,990	8,473	8,371	8,095	7,750	7,328	6,861	6,293	3,438	768	0	
Sub-Total	443	731	2,161	5,961	11,500	17,540	22,678	24,299	25,753	25,356	24,583	23,413	21,900	20,274	18,543	9,894	1,846	0	
Interest on Short-term Loans	443	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Interest on Loans Total	12,391	13,101	14,202	26,020	9,470	17,540	22,678	24,299	25,753	25,356	24,583	23,413	21,900	20,274	18,543	9,894	1,846	0	
Net Income	2,443	5,240	5,717	10,412	3,788	3,907	2,350	4,593	4,393	6,331	11,775	13,447	15,378	17,744	17,132	21,071	24,728	30,662	
Tax	7,435	7,801	8,573	15,818	5,682	5,811	3,594	6,493	6,493	8,944	9,544	10,144	11,744	12,744	13,744	15,344	17,344	18,344	
Income after Tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Table 9.1.8 Projected Composite Cash Flow Statement

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2005/06	2010/11	2015/16
Cash Reconciliation																		
Cash Inflow	0	11,336	20,764	29,339	52,061	92,733	82,081	100,910	124,052	145,992	162,008	168,595	179,502	190,358	196,869	237,469	329,923	534,062
Loan Repayment	17,614	18,641	21,188	39,198	30,352	45,227	51,644	58,898	59,886	58,711	63,679	65,760	71,438	63,688	64,955	70,500	75,576	80,886
Port. L.E. & I.F.Z.	2,070	8,842	35,691	59,921	41,106	13,359	793	0	0	0	0	0	0	0	0	0	0	0
Government Loans	1,325	7,980	30,576	10,741	16,687	6,284	18,007	0	0	0	0	0	0	0	0	0	0	0
Government Funds	3,595	16,832	44,783	68,366	69,962	60,793	19,643	18,600	0	0	0	0	0	0	0	0	0	0
Port. L.E. & I.F.Z.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Current Assets Increment	817	90	42	412	540	230	184	203	90	105	60	89	83	50	54	53	54	28
Current Liabilities Increment	0	87	916	1,003	1,514	2,054	2,778	2,983	3,077	3,182	3,247	3,316	3,378	3,409	3,449	3,478	3,502	3,525
Current Liabilities Beginning	817	916	1,003	1,514	2,054	2,778	2,983	3,077	3,182	3,247	3,316	3,378	3,409	3,449	3,478	3,502	3,525	3,548
Current Liabilities Ending	0	516	1,003	1,514	2,054	2,778	2,983	3,077	3,182	3,247	3,316	3,378	3,409	3,449	3,478	3,502	3,525	3,548
Fund Management Income	21,826	36,195	68,975	107,384	109,362	109,271	75,711	82,747	65,934	65,884	71,521	73,930	60,156	72,385	74,458	82,441	91,486	106,548
Total Cash Inflow	3,551	3,981	4,360	6,555	8,591	9,973	12,079	12,971	13,377	13,823	14,419	14,779	14,995	15,228	15,498	16,438	17,651	18,244
Cash Outflow																		
Additional to Assets	2,070	8,842	35,691	59,921	41,106	13,359	4,150	0	0	0	0	0	0	0	0	0	0	0
Port. L.E. & I.F.Z.	1,325	7,980	30,576	10,741	16,687	6,284	18,007	0	0	0	0	0	0	0	0	0	0	0
Addition to Assets Total	3,395	11,728	41,663	61,290	65,716	55,577	17,082	13,656	0	0	0	0	0	0	0	0	0	0
Loan Repayment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Port. L.E. & I.F.Z.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest on Loans	440	750	2,150	5,967	11,300	17,347	20,578	23,520	25,520	26,520	27,520	28,520	29,520	30,520	31,520	32,520	33,520	34,520
Loan Repayment Total	440	750	2,150	5,967	11,300	17,347	20,578	23,520	25,520	26,520	27,520	28,520	29,520	30,520	31,520	32,520	33,520	34,520
Total Cash Outflow	440	750	2,150	5,967	11,300	17,347	20,578	23,520	25,520	26,520	27,520	28,520	29,520	30,520	31,520	32,520	33,520	34,520
Cash Inflow-Outflow	3,111	3,231	2,210	6,588	7,291	8,626	10,401	11,315	11,857	12,303	12,799	13,259	13,779	14,238	14,778	15,278	15,778	16,278
Cash Ending	11,336	20,764	29,339	52,061	82,733	82,081	100,910	124,052	145,992	162,008	168,595	179,502	190,358	196,869	203,868	237,469	329,923	534,062
Cash Excess	11,336	20,764	29,339	52,061	82,733	82,081	100,910	124,052	145,992	162,008	168,595	179,502	190,358	196,869	203,868	237,469	329,923	534,062
Short-term Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 9.1.9 Projected Composite Balance Sheet

