

2 CAPACITY CALCULATION

2-1 Grit Chamber and Screen (Hourly Maximum)

ITEM	SIGN	UNIT	CALCULATION	RESULT
Type	-	-	Parallel Flow Type	
Design Flow	Q1	m ³ /day	-	23,100
	Q2	m ³ /sec	-	0.267
Water Surface Load	WSL	m ³ /m ² /day	-	1,800
Required Surface Area	RSA	m ²	Q1/WSL	12,833
Basin Number (Total)	BN	basin	-	3
Basin Number (Stand-By)	BNS	basin	-	1
Average Velocity	V	m/sec	-	0.30
Depth	H	m	-	0.70
Width Therefore	W1	m	Q2/(V*H)	1.273
	W2	m	-	1.20
Length Therefore	L1	m	RSA/W2/(BN-BNS)	5.347
	L2	m	-	5.50
Dimension (W) (L) (Basin) (Stand-By)	W	m	W2	1.20
	L	m	L2	5.50
	-	basin	BN	2
	-	stand-by	BNS	1
Screen Type	-	-	Fine Bar Screen	
Screen Set Number	SSN	set	BN	3
Check		UNIT	APPLICATION	RESULT
Water Surface Load		m ³ /m ² /day	> 1800	1,750
Average Velocity		m/sec	> 0.3	0.16

2-2 Complete Mixing Aerated Lagoon (Daily Maximum)

ITEM	SIGN	UNIT	CALCULATION	RESULT
Type	-	-	Rectangular Type	
Design Flow	Q1	m3/day	-	17,000
	Q2	m3/hr	-	708.33
Retention Time	T1	day	-	1.50
Inlet BOD Quality	So	mg/L	-	240
Required Volume	V1	m3/basin	$Q1 * T$	25,500
Basin Number	BN	basin	-	4
Required Volume per Basin	VBN	m3/basin	$Q1 * T / BN$	6,375
Water Depth	H	m	-	3.00
Required Surface Area	A	m ²	V / H	2,125
Width	W	m	-	60.00
Length	L1	m	A / W	35.417
	Therefore L2	m	-	36.00
Oxygen Demand Rate	PR1	kg/h	$(4.16 * 10^{-5}) * r * Q1 * So$	255
-max. oxygen uptake	r	W/m ³	-	1.5
Aeration Unit Power Rate	PRO	kg/h	$1000 * PR1 / (N * Q1 * T1)$	5.25
	Therefore PRO	W/m ³	-	5.6
-aeration performance	N	W/m ³	-	1.9
Power Requirement	P1	kW	-	150.0
1) Oxygen Requirement	P1O	kW	$PR1 / N$	134.0
2) Mixing Power	P1M	kW	$V1 * P0 * 10^{-3}$	153.0
Dimension	(Width)	W	W	60.00
	(Length)	L	L2	36.00
	(Depth)	H	H	3.00
	(Basin)	-	basin	BN
Aerator Type	-	-	Slanting Shaft Screw Acerator	
Check		UNIT	APPLICATION	RESULT
Retention Time		day	1.5 - 2.5	1.52

2-3 Partial Mixing Aerated Lagoon (Daily Maximum)

ITEM	SIGN	UNIT	CALCULATION	RESULT
Type	-	-	Rectangular Type	
Design Flow	Q1	m3/day	-	17,000
	Q2	m3/hr	-	708.33
Retention Time	T2	day	-	2.00
Required Volume	V2	m3/basin	Q2*T	34,000
Basin Number	BN	basin	-	4
Cells Number	CN	cell/basin	-	3
Stand-by Cell Number	CNS	basin	-	1
Sludge Accumulation	SA	m3/year	$365*Q1*Xi/(x*10^6)$	8,532
-inert solid concentration	Xi	mg/l	-	55
-weight fraction of solids	x	-	-	0.04
No. of Cells Cleaned per Year	CNC	basin	-	3
Total Sludge Accumulation	TSA	m3	-	12,798
Required Volume	V	m3/cell	$(Q1*T+TSA)/(BN*CN-CNS)$	4,254
Water Depth	D	m	-	4.00
Required Surface Area	A	m2/cell	V/H	1,064
Width	W	m	-	60.00
Length	L1	m	A/W	17.726
Therefore	L1	m	-	18.00
Power Requirement	P2	kW	-	36.0
1) Mixing Power	P2M	kW	$Q1*T2*CN*10^{-3}$	34.0
Dimension (Width)	W	m	W	60.00
(Length)	L	m	L1	18.00
(Depth)	H	m	H	4.00
(Basin)	-	basin	BN	4
(Cell)	-	cell/basin	CN	3
(Stand-by Cell)	-	cell	-	1
Aerator Type	-	-	Slanting Shaft Screw Aerator	
Check		UNIT	APPLICATION	RESULT
Surface Area		m2	-	12,960
Retention Time		day	2.0	2.04

2-4 Disinfection Tank (Daily Maximum)

ITEM	SIGN	UNIT	CALCULATION	RESULT
Chemical Type	-	-	Chlorination Type	
Design Flow	Q1	m ³ /day	-	17,000
	Q2	m ³ /min	-	11.81
Retention Time	T	min.	-	15.0
Basin Number	BN	basin	-	2
Required Volume	V	m ³	Q2*T	89
Width	W	m	-	3.00
Water Depth	H	m	-	1.50
Length therefore	L1	m	V/(W*H)	19.676
	L2	m	-	20.00
Dosage	D	mg/L	-	3.0
Required Chemical Therefore	RC1	kg/day	Q1*D*10 ⁻³ /C	51.00
	RC2	kg/hr	RC1/24	2.13
Dimension (Width) (Length) (Depth) (Depth)	W	m	W	3.00
	L	m	L2	20.00
	H	m	H	1.50
	BN	basin	-	2
Chlorine Feeder	-	unit	including 1 for stand-by	3
Check		UNIT	APPLICATION	RESULT
Retention Time		min.	> 15	15.2

Appendix 18.5 Summary of Construction Cost

Kandy - Gannoruwa Exchange Rate = 1.8

Construction Cost - Master Plan : Alternatives

Facilities	Specifications	Alternative 1			Alternative 2			
		Civil	M & E	Total	Specifications	Civil	M & E	Total
1. Sewer								
Sub-Total		777,683		777,683		747,251		747,251
2. Pumping Station								
Kandy								
P/S 1	0.74*27*2	918	2,185		0.74*27*2	918	2,185	
P/S 2-1	1.74*48*2	1,383	4,211					
P/S 2-2	1.74*48*2	1,383	4,211					
STP-1	9.0*14*4	7,211	12,050		8.2*14*4	7,211	11,275	
STP-2	4.5*14*4	0	3,661		4.1*14*4	0	3,454	
Katugastota								
STP					1.74*24*2	1,210	2,438	
Sub-Total		10,895	26,317	37,212		9,339	19,351	28,690
3. Sewage Treatment Plant								
Kandy	18,000m3/day	358,896	666,558		17,000m3/day	344,809	636,899	
Katugastota					1,700m3/day	45,428	35,242	
Sub-Total		358,896	666,558	1,025,454		390,237	672,141	1,062,378
Total		1,147,474	692,875	1,840,349		1,146,827	691,492	1,838,319

Construction Cost - Feasibility Study (Original - Case A)

Facilities	Specifications	M/P (Alternative 2)			F/S (Phase 1)				Phase 2			
		Civil	M & E	Total	Specifications	Civil	M & E	Total	Specifications	Civil	M & E	Total
1. Sewer												
Sub-Total				747,251		463,191		463,191		284,060		284,060
2. Pumping Station												
Kandy												
L/S 1	0.74*27*2	918	2,185		0.74*27*2	918	2,185					
STP-1	8.2*14*2	7,211	11,275		8.2*14*2	7,211	8,137		8.2*14*2	0	3,137	
STP-2	4.1*14*2	0	3,454		4.1*14*2	0	1,727		4.1*14*2	0	1,727	
Katugastota												
STP	1.74*24*2	1,210	2,438			0	0		1.74*24*2	1,210	2,438	
Sub-Total		9,339	19,351	28,690		8,129	12,049	20,178		1,210	7,302	8,512
3. Sewage Treatment Plant												
Kandy	17,000m3/day	344,809	636,899		8,500m3/day	190,707	320,246		8,500m3/day	154,102	316,654	
Katugastota	1,700m3/day	45,428	35,242			0	0		1,700m3/day	45,428	35,242	
Sub-Total		390,237	672,141	1,062,378		190,707	320,246	510,953		199,530	351,896	551,426
Total		1,146,827	691,492	1,838,319		662,027	332,294	994,321		484,800	359,197	843,997

Construction Cost - Feasibility Study (Gannoruwa - Oxidation Ditch - Case B)

Facilities	Specifications	M/P (Alternative 2)			F/S (Phase 1)				Phase 2			
		Civil	M & E	Total	Specifications	Civil	M & E	Total	Specifications	Civil	M & E	Total
1. Sewer												
Sub-Total				821,723		537,663		537,663		284,060		284,060
2. Pumping Station												
Kandy												
P/S 1	0.74*27*2	918	2,185		0.74*27*2	918	2,185					
P/S 2	5.47*17*4	7,211	11,333		5.47*17*3	7,211	10,083		5.47*17*1	0	1,250	
STP	5.47*13*4	3,234	3,983		5.47*13*3	3,234	2,988		5.47*13*1	0	996	
Katugastota												
STP	1.74*24*2	1,210	2,438			0	0		1.74*24*2	1,210	2,438	
Sub-Total		12,573	19,939	32,512		11,363	15,255	26,618		1,210	4,684	5,894
3. Sewage Treatment Plant												
Kandy	17,000m3/day	334,076	636,783		8,500m3/day	185,341	318,392		8,500m3/day	148,735	318,392	
Katugastota	1,700m3/day	45,428	35,242			0	0		1,700m3/day	45,428	35,242	
Sub-Total		379,504	672,025	1,051,529		185,341	318,392	503,733		194,163	353,634	547,797
Total		1,213,800	691,964	1,905,764		734,367	333,647	1,068,014		479,433	358,317	837,750

Construction Cost - Feasibility Study (Gannoruwa - Aerated Lagoon - CaseC)

Facilities	Specifications	M/P (Alternative 2)			F/S (Phase 1)				Phase 2			
		Civil	M & E	Total	Specifications	Civil	M & E	Total	Specifications	Civil	M & E	Total
1. Sewer												
Sub-Total				821,723		537,663		537,663		284,060		284,060
2. Pumping Station												
Kandy												
P/S 1	0.74*27*2	918	2,185		0.74*27*2	918	2,185					
P/S 2	5.47*17*4	7,211	11,333		5.47*17*3	7,211	10,083		5.47*17*1	0	1,250	
STP	5.47*13*4	3,234	3,983		5.47*13*3	3,234	2,988		5.47*13*1	0	996	
Katugastota												
STP	1.74*24*2	1,210	2,438			0	0		1.74*24*2	1,210	2,438	
Sub-Total		12,573	19,939	32,512		11,363	15,255	26,618		1,210	4,684	5,894
3. Sewage Treatment Plant												
Kandy	17,000m3/day	408,341	237,086		8,500m3/day	209,420	119,383		8,500m3/day	198,921	117,703	
Katugastota	1,700m3/day	45,428	35,242			0	0		1,700m3/day	45,428	35,242	
Sub-Total		453,769	272,328	726,097		209,420	119,383	328,803		244,349	152,945	397,294
Total		1,288,065	292,267	1,580,332		758,446	134,638	893,084		529,619	157,629	687,248

Appendix 18.6 Cost of Sewer (Gannoruwa)

(Unit : Rs) Master Plan

Feasibility Study

ITEM	DESCRIPTION	Depth	UNIT	RATE	QUANTITY	COST	QUANTITY	COST
HP Pipe Laying	825 mm	1.5	m	20,005	2,150	43,010,750	2,150	43,010,750
	825 mm	2.5	m	23,413	300	7,023,900	300	7,023,900
DI Pipe Laying	350 mm	1.5	m	12,932	150	1,939,800	150	1,939,800
	500 mm	1.5	m	19,883	900	17,894,700	900	17,894,700
Manhole	Type 2	2	Nr	93,941	49	4,603,109	49	4,603,109
TOTAL	Sewer Main + Lateral				3,500	74,472,259		74,472,259
	Sewer Main				3,500			

Appendix 18.7 Storage Capacity of Sewer (Gannoruwa)

Phase 1 (2005)

1. Getambe Pumping Station

(1) Sewage Flow

$$Q_{IM} = 12,200 \text{ m}^3/\text{day} = 508 \text{ m}^3/\text{hour} \text{ (Hourly Maximum Sewage Flow to STP)}$$

(2) Sewer to be used for Sewage

Since Pumping Station is located at GL+468m, sewers with invert level of +467m is considered to use for sewer storage. Length and Pipe Nos. of these sewers are as follows;

$$\phi 825. \quad L = 600\text{m} \text{ (Allowance 50\%)}$$

(Assumption)

(3) Manhole

$$\text{Nos. of Manhole} \quad \frac{600}{50} = 12 \quad (50\text{m pitch})$$

$$\text{Manhole Depth} \quad 2.5\text{m} \text{ (Assumption)}$$

(4) Calculation of Storage Capacity

a) Sewer

$$\frac{0.825^2 \times 3.14}{4} \times 600 \times \left(1 - \frac{1}{1.5}\right) = 106.9 \text{ m}^3$$

b) Manhole

$$\frac{1.2^2 \times 3.14}{4} \times (2.5 - 0.825) \times 12 = 22.7 \text{ m}^3$$

$$\text{Total } 129.6 \text{ m}^3$$

(5) Storage Time

$$\frac{129.6 \text{ m}^3}{508 \text{ m}^3/\text{hour}} = 0.26 \text{ hour} = \mathbf{15.3 \text{ min}}$$

Appendix 18.8 Annual Operation and Maintenance Cost

Kandy - Gannoruwa

Kandy (Original) - Case A

Master Plan Alternative 1 (Not Applied)

Item	Electricty				Spare Parts	
	m/Day	liters	km	km ³	No. Runneth	Cost
1. Sewer					5	30,000
2. Pumping Station						
3. Kandy	44	14.2	2.2	31	0	3,185
4. PWS 1	632	44	14.2	2.2	0	6,000
5. PWS 2	13,883	328	42.2	30	1	4,510
6. PWS 3	13,883	328	42.2	30	1	4,510
7. PWS 4	13,883	328	42.2	30	1	4,510
8. Sub-Total	15,235	510	28.2	43	2	12,711
9. Maintenance						
10. Spare Parts						
11. Sewer Treatment Plant	17,000	104	14.3	15	7	43,000
12. Kandy	17,000	104	14.3	15	7	43,000
13. PWS 1	17,000	104	14.3	15	7	43,000
14. PWS 2	17,000	104	14.3	15	7	43,000
15. PWS 3	17,000	104	14.3	15	7	43,000
16. PWS 4	17,000	104	14.3	15	7	43,000
17. Sub-Total	68,000	416	56.2	28	28	189,996
Total	2,177,334	24,139,440	3,620,403	40	37	217,737
Grand Total						2,177,334
						24,139,440
						3,620,403
						217,737
Choice Electricity						334,339
Choice Electricity						17,031,104
Master Power						1,034,000
Master Power						1,034,000
Spare Parts						5,024,796

Kandy (Gannoruwa - Oxidation Ditch) - Case B

Master Plan Alternative 2 (Applied) - Operation Starting 2014

Item	Electricty				Spare Parts	
	m/Day	liters	km	km ³	No. Runneth	Cost
1. Sewer					5	30,000
2. Pumping Station						
3. Kandy	44	14.2	2.2	31	0	3,185
4. PWS 1	632	44	14.2	2.2	0	6,000
5. PWS 2	13,883	328	42.2	30	1	4,510
6. PWS 3	13,883	328	42.2	30	1	4,510
7. PWS 4	13,883	328	42.2	30	1	4,510
8. Sub-Total	15,235	510	28.2	43	2	12,711
9. Maintenance						
10. Spare Parts						
11. Sewer Treatment Plant	17,000	104	14.3	15	7	43,000
12. Kandy	17,000	104	14.3	15	7	43,000
13. PWS 1	17,000	104	14.3	15	7	43,000
14. PWS 2	17,000	104	14.3	15	7	43,000
15. PWS 3	17,000	104	14.3	15	7	43,000
16. PWS 4	17,000	104	14.3	15	7	43,000
17. Sub-Total	68,000	416	56.2	28	28	189,996
Total	3,169,334	34,034,373	5,240,806	68	65	316,733
Grand Total						3,169,334
						34,034,373
						5,240,806
						316,733
Choice Electricity						334,339
Choice Electricity						18,800,139
Master Power						1,988,000
Master Power						1,988,000
Spare Parts						6,919,643

Feasibility Study - Operation Starting 2004

Item	Electricty				Spare Parts	
	m/Day	liters	km	km ³	No. Runneth	Cost
1. Sewer					5	30,000
2. Pumping Station						
3. Kandy	44	14.2	2.2	31	0	3,185
4. PWS 1	632	44	14.2	2.2	0	6,000
5. PWS 2	13,883	328	42.2	30	1	4,510
6. PWS 3	13,883	328	42.2	30	1	4,510
7. PWS 4	13,883	328	42.2	30	1	4,510
8. Sub-Total	15,235	510	28.2	43	2	12,711
9. Maintenance						
10. Spare Parts						
11. Sewer Treatment Plant	17,000	104	14.3	15	7	43,000
12. Kandy	17,000	104	14.3	15	7	43,000
13. PWS 1	17,000	104	14.3	15	7	43,000
14. PWS 2	17,000	104	14.3	15	7	43,000
15. PWS 3	17,000	104	14.3	15	7	43,000
16. PWS 4	17,000	104	14.3	15	7	43,000
17. Sub-Total	68,000	416	56.2	28	28	189,996
Total	1,094,965	11,339,346	1,739,448	12	12	275,250
Grand Total						1,094,965
						11,339,346
						1,739,448
						275,250
Choice Electricity						160,571
Choice Electricity						8,046,377
Master Power						1,175,000
Master Power						1,175,000
Spare Parts						5,066,500

Kandy (Gannoruwa - Arrand Lagoon) - Case C

Master Plan Alternative 2 (Applied) - Operation Starting 2014

Item	Electricty				Spare Parts	
	m/Day	liters	km	km ³	No. Runneth	Cost
1. Sewer					5	30,000
2. Pumping Station						
3. Kandy	44	14.2	2.2	31	0	3,185
4. PWS 1	632	44	14.2	2.2	0	6,000
5. PWS 2	13,883	328	42.2	30	1	4,510
6. PWS 3	13,883	328	42.2	30	1	4,510
7. PWS 4	13,883	328	42.2	30	1	4,510
8. Sub-Total	15,235	510	28.2	43	2	12,711
9. Maintenance						
10. Spare Parts						
11. Sewer Treatment Plant	17,000	104	14.3	15	7	43,000
12. Kandy	17,000	104	14.3	15	7	43,000
13. PWS 1	17,000	104	14.3	15	7	43,000
14. PWS 2	17,000	104	14.3	15	7	43,000
15. PWS 3	17,000	104	14.3	15	7	43,000
16. PWS 4	17,000	104	14.3	15	7	43,000
17. Sub-Total	68,000	416	56.2	28	28	189,996
Total	1,850,222	20,253,959	2,852,557	30	30	282,947
Grand Total						1,850,222
						20,253,959
						2,852,557
						282,947
Choice Electricity						334,339
Choice Electricity						15,170,039
Master Power						1,034,000
Master Power						1,034,000
Spare Parts						5,822,947

Feasibility Study - Operation Starting 2004

Item	Electricty				Spare Parts	
	m/Day	liters	km	km ³	No. Runneth	Cost
1. Sewer					5	30,000
2. Pumping Station						
3. Kandy	44	14.2	2.2	31	0	3,185
4. PWS 1	632	44	14.2	2.2	0	6,000
5. PWS 2	13,883	328	42.2	30	1	4,510
6. PWS 3	13,883	328	42.2	30	1	4,510
7. PWS 4	13,883	328	42.2	30	1	4,510
8. Sub-Total	15,235	510	28.2	43	2	12,711
9. Maintenance						
10. Spare Parts						
11. Sewer Treatment Plant	17,000	104	14.3	15	7	43,000
12. Kandy	17,000	104	14.3	15	7	43,000
13. PWS 1	17,000	104	14.3	15	7	43,000
14. PWS 2	17,000	104	14.3	15	7	43,000
15. PWS 3	17,000	104	14.3	15	7	43,000
16. PWS 4	17,000	104	14.3	15	7	43,000
17. Sub-Total	68,000	416	56.2	28	28	189,996
Total	1,650,222	17,740,659	2,452,557	24	24	262,947
Grand Total						1,650,222
						17,740,659
						2,452,557
						262,947
Choice Electricity						334,339
Choice Electricity						13,170,035
Master Power						1,034,000
Master Power						1,034,000
Spare Parts						5,262,557

Appendix 18.9 Financial Analysis for Case B

- Appendix 18.9.1 Pro-forma Financial Statements**
- Kandy Sewerage Project (Master Plan, Case B-1)
- Appendix 18.9.2 Calculation of FIRR**
- Kandy Sewerage Project (Master Plan, Case B-1)
- Appendix 18.9.3 Pro-forma Financial Statements**
- Kandy Sewerage Project (Master Plan, Case B-2)
- Appendix 18.9.4 Calculation of FIRR**
- Kandy Sewerage Project (Master Plan, Case B-2)
- Appendix 18.9.5 Pro-forma Financial Statements**
- Kandy Sewerage Project (Feasibility Study, Case B-1)
- Appendix 18.9.6 Calculation of FIRR**
- Kandy Sewerage Project (Feasibility Study, Case B-1)
- Appendix 18.9.7 Pro-forma Financial Statements**
- Kandy Sewerage Project (Feasibility Study, Case B-2)
- Appendix 18.9.8 Calculation of FIRR**
- Kandy Sewerage Project (Feasibility Study, Case B-2)

Table A18.9.1

Pro Forma Financial Statements (M Rs.)
Kandy Sewerage Project (M/P)

Case B-1 100 % subsidy
1.0 % tariff increase in real terms

Year	2006	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	
Fund Flow Table																												
Annual Sales	0.0	0.0	0.0	0.0	4.8	10.9	18.6	28.3	32.2	36.6	41.6	47.3	53.7	61.0	79.9	99.4	121.9	148.2	167.9	190.3	215.6	246.7	276.9	313.8	355.6	396.7	440.7	
Subsidy from GSL	0.0	195.7	808.2	1,588.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	286.5	1,431.7	3,383.6	0.0	0.0	0.0	0.0	1,930.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Loan (10% Interest)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Capital Investment	0.0	195.7	808.2	1,588.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	286.5	1,431.7	3,383.6	0.0	0.0	0.0	0.0	1,930.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Annual Loan Repayment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
O & M	0.0	0.0	0.0	0.0	11.8	17.2	23.5	31.0	34.1	37.5	41.2	45.4	49.9	54.9	61.0	68.4	76.8	85.8	95.4	105.6	116.4	127.7	139.4	151.5	164.0	176.9	190.3	
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.5	1.1	1.5	2.8	3.2	3.7	4.2	4.7	5.4	6.1	8.0	9.9	12.2	14.8	16.8	19.0	21.6	24.7	27.7	31.4	35.5	39.7	44.1	
Net Cash Inflow	0.0	0.0	0.0	0.0	(7.5)	(7.3)	(6.7)	(5.5)	(5.1)	(4.5)	(3.8)	(2.8)	(1.6)	(0.0)	(18.5)	(20.7)	(23.2)	(25.9)	(24.0)	(21.4)	(17.9)	(11.1)	(7.2)	0.4	9.8	15.7	21.2	
Working Capital Burden																												
Cumulative cash deficit	0.0	0.0	0.0	0.0	(7.5)	(14.8)	(21.5)	(27.1)	(32.2)	(36.7)	(40.5)	(43.3)	(44.9)	(44.9)	(63.4)	(84.2)	(107.4)	(133.3)	(157.3)	(178.7)	(196.5)	(207.7)	(214.9)	(214.5)	(204.7)	(189.0)	(167.8)	
10% interest on above	0.0	0.0	0.0	0.0	(0.7)	(1.5)	(2.2)	(2.7)	(3.2)	(3.7)	(4.0)	(4.3)	(4.5)	(4.5)	(6.3)	(8.4)	(10.7)	(13.3)	(15.7)	(17.9)	(19.7)	(20.8)	(21.5)	(21.4)	(20.5)	(18.9)	(16.8)	
Cum. Interest Payment	0.0	0.0	0.0	0.0	(0.7)	(2.2)	(4.4)	(7.1)	(10.3)	(14.0)	(18.0)	(22.4)	(26.8)	(31.3)	(37.7)	(46.1)	(56.8)	(70.2)	(85.9)	(103.8)	(123.4)	(144.2)	(165.7)	(187.1)	(207.6)	(226.5)	(243.3)	
Income Statement																												
Annual Sales	0.0	0.0	0.0	0.0	4.8	10.9	18.6	28.3	32.2	36.6	41.6	47.3	53.7	61.0	79.9	99.4	121.9	148.2	167.9	190.3	215.6	246.7	276.9	313.8	355.6	396.7	440.7	
O & M	0.0	0.0	0.0	0.0	11.8	17.2	23.5	31.0	34.1	37.5	41.2	45.4	49.9	54.9	61.0	68.4	76.8	85.8	95.4	105.6	116.4	127.7	139.4	151.5	164.0	176.9	190.3	
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.5	1.1	1.5	2.8	3.2	3.7	4.2	4.7	5.4	6.1	8.0	9.9	12.2	14.8	16.8	19.0	21.6	24.7	27.7	31.4	35.6	39.7	44.1	
Annual Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Net Income	0.0	0.0	0.0	0.0	(7.5)	(7.3)	(6.7)	(5.5)	(5.1)	(4.5)	(3.8)	(2.8)	(1.6)	(0.0)	(18.5)	(20.7)	(23.2)	(25.9)	(24.0)	(21.4)	(17.9)	(11.1)	(7.2)	0.4	9.8	15.7	21.2	
Balance Sheet																												
Cash	0.0	0.0	0.0	0.0	(7.5)	(14.8)	(21.5)	(27.1)	(32.2)	(36.7)	(40.5)	(43.3)	(44.9)	(44.9)	(63.4)	(84.2)	(107.4)	(133.3)	(157.3)	(178.7)	(196.5)	(207.7)	(214.9)	(214.5)	(204.7)	(189.0)	(167.8)	
Capital Investment	115.8	924.0	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	2,511.9	
Less Accum. Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Land	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	
Total Assets	195.7	1,003.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	
Loan Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Grant from GSL	195.7	1,003.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	
Reserved Fund	0.0	0.0	0.0	0.0	(7.5)	(14.8)	(21.5)	(27.1)	(32.2)	(36.7)	(40.5)	(43.3)	(44.9)	(44.9)	(63.4)	(84.2)	(107.4)	(133.3)	(157.3)	(178.7)	(196.5)	(207.7)	(214.9)	(214.5)	(204.7)	(189.0)	(167.8)	
Total Liab. & Capital	195.7	1,003.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	

Table A18.9.1

Pro Forma Financial Statements (M Rs.)
Kandy Sewerage Project (M/P)

Case B-1 100 % subsidy
1.0 % tariff increase in real terms

Year	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
Fund Flow Table																								
Annual Sales	489.7	544.0	604.4	671.5	746.0	828.8	920.8	1,023.0	1,136.6	1,262.8	1,402.9	1,558.6	1,731.7	1,923.9	2,137.4	2,374.7	2,638.3	2,931.1	3,256.5	3,617.9	4,019.5	4,465.7	4,961.4	5,512.1
Subsidy from GSL	0.0	5,001.7	0.0	0.0	0.0	0.0	8,062.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20,893.3	0.0	0.0	0.0	0.0	35,677.1	0.0	0.0
Loan (10% Interest)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital Investment	0.0	5,001.7	0.0	0.0	0.0	0.0	8,062.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20,893.3	0.0	0.0	0.0	0.0	35,677.1	0.0	0.0
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Annual Loan Repayment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
O & M	413.0	454.3	499.7	549.7	604.6	665.1	731.6	804.8	885.3	973.8	1,071.2	1,178.3	1,296.1	1,425.7	1,568.3	1,725.1	1,897.6	2,087.4	2,296.1	2,525.7	2,778.3	3,056.2	3,361.8	3,697.9
Overhead (10 % of Sales)	49.0	54.4	60.4	67.1	74.6	82.9	92.1	102.3	113.7	126.3	140.3	155.9	173.2	192.4	213.7	237.5	263.8	293.1	325.6	361.8	402.0	446.6	496.1	551.2
Net Cash Inflow	27.7	35.3	44.3	54.7	66.8	80.8	97.1	116.0	137.7	162.7	191.5	224.5	262.4	305.8	355.4	412.1	476.8	550.6	634.7	730.4	839.3	963.0	1,103.5	1,262.9
Working Capital Burden																								
Cumulative cash deficit	(140.1)	(104.7)	(60.5)	(5.8)	61.0	141.8	238.9	354.9	492.6	655.3	846.7	1,071.2	1,333.6	1,639.4	1,994.8	2,406.9	2,883.7	3,434.3	4,069.0	4,799.4	5,638.6	6,601.6	7,705.1	8,968.0
10% Interest on above	(14.0)	(10.5)	(6.0)	(0.6)	6.1	14.2	23.9	35.5	49.3	65.5	84.7	107.1	133.4	163.9	199.5	240.7	288.4	343.4	406.9	479.9	563.9	660.2	770.5	896.8
Cum. Interest Payment	(257.3)	(267.7)	(273.8)	(274.4)	(268.3)	(254.1)	(230.2)	(194.7)	(145.5)	(79.9)	4.7	111.9	245.2	409.2	608.6	849.3	1,137.7	1,481.1	1,888.0	2,368.0	2,931.8	3,592.0	4,362.5	5,259.3
Income Statement																								
Annual Sales	489.7	544.0	604.4	671.5	746.0	828.8	920.8	1,023.0	1,136.6	1,262.8	1,402.9	1,558.6	1,731.7	1,923.9	2,137.4	2,374.7	2,638.3	2,931.1	3,256.5	3,617.9	4,019.5	4,465.7	4,961.4	5,512.1
O & M	413.0	454.3	499.7	549.7	604.6	665.1	731.6	804.8	885.3	973.8	1,071.2	1,178.3	1,296.1	1,425.7	1,568.3	1,725.1	1,897.6	2,087.4	2,296.1	2,525.7	2,778.3	3,056.2	3,361.8	3,697.9
Overhead (10 % of Sales)	49.0	54.4	60.4	67.1	74.6	82.9	92.1	102.3	113.7	126.3	140.3	155.9	173.2	192.4	213.7	237.5	263.8	293.1	325.6	361.8	402.0	446.6	496.1	551.2
Annual Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Income	27.7	35.3	44.3	54.7	66.8	80.8	97.1	116.0	137.7	162.7	191.5	224.5	262.4	305.8	355.4	412.1	476.8	550.6	634.7	730.4	839.3	963.0	1,103.5	1,262.9
Balance Sheet																								
Cash	(140.1)	(104.7)	(60.5)	(5.8)	61.0	141.8	238.9	354.9	492.6	655.3	846.7	1,071.2	1,333.6	1,639.4	1,994.8	2,406.9	2,883.7	3,434.3	4,069.0	4,799.4	5,638.6	6,601.6	7,705.1	8,968.0
Capital Investment	9,474.6	14,476.3	14,476.3	14,476.3	14,476.3	14,476.3	22,538.4	22,538.4	22,538.4	22,538.4	22,538.4	22,538.4	22,538.4	22,538.4	22,538.4	22,538.4	22,538.4	22,538.4	22,538.4	22,538.4	22,538.4	22,538.4	22,538.4	22,538.4
Less Accum. Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Land	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9
Total Assets	9,483.5	14,520.5	14,564.8	14,619.4	14,686.2	14,767.1	22,926.2	23,042.2	23,179.8	23,342.5	23,534.0	23,758.5	24,020.9	24,326.7	24,682.1	25,094.1	25,564.3	26,094.9	26,691.9	27,361.0	28,109.0	28,940.6	29,862.8	30,882.5
Loan Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grant from GSL	9,623.6	14,625.3	14,625.3	14,625.3	14,625.3	14,625.3	22,687.3	22,687.3	22,687.3	22,687.3	22,687.3	22,687.3	22,687.3	22,687.3	22,687.3	22,687.3	22,687.3	22,687.3	22,687.3	22,687.3	22,687.3	22,687.3	22,687.3	22,687.3
Reserves Fund	(140.1)	(104.7)	(60.5)	(5.8)	61.0	141.8	238.9	354.9	492.6	655.3	846.7	1,071.2	1,333.6	1,639.4	1,994.8	2,406.9	2,883.7	3,434.3	4,069.0	4,799.4	5,638.6	6,601.6	7,705.1	8,968.0
Total Liab. & Capital	9,483.5	14,520.5	14,564.8	14,619.4	14,686.2	14,767.1	22,926.2	23,042.2	23,179.8	23,342.5	23,534.0	23,758.5	24,020.9	24,326.7	24,682.1	25,094.1	25,564.3	26,094.9	26,691.9	27,361.0	28,109.0	28,940.6	29,862.8	30,882.5

Table A18.9.2

Calculation of FIRR
Kandy Sewerage Project (M/P)
Case B-1

(1998 Price)

Year	Volume		Tariff		Revenue	Investment	O&M	OH	Net Inflow	FIRR
	Dom cum/d	Non-Dom cum/d	Dom Rs./cum	Non-Dom Rs./cum	Total M Rs./Y					
2000										
2001						147.0			0.00	
2002						552.0			0.00	
2003						986.0			0.00	
2004	404	1,102	2.0	6.0	2.7		6.65	0.27	(4.21)	
2005	829	2,259	2.0	6.1	5.6		8.81	0.56	(3.76)	
2006	1,273	3,469	2.0	6.1	8.7		10.98	0.87	(3.15)	
2007	1,737	4,736	2.1	6.2	12.0		13.14	1.20	(2.35)	
2008	1,779	4,850	2.1	6.2	12.4		13.14	1.24	(1.98)	
2009	1,822	4,966	2.1	6.3	12.8		13.14	1.28	(1.59)	
2010	1,866	5,086	2.1	6.4	13.3		13.14	1.33	(1.20)	
2011	1,907	5,198	2.1	6.4	13.7	83.0	13.14	1.37	(0.81)	
2012	1,949	5,312	2.2	6.5	14.1	377.0	13.14	1.41	(0.41)	
2013	1,991	5,429	2.2	6.6	14.6	810.0	13.14	1.46	(0.01)	
2014	2,941	6,204	2.2	6.6	17.4		19.68	1.74	(4.03)	
2015	3,828	6,770	2.2	6.7	19.7		21.80	1.97	(4.10)	
2016	4,679	7,326	2.3	6.8	21.9		23.91	2.19	(4.18)	
2017	5,549	7,871	2.3	6.8	24.2		26.03	2.42	(4.23)	
2018	5,660	8,028	2.3	6.9	25.0	286.9	26.03	2.50	(3.57)	
2019	5,774	8,189	2.3	7.0	25.7		26.03	2.57	(2.89)	
2020	5,889	8,352	2.3	7.0	26.5		26.03	2.65	(2.19)	
2021	6,007	8,619	2.4	7.1	27.5		26.03	2.75	(1.24)	
2022	6,127	8,690	2.4	7.2	28.1		26.03	2.81	(0.73)	
2023	6,250	8,864	2.4	7.2	29.0		26.03	2.90	0.03	
2024	6,375	9,041	2.4	7.3	29.8		26.03	2.98	0.82	
2025	6,401	9,078	2.5	7.4	30.3		26.03	3.03	1.20	
2026	6,401	9,078	2.5	7.5	30.6		26.03	3.06	1.47	
2027	6,401	9,078	2.5	7.5	30.9		26.03	3.09	1.75	
2028	6,401	9,078	2.5	7.6	31.2	286.6	26.03	3.12	2.02	
2029	6,401	9,078	2.6	7.7	31.5		26.03	3.15	2.31	
2030	6,401	9,078	2.6	7.8	31.8		26.03	3.18	2.59	
2031	6,401	9,078	2.6	7.8	32.1		26.03	3.21	2.88	
2032	6,401	9,078	2.6	7.9	32.4		26.03	3.24	3.16	
2033	6,401	9,078	2.7	8.0	32.8	286.9	26.03	3.28	3.46	
2034	6,401	9,078	2.7	8.1	33.1		26.03	3.31	3.75	
2035	6,401	9,078	2.7	8.2	33.4		26.03	3.34	4.05	
2036	6,401	9,078	2.7	8.2	33.8		26.03	3.38	4.35	
2037	6,401	9,078	2.8	8.3	34.1		26.03	3.41	4.65	
2038	6,401	9,078	2.8	8.4	34.4		26.03	3.44	4.96	
2039	6,401	9,078	2.8	8.5	34.8		26.03	3.48	5.27	
2040	6,401	9,078	2.9	8.6	35.1		26.03	3.51	5.58	
2041	6,401	9,078	2.9	8.7	35.5		26.03	3.55	5.90	
2042	6,401	9,078	2.9	8.8	35.8		26.03	3.58	6.22	
2043	6,401	9,078	2.9	8.8	36.2	286.6	26.03	3.62	6.54	
2044	6,401	9,078	3.0	8.9	36.6		26.03	3.66	6.87	
2045	6,401	9,078	3.0	9.0	36.9		26.03	3.69	7.20	
2046	6,401	9,078	3.0	9.1	37.3		26.03	3.73	7.53	
2047	6,401	9,078	3.1	9.2	37.7		26.03	3.77	7.86	
2048	6,401	9,078	3.1	9.3	38.0	286.9	26.03	3.80	8.20	
2049	6,401	9,078	3.1	9.4	38.4		26.03	3.84	8.55	
2050	6,401	9,078	3.2	9.5	38.8	(406.0)	26.03	3.88	8.89	3.67%

- Note:
1. 1 % annual tariff increase in real terms.
 2. Unit tariff of Non Domestic User is 3 times of Domestic User.
 3. 100 % subsidy for capital investment.
 4. Overhead is assumed to be 10% of Revenue.
 5. Investment Cost in 2050 is assumed salvage value.