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	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2005/06	2010/11	2015/16
Assets																		
Current Assets																		
Cash & Deposits	107	110	120	185	268	362	389	389	401	415	424	433	443	457	493	530	547	
Cash Excise	11,336	20,763	29,339	52,061	82,733	100,910	100,910	124,052	145,992	162,008	168,595	179,902	190,558	196,889	203,658	256,038	367,635	582,547
Other Current Assets	2,094	3,189	3,892	6,684	6,182	7,650	10,013	10,013	10,181	9,581	10,835	11,181	12,144	10,872	12,068	12,836	12,781	
Current Assets Total	14,437	24,062	33,072	65,532	65,182	110,962	110,962	134,453	166,574	172,004	179,841	191,515	203,140	208,146	215,197	268,599	381,002	566,324
Fixed Assets																		
Non-Depreciable Assets																		
Land	3,000	3,947	5,747	6,649	6,649	6,649	6,649	6,649	6,649	6,649	6,649	6,649	6,649	6,649	6,649	6,649	6,649	
I.E. & I.F.Z.	0	1,830	1,830	2,905	2,805	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	3,753	
Land Total	3,000	5,777	7,577	9,554	9,454	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	
Construction in Progress																		
I.E. & I.F.Z.	0	463	18,693	13,330	7,422	5,048	865	0	0	0	0	0	0	0	0	0	0	
I.E. & I.F.Z.	0	3,471	0	0	1,968	0	865	0	0	0	0	0	0	0	0	0	0	
Sub-Total	0	463	18,693	13,330	9,390	5,048	865	0	0	0	0	0	0	0	0	0	0	
Non-Depreciable Assets Total	3,000	6,240	29,740	22,784	18,844	15,450	11,287	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	
Depreciable Assets																		
Accumulated Depreciation																		
I.E. & I.F.Z.	38,149	38,149	41,927	75,216	139,167	184,914	202,589	204,510	204,515	204,515	204,516	204,516	205,983	205,983	205,983	205,983	205,983	
I.E. & I.F.Z.	38,149	38,149	42,030	102,858	170,772	228,444	248,412	265,145	265,145	265,145	265,145	265,145	267,392	267,392	267,392	268,593	271,512	
Depreciable Assets Total	76,298	76,298	83,957	178,074	310,039	413,358	451,001	469,655	469,660	469,660	469,661	469,661	473,375	473,375	473,375	474,586	477,524	
Net-Depreciable Assets	1,229	2,690	3,375	4,810	7,010	11,159	19,343	24,550	32,926	40,792	39,929	48,905	52,664	50,969	55,082	66,022	114,235	
I.E. & I.F.Z.	1,229	2,690	3,375	4,810	7,010	11,159	19,343	24,550	32,926	40,792	39,929	48,905	52,664	50,969	55,082	66,022	114,235	
Sub-Total	1,229	2,690	3,375	4,810	7,010	11,159	19,343	24,550	32,926	40,792	39,929	48,905	52,664	50,969	55,082	66,022	114,235	
Net-Depreciable Assets Total	38,149	38,149	41,927	75,216	139,167	184,914	202,589	204,510	204,515	204,515	204,516	204,516	205,983	205,983	205,983	205,983	205,983	
Deferred Assets																		
I.E. & I.F.Z.	38,149	38,149	42,030	102,858	170,772	228,444	248,412	265,145	265,145	265,145	265,145	265,145	267,392	267,392	267,392	268,593	271,512	
Sub-Total	38,149	38,149	42,030	102,858	170,772	228,444	248,412	265,145	265,145	265,145	265,145	265,145	267,392	267,392	267,392	268,593	271,512	
Deferred Assets Total	38,149	38,149	42,030	102,858	170,772	228,444	248,412	265,145	265,145	265,145	265,145	265,145	267,392	267,392	267,392	268,593	271,512	
Assets Total	57,750	82,818	136,680	223,751	293,310	359,976	381,547	407,470	409,248	409,360	409,932	407,561	409,854	401,815	422,544	506,193	713,623	
Liabilities & Net Worth																		
Current Liabilities																		
Short-term Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Other Current Liabilities	817	916	1,003	1,514	2,054	2,778	2,583	2,583	3,077	3,182	3,247	3,316	3,439	3,449	3,502	3,778	4,060	
Current Liabilities Total	817	916	1,003	1,514	2,054	2,778	2,583	2,583	3,077	3,182	3,247	3,316	3,439	3,449	3,502	3,778	4,060	
Long-term Liabilities																		
I.E. & I.F.Z.	7,920	15,121	52,095	87,786	147,007	190,765	203,609	203,298	199,825	193,972	184,172	171,491	157,759	144,119	130,439	62,097	4,858	
I.E. & I.F.Z.	9,305	9,305	18,034	45,510	59,251	78,038	92,734	99,681	99,478	95,238	51,281	85,212	80,724	74,031	67,338	33,875	5,553	
Long-term Liabilities Total	17,225	24,426	70,129	133,296	206,258	268,803	296,343	302,979	299,303	289,210	275,453	257,543	238,483	218,150	197,777	95,972	10,411	
Liabilities Total	9,421	24,426	71,132	137,310	208,412	269,606	298,926	305,961	301,379	292,391	278,708	269,959	241,922	231,593	201,280	99,590	14,492	
Net Worth																		
Government Funds																		
Port	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	
I.E. & I.F.Z.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sub-Total	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	35,940	
Retained Earnings	12,391	13,181	14,229	15,296	16,351	17,406	18,461	19,516	20,571	21,626	22,681	23,736	24,791	25,846	26,901	27,956	29,011	
Net Income	48,331	56,476	65,528	85,540	105,552	125,564	145,576	165,588	185,600	205,612	225,624	245,636	265,648	285,660	305,672	325,684	345,696	
Liabilities & Net Worth Total	57,750	82,818	136,680	223,751	293,310	359,976	381,547	407,470	409,248	409,360	409,932	407,561	409,854	401,815	422,544	506,193	713,623	



JAPAN INTERNATIONAL COOPERATION AGENCY