Table A18.9.3

Pro Forma Financial Statements (M Rs.)
Kandy Sewerage Project (M/P)

Case B-2 90 % subsidy
1.0 % tariff increase in real terms

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026		
Fund Flow Table																													
Annual Sales	0.0	0.0	0.0	0.0	7.6	17.4	29.7	45.1	51.3	58.3	66.4	75.4	85.6	97.2	125.8	155.1	188.9	228.2	258.5	293.0	332.0	380.1	426.4	483.2	547.6	610.8	678.6		
Subsidy from GSL	0.0	176.1	727.4	1,429.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	257.9	1,288.5	3,045.2	0.0	0.0	0.0	0.0	0.0	1,737.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Loan (10% Interest)	0.0	19.6	80.8	158.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.7	143.2	338.4	0.0	0.0	0.0	0.0	0.0	193.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Capital Investment	0.0	195.7	808.2	1,588.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	286.5	1,431.7	3,383.6	0.0	0.0	0.0	0.0	0.0	1,930.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Interest Payment (10%)	0.0	2.0	10.0	25.8	25.4	24.2	23.0	21.8	20.7	19.5	18.3	20.0	33.1	65.7	63.7	60.2	56.7	53.2	69.0	65.5	61.1	56.8	52.4	48.0	43.6	39.4	35.4		
Annual Loan Repayment	0.0	0.0	0.0	0.9	4.6	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	13.1	19.6	35.0	35.0	35.0	35.0	35.0	43.7	43.7	43.7	43.7	43.7	42.9	39.2		
O & M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.2	45.4	49.9	54.9	90.4	110.2	133.0	159.2	175.1	192.7	211.9	233.1	256.4	282.1	310.3	375.4		
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.8	1.7	3.0	4.5	5.1	5.8	6.6	7.5	8.6	9.7	12.6	15.5	18.9	22.8	25.9	29.3	33.2	38.0	42.8	48.3	54.8	61.1	67.9		
Net Cash Inflow	0.0	(2.0)	(0.0)	(26.7)	(34.1)	(35.7)	(28.6)	(19.5)	(15.2)	(10.4)	(4.9)	(1.8)	(9.2)	(36.5)	(47.9)	(50.2)	(32.7)	(19.2)	(20.6)	(0.1)	15.2	46.5	73.8	109.4	149.9	187.3	228.6		
Working Capital Burden																													
Cumulative cash deficit	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)		
10% interest on above	(0.2)	(1.2)	(3.9)	(9.9)	(7.3)	(10.9)	(13.7)	(15.7)	(17.2)	(18.2)	(18.7)	(18.9)	(19.8)	(23.5)	(28.3)	(33.3)	(36.8)	(38.8)	(40.8)	(40.8)	(39.5)	(34.7)	(27.3)	(16.3)	(1.4)	17.4	40.2		
Cum. Interest Payment	0.2	1.0	2.9	(4.4)	(15.3)	(29.0)	(44.6)	(61.8)	(80.0)	(98.8)	(117.7)	(137.5)	(160.9)	(189.2)	(222.5)	(259.3)	(299.3)	(338.1)	(379.8)	(408.3)	(408.3)	(346.7)	(272.9)	(163.5)	(498.7)	(481.4)	(441.1)		
Income Statement																													
Annual Sales	0.0	0.0	0.0	0.0	7.6	17.4	29.7	45.1	51.3	58.3	66.4	75.4	85.6	97.2	125.8	155.1	188.9	228.2	258.5	293.0	332.0	380.1	426.4	483.2	547.6	610.8	678.6		
O & M	0.0	0.0	0.0	0.0	11.8	17.2	23.5	31.0	34.1	37.5	41.2	45.4	49.9	54.9	90.4	110.2	133.0	159.2	175.1	192.7	211.9	233.1	256.4	282.1	310.3	341.5	375.4		
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.8	1.7	3.0	4.5	5.1	5.8	6.6	7.5	8.6	9.7	12.6	15.5	18.9	22.8	25.9	29.3	33.2	38.0	42.8	48.3	54.8	61.1	67.9		
Annual Depreciation	0.0	0.2	1.8	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	7.4	10.2	22.0	22.0	22.0	22.0	22.0	22.0	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8		
Interest Payment (10%)	0.0	2.0	10.0	25.8	25.4	24.2	23.0	21.8	20.7	19.5	18.3	20.0	33.1	65.7	63.7	60.2	56.7	53.2	69.0	65.5	61.1	56.8	52.4	48.0	43.6	39.4	35.4		
Net Income	0.0	(2.2)	(11.9)	(32.8)	(37.2)	(32.6)	(26.7)	(19.2)	(15.5)	(11.4)	(6.7)	(4.9)	(16.3)	(55.1)	(62.9)	(52.8)	(41.6)	(29.1)	(43.3)	(26.3)	(6.0)	20.4	43.1	73.0	107.1	137.3	168.1		
Balance Sheet																													
Cash	(2.0)	(12.0)	(38.7)	(72.8)	(108.5)	(137.1)	(156.6)	(171.9)	(182.3)	(187.2)	(187.2)	(189.0)	(198.2)	(234.6)	(282.5)	(332.7)	(368.5)	(387.7)	(408.3)	(408.3)	(393.2)	(346.7)	(272.9)	(163.5)	(13.6)	173.8	402.4		
Capital Investment	-17.3	790.9	2,378.8	2,378.8	2,378.8	2,378.8	2,378.8	2,378.8	2,378.8	2,378.8	2,378.8	2,396.3	4,028.0	7,411.6	7,411.6	7,411.6	7,411.6	7,411.6	7,411.6	7,411.6	7,411.6	7,411.6	7,411.6	7,411.6	7,411.6	7,411.6	7,411.6	7,411.6	
Less Accum. Depreciation	0.2	2.1	9.0	16.0	22.9	29.9	36.8	43.8	50.7	57.7	65.1	75.3	97.3	119.3	141.3	163.3	185.3	217.1	248.9	280.7	312.5	344.3	376.1	407.8	439.6	471.4	503.2		
Land	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	213.0	
Total Assets	193.5	989.8	2,544.1	2,503.1	2,460.4	2,424.8	2,398.3	2,376.2	2,358.8	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	
Loan Balance	19.6	100.4	258.3	232.7	241.9	230.2	218.4	206.6	194.8	183.0	183.0	193.9	311.3	656.6	637.0	602.0	567.0	532.1	690.1	655.1	611.4	567.6	523.9	480.2	436.4	393.6	354.4		
Grant from GSL	176.1	903.5	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	2,392.6	
Reserved Fund	(2.2)	(14.1)	(46.9)	(83.5)	(114.2)	(136.0)	(152.7)	(168.6)	(183.7)	(198.7)	(213.6)	(228.5)	(243.4)	(258.3)	(273.2)	(288.1)	(293.0)	(297.9)	(302.8)	(307.7)	(312.6)	(317.5)	(322.4)	(327.3)	(332.2)	(337.1)	(342.0)		
Total Liab. & Capital	193.5	989.8	2,544.1	2,503.1	2,460.4	2,424.8	2,398.3	2,376.2	2,358.8	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	2,346.9	

Table A18.9.3

**Pro Forma Financial Statements (M Rs.)
Kandy Sewerage Project (M/P)**

**Case B-2 90 % subsidy
1.0 % tariff increase in real terms**

Year	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	
Fund Flow Table																									
Annual Sales	754.0	857.7	930.6	1,039.9	1,148.7	1,276.2	1,417.9	1,575.3	1,750.1	1,944.4	2,160.2	2,400.0	2,666.4	2,962.4	3,291.2	3,656.5	4,062.4	4,513.3	5,014.3	5,570.9	6,189.2	6,876.3	7,639.5	8,487.5	
Subsidy from GSL	0.0	4,501.5	0.0	0.0	0.0	0.0	7,255.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18,804.0	0.0	0.0	0.0	0.0	30,309.4	0.0	0.0	
Loan (10% Interest)	0.0	500.2	0.0	0.0	0.0	0.0	806.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,089.3	0.0	0.0	0.0	0.0	3,367.7	0.0	0.0	
Capital Investment	0.0	5,001.7	0.0	0.0	0.0	0.0	8,062.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20,893.3	0.0	0.0	0.0	0.0	33,677.1	0.0	0.0	
Interest Payment (10%)	32.2	79.1	75.9	70.4	64.9	59.5	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	
Annual Loan Repayment	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	
O & M	413.0	454.3	499.7	549.7	604.6	665.1	731.6	804.8	885.3	973.8	1,071.2	1,178.3	1,296.1	1,425.7	1,568.3	1,725.1	1,897.6	2,087.4	2,296.1	2,525.7	2,778.3	3,056.2	3,361.8	3,697.9	
Overhead (10 % of Sales)	75.4	83.8	93.1	103.4	114.9	127.6	141.8	157.5	175.0	194.4	216.0	240.0	266.6	296.2	329.1	365.7	406.2	451.3	501.4	557.1	618.9	687.6	764.0	848.8	
Net Cash Inflow	276.8	272.4	323.1	359.2	424.4	497.0	497.0	586.7	654.7	775.3	915.9	1,055.4	1,210.8	1,384.0	1,577.0	1,800.3	1,830.6	2,097.7	2,310.4	2,652.8	3,094.1	3,121.9	3,595.0	3,984.5	
Working Capital Burden																									
Cumulative cash deficit	679.1	951.5	1,274.6	1,633.8	2,058.2	2,555.2	3,052.2	3,638.8	4,293.5	5,068.8	5,984.7	7,040.2	8,251.0	9,634.9	11,212.0	13,012.2	14,842.9	16,940.6	19,251.0	21,903.8	24,937.9	28,059.8	31,654.8	35,639.2	
10% interest on above	67.9	95.2	127.5	163.4	205.8	255.5	305.2	363.9	429.4	506.9	598.5	704.0	825.1	963.5	1,121.2	1,301.2	1,484.3	1,694.1	1,925.1	2,190.4	2,493.8	2,806.0	3,165.5	3,561.9	
Cur. Interest Payment	(373.2)	(278.1)	(150.6)	12.8	218.6	474.1	775.3	1,143.2	1,572.6	2,079.5	2,677.9	3,382.0	4,207.1	5,170.5	6,291.7	7,593.0	9,077.3	10,771.3	12,696.4	14,886.8	17,380.6	20,186.6	23,352.0	26,916.0	
Income Statement																									
Annual Sales	754.0	837.7	930.6	1,039.9	1,148.7	1,276.2	1,417.9	1,575.3	1,750.1	1,944.4	2,160.2	2,400.0	2,666.4	2,962.4	3,291.2	3,656.5	4,062.4	4,513.3	5,014.3	5,570.9	6,189.2	6,876.3	7,639.5	8,487.5	
O & M	413.0	454.3	499.7	549.7	604.6	665.1	731.6	804.8	885.3	973.8	1,071.2	1,178.3	1,296.1	1,425.7	1,568.3	1,725.1	1,897.6	2,087.4	2,296.1	2,525.7	2,778.3	3,056.2	3,361.8	3,697.9	
Overhead (10 % of Sales)	75.4	83.8	93.1	103.4	114.9	127.6	141.8	157.5	175.0	194.4	216.0	240.0	266.6	296.2	329.1	365.7	406.2	451.3	501.4	557.1	618.9	687.6	764.0	848.8	
Annual Depreciation	31.8	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	
Interest Payment (10%)	32.2	79.1	75.9	70.4	64.9	59.5	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	
Net Income	201.6	163.4	204.9	253.3	307.1	366.9	311.8	385.8	471.7	566.4	670.0	785.5	914.3	1,057.9	1,218.0	1,395.9	1,279.8	1,501.8	1,759.4	2,046.1	2,365.5	2,213.9	2,610.5	3,068.4	
Balance Sheet																									
Cash	679.1	951.5	1,274.6	1,633.8	2,058.2	2,555.2	3,052.2	3,638.8	4,293.5	5,068.8	5,984.7	7,040.2	8,251.0	9,634.9	11,212.0	13,012.2	14,842.9	16,940.6	19,251.0	21,903.8	24,937.9	28,059.8	31,654.8	35,639.2	
Capital Investment	9,341.5	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	14,343.2	
Less Accum. Depreciation	503.2	560.4	617.5	674.7	731.8	789.0	846.2	903.4	960.6	1,017.8	1,075.0	1,132.2	1,189.4	1,246.6	1,303.8	1,361.0	1,418.2	1,475.4	1,532.6	1,589.8	1,647.0	1,704.2	1,761.4	1,818.6	
Land	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	
Total Assets	9,799.5	15,016.4	15,282.3	15,584.4	15,951.7	16,391.5	24,852.4	25,341.1	25,897.7	26,575.0	27,392.9	28,350.3	29,463.0	30,749.0	32,228.0	33,930.2	36,450.2	38,943.9	42,533.9	47,235.2	53,165.2	60,450.4	69,531.9	80,983.5	
Loan Balance	322.4	790.6	758.7	704.0	649.3	594.6	546.1	494.4	438.5	379.6	316.0	248.5	181.0	111.8	41.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Grant from GSL	8,661.2	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	13,162.7	
Reserved Fund	815.9	1,063.0	1,361.0	1,717.7	2,139.7	2,634.2	3,087.8	3,631.1	4,277.8	5,038.6	5,924.7	6,950.2	8,131.2	9,483.3	11,024.4	12,794.0	14,480.0	16,433.2	18,694.0	21,297.2	24,281.6	27,683.1	30,557.7	34,474.8	
Total Liab. & Capital	9,799.5	15,016.4	15,282.3	15,584.4	15,951.7	16,391.5	24,852.4	25,341.1	25,897.7	26,575.0	27,392.9	28,350.3	29,463.0	30,749.0	32,228.0	33,930.2	36,450.2	38,943.9	42,533.9	47,235.2	53,165.2	60,450.4	69,531.9	80,983.5	

Table A18.9.4

Calculation of FIRR
Kandy Sewerage Project (M/P)
Case B-2

(1998 Price)

Year	Volume		Tariff		Revenue	Investment	10% of Inv.	O&M	OH	Net Inflow	FIRR
	Dom cum/d	Non-Dom cum/d	Dom Rs./cum	Non-Dom Rs./cum	Total M Rs./Y	M Rs	M Rs	M Rs	M Rs	M Rs	
2000											
2001						147.0	14.7			(14.7)	
2002						552.0	55.2			(55.2)	
2003						986.0	98.6			(98.6)	
2004	404	1,102	2.0	10.0	4.3		0.0	6.65	0.43	(2.8)	
2005	829	2,259	2.0	10.1	8.9		0.0	8.81	0.89	(0.8)	
2006	1,273	3,469	2.0	10.2	13.9		0.0	10.98	1.39	1.5	
2007	1,737	4,736	2.1	10.3	19.1		0.0	13.14	1.91	4.1	
2008	1,779	4,850	2.1	10.4	19.8		0.0	13.14	1.98	4.7	
2009	1,822	4,966	2.1	10.5	20.4		0.0	13.14	2.04	5.3	
2010	1,866	5,086	2.1	10.6	21.2		0.0	13.14	2.12	5.9	
2011	1,907	5,198	2.1	10.7	21.8	83.0	8.3	13.14	2.18	(1.8)	
2012	1,949	5,312	2.2	10.8	22.5	377.0	37.7	13.14	2.25	(30.6)	
2013	1,991	5,429	2.2	10.9	23.3	810.0	81.0	13.14	2.33	(73.2)	
2014	2,941	6,204	2.2	11.0	27.4		0.0	19.68	2.74	5.0	
2015	3,828	6,770	2.2	11.2	30.7		0.0	21.80	3.07	5.8	
2016	4,679	7,326	2.3	11.3	34.0		0.0	23.91	3.40	6.7	
2017	5,549	7,871	2.3	11.4	37.3		0.0	26.03	3.73	7.5	
2018	5,660	8,028	2.3	11.5	38.4	286.9	28.7	26.03	3.84	(20.1)	
2019	5,774	8,189	2.3	11.6	39.6		0.0	26.03	3.96	9.6	
2020	5,889	8,352	2.3	11.7	40.8		0.0	26.03	4.08	10.7	
2021	6,007	8,619	2.4	11.8	42.5		0.0	26.03	4.25	12.2	
2022	6,127	8,690	2.4	12.0	43.3		0.0	26.03	4.33	12.9	
2023	6,250	8,864	2.4	12.1	44.6		0.0	26.03	4.46	14.1	
2024	6,375	9,041	2.4	12.2	45.9		0.0	26.03	4.59	15.3	
2025	6,401	9,078	2.5	12.3	46.6		0.0	26.03	4.66	15.9	
2026	6,401	9,078	2.5	12.4	47.1		0.0	26.03	4.71	16.3	
2027	6,401	9,078	2.5	12.6	47.5		0.0	26.03	4.75	16.7	
2028	6,401	9,078	2.5	12.7	48.0	286.6	28.7	26.03	4.80	(11.5)	
2029	6,401	9,078	2.6	12.8	48.5		0.0	26.03	4.85	17.6	
2030	6,401	9,078	2.6	13.0	49.0		0.0	26.03	4.90	18.0	
2031	6,401	9,078	2.6	13.1	49.5		0.0	26.03	4.95	18.5	
2032	6,401	9,078	2.6	13.2	50.0		0.0	26.03	5.00	18.9	
2033	6,401	9,078	2.7	13.3	50.5	286.9	28.7	26.03	5.05	(9.3)	
2034	6,401	9,078	2.7	13.5	51.0		0.0	26.03	5.10	19.8	
2035	6,401	9,078	2.7	13.6	51.5		0.0	26.03	5.15	20.3	
2036	6,401	9,078	2.7	13.7	52.0		0.0	26.03	5.20	20.8	
2037	6,401	9,078	2.8	13.9	52.5		0.0	26.03	5.25	21.2	
2038	6,401	9,078	2.8	14.0	53.0		0.0	26.03	5.30	21.7	
2039	6,401	9,078	2.8	14.2	53.6		0.0	26.03	5.36	22.2	
2040	6,401	9,078	2.9	14.3	54.1		0.0	26.03	5.41	22.7	
2041	6,401	9,078	2.9	14.5	54.6		0.0	26.03	5.46	23.1	
2042	6,401	9,078	2.9	14.6	55.2		0.0	26.03	5.52	23.6	
2043	6,401	9,078	2.9	14.7	55.7	286.6	28.7	26.03	5.57	(4.5)	
2044	6,401	9,078	3.0	14.9	56.3		0.0	26.03	5.63	24.6	
2045	6,401	9,078	3.0	15.0	56.9		0.0	26.03	5.69	25.1	
2046	6,401	9,078	3.0	15.2	57.4		0.0	26.03	5.74	25.6	
2047	6,401	9,078	3.1	15.3	58.0		0.0	26.03	5.80	26.2	
2048	6,401	9,078	3.1	15.5	58.6	286.9	28.7	26.03	5.86	(2.0)	
2049	6,401	9,078	3.1	15.6	59.2		0.0	26.03	5.92	27.2	
2050	6,401	9,078	3.2	15.8	59.8	(406.0)	(40.6)	26.03	5.98	68.3	2.68%

- Note:
1. 1 % annual tariff increase in real terms.
 2. Unit tariff of Non Domestic User is 5 times of Domestic User.
 3. 90 % subsidy for capital investment.
 4. Overhead is assumed to be 10% of Revenue.
 5. Investment Cost in 2050 is assumed salvage value.

Table A18.9.5

**Pro Forma Financial Statements (M Rs.)
Case B-1 100 % Grant is assumed
Kandy Sewerage Project (F/S)
1.0 % tariff increase in real term is assumed**

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	
Fund Flow Table																												
Annual Sales	0.0	0.0	0.0	0.0	4.8	10.9	18.6	28.3	32.2	36.6	41.6	47.3	53.7	60.9	67.6	75.1	83.5	92.7	103.0	114.4	127.2	141.3	156.9	174.4	193.7	215.2	239.1	
Subsidy from GSL	0.0	195.7	808.2	1,588.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,930.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Loan (10% Interest)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Capital Investment	0.0	195.7	808.2	1,588.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,930.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Annual Loan Repayment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
O & M	0.0	0.0	0.0	0.0	11.8	17.2	23.5	31.0	34.1	37.5	41.2	45.4	49.9	54.9	60.4	66.4	73.1	80.4	88.4	97.2	107.0	117.7	129.4	142.4	156.6	172.3	189.5	
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.5	1.1	1.9	2.8	3.2	3.7	4.2	4.7	5.4	6.1	6.8	7.5	8.3	9.3	10.3	11.4	12.7	14.1	15.7	17.4	19.4	21.5	23.9	
Net Cash Inflow	0.0	0.0	0.0	0.0	(7.5)	(7.3)	(6.7)	(5.5)	(5.1)	(4.5)	(3.8)	(2.8)	(1.6)	(0.1)	0.5	1.2	2.1	3.1	4.3	5.8	7.5	9.5	11.8	14.6	17.8	21.4	25.7	
Working Capital Burden																												
Cumulative cash deficit	0.0	0.0	0.0	0.0	(7.5)	(14.8)	(21.5)	(27.1)	(32.2)	(36.7)	(40.5)	(43.3)	(44.9)	(45.0)	(44.5)	(43.3)	(41.2)	(38.2)	(33.8)	(28.1)	(20.6)	(11.1)	0.7	15.3	33.1	54.5	80.2	
10% interest on above	0.0	0.0	0.0	0.0	(0.7)	(1.5)	(2.2)	(2.7)	(3.2)	(3.7)	(4.0)	(4.3)	(4.5)	(4.5)	(4.5)	(4.3)	(4.1)	(3.8)	(3.4)	(2.8)	(2.1)	(1.1)	0.1	1.5	3.3	5.5	8.0	
Cum. Interest Payment	0.0	0.0	0.0	0.0	(0.7)	(2.2)	(4.4)	(7.1)	(10.3)	(14.0)	(18.0)	(22.4)	(26.8)	(31.3)	(35.8)	(40.1)	(44.2)	(48.1)	(51.4)	(54.3)	(56.3)	(57.4)	(57.3)	(55.8)	(52.5)	(47.1)	(39.0)	
Income Statement																												
Annual Sales	0.0	0.0	0.0	0.0	4.8	10.9	18.6	28.3	32.2	36.6	41.6	47.3	53.7	60.9	67.6	75.1	83.5	92.7	103.0	114.4	127.2	141.3	156.9	174.4	193.7	215.2	239.1	
O & M	0.0	0.0	0.0	0.0	11.8	17.2	23.5	31.0	34.1	37.5	41.2	45.4	49.9	54.9	60.4	66.4	73.1	80.4	88.4	97.2	107.0	117.7	129.4	142.4	156.6	172.3	189.5	
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.5	1.1	1.9	2.8	3.2	3.7	4.2	4.7	5.4	6.1	6.8	7.5	8.3	9.3	10.3	11.4	12.7	14.1	15.7	17.4	19.4	21.5	23.9	
Annual Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Net Income	0.0	0.0	0.0	0.0	(7.5)	(7.3)	(6.7)	(5.5)	(5.1)	(4.5)	(3.8)	(2.8)	(1.6)	(0.1)	0.5	1.2	2.1	3.1	4.3	5.8	7.5	9.5	11.8	14.6	17.8	21.4	25.7	
Balance Sheet																												
Cash	0.0	0.0	0.0	0.0	(7.5)	(14.8)	(21.5)	(27.1)	(32.2)	(36.7)	(40.5)	(43.3)	(44.9)	(45.0)	(44.5)	(43.3)	(41.2)	(38.2)	(33.8)	(28.1)	(20.6)	(11.1)	0.7	15.3	33.1	54.5	80.2	
Capital Investment	195.7	1,003.8	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	
Less Accum. Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Land	0.0	0.0	0.0	0.0	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	
Total Assets	195.7	1,003.8	2,591.8	2,591.8	2,584.3	2,577.0	2,570.3	2,564.7	2,559.6	2,555.1	2,551.3	2,548.5	2,546.9	2,546.8	2,547.3	2,548.5	2,550.6	2,553.6	2,558.8	2,564.8	2,570.3	2,577.0	2,584.3	2,591.8	2,599.7	2,607.1	2,614.5	
Loan Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Grant from GSL	195.7	1,003.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	2,591.8	
Reserved Fund	0.0	0.0	0.0	0.0	(7.5)	(14.8)	(21.5)	(27.1)	(32.2)	(36.7)	(40.5)	(43.3)	(44.9)	(45.0)	(44.5)	(43.3)	(41.2)	(38.2)	(33.8)	(28.1)	(20.6)	(11.1)	0.7	15.3	33.1	54.5	80.2	
Total Liab. & Capital	195.7	1,003.8	2,591.8	2,591.8	2,584.3	2,577.0	2,570.3	2,564.7	2,559.6	2,555.1	2,551.3	2,548.5	2,546.9	2,546.8	2,547.3	2,548.5	2,550.6	2,553.6	2,558.8	2,564.8	2,570.3	2,577.0	2,584.3	2,591.8	2,599.7	2,607.1	2,614.5	

Table A18.9.5

Pro Forma Financial Statements (M Rs.)
Kandy Sewerage Project (F/S)

Case B-1 100 % Grant is assumed
1.0 % tariff increase in real term is assumed

Year	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	
Fund Flow Table																									
Annual Sales	265.7	295.1	327.9	364.3	404.7	449.7	499.6	555.0	616.6	685.1	761.1	845.6	939.5	1,043.8	1,159.6	1,288.3	1,431.3	1,590.2	1,766.7	1,962.8	2,180.7	2,422.8	2,691.7	2,990.5	
Subsidy from GSI	0.0	0.0	0.0	0.0	0.0	0.0	8,065.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33,891.2	0.0	0.0	
Loan (10% Interest)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Capital Investment	0.0	0.0	0.0	0.0	0.0	0.0	8,065.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33,891.2	0.0	0.0	
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Annual Loan Repayment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
O & M	208.4	229.3	252.2	277.4	305.2	335.7	369.2	406.2	446.8	491.5	540.6	594.7	654.1	719.5	791.5	870.6	957.7	1,053.5	1,158.8	1,274.7	1,402.2	1,542.4	1,696.6	1,866.3	
Overhead (10 % of Sales)	26.6	29.5	32.8	36.4	40.5	45.0	50.0	55.5	61.7	68.5	76.1	84.6	93.9	104.4	116.0	128.8	143.1	159.0	176.7	196.3	218.1	242.3	269.2	299.0	
Net Cash Inflow	30.7	36.4	42.9	50.5	59.1	69.0	80.4	93.4	108.2	125.1	144.4	166.4	191.4	219.8	252.2	288.9	330.5	377.7	431.2	491.8	560.5	638.1	725.9	825.1	
Working Capital Burden																									
Cumulative cash deficit	110.9	147.3	190.2	240.6	299.7	368.8	449.2	542.5	650.7	775.8	920.3	1,086.6	1,278.0	1,497.9	1,750.0	2,038.9	2,369.4	2,747.1	3,178.4	3,670.2	4,230.7	4,868.8	5,594.6	6,419.8	
10% Interest on above	11.1	14.7	19.0	24.1	30.0	36.9	44.9	54.3	65.1	77.6	92.0	108.7	127.8	149.8	175.0	203.9	236.9	274.7	317.8	367.0	423.1	486.9	559.5	642.0	
Cum. Interest Payment	(27.9)	(13.2)	5.8	29.9	59.8	96.7	141.6	195.9	261.0	338.5	430.6	539.2	667.0	816.8	991.8	1,195.7	1,432.7	1,707.4	2,025.2	2,392.2	2,815.3	3,302.2	3,861.6	4,503.6	
Income Statement																									
Annual Sales	265.7	295.1	327.9	364.3	404.7	449.7	499.6	555.0	616.6	685.1	761.1	845.6	939.5	1,043.8	1,159.6	1,288.3	1,431.3	1,590.2	1,766.7	1,962.8	2,180.7	2,422.8	2,691.7	2,990.5	
O & M	208.4	229.3	252.2	277.4	305.2	335.7	369.2	406.2	446.8	491.5	540.6	594.7	654.1	719.5	791.5	870.6	957.7	1,053.5	1,158.8	1,274.7	1,402.2	1,542.4	1,696.6	1,866.3	
Overhead (10 % of Sales)	26.6	29.5	32.8	36.4	40.5	45.0	50.0	55.5	61.7	68.5	76.1	84.6	93.9	104.4	116.0	128.8	143.1	159.0	176.7	196.3	218.1	242.3	269.2	299.0	
Annual Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Net Income	30.7	36.4	42.9	50.5	59.1	69.0	80.4	93.4	108.2	125.1	144.4	166.4	191.4	219.8	252.2	288.9	330.5	377.7	431.2	491.8	560.5	638.1	725.9	825.1	
Balance Sheet																									
Cash	110.9	147.3	190.2	240.6	299.7	368.8	449.2	542.5	650.7	775.8	920.3	1,086.6	1,278.0	1,497.9	1,750.0	2,038.9	2,369.4	2,747.1	3,178.4	3,670.2	4,230.7	4,868.8	5,594.6	6,419.8	
Capital Investment	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	
Less Accum. Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Land	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	
Total Assets	4,633.5	4,669.9	4,712.8	4,763.2	4,822.3	4,891.4	4,971.1	5,061.5	5,163.5	5,277.7	5,404.3	5,543.6	5,694.6	5,858.0	6,034.6	6,224.5	6,427.7	6,644.2	6,875.2	7,120.8	7,381.9	7,659.4	7,954.2	8,266.4	
Loan Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Grant from GSI	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	4,522.6	
Reserves Fund	110.9	147.3	190.2	240.6	299.7	368.8	449.2	542.5	650.7	775.8	920.3	1,086.6	1,278.0	1,497.9	1,750.0	2,038.9	2,369.4	2,747.1	3,178.4	3,670.2	4,230.7	4,868.8	5,594.6	6,419.8	
Total Liab. & Capital	4,633.5	4,669.9	4,712.8	4,763.2	4,822.3	4,891.4	4,971.1	5,061.5	5,163.5	5,277.7	5,404.3	5,543.6	5,694.6	5,858.0	6,034.6	6,224.5	6,427.7	6,644.2	6,875.2	7,120.8	7,381.9	7,659.4	7,954.2	8,266.4	

Table A18.9.6

Calculation of FIRR
Kandy Sewerage Project (F/S)
Case B-1

(1998 price)

Year	Volume		Tariff		Revenue	Investment	O&M	OH	Net Inflow	FIRR
	Dom cum/d	Non-Dom cum/d	Dom Rs./cum	Non-Dom Rs./cum	Total M Rs./Y	M Rs.	M Rs.	M Rs.	M Rs.	
2000										
2001						147.0			0.00	
2002						552.0			0.00	
2003						986.0			0.00	
2004	404	1102	2.0	6.0	2.7		6.65	0.27	(4.21)	
2005	829	2259	2.0	6.1	5.6		8.81	0.56	(3.76)	
2006	1273	3469	2.0	6.1	8.7		10.98	0.87	(3.15)	
2007	1737	4736	2.1	6.2	12.0		13.14	1.20	(2.35)	
2008	1779	4850	2.1	6.2	12.4		13.14	1.24	(1.98)	
2009	1822	4966	2.1	6.3	12.8		13.14	1.28	(1.59)	
2010	1866	5086	2.1	6.4	13.3		13.14	1.33	(1.20)	
2011	1907	5198	2.1	6.4	13.7		13.14	1.37	(0.81)	
2012	1949	5312	2.2	6.5	14.1		13.14	1.41	(0.41)	
2013	1988	5420	2.2	6.6	14.6		13.14	1.46	(0.03)	
2014	1988	5420	2.2	6.6	14.7		13.14	1.47	0.10	
2015	1988	5420	2.2	6.7	14.9		13.14	1.49	0.24	
2016	1988	5420	2.3	6.8	15.0		13.14	1.50	0.37	
2017	1988	5420	2.3	6.8	15.2		13.14	1.52	0.51	
2018	1988	5420	2.3	6.9	15.3	287.0	13.14	1.53	0.64	
2019	1988	5420	2.3	7.0	15.5		13.14	1.55	0.78	
2020	1988	5420	2.3	7.0	15.6		13.14	1.56	0.92	
2021	1988	5420	2.4	7.1	15.8		13.14	1.58	1.06	
2022	1988	5420	2.4	7.2	15.9		13.14	1.59	1.20	
2023	1988	5420	2.4	7.2	16.1		13.14	1.61	1.34	
2024	1988	5420	2.4	7.3	16.3		13.14	1.63	1.49	
2025	1988	5420	2.5	7.4	16.4		13.14	1.64	1.64	
2026	1988	5420	2.5	7.5	16.6		13.14	1.66	1.78	
2027	1988	5420	2.5	7.5	16.7		13.14	1.67	1.93	
2028	1988	5420	2.5	7.6	16.9		13.14	1.69	2.08	
2029	1988	5420	2.6	7.7	17.1		13.14	1.71	2.24	
2030	1988	5420	2.6	7.8	17.3		13.14	1.73	2.39	
2031	1988	5420	2.6	7.8	17.4		13.14	1.74	2.55	
2032	1988	5420	2.6	7.9	17.6		13.14	1.76	2.70	
2033	1988	5420	2.7	8.0	17.8	287.0	13.14	1.78	2.86	
2034	1988	5420	2.7	8.1	18.0		13.14	1.80	3.02	
2035	1988	5420	2.7	8.2	18.1		13.14	1.81	3.18	
2036	1988	5420	2.7	8.2	18.3		13.14	1.83	3.35	
2037	1988	5420	2.8	8.3	18.5		13.14	1.85	3.51	
2038	1988	5420	2.8	8.4	18.7		13.14	1.87	3.68	
2039	1988	5420	2.8	8.5	18.9		13.14	1.89	3.84	
2040	1988	5420	2.9	8.6	19.1		13.14	1.91	4.01	
2041	1988	5420	2.9	8.7	19.2		13.14	1.92	4.19	
2042	1988	5420	2.9	8.8	19.4		13.14	1.94	4.36	
2043	1988	5420	2.9	8.8	19.6		13.14	1.96	4.53	
2044	1988	5420	3.0	8.9	19.8		13.14	1.98	4.71	
2045	1988	5420	3.0	9.0	20.0		13.14	2.00	4.89	
2046	1988	5420	3.0	9.1	20.2		13.14	2.02	5.07	
2047	1988	5420	3.1	9.2	20.4		13.14	2.04	5.25	
2048	1988	5420	3.1	9.3	20.6	287.0	13.14	2.06	5.44	
2049	1988	5420	3.1	9.4	20.8		13.14	2.08	5.62	
2050	1988	5420	3.2	9.5	21.1	(253.0)	13.14	2.11	5.81	5.76%

- Note:
1. 1 % annual tariff increase in real terms.
 2. Unit tariff of Non Domestic User is 3 times of Domestic User.
 3. 100 % subsidy for capital investment.
 4. Overhead is assumed to be 10% of Revenue.
 5. Investment Cost in 2050 is assumed salvage value.

Table A18.9.7

Pro Forma Financial Statements (M Rs.)
Kandy Sewerage Project (F/S)

Case B-2 90 % subsidy
1.0 % tariff increase in real terms

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	
Fund Flow Table																												
Annual Sales	0.0	0.0	0.0	0.0	7.6	17.4	29.7	45.1	51.3	58.3	66.4	75.4	85.6	97.0	107.8	119.7	133.0	147.8	164.2	182.4	202.7	225.2	250.2	277.9	308.8	343.1	381.2	
Subsidy from GSL	0.0	176.1	727.4	1,429.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,737.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Loan (10% Interest)	0.0	19.6	80.8	158.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Capital Investment	0.0	195.7	808.2	1,588.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,950.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Interest Payment (10%)	0.0	2.0	10.0	25.8	25.4	24.2	23.0	21.8	20.7	19.5	18.3	17.1	15.9	14.8	13.6	12.4	11.2	10.1	28.2	27.0	25.0	22.9	20.8	18.8	16.7	14.8	13.2	
Annual Loan Repayment	0.0	0.0	0.0	0.9	4.6	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	
O & M	0.0	0.0	0.0	0.0	11.8	17.2	23.5	31.0	34.1	37.5	41.2	45.4	49.9	54.9	60.4	66.4	73.1	80.4	88.4	97.2	107.0	117.7	129.4	142.4	156.6	172.3	189.5	
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.8	1.7	3.0	4.5	5.1	5.8	6.6	7.5	8.6	9.7	10.8	12.0	13.3	14.8	16.4	18.2	20.3	22.5	25.0	27.8	30.9	34.3	38.1	
Net Cash Inflow	0.0	(2.0)	(10.0)	(26.7)	(34.1)	(55.7)	(28.6)	(19.5)	(15.2)	(10.4)	(4.9)	1.1	8.0	15.6	22.0	29.1	37.0	45.6	35.8	46.4	50.2	64.1	79.4	96.2	114.9	136.4	162.5	
Working Capital Burden																												
Cumulative cash deficit	(2.0)	(12.0)	(38.7)	(72.8)	(108.5)	(137.1)	(156.6)	(171.9)	(182.3)	(187.2)	(186.1)	(178.1)	(162.6)	(140.5)	(111.4)	(74.4)	(28.8)	7.0	53.4	103.6	167.7	247.1	343.3	458.2	594.6	757.2		
10% interest on above	(0.2)	(1.2)	(3.9)	(7.3)	(10.9)	(13.7)	(15.7)	(17.2)	(18.2)	(18.7)	(18.6)	(17.8)	(16.3)	(14.1)	(11.1)	(7.4)	(2.9)	0.7	5.3	10.4	16.8	24.7	34.3	45.8	59.5	75.7		
Cum. Interest Payment	0.2	1.0	2.9	(4.4)	(12.3)	(29.0)	(44.6)	(61.8)	(80.0)	(98.8)	(117.4)	(135.2)	(151.4)	(165.5)	(176.6)	(184.1)	(187.0)	(186.3)	(180.9)	(170.6)	(153.8)	(129.1)	(94.7)	(48.9)	10.5	86.3		
Income Statement																												
Annual Sales	0.0	0.0	0.0	0.0	7.6	17.4	29.7	45.1	51.3	58.3	66.4	75.4	85.6	97.0	107.8	119.7	133.0	147.8	164.2	182.4	202.7	225.2	250.2	277.9	308.8	343.1	381.2	
O & M	0.0	0.0	0.0	0.0	11.8	17.2	23.5	31.0	34.1	37.5	41.2	45.4	49.9	54.9	60.4	66.4	73.1	80.4	88.4	97.2	107.0	117.7	129.4	142.4	156.6	172.3	189.5	
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.8	1.7	3.0	4.5	5.1	5.8	6.6	7.5	8.6	9.7	10.8	12.0	13.3	14.8	16.4	18.2	20.3	22.5	25.0	27.8	30.9	34.3	38.1	
Annual Depreciation	0.0	0.0	1.7	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Interest Payment (10%)	0.0	2.0	10.0	25.8	25.4	24.2	23.0	21.8	20.7	19.5	18.3	17.1	15.9	14.8	13.6	12.4	11.2	10.1	28.2	27.0	25.0	22.9	20.8	18.8	16.7	14.8	13.2	
Net Income	0.0	(1.9)	(11.8)	(32.9)	(37.3)	(32.7)	(26.8)	(19.3)	(15.6)	(11.5)	(6.8)	(1.7)	4.1	10.6	18.0	21.9	28.4	35.6	14.4	25.1	33.7	45.3	58.1	72.2	87.8	104.9	123.6	
Balance Sheet																												
Cash	(2.0)	(12.0)	(38.7)	(72.8)	(108.5)	(137.1)	(156.6)	(171.9)	(182.3)	(187.2)	(186.1)	(178.1)	(162.6)	(140.5)	(111.4)	(74.4)	(28.8)	7.0	53.4	103.6	167.7	247.1	343.3	458.2	594.6	757.2		
Capital Investment	195.7	1,003.8	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2	2,495.2
Less Accum. Depreciation	0.0	1.7	8.7	15.8	22.8	29.9	36.9	44.0	51.0	58.1	65.1	72.1	79.2	86.2	93.3	100.3	107.4	114.5	121.6	128.7	135.8	142.9	150.0	157.1	164.2	171.3	178.4	
Land	0.0	0.0	0.0	0.0	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	
Total Assets	193.7	990.1	2,544.3	2,503.2	2,460.5	2,424.8	2,398.3	2,376.0	2,358.5	2,346.5	2,340.6	2,341.5	2,350.0	2,365.0	2,387.1	2,417.1	2,455.6	4,405.4	4,435.0	4,468.4	4,515.6	4,578.1	4,657.6	4,755.6	4,875.2	5,020.9		
Loan Balance																												
Grant from GSL	19.6	100.4	258.3	253.7	241.9	230.2	218.4	206.6	194.8	183.0	171.3	159.5	147.7	135.9	124.1	112.4	100.6	281.9	270.1	249.5	229.0	208.4	187.9	167.3	147.6	127.0		
Reserve Fund	176.1	903.5	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6	2,332.6
Total Liab. & Capital	193.7	990.1	2,544.3	2,503.2	2,460.5	2,424.8	2,398.3	2,376.0	2,358.5	2,346.5	2,340.6	2,341.5	2,350.0	2,365.0	2,387.1	2,417.1	2,455.6	4,405.4	4,435.0	4,468.4	4,515.6	4,578.1	4,657.6	4,755.6	4,875.2	5,020.9		

Table A18.9.7

Pro Forma Financial Statements (M Rs.)
Kandy Sewerage Project (F/S)

Case B-2.90 % subsidy
1.0 % tariff increase in real terms

Year	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
Fund Flow Table																								
Annual Sales	423.5	470.5	522.7	580.7	645.2	716.8	796.3	884.7	982.9	1,092.1	1,213.3	1,347.9	1,497.6	1,663.8	1,848.5	2,053.7	2,281.6	2,534.9	2,816.2	3,128.8	3,476.1	3,862.0	4,290.7	4,766.9
Subsidy from GSL	0.0	0.0	0.0	0.0	0.0	0.0	7,258.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loan (10% Interest)	0.0	0.0	0.0	0.0	0.0	0.0	806.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital Investment	0.0	0.0	0.0	0.0	0.0	0.0	8,065.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Interest Payment (10%)	12.3	11.4	10.5	9.7	8.8	7.9	87.7	86.8	82.3	77.7	73.2	68.6	64.1	59.5	55.0	51.3	47.7	44.0	40.3	36.7	33.0	30.0	27.6	25.6
Annual Loan Repayment	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
O & M	208.4	229.3	252.2	277.4	305.2	335.7	369.2	406.2	446.8	491.5	540.6	594.7	654.1	719.5	791.5	870.6	957.7	1,053.5	1,158.8	1,274.7	1,402.2	1,542.4	1,696.6	1,866.3
Overhead (10 % of Sales)	42.3	47.0	52.3	58.1	64.5	71.7	79.6	88.5	98.3	109.2	121.3	134.8	149.8	166.4	184.8	205.4	228.2	253.5	281.6	312.9	347.6	386.2	429.1	476.7
Net Cash Inflow	194.0	221.0	251.2	284.9	322.5	364.4	330.7	383.0	408.5	477.4	554.1	639.2	733.9	839.3	956.5	1,095.0	1,239.6	1,400.7	1,580.4	1,780.8	2,004.3	2,194.8	2,367.2	2,567.2
Working Capital Burden																								
Cumulative cash deficit	951.1	1,172.1	1,423.3	1,708.2	2,030.7	2,395.1	2,725.7	3,108.7	3,517.2	3,994.7	4,548.7	5,188.0	5,921.9	6,761.1	7,717.7	8,812.7	10,052.3	11,453.0	13,033.5	14,814.3	16,818.6	18,735.3	20,930.1	23,297.3
10% interest on above	95.1	117.2	142.3	170.8	203.1	239.5	272.6	310.9	351.7	399.5	454.9	518.8	592.2	676.1	771.8	881.3	1,005.2	1,145.3	1,303.3	1,481.4	1,681.9	1,873.5	2,093.0	2,329.7
Cum. Interest Payment	181.4	298.6	440.9	611.7	814.8	1,034.3	1,326.9	1,637.8	1,989.5	2,388.9	2,843.8	3,362.6	3,954.8	4,630.9	5,402.7	6,284.0	7,289.2	8,434.5	9,737.8	11,219.3	12,901.1	14,774.6	16,867.7	19,197.4
Income Statement																								
Annual Sales	423.5	470.5	522.7	580.7	645.2	716.8	796.3	884.7	982.9	1,092.1	1,213.3	1,347.9	1,497.6	1,663.8	1,848.5	2,053.7	2,281.6	2,534.9	2,816.2	3,128.8	3,476.1	3,862.0	4,290.7	4,766.9
O & M	208.4	229.3	252.2	277.4	305.2	335.7	369.2	406.2	446.8	491.5	540.6	594.7	654.1	719.5	791.5	870.6	957.7	1,053.5	1,158.8	1,274.7	1,402.2	1,542.4	1,696.6	1,866.3
Overhead (10 % of Sales)	42.3	47.0	52.3	58.1	64.5	71.7	79.6	88.5	98.3	109.2	121.3	134.8	149.8	166.4	184.8	205.4	228.2	253.5	281.6	312.9	347.6	386.2	429.1	476.7
Annual Depreciation	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8
Interest Payment (10%)	12.3	11.4	10.5	9.7	8.8	7.9	87.7	86.8	82.3	77.7	73.2	68.6	64.1	59.5	55.0	51.3	47.7	44.0	40.3	36.7	33.0	30.0	27.6	25.6
Net Income	143.6	165.9	190.9	218.7	249.9	284.7	202.1	245.6	297.9	355.9	420.4	492.1	571.9	660.6	759.4	868.6	990.3	1,126.2	1,277.7	1,446.9	1,635.6	1,838.5	2,057.8	2,291.8
Balance Sheet																								
Cash	951.1	1,172.1	1,423.3	1,708.2	2,030.7	2,395.1	2,725.7	3,108.7	3,517.2	3,994.7	4,548.7	5,188.0	5,921.9	6,761.1	7,717.7	8,812.7	10,052.3	11,453.0	13,033.5	14,814.3	16,818.6	18,735.3	20,930.1	23,297.3
Capital Investment	4,260.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0	4,426.0
Less Accum. Depreciation	275.7	292.5	309.4	326.2	343.0	359.9	376.7	393.5	410.3	427.1	443.9	460.7	477.5	494.3	511.1	527.9	544.7	561.5	578.3	595.1	611.9	628.7	645.5	662.3
Land	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6
Total Assets	5,198.0	5,402.2	5,636.6	5,904.6	6,210.2	6,557.8	6,946.1	7,376.1	7,846.1	8,356.1	8,906.1	9,496.1	10,126.1	10,796.1	11,506.1	12,256.1	13,046.1	13,876.1	14,746.1	15,656.1	16,606.1	17,596.1	18,626.1	19,696.1
Loan Balance	122.9	114.1	105.3	96.5	87.8	79.0	876.8	868.0	822.5	777.1	731.7	686.2	640.8	595.4	549.9	513.3	476.6	439.9	403.3	366.6	329.9	293.2	256.5	219.8
Grant from GSL	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3	4,070.3
Reserved Fund	1,004.8	1,217.8	1,460.9	1,737.7	2,052.1	2,408.5	2,690.2	3,024.2	3,420.4	3,885.6	4,427.3	5,054.3	5,775.9	6,602.9	7,547.1	8,621.1	9,839.6	11,219.3	12,778.6	14,538.3	16,521.6	18,746.4	20,249.2	22,577.7
Total Liab. & Capital	5,198.0	5,402.2	5,636.6	5,904.6	6,210.2	6,557.8	6,946.1	7,376.1	7,846.1	8,356.1	8,906.1	9,496.1	10,126.1	10,796.1	11,506.1	12,256.1	13,046.1	13,876.1	14,746.1	15,656.1	16,606.1	17,596.1	18,626.1	19,696.1

Table A18.9.8

Calculation of FIRR
Kandy Sewerage Project (F/S)
Case B-2

(1998 Price)

Year	Volume		Tariff		Revenue	Investment	10% of Inv.	O&M	OH	Net Inflow	FIRR
	Dom cum/d	Non-Dom cum/d	Dom Rs./cum	Non-Dom Rs./cum	Total M Rs./Y	M Rs.	M Rs.	M Rs.	M Rs.	M Rs.	
2000											
2001						147.0	14.7			(14.70)	
2002						552.0	55.2			(55.20)	
2003						986.0	98.6			(98.60)	
2004	404	1102	2.00	10.00	4.3		0.0	6.65		(2.33)	
2005	829	2259	2.02	10.10	8.9		0.0	8.81		0.13	
2006	1273	3469	2.04	10.20	13.9		0.0	10.98		2.89	
2007	1737	4736	2.06	10.30	19.1		0.0	13.14		5.98	
2008	1779	4850	2.08	10.41	19.8		0.0	13.14		6.63	
2009	1822	4966	2.10	10.51	20.4		0.0	13.14		7.31	
2010	1866	5086	2.12	10.62	21.2		0.0	13.14		8.01	
2011	1907	5198	2.14	10.72	21.8		0.0	13.14		8.69	
2012	1949	5312	2.17	10.83	22.5		0.0	13.14		9.40	
2013	1988	5420	2.19	10.94	23.2		0.0	13.14		10.08	
2014	1988	5420	2.21	11.05	23.5		0.0	13.14		10.32	
2015	1988	5420	2.23	11.16	23.7		0.0	13.14		10.55	
2016	1988	5420	2.25	11.27	23.9		0.0	13.14		10.79	
2017	1988	5420	2.28	11.38	24.2		0.0	13.14		11.03	
2018	1988	5420	2.30	11.49	24.4	287.0	28.7	13.14		(17.43)	
2019	1988	5420	2.32	11.61	24.7		0.0	13.14		11.51	
2020	1988	5420	2.35	11.73	24.9		0.0	13.14		11.76	
2021	1988	5420	2.37	11.84	25.1		0.0	13.14		12.01	
2022	1988	5420	2.39	11.96	25.4		0.0	13.14		12.26	
2023	1988	5420	2.42	12.08	25.7		0.0	13.14		12.51	
2024	1988	5420	2.44	12.20	25.9		0.0	13.14		12.77	
2025	1988	5420	2.46	12.32	26.2		0.0	13.14		13.03	
2026	1988	5420	2.49	12.45	26.4		0.0	13.14		13.29	
2027	1988	5420	2.51	12.57	26.7		0.0	13.14		13.56	
2028	1988	5420	2.54	12.70	27.0		0.0	13.14		13.82	
2029	1988	5420	2.56	12.82	27.2		0.0	13.14		14.09	
2030	1988	5420	2.59	12.95	27.5		0.0	13.14		14.36	
2031	1988	5420	2.62	13.08	27.8		0.0	13.14		14.64	
2032	1988	5420	2.64	13.21	28.1		0.0	13.14		14.92	
2033	1988	5420	2.67	13.35	28.3	287.0	28.7	13.14		(13.50)	
2034	1988	5420	2.70	13.48	28.6		0.0	13.14		15.48	
2035	1988	5420	2.72	13.61	28.9		0.0	13.14		15.77	
2036	1988	5420	2.75	13.75	29.2		0.0	13.14		16.06	
2037	1988	5420	2.78	13.89	29.5		0.0	13.14		16.35	
2038	1988	5420	2.81	14.03	29.8		0.0	13.14		16.64	
2039	1988	5420	2.83	14.17	30.1		0.0	13.14		16.94	
2040	1988	5420	2.86	14.31	30.4		0.0	13.14		17.24	
2041	1988	5420	2.89	14.45	30.7		0.0	13.14		17.55	
2042	1988	5420	2.92	14.60	31.0		0.0	13.14		17.85	
2043	1988	5420	2.95	14.74	31.3		0.0	13.14		18.16	
2044	1988	5420	2.98	14.89	31.6		0.0	13.14		18.48	
2045	1988	5420	3.01	15.04	31.9		0.0	13.14		18.79	
2046	1988	5420	3.04	15.19	32.3		0.0	13.14		19.11	
2047	1988	5420	3.07	15.34	32.6		0.0	13.14		19.43	
2048	1988	5420	3.10	15.49	32.9	287.0	28.7	13.14		(8.94)	
2049	1988	5420	3.13	15.65	33.2		0.0	13.14		20.09	
2050	1988	5420	3.16	15.80	33.6	(253.0)	(25.3)	13.14		45.72	4.60%

- Note:
1. 1 % annual tariff increase in real terms.
 2. Unit tariff of Non Domestic User is 5 times of Domestic User.
 3. 90 % subsidy for capital investment.
 4. Overhead is assumed to be 10% of Revenue.
 5. Investment Cost in 2050 is assumed salvage value.

Appendix 18.10 Financial Analysis for Case C

- Appendix 18.10.1 Pro-forma Financial Statements**
- Kandy Sewerage Project (Master Plan, Case C-1)
- Appendix 18.10.2 Calculation of FIRR**
- Kandy Sewerage Project (Master Plan, Case C-1)
- Appendix 18.10.3 Pro-forma Financial Statements**
- Kandy Sewerage Project (Master Plan, Case C-2)
- Appendix 18.10.4 Calculation of FIRR**
- Kandy Sewerage Project (Master Plan, Case C-2)
- Appendix 18.10.5 Pro-forma Financial Statements**
- Kandy Sewerage Project (Feasibility Study, Case C-1)
- Appendix 18.10.6 Calculation of FIRR**
- Kandy Sewerage Project (Feasibility Study, Case C-1)
- Appendix 18.10.7 Pro-forma Financial Statements**
- Kandy Sewerage Project (Feasibility Study, Case C-2)
- Appendix 18.10.8 Calculation of FIRR**
- Kandy Sewerage Project (Feasibility Study, Case C-2)

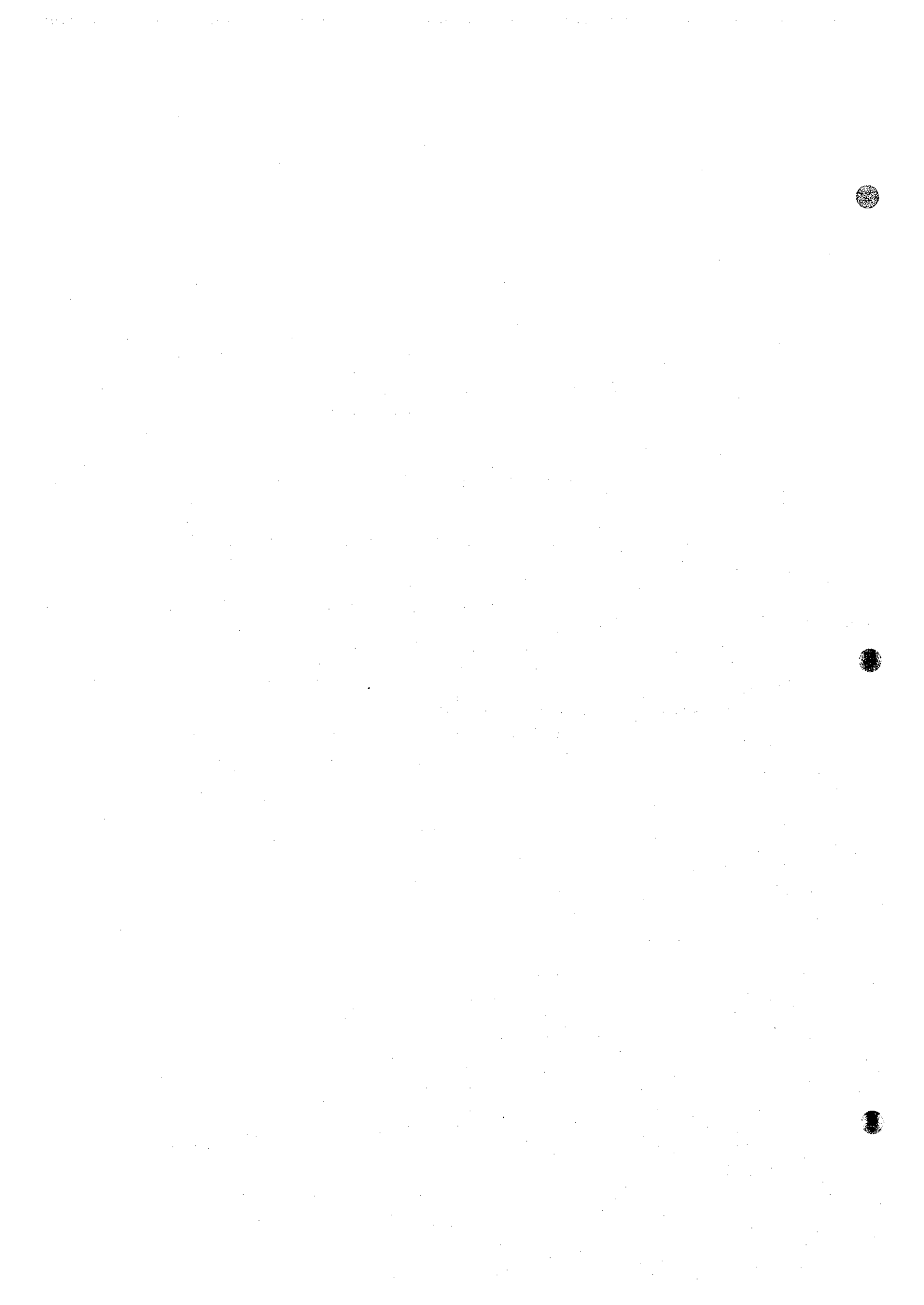


Table A18.10.1

Pro Forma Financial Statements (M Rs.)
Kandy Sewerage Project (M/P)

Case C-1 100 % Subsidy
1.0 % tariff increase in real terms

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	
Fund Flow Table																												
Annual Sales	0.0	0.0	0.0	0.0	4.8	10.9	18.6	28.3	32.2	36.6	41.6	47.3	53.7	61.0	79.9	99.4	121.9	148.2	167.9	190.3	215.6	246.7	276.9	313.8	355.6	396.7	440.7	
Subsidy from OSL	0.0	203.6	666.2	1,364.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	241.7	1,686.1	2,197.2	0.0	0.0	0.0	0.0	861.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Loan (10% Interest)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Capital Investment	0.0	203.6	666.2	1,364.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	241.7	1,686.1	2,197.2	0.0	0.0	0.0	0.0	861.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Annual Loan Repayment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
O & M	0.0	0.0	0.0	0.0	7.2	11.3	16.2	21.9	24.1	26.5	29.2	32.1	35.3	38.8	63.4	80.6	100.5	123.7	136.1	149.7	164.6	181.1	199.2	219.1	241.0	265.1	291.6	
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.5	1.1	1.9	2.8	3.2	3.7	4.2	4.7	5.4	6.1	8.0	9.9	12.2	14.8	16.8	19.0	21.6	24.7	27.7	31.4	35.6	39.7	44.1	
Net Cash Inflow	0.0	0.0	0.0	0.0	(2.9)	(1.5)	0.6	3.5	4.8	6.4	8.3	10.5	13.0	16.0	8.4	8.8	9.2	9.7	15.1	21.6	29.4	40.9	50.0	63.3	79.0	91.9	105.0	
Working Capital Burden																												
Cumulative cash deficit	0.0	0.0	0.0	0.0	(2.9)	(4.4)	(3.9)	(0.3)	4.5	10.9	19.2	29.7	42.7	58.8	67.2	76.0	85.2	94.9	110.0	131.6	161.0	201.9	252.0	315.3	394.3	486.2	591.2	
10% interest on above	0.0	0.0	0.0	0.0	(0.3)	(0.4)	(0.4)	(0.0)	0.5	1.1	1.9	3.0	4.3	5.9	6.7	7.6	8.5	9.5	11.0	13.2	16.1	20.2	25.2	31.5	39.4	48.6	59.1	
Cum. Interst Payment	0.0	0.0	0.0	0.0	(0.3)	(0.7)	(1.1)	(1.2)	(0.7)	0.4	2.3	5.3	9.6	15.4	22.2	29.8	38.3	47.8	58.8	71.9	88.0	108.2	133.4	164.9	204.4	253.0	312.1	
Income Statement																												
Annual Sales	0.0	0.0	0.0	0.0	4.8	10.9	18.6	28.3	32.2	36.6	41.6	47.3	53.7	61.0	79.9	99.4	121.9	148.2	167.9	190.3	215.6	246.7	276.9	313.8	355.6	396.7	440.7	
O & M	0.0	0.0	0.0	0.0	7.2	11.3	16.2	21.9	24.1	26.5	29.2	32.1	35.3	38.8	63.4	80.6	100.5	123.7	136.1	149.7	164.6	181.1	199.2	219.1	241.0	265.1	291.6	
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.5	1.1	1.9	2.8	3.2	3.7	4.2	4.7	5.4	6.1	8.0	9.9	12.2	14.8	16.8	19.0	21.6	24.7	27.7	31.4	35.6	39.7	44.1	
Annual Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Net Income	0.0	0.0	0.0	0.0	(2.9)	(1.5)	0.6	3.5	4.8	6.4	8.3	10.5	13.0	16.0	8.4	8.8	9.2	9.7	15.1	21.6	29.4	40.9	50.0	63.3	79.0	91.9	105.0	
Balance Sheet																												
Capital Investment	0.0	0.0	0.0	0.0	(2.9)	(4.4)	(3.9)	(0.3)	4.5	10.9	19.2	29.7	42.7	58.8	67.2	76.0	85.2	94.9	110.0	131.6	161.0	201.9	252.0	315.3	394.3	486.2	591.2	
Less Accum. Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Land	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5
Total Assets	203.6	869.8	2,233.9	2,233.9	2,231.0	2,229.5	2,230.1	2,233.6	2,238.4	2,244.8	2,253.2	2,505.3	4,204.4	6,417.7	6,426.1	6,434.9	6,444.1	6,453.8	7,330.0	7,351.6	7,381.0	7,421.9	7,472.0	7,535.3	7,614.3	7,706.2	7,811.3	
Loan Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Grant from GSL	203.6	869.8	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9
Reserved Fund	0.0	0.0	0.0	0.0	(2.9)	(4.4)	(3.9)	(0.3)	4.5	10.9	19.2	29.7	42.7	58.8	67.2	76.0	85.2	94.9	110.0	131.6	161.0	201.9	252.0	315.3	394.3	486.2	591.2	
Total Lab. & Capital	203.6	869.8	2,233.9	2,233.9	2,231.0	2,229.5	2,230.1	2,233.6	2,238.4	2,244.8	2,253.2	2,505.3	4,204.4	6,417.7	6,426.1	6,434.9	6,444.1	6,453.8	7,330.0	7,351.6	7,381.0	7,421.9	7,472.0	7,535.3	7,614.3	7,706.2	7,811.3	

Table A18.10.1

Pro Forma Financial Statements (M Rs.)
Kandy Sewerage Project (M/P)

Case C-1 100 % Subsidy
1.0 % tariff increase in real terms

Year	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
Fixed Flow Table																								
Annual Sales	489.7	544.0	604.4	671.5	746.0	828.8	920.8	1,023.0	1,136.6	1,262.8	1,402.9	1,558.6	1,731.7	1,925.9	2,137.4	2,374.7	2,638.3	2,931.1	3,256.5	3,617.9	4,019.5	4,465.7	4,961.4	5,512.1
Subsidy from GSL	0.0	1,465.7	0.0	0.0	0.0	0.0	3,597.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6,122.8	0.0	0.0	0.0	0.0	15,026.0	0.0	0.0
Loan (10% Interest)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital Investment	0.0	1,465.7	0.0	0.0	0.0	0.0	3,597.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6,122.8	0.0	0.0	0.0	0.0	15,026.0	0.0	0.0
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Annual Loan Repayment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
O & M	320.8	352.9	388.2	427.0	469.7	516.7	568.3	625.1	687.7	756.4	832.1	915.3	1,006.8	1,107.5	1,218.2	1,340.1	1,474.1	1,621.5	1,783.6	1,962.0	2,158.2	2,374.0	2,611.4	2,872.5
Overhead (10 % of Sales)	49.0	54.4	60.4	67.1	74.6	82.9	92.1	102.5	113.7	126.3	140.3	155.9	173.2	192.4	213.7	237.5	263.8	293.1	325.6	361.8	402.0	446.6	496.1	551.2
Net Cash Inflow	119.9	136.7	155.8	177.4	201.7	229.3	260.4	295.6	335.3	380.1	430.6	487.5	551.7	624.0	705.4	797.2	900.4	1,016.5	1,147.2	1,294.2	1,459.4	1,645.1	1,853.9	2,088.4
Working Capital Burden																								
Cumulative cash deficit	711.1	847.9	1,003.7	1,181.0	1,382.7	1,612.0	1,872.5	2,168.1	2,503.3	2,883.4	3,314.0	3,801.5	4,353.1	4,977.1	5,682.6	6,479.7	7,380.1	8,396.7	9,543.9	10,838.0	12,297.4	13,942.5	15,796.4	17,884.8
10% interest on above	71.1	84.8	100.4	118.1	138.3	161.2	187.2	216.8	250.3	288.3	331.4	380.1	435.3	497.7	568.3	648.0	738.0	839.7	954.4	1,083.8	1,229.7	1,394.3	1,579.6	1,788.5
Cum. Interest Payment	383.2	468.0	568.4	686.5	824.8	986.0	1,172.2	1,390.0	1,640.3	1,928.7	2,260.1	2,640.2	3,075.3	3,573.3	4,141.5	4,789.5	5,527.5	6,367.2	7,321.6	8,405.4	9,635.1	11,029.4	12,609.0	14,397.5
Income Statement																								
Annual Sales	489.7	544.0	604.4	671.5	746.0	828.8	920.8	1,023.0	1,136.6	1,262.8	1,402.9	1,558.6	1,731.7	1,925.9	2,137.4	2,374.7	2,638.3	2,931.1	3,256.5	3,617.9	4,019.5	4,465.7	4,961.4	5,512.1
O & M	320.8	352.9	388.2	427.0	469.7	516.7	568.3	625.1	687.7	756.4	832.1	915.3	1,006.8	1,107.5	1,218.2	1,340.1	1,474.1	1,621.5	1,783.6	1,962.0	2,158.2	2,374.0	2,611.4	2,872.5
Overhead (10 % of Sales)	49.0	54.4	60.4	67.1	74.6	82.9	92.1	102.5	113.7	126.3	140.3	155.9	173.2	192.4	213.7	237.5	263.8	293.1	325.6	361.8	402.0	446.6	496.1	551.2
Annual Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Income	119.9	136.7	155.8	177.4	201.7	229.3	260.4	295.6	335.3	380.1	430.6	487.5	551.7	624.0	705.4	797.2	900.4	1,016.5	1,147.2	1,294.2	1,459.4	1,645.1	1,853.9	2,088.4
Balance Sheet																								
Cash	711.1	847.9	1,003.7	1,181.0	1,382.7	1,612.0	1,872.5	2,168.1	2,503.3	2,883.4	3,314.0	3,801.5	4,353.1	4,977.1	5,682.6	6,479.7	7,380.1	8,396.7	9,543.9	10,838.0	12,297.4	13,942.5	15,796.4	17,884.8
Capital Investment	7,044.5	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2
Less Accum. Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Land	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5
Total Assets	7,931.2	9,533.6	9,689.4	9,866.8	10,068.5	10,297.8	14,155.3	14,450.9	14,786.2	15,166.3	15,596.8	16,084.3	16,636.0	17,260.0	17,965.5	18,762.6	25,785.8	26,802.3	27,949.5	29,243.7	30,703.1	47,374.2	49,228.1	51,516.5
Loan Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grant from GSL	7,220.0	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8	8,665.8
Reserved Fund	711.1	847.9	1,003.7	1,181.0	1,382.7	1,612.0	1,872.5	2,168.1	2,503.3	2,883.4	3,314.0	3,801.5	4,353.1	4,977.1	5,682.6	6,479.7	7,380.1	8,396.7	9,543.9	10,838.0	12,297.4	13,942.5	15,796.4	17,884.8
Total Liab. & Capital	7,931.2	9,533.6	9,689.4	9,866.8	10,068.5	10,297.8	14,155.3	14,450.9	14,786.2	15,166.3	15,596.8	16,084.3	16,636.0	17,260.0	17,965.5	18,762.6	25,785.8	26,802.3	27,949.5	29,243.7	30,703.1	47,374.2	49,228.1	51,516.5

Table A18.10.2
Calculation of FIRR
Kandy Sewerage Project (M/P)
Case C-1

(1998 Price)

Year	Volume		Tariff		Revenue			Investment	O&M	OH	Net Inflow	FIRR
	Dom cum/d	Non-Dom cum/d	Dom Rs./cum	Non-Dom Rs./cum	Dom M Rs./Y	Non-Dom M Rs./Y	Total M Rs./Y					
2000												
2001								153.0			0.00	
2002								455.0			0.00	
2003								847.0			0.00	
2004	404	1,102	2.0	6.0	0.3	2.4	2.7		4.09	0.27	(1.65)	
2005	829	2,259	2.0	6.1	0.6	5.0	5.6		5.82	0.56	(0.77)	
2006	1,273	3,469	2.0	6.1	0.9	7.7	8.7		7.56	0.87	0.27	
2007	1,737	4,736	2.1	6.2	1.3	10.7	12.0		9.30	1.20	1.50	
2008	1,779	4,850	2.1	6.2	1.4	11.1	12.4		9.30	1.24	1.87	
2009	1,822	4,966	2.1	6.3	1.4	11.4	12.8		9.30	1.28	2.25	
2010	1,866	5,086	2.1	6.4	1.4	11.8	13.3		9.30	1.33	2.65	
2011	1,907	5,198	2.1	6.4	1.5	12.2	13.7	70.0	9.30	1.37	3.03	
2012	1,949	5,312	2.2	6.5	1.5	12.6	14.1	444.0	9.30	1.41	3.43	
2013	1,991	5,429	2.2	6.6	1.6	13.0	14.6	526.0	9.30	1.46	3.84	
2014	2,941	6,204	2.2	6.6	2.4	15.0	17.4		13.81	1.74	1.84	
2015	3,828	6,770	2.2	6.7	3.1	16.5	19.7		15.95	1.97	1.75	
2016	4,679	7,326	2.3	6.8	3.8	18.1	21.9		18.08	2.19	1.65	
2017	5,549	7,871	2.3	6.8	4.6	19.6	24.2		20.22	2.42	1.58	
2018	5,660	8,028	2.3	6.9	4.7	20.2	25.0	128.0	20.22	2.50	2.24	
2019	5,774	8,189	2.3	7.0	4.9	20.8	25.7		20.22	2.57	2.92	
2020	5,889	8,352	2.3	7.0	5.0	21.4	26.5		20.22	2.65	3.62	
2021	6,007	8,619	2.4	7.1	5.2	22.4	27.5		20.22	2.75	4.57	
2022	6,127	8,690	2.4	7.2	5.4	22.8	28.1		20.22	2.81	5.08	
2023	6,250	8,864	2.4	7.2	5.5	23.5	29.0		20.22	2.90	5.84	
2024	6,375	9,041	2.4	7.3	5.7	24.2	29.8		20.22	2.98	6.63	
2025	6,401	9,078	2.5	7.4	5.8	24.5	30.3		20.22	3.03	7.01	
2026	6,401	9,078	2.5	7.5	5.8	24.7	30.6		20.22	3.06	7.28	
2027	6,401	9,078	2.5	7.5	5.9	25.0	30.9		20.22	3.09	7.56	
2028	6,401	9,078	2.5	7.6	5.9	25.2	31.2	84.0	20.22	3.12	7.84	
2029	6,401	9,078	2.6	7.7	6.0	25.5	31.5		20.22	3.15	8.12	
2030	6,401	9,078	2.6	7.8	6.1	25.8	31.8		20.22	3.18	8.40	
2031	6,401	9,078	2.6	7.8	6.1	26.0	32.1		20.22	3.21	8.69	
2032	6,401	9,078	2.6	7.9	6.2	26.3	32.4		20.22	3.24	8.98	
2033	6,401	9,078	2.7	8.0	6.2	26.5	32.8	128.0	20.22	3.28	9.27	
2034	6,401	9,078	2.7	8.1	6.3	26.8	33.1		20.22	3.31	9.56	
2035	6,401	9,078	2.7	8.2	6.4	27.1	33.4		20.22	3.34	9.86	
2036	6,401	9,078	2.7	8.2	6.4	27.3	33.8		20.22	3.38	10.16	
2037	6,401	9,078	2.8	8.3	6.5	27.6	34.1		20.22	3.41	10.46	
2038	6,401	9,078	2.8	8.4	6.6	27.9	34.4		20.22	3.44	10.77	
2039	6,401	9,078	2.8	8.5	6.6	28.2	34.8		20.22	3.48	11.08	
2040	6,401	9,078	2.9	8.6	6.7	28.4	35.1		20.22	3.51	11.39	
2041	6,401	9,078	2.9	8.7	6.8	28.7	35.5		20.22	3.55	11.71	
2042	6,401	9,078	2.9	8.8	6.8	29.0	35.8		20.22	3.58	12.03	
2043	6,401	9,078	2.9	8.8	6.9	29.3	36.2	84.0	20.22	3.62	12.35	
2044	6,401	9,078	3.0	8.9	7.0	29.6	36.6		20.22	3.66	12.68	
2045	6,401	9,078	3.0	9.0	7.0	29.9	36.9		20.22	3.69	13.01	
2046	6,401	9,078	3.0	9.1	7.1	30.2	37.3		20.22	3.73	13.34	
2047	6,401	9,078	3.1	9.2	7.2	30.5	37.7		20.22	3.77	13.68	
2048	6,401	9,078	3.1	9.3	7.2	30.8	38.0	128.0	20.22	3.80	14.01	
2049	6,401	9,078	3.1	9.4	7.3	31.1	38.4		20.22	3.84	14.36	
2050	6,401	9,078	3.2	9.5	7.4	31.4	38.8	(61.9)	20.22	3.88	14.70	47.45%

- Note: 1. 1 % annual tariff increase in real term.
2. Tariff rate of Non-Domestic User is 3 times of Domestic User.
3. 100 % Grant for capital investment is assumed.
4. Overhead is assumed to be 10% of Revenue.
5. Investment Cost in 2050 is assumed salvage value.

Table A18.10.3

Pro Forma Financial Statements (M Rs.)
Kandy Sewerage Project (M/P)

Case C-2 90 % Subsidy
1.0 % tariff increase in real terms

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026		
Fund Flow Table																													
Annual Sales	0.0	0.0	0.0	0.0	7.6	17.4	29.7	45.1	51.3	58.3	66.4	75.4	85.5	97.2	125.8	155.1	188.9	226.2	258.5	293.0	332.0	380.1	426.4	483.2	547.6	610.8	678.6		
Subsidy from GSL	0.0	183.3	599.5	1,227.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	217.5	1,517.5	1,977.5	0.0	0.0	0.0	775.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Loan (10% Interest)	0.0	20.4	66.5	136.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.2	168.6	219.7	0.0	0.0	0.0	0.0	86.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Capital Investment	0.0	203.6	666.2	1,364.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	241.7	1,686.1	2,197.2	0.0	0.0	0.0	0.0	861.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Interest Payment (10%)	0.0	2.0	8.7	22.2	21.9	20.8	19.8	18.8	17.8	16.8	15.8	17.2	33.0	53.9	52.0	49.1	46.2	43.3	49.0	46.1	42.8	39.6	36.3	33.0	29.7	26.5	23.6		
Annual Loan Repayment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
O & M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Net Cash Inflow	0.0	(2.0)	(8.7)	(23.2)	(25.4)	(24.9)	(16.5)	(5.8)	(0.8)	4.9	11.5	16.0	7.1	(6.8)	(8.5)	(3.5)	13.3	32.3	44.6	68.3	91.7	126.7	158.1	198.3	244.0	287.3	334.5		
Working Capital Burden																													
Cumulative cash deficit	(2.0)	(10.7)	(33.9)	(59.3)	(84.2)	(100.7)	(106.5)	(107.2)	(102.4)	(91.1)	(75.1)	(68.0)	(74.7)	(83.2)	(86.7)	(73.4)	(66.7)	(51.1)	(35.5)	(20.5)	(5.6)	16.6	44.3	64.6	89.6	117.9	151.2		
10% Interest on above	(0.2)	(1.1)	(3.4)	(5.9)	(8.4)	(10.1)	(10.6)	(10.7)	(10.2)	(9.1)	(7.5)	(6.8)	(7.5)	(8.3)	(8.7)	(7.3)	(6.7)	(5.1)	(4.1)	(3.5)	(2.8)	(2.1)	(1.4)	(0.7)	(0.1)	(0.4)	(0.8)		
Cum. Interest Payment	(0.2)	(1.3)	(4.7)	(10.6)	(19.0)	(29.1)	(39.7)	(50.5)	(60.7)	(69.8)	(77.3)	(84.1)	(91.6)	(99.9)	(108.6)	(115.9)	(122.2)	(128.2)	(133.7)	(138.7)	(143.2)	(147.2)	(150.7)	(153.7)	(156.2)	(158.3)	(160.0)		
Income Statement																													
Annual Sales	0.0	0.0	0.0	0.0	7.6	17.4	29.7	45.1	51.3	58.3	66.4	75.4	85.6	97.2	125.8	155.1	188.9	228.2	258.5	293.0	332.0	380.1	426.4	483.2	547.6	610.8	678.6		
O & M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Annual Depreciation	0.0	0.2	1.5	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.5	8.3	14.7	14.7	14.7	14.7	14.7	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1		
Interest Payment (10%)	0.0	2.0	8.7	22.2	21.9	20.8	19.8	18.8	17.8	16.8	15.8	17.2	33.0	53.9	52.0	49.1	46.2	43.3	49.0	46.1	42.8	39.6	36.3	33.0	29.7	26.5	23.6		
Net Income	0.0	(2.2)	(10.2)	(27.4)	(27.3)	(21.6)	(14.4)	(5.3)	(0.9)	4.1	9.7	13.1	(0.1)	(19.9)	(16.8)	(4.8)	8.6	23.7	28.6	48.9	72.3	102.4	129.2	165.7	203.0	239.1	275.5		
Balance Sheet																													
Cash	(2.0)	(10.7)	(33.9)	(59.3)	(84.2)	(100.7)	(106.5)	(107.2)	(102.4)	(91.1)	(75.1)	(68.0)	(74.7)	(83.2)	(86.7)	(73.4)	(66.7)	(51.1)	(35.5)	(20.5)	(5.6)	16.6	44.3	64.6	89.6	117.9	151.2		
Capital Investment	97.2	763.3	2,127.4	2,127.4	2,127.4	2,127.4	2,127.4	2,127.4	2,127.4	2,127.4	2,127.4	2,300.0	3,986.1	6,183.4	6,183.4	6,183.4	6,183.4	6,183.4	7,044.5	7,044.5	7,044.5	7,044.5	7,044.5	7,044.5	7,044.5	7,044.5	7,044.5		
Less Accum. Depreciation	0.2	1.7	6.8	11.9	17.1	22.2	27.3	32.4	37.5	42.6	48.1	56.9	71.6	86.3	101.0	115.7	130.4	149.4	168.5	187.5	206.6	225.6	244.7	263.7	282.8	301.8	320.8		
Land	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	106.5	
Total Assets	201.4	857.4	2,193.2	2,162.7	2,132.6	2,111.1	2,100.1	2,094.3	2,094.0	2,100.2	2,100.2	2,352.4	4,036.8	6,212.5	6,189.4	6,171.2	6,169.8	6,187.4	7,074.1	7,123.4	7,196.0	7,303.6	7,442.7	7,621.9	7,846.9	8,115.2	8,430.6		
Loan Balance	20.4	87.0	222.5	218.5	208.4	198.2	188.0	177.9	167.7	157.6	147.6	137.6	127.5	117.4	107.3	97.2	87.1	77.0	66.9	56.8	46.7	36.6	26.5	16.4	6.3	(3.8)	(14.3)		
Grant from GSL	183.3	782.8	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,238.0	3,745.5	5,723.0	5,723.0	5,723.0	5,723.0	5,723.0	6,498.0	6,498.0	6,498.0	6,498.0	6,498.0	6,498.0	6,498.0	6,498.0	6,498.0		
Reserve Fund	(2.2)	(12.5)	(39.8)	(66.4)	(86.2)	(97.7)	(98.4)	(94.2)	(84.2)	(67.9)	(47.2)	(28.8)	(4.9)	(53.2)	(42.5)	(15.0)	31.5	86.0	164.1	269.7	410.1	581.9	794.0	1,051.8	1,351.9	1,696.3			
Total Liab. & Capital	201.4	857.4	2,193.2	2,162.7	2,132.6	2,111.1	2,100.1	2,094.3	2,094.0	2,100.2	2,100.2	2,352.4	4,036.8	6,212.5	6,189.4	6,171.2	6,169.8	6,187.4	7,074.1	7,123.4	7,196.0	7,303.6	7,442.7	7,621.9	7,846.9	8,115.2	8,430.6		

Table A18.10.3

Pro Forma Financial Statements (M Rs.) Case C-2 90 % Subsidy
Kandy Sewerage Project (M/P) 1.0 % tariff increase in real terms

Year	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
Fund Flow Table																								
Annual Sales	754.0	837.7	930.6	1,033.9	1,148.7	1,276.2	1,417.9	1,573.3	1,750.1	1,944.4	2,160.2	2,400.0	2,666.4	2,962.4	3,291.2	3,656.5	4,062.4	4,513.3	5,014.3	5,570.9	6,189.2	6,876.3	7,639.5	8,487.5
Subsidy from GSL	0.0	1,319.2	0.0	0.0	0.0	0.0	3,237.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,510.5	0.0	0.0	0.0	0.0	13,523.4	0.0	0.0
Loan (10% Interest)	0.0	146.6	0.0	0.0	0.0	0.0	359.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	612.3	0.0	0.0	0.0	0.0	1,502.6	0.0	0.0
Capital Investment	0.0	1,465.7	0.0	0.0	0.0	0.0	3,597.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6,122.8	0.0	0.0	0.0	0.0	15,026.0	0.0	0.0
Interest Payment (10%)	21.4	33.8	31.5	28.6	25.6	22.7	20.3	18.3	16.3	14.4	12.6	11.0	9.5	8.1	6.8	5.6	4.5	3.5	2.6	1.8	1.1	0.5	0.1	0.0
Annual Loan Repayment	22.7	22.7	22.7	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3
O & M	320.8	352.9	388.2	427.0	469.7	516.7	568.3	625.1	687.7	756.4	832.1	915.3	1,006.8	1,107.5	1,218.2	1,340.1	1,474.1	1,621.5	1,783.6	1,962.0	2,158.2	2,374.0	2,611.4	2,872.5
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Cash Inflow	389.1	428.4	488.3	549.1	624.1	707.6	764.5	868.0	969.5	1,106.4	1,259.3	1,418.5	1,596.1	1,794.1	2,014.8	2,264.6	2,477.5	2,783.3	3,099.4	3,482.7	3,910.0	4,236.0	4,766.9	5,297.4
Working Capital Burden																								
Cumulative cash deficit	1,901.6	2,330.0	2,818.3	3,367.4	3,991.4	4,699.0	5,463.5	6,331.5	7,301.0	8,407.4	9,666.7	11,085.2	12,681.3	14,475.4	16,490.2	18,754.8	21,232.3	24,015.6	27,115.0	30,597.7	34,507.7	38,743.7	43,510.6	48,908.0
10% interest on above	190.2	233.0	281.8	336.7	399.1	469.9	546.3	635.1	730.1	840.7	966.7	1,108.5	1,268.1	1,447.5	1,649.0	1,875.5	2,123.2	2,401.6	2,711.5	3,059.8	3,450.8	3,874.4	4,351.1	4,880.8
Cum. Interest Payment	590.6	823.6	1,105.5	1,442.2	1,841.3	2,311.2	2,857.6	3,490.7	4,220.8	5,061.6	6,028.3	7,136.8	8,404.9	9,852.4	11,501.5	13,376.9	15,500.2	17,901.7	20,613.2	23,673.0	27,123.8	30,998.1	35,349.2	40,250.0
Income Statement																								
Annual Sales	754.0	837.7	930.6	1,033.9	1,148.7	1,276.2	1,417.9	1,573.3	1,750.1	1,944.4	2,160.2	2,400.0	2,666.4	2,962.4	3,291.2	3,656.5	4,062.4	4,513.3	5,014.3	5,570.9	6,189.2	6,876.3	7,639.5	8,487.5
O & M	320.8	352.9	388.2	427.0	469.7	516.7	568.3	625.1	687.7	756.4	832.1	915.3	1,006.8	1,107.5	1,218.2	1,340.1	1,474.1	1,621.5	1,783.6	1,962.0	2,158.2	2,374.0	2,611.4	2,872.5
Overhead (10 % of Sales)	75.4	83.8	93.1	103.4	114.9	127.6	141.8	157.5	175.0	194.4	216.0	240.0	266.6	296.2	329.1	365.7	406.2	451.3	501.4	557.1	618.9	687.6	764.0	848.8
Annual Depreciation	19.1	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5
Interest Payment (10%)	21.4	33.8	31.5	28.6	25.6	22.7	20.3	18.3	16.3	14.4	12.6	11.0	9.5	8.1	6.8	5.6	4.5	3.5	2.6	1.8	1.1	0.5	0.1	0.0
Net Income	317.4	340.8	391.4	448.5	512.0	582.8	607.3	695.1	794.4	904.1	1,025.4	1,160.7	1,311.7	1,480.0	1,667.9	1,877.2	2,018.5	2,279.2	2,573.0	2,900.7	3,266.1	3,447.2	3,901.9	4,415.8
Balance Sheet																								
Cash	1,901.6	2,330.0	2,818.3	3,367.4	3,991.4	4,699.0	5,463.5	6,331.5	7,301.0	8,407.4	9,666.7	11,085.2	12,681.3	14,475.4	16,490.2	18,754.8	21,232.3	24,015.6	27,115.0	30,597.7	34,507.7	38,743.7	43,510.6	48,908.0
Capital Investment	7,044.5	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2
Less Accum. Depreciation	320.9	347.4	373.9	400.4	428.8	453.3	481.1	512.8	548.5	587.5	632.2	677.0	721.7	766.4	811.1	855.9	900.6	976.4	1,052.1	1,127.9	1,203.7	1,279.5	1,431.4	1,583.4
Land	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5	175.5
Total Assets	8,800.7	10,668.3	11,302.8	11,652.8	12,250.3	12,931.4	13,724.8	14,641.6	15,696.4	16,908.1	18,284.6	19,837.4	21,581.8	23,529.1	25,694.7	28,097.9	30,761.0	33,691.6	36,928.8	40,504.3	44,479.7	48,819.9	53,589.9	58,864.3
Loan Balance	6,498.0	7,817.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2	8,510.2
Grant from GSL	2,089.0	2,513.5	2,998.0	3,550.0	4,176.9	4,887.3	5,636.4	6,489.0	7,458.4	8,557.0	9,798.4	11,191.0	12,777.4	14,537.7	16,508.0	18,793.6	21,423.2	24,416.9	27,803.4	31,625.0	35,841.2	40,519.9	45,726.9	51,549.1
Reserved Fund	8,800.7	10,668.3	11,302.8	11,652.8	12,250.3	12,931.4	13,724.8	14,641.6	15,696.4	16,908.1	18,284.6	19,837.4	21,581.8	23,529.1	25,694.7	28,097.9	30,761.0	33,691.6	36,928.8	40,504.3	44,479.7	48,819.9	53,589.9	58,864.3
Total Liab. & Capital	8,800.7	10,668.3	11,302.8	11,652.8	12,250.3	12,931.4	13,724.8	14,641.6	15,696.4	16,908.1	18,284.6	19,837.4	21,581.8	23,529.1	25,694.7	28,097.9	30,761.0	33,691.6	36,928.8	40,504.3	44,479.7	48,819.9	53,589.9	58,864.3

Table A18.10.4
Calculation of FIRR
Kandy Sewerage Project (M/P)
Case C-2

(1998 Price)

Year	Volume		Tariff		Revenue			Investment	10% of Inv.	O&M	OH	Net Inflow	FIRR
	Dom cum/d	Non-Dom cum/d	Dom Rs./cum	Non-Dom Rs./cum	Dom M Rs./Y	Non-Dom M Rs./Y	Total M Rs./Y						
2000													
2001								153.0	15.3				(15.3)
2002								455.0	45.5				(45.5)
2003								847.0	84.7				(84.7)
2004	404	1,102	2.0	10.0	0.3	4.0	4.3		0.0	4.09	0.43		(0.2)
2005	829	2,259	2.0	10.1	0.6	8.3	8.9		0.0	5.82	0.89		2.2
2006	1,273	3,469	2.0	10.2	0.9	12.9	13.9		0.0	7.56	1.39		4.9
2007	1,737	4,736	2.1	10.3	1.3	17.8	19.1		0.0	9.30	1.91		7.9
2008	1,779	4,850	2.1	10.4	1.4	18.4	19.8		0.0	9.30	1.98		8.5
2009	1,822	4,966	2.1	10.5	1.4	19.1	20.4		0.0	9.30	2.04		9.1
2010	1,866	5,086	2.1	10.6	1.4	19.7	21.2		0.0	9.30	2.12		9.7
2011	1,907	5,198	2.1	10.7	1.5	20.3	21.8	70.0	7.0	9.30	2.18		3.4
2012	1,949	5,312	2.2	10.8	1.5	21.0	22.5	444.0	44.4	9.30	2.25		(33.4)
2013	1,991	5,429	2.2	10.9	1.6	21.7	23.3	526.0	52.6	9.30	2.33		(41.0)
2014	2,941	6,204	2.2	11.0	2.4	25.0	27.4		0.0	13.81	2.74		10.8
2015	3,828	6,770	2.2	11.2	3.1	27.6	30.7		0.0	15.95	3.07		11.7
2016	4,679	7,326	2.3	11.3	3.8	30.1	34.0		0.0	18.08	3.40		12.5
2017	5,549	7,871	2.3	11.4	4.6	32.7	37.3		0.0	20.22	3.73		13.4
2018	5,660	8,028	2.3	11.5	4.7	33.7	38.4	128.0	12.8	20.22	3.84		1.6
2019	5,774	8,189	2.3	11.6	4.9	34.7	39.6		0.0	20.22	3.96		15.4
2020	5,889	8,352	2.3	11.7	5.0	35.7	40.8		0.0	20.22	4.08		16.5
2021	6,007	8,619	2.4	11.8	5.2	37.3	42.5		0.0	20.22	4.25		18.0
2022	6,127	8,690	2.4	12.0	5.4	37.9	43.3		0.0	20.22	4.33		18.7
2023	6,250	8,864	2.4	12.1	5.5	39.1	44.6		0.0	20.22	4.46		19.9
2024	6,375	9,041	2.4	12.2	5.7	40.3	45.9		0.0	20.22	4.59		21.1
2025	6,401	9,078	2.5	12.3	5.8	40.8	46.6		0.0	20.22	4.66		21.7
2026	6,401	9,078	2.5	12.4	5.8	41.2	47.1		0.0	20.22	4.71		22.1
2027	6,401	9,078	2.5	12.6	5.9	41.7	47.5		0.0	20.22	4.75		22.6
2028	6,401	9,078	2.5	12.7	5.9	42.1	48.0	84.0	8.4	20.22	4.80		14.6
2029	6,401	9,078	2.6	12.8	6.0	42.5	48.5		0.0	20.22	4.85		23.4
2030	6,401	9,078	2.6	13.0	6.1	42.9	49.0		0.0	20.22	4.90		23.9
2031	6,401	9,078	2.6	13.1	6.1	43.3	49.5		0.0	20.22	4.95		24.3
2032	6,401	9,078	2.6	13.2	6.2	43.8	50.0		0.0	20.22	5.00		24.7
2033	6,401	9,078	2.7	13.3	6.2	44.2	50.5	128.0	12.8	20.22	5.05		12.4
2034	6,401	9,078	2.7	13.5	6.3	44.7	51.0		0.0	20.22	5.10		25.6
2035	6,401	9,078	2.7	13.6	6.4	45.1	51.5		0.0	20.22	5.15		26.1
2036	6,401	9,078	2.7	13.7	6.4	45.6	52.0		0.0	20.22	5.20		26.6
2037	6,401	9,078	2.8	13.9	6.5	46.0	52.5		0.0	20.22	5.25		27.0
2038	6,401	9,078	2.8	14.0	6.6	46.5	53.0		0.0	20.22	5.30		27.5
2039	6,401	9,078	2.8	14.2	6.6	46.9	53.6		0.0	20.22	5.36		28.0
2040	6,401	9,078	2.9	14.3	6.7	47.4	54.1		0.0	20.22	5.41		28.5
2041	6,401	9,078	2.9	14.5	6.8	47.9	54.6		0.0	20.22	5.46		28.9
2042	6,401	9,078	2.9	14.6	6.8	48.4	55.2		0.0	20.22	5.52		29.4
2043	6,401	9,078	2.9	14.7	6.9	48.8	55.7	84.0	8.4	20.22	5.57		21.5
2044	6,401	9,078	3.0	14.9	7.0	49.3	56.3		0.0	20.22	5.63		30.4
2045	6,401	9,078	3.0	15.0	7.0	49.8	56.9		0.0	20.22	5.69		30.9
2046	6,401	9,078	3.0	15.2	7.1	50.3	57.4		0.0	20.22	5.74		31.5
2047	6,401	9,078	3.1	15.3	7.2	50.8	58.0		0.0	20.22	5.80		32.0
2048	6,401	9,078	3.1	15.5	7.2	51.3	58.6	128.0	12.8	20.22	5.86		19.7
2049	6,401	9,078	3.1	15.6	7.3	51.8	59.2		0.0	20.22	5.92		33.0
2050	6,401	9,078	3.2	15.8	7.4	52.4	59.8	(61.9)	(6.2)	20.22	5.98		39.7 5.88%

- Note:
1. 1 % annual tariff increase in real terms.
 2. Unit tariff of Non Domestic User is 5 times of Domestic User.
 3. 90 % subsidy for capital investment.
 4. Overhead is assumed to be 10% of Revenue.
 5. Investment Cost in 2050 is assumed salvage value.

Table A18.10.5

Pro Forma Financial Statements (M Rs.)
Kandy Sewerage Project (F/S)

Case C-1 100 % subsidy
1.0 % tariff increase in real terms

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	
Fund Flow Table																												
Annual Sales	0.0	0.0	0.0	0.0	4.8	10.9	18.6	28.3	32.2	36.6	41.6	47.3	53.7	60.9	67.6	75.1	83.5	92.7	103.0	114.4	127.2	141.3	156.9	174.4	193.7	215.2	239.1	
Subsidy from GSL	0.0	203.6	686.2	1,364.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	861.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Loan (10% Interest)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Capital Investment	0.0	203.6	666.2	1,364.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	861.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Annual Loan Repayment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
O & M	0.0	0.0	0.0	0.0	7.2	11.3	16.2	21.9	24.1	26.5	29.2	32.1	35.3	38.8	42.7	47.0	51.7	56.9	62.5	68.8	75.7	83.2	91.6	100.7	110.8	121.9	134.1	
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.5	1.1	1.9	2.8	3.2	3.7	4.2	4.7	5.4	6.1	6.8	7.5	8.3	9.3	10.3	11.4	12.7	14.1	15.7	17.4	19.4	21.5	23.9	
Net Cash Inflow	0.0	0.0	0.0	0.0	(2.9)	(1.5)	0.6	3.5	4.8	6.4	8.3	10.5	13.0	15.9	18.1	20.6	23.4	26.6	30.2	34.2	38.8	43.9	49.7	56.2	63.6	71.8	81.1	
Working Capital Burden																												
Cumulative cash deficit	0.0	0.0	0.0	0.0	(2.9)	(4.4)	(3.9)	(0.3)	4.5	10.9	19.2	29.7	42.7	58.7	76.8	97.4	120.9	147.4	177.6	211.8	250.6	294.5	344.2	400.4	463.9	535.8	616.9	
10% interest on above	0.0	0.0	0.0	0.0	(0.3)	(0.4)	(0.4)	(0.0)	0.5	1.1	1.9	3.0	4.3	5.9	7.7	9.7	12.1	14.7	17.8	21.2	25.1	29.4	34.4	40.0	46.4	53.6	61.7	
Cum. Interest Payment	0.0	0.0	0.0	0.0	(0.3)	(0.7)	(1.1)	(1.2)	(0.7)	0.4	2.3	5.3	9.6	15.4	23.1	32.9	44.9	59.7	77.4	98.6	123.7	153.1	187.6	227.6	274.0	327.6	389.3	
Income Statement																												
Annual Sales	0.0	0.0	0.0	0.0	4.8	10.9	18.6	28.3	32.2	36.6	41.6	47.3	53.7	60.9	67.6	75.1	83.5	92.7	103.0	114.4	127.2	141.3	156.9	174.4	193.7	215.2	239.1	
O & M	0.0	0.0	0.0	0.0	7.2	11.3	16.2	21.9	24.1	26.5	29.2	32.1	35.3	38.8	42.7	47.0	51.7	56.9	62.5	68.8	75.7	83.2	91.6	100.7	110.8	121.9	134.1	
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.5	1.1	1.9	2.8	3.2	3.7	4.2	4.7	5.4	6.1	6.8	7.5	8.3	9.3	10.3	11.4	12.7	14.1	15.7	17.4	19.4	21.5	23.9	
Annual Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Net Income	0.0	0.0	0.0	0.0	(2.9)	(1.5)	0.6	3.5	4.8	6.4	8.3	10.5	13.0	15.9	18.1	20.6	23.4	26.6	30.2	34.2	38.8	43.9	49.7	56.2	63.6	71.8	81.1	
Balance Sheet																												
Cash	0.0	0.0	0.0	0.0	(2.9)	(4.4)	(3.9)	(0.3)	4.5	10.9	19.2	29.7	42.7	58.7	76.8	97.4	120.9	147.4	177.6	211.8	250.6	294.5	344.2	400.4	463.9	535.8	616.9	
Capital Investment	203.6	869.8	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	
Less Accum. Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Land	0.0	0.0	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	
Total Assets	203.6	869.8	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	
Loan Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Grant from GSL	203.6	869.8	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	
Reserved Fund	0.0	0.0	0.0	0.0	(2.9)	(4.4)	(3.9)	(0.3)	4.5	10.9	19.2	29.7	42.7	58.7	76.8	97.4	120.9	147.4	177.6	211.8	250.6	294.5	344.2	400.4	463.9	535.8	616.9	
Total Liab. & Capital	203.6	869.8	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	2,233.9	

Table A18.10.5

**Pro Forma Financial Statements (M Rs.)
Kandy Sewerage Project (F/S)**

**Case C-1 100 % subsidy
1.0 % tariff increase in real terms**

Year	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	
Fund Flow Table																									
Annual Sales	265.7	295.1	327.9	364.3	404.7	449.7	499.6	555.0	616.6	685.1	761.1	845.6	939.5	1,043.8	1,159.6	1,288.3	1,431.3	1,590.2	1,766.7	1,962.8	2,180.7	2,422.8	2,691.7	2,990.5	
Subsidy from GSL	0.0	0.0	0.0	0.0	0.0	0.0	3,597.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15,026.0	0.0	0.0	
Loan (10% Interest)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Capital Investment	0.0	0.0	0.0	0.0	0.0	0.0	3,597.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15,026.0	0.0	0.0	
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Annual Loan Repayment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
O & M	147.5	162.2	178.4	196.3	215.9	237.5	261.2	287.4	316.1	347.7	382.5	420.7	462.8	509.1	560.0	616.0	677.6	745.3	819.9	901.9	992.1	1,091.3	1,200.4	1,320.4	
Overhead (10 % of Sales)	26.6	29.5	32.8	36.4	40.5	45.0	50.0	55.5	61.7	68.5	76.1	84.6	93.9	104.4	116.0	128.8	143.1	159.0	176.7	196.3	218.1	242.3	269.2	299.0	
Net Cash Inflow	91.6	103.4	116.7	131.6	148.4	167.2	188.4	212.2	238.9	268.9	302.5	340.3	382.7	430.3	483.7	543.5	610.6	685.8	770.2	864.7	970.6	1,089.2	1,222.1	1,371.0	
Working Capital Burden																									
Cumulative cash deficit	708.5	812.0	928.6	1,060.2	1,208.6	1,375.8	1,564.2	1,776.4	2,015.2	2,284.1	2,586.6	2,927.0	3,309.7	3,740.0	4,223.6	4,767.2	5,377.8	6,063.6	6,833.8	7,698.5	8,669.1	9,758.3	10,980.4	12,351.4	
10% interest on above	70.9	81.2	92.9	106.0	120.9	137.6	156.4	177.6	201.5	228.4	258.7	292.7	331.0	374.0	422.4	476.7	537.8	606.4	683.4	769.8	866.9	975.8	1,098.0	1,235.1	
Cum. Interest Payment	480.1	541.3	634.2	740.2	861.1	998.6	1,155.1	1,332.7	1,534.2	1,762.6	2,021.3	2,314.0	2,645.0	3,019.0	3,441.3	3,918.0	4,455.8	5,062.2	5,745.6	6,515.4	7,382.3	8,358.1	9,456.2	10,691.5	
Income Statement																									
Annual Sales	265.7	295.1	327.9	364.3	404.7	449.7	499.6	555.0	616.6	685.1	761.1	845.6	939.5	1,043.8	1,159.6	1,288.3	1,431.3	1,590.2	1,766.7	1,962.8	2,180.7	2,422.8	2,691.7	2,990.5	
O & M	147.5	162.2	178.4	196.3	215.9	237.5	261.2	287.4	316.1	347.7	382.5	420.7	462.8	509.1	560.0	616.0	677.6	745.3	819.9	901.9	992.1	1,091.3	1,200.4	1,320.4	
Overhead (10 % of Sales)	26.6	29.5	32.8	36.4	40.5	45.0	50.0	55.5	61.7	68.5	76.1	84.6	93.9	104.4	116.0	128.8	143.1	159.0	176.7	196.3	218.1	242.3	269.2	299.0	
Annual Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Interest Payment (10%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Net Income	91.6	103.4	116.7	131.6	148.4	167.2	188.4	212.2	238.9	268.9	302.5	340.3	382.7	430.3	483.7	543.5	610.6	685.8	770.2	864.7	970.6	1,089.2	1,222.1	1,371.0	
Balance Sheet																									
Cash	708.5	812.0	928.6	1,060.2	1,208.6	1,375.8	1,564.2	1,776.4	2,015.2	2,284.1	2,586.6	2,927.0	3,309.7	3,740.0	4,223.6	4,767.2	5,377.8	6,063.6	6,833.8	7,698.5	8,669.1	9,758.3	10,980.4	12,351.4	
Capital Investment	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	
Less Accum. Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Land	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	
Total Assets	3,803.6	3,907.0	4,023.7	4,155.3	4,303.6	4,470.8	4,656.3	4,868.5	5,107.4	5,376.2	5,678.8	6,019.1	6,400.8	6,822.1	7,285.8	7,791.3	8,340.9	8,936.6	9,579.5	10,273.2	11,018.6	11,818.2	12,676.6	13,596.6	
Loan Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Grant from GSL	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	3,095.0	
Reserved Fund	708.5	812.0	928.6	1,060.2	1,208.6	1,375.8	1,564.2	1,776.4	2,015.2	2,284.1	2,586.6	2,927.0	3,309.7	3,740.0	4,223.6	4,767.2	5,377.8	6,063.6	6,833.8	7,698.5	8,669.1	9,758.3	10,980.4	12,351.4	
Total Liab. & Capital	3,803.6	3,907.0	4,023.7	4,155.3	4,303.6	4,470.8	4,656.3	4,868.5	5,107.4	5,376.2	5,678.8	6,019.1	6,400.8	6,822.1	7,285.8	7,791.3	8,340.9	8,936.6	9,579.5	10,273.2	11,018.6	11,818.2	12,676.6	13,596.6	

Table A18.10.6
Calculation of FIRR
Kandy Sewerage Project (F/S)
Case C-1

(1998 price)

Year	Volume		Tariff		Revenue			Investment	O&M	OH	Net Inflow	FIRR
	Dom cum/d	Non-Dom cum/d	Dom Rs./cum	Non-Dom Rs./cum	Dom M Rs./Y	Non-Dom M Rs./Y	Total M Rs./Y					
2000												
2001								153.0			0.00	
2002								455.0			0.00	
2003								847.0			0.00	
2004	404	1102	2.0	6.0	0.3	2.4	2.7		4.09	0.27	(1.65)	
2005	829	2259	2.0	6.1	0.6	5.0	5.6		5.82	0.56	(0.77)	
2006	1273	3469	2.0	6.1	0.9	7.7	8.7		7.56	0.87	0.27	
2007	1737	4736	2.1	6.2	1.3	10.7	12.0		9.30	1.20	1.50	
2008	1779	4850	2.1	6.2	1.4	11.1	12.4		9.30	1.24	1.87	
2009	1822	4966	2.1	6.3	1.4	11.4	12.8		9.30	1.28	2.25	
2010	1866	5086	2.1	6.4	1.4	11.8	13.3		9.30	1.33	2.65	
2011	1907	5198	2.1	6.4	1.5	12.2	13.7		9.30	1.37	3.03	
2012	1949	5312	2.2	6.5	1.5	12.6	14.1		9.30	1.41	3.43	
2013	1988	5420	2.2	6.6	1.6	13.0	14.6		9.30	1.46	3.82	
2014	1988	5420	2.2	6.6	1.6	13.1	14.7		9.30	1.47	3.95	
2015	1988	5420	2.2	6.7	1.6	13.2	14.9		9.30	1.49	4.08	
2016	1988	5420	2.3	6.8	1.6	13.4	15.0		9.30	1.50	4.21	
2017	1988	5420	2.3	6.8	1.7	13.5	15.2		9.30	1.52	4.35	
2018	1988	5420	2.3	6.9	1.7	13.6	15.3	128.0	9.30	1.53	4.48	
2019	1988	5420	2.3	7.0	1.7	13.8	15.5		9.30	1.55	4.62	
2020	1988	5420	2.3	7.0	1.7	13.9	15.6		9.30	1.56	4.76	
2021	1988	5420	2.4	7.1	1.7	14.1	15.8		9.30	1.58	4.90	
2022	1988	5420	2.4	7.2	1.7	14.2	15.9		9.30	1.59	5.04	
2023	1988	5420	2.4	7.2	1.8	14.3	16.1		9.30	1.61	5.19	
2024	1988	5420	2.4	7.3	1.8	14.5	16.3		9.30	1.63	5.33	
2025	1988	5420	2.5	7.4	1.8	14.6	16.4		9.30	1.64	5.48	
2026	1988	5420	2.5	7.5	1.8	14.8	16.6		9.30	1.66	5.63	
2027	1988	5420	2.5	7.5	1.8	14.9	16.7		9.30	1.67	5.78	
2028	1988	5420	2.5	7.6	1.8	15.1	16.9		9.30	1.69	5.93	
2029	1988	5420	2.6	7.7	1.9	15.2	17.1		9.30	1.71	6.08	
2030	1988	5420	2.6	7.8	1.9	15.4	17.3		9.30	1.73	6.23	
2031	1988	5420	2.6	7.8	1.9	15.5	17.4		9.30	1.74	6.39	
2032	1988	5420	2.6	7.9	1.9	15.7	17.6		9.30	1.76	6.54	
2033	1988	5420	2.7	8.0	1.9	15.8	17.8	128.0	9.30	1.78	6.70	
2034	1988	5420	2.7	8.1	2.0	16.0	18.0		9.30	1.80	6.86	
2035	1988	5420	2.7	8.2	2.0	16.2	18.1		9.30	1.81	7.02	
2036	1988	5420	2.7	8.2	2.0	16.3	18.3		9.30	1.83	7.19	
2037	1988	5420	2.8	8.3	2.0	16.5	18.5		9.30	1.85	7.35	
2038	1988	5420	2.8	8.4	2.0	16.6	18.7		9.30	1.87	7.52	
2039	1988	5420	2.8	8.5	2.1	16.8	18.9		9.30	1.89	7.69	
2040	1988	5420	2.9	8.6	2.1	17.0	19.1		9.30	1.91	7.86	
2041	1988	5420	2.9	8.7	2.1	17.2	19.2		9.30	1.92	8.03	
2042	1988	5420	2.9	8.8	2.1	17.3	19.4		9.30	1.94	8.20	
2043	1988	5420	2.9	8.8	2.1	17.5	19.6	0.0	9.30	1.96	8.38	
2044	1988	5420	3.0	8.9	2.2	17.7	19.8		9.30	1.98	8.55	
2045	1988	5420	3.0	9.0	2.2	17.8	20.0		9.30	2.00	8.73	
2046	1988	5420	3.0	9.1	2.2	18.0	20.2		9.30	2.02	8.91	
2047	1988	5420	3.1	9.2	2.2	18.2	20.4		9.30	2.04	9.09	
2048	1988	5420	3.1	9.3	2.2	18.4	20.6	128.0	9.30	2.06	9.28	
2049	1988	5420	3.1	9.4	2.3	18.6	20.8		9.30	2.08	9.46	
2050	1988	5420	3.2	9.5	2.3	18.8	21.1	(110.9)	9.30	2.11	9.65	49.04%

- Note: 1. 1 % annual tariff increase in real terms.
2. Unit tariff of Non Domestic User is 3 times of Domestic User.
3. 100 % subsidy for capital investment.
4. Overhead is assumed to be 10% of Revenue.
5. Investment Cost in 2050 is assumed salvage value.

Table A18.10.7

Pro Forma Financial Statements (M Rs.)
Kandy Sewerage Project (F/S)

Case C-2 90 % sunsidi
1.0 % tariff increase in real terms

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	
Fund Flow Table																												
Annual Sales	0.0	0.0	0.0	0.0	4.8	10.9	18.6	28.3	32.2	36.6	41.6	47.3	53.7	60.9	67.6	75.1	83.5	92.7	103.0	114.4	127.2	141.3	156.9	174.4	193.7	215.2	239.1	
Subsidy from GSL	0.0	183.3	599.5	1,227.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loan (10% Interest)	0.0	20.4	66.6	136.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	86.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital Investment	0.0	203.6	666.2	1,364.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	863.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Interest Payment (10%)	0.0	2.0	8.7	22.2	21.9	26.8	19.8	18.8	17.8	16.8	15.8	14.7	13.7	12.7	11.7	10.7	9.7	8.7	16.2	15.2	13.8	12.4	11.0	9.6	8.2	6.9	5.9	
Annual Loan Repayment	0.0	0.0	0.0	0.0	0.9	4.0	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	14.1	14.1	14.1	14.1	14.1	13.1	10.1	
O & M	0.0	0.0	0.0	0.0	0.0	7.2	11.3	16.2	21.9	24.1	26.5	29.2	32.1	35.3	38.8	42.7	47.0	51.7	56.9	62.5	68.8	75.7	83.2	91.6	100.7	110.8	121.9	134.1
Overhead (10 % of Sales)	0.0	0.0	0.0	0.0	0.5	1.1	1.9	2.8	3.2	3.7	4.2	4.7	5.4	6.1	6.8	7.5	8.5	9.3	10.3	11.4	12.7	14.1	15.7	17.4	19.4	21.5	23.9	
Net Cash Inflow	0.0	(2.0)	(8.7)	(23.2)	(28.2)	(31.4)	(27.5)	(22.6)	(19.9)	(16.9)	(13.4)	(9.7)	(5.5)	(0.8)	3.0	7.3	12.0	17.1	14.1	20.3	23.6	31.5	40.3	50.0	60.7	73.3	89.1	
Working Capital Burden																												
Cumulative cash deficit	(2.0)	(10.7)	(33.9)	(62.2)	(93.6)	(121.1)	(143.7)	(163.6)	(180.4)	(193.9)	(203.6)	(209.1)	(209.6)	(205.9)	(206.9)	(199.6)	(187.6)	(170.5)	(156.5)	(136.2)	(112.6)	(81.1)	(40.8)	9.2	69.9	143.2	232.3	
10% interest on above	(0.2)	(1.1)	(3.4)	(6.2)	(9.4)	(12.1)	(14.4)	(16.4)	(18.0)	(19.4)	(20.4)	(20.9)	(21.0)	(20.9)	(20.7)	(20.0)	(18.8)	(17.1)	(15.6)	(13.6)	(11.3)	(8.1)	(4.1)	0.9	7.0	14.3	25.2	
Cum. Interest Payment	(0.2)	(1.5)	(4.7)	(10.9)	(20.2)	(32.3)	(46.7)	(63.1)	(81.1)	(100.5)	(120.9)	(141.8)	(162.8)	(183.4)	(203.4)	(222.2)	(239.2)	(254.9)	(268.5)	(279.7)	(287.9)	(291.9)	(291.9)	(291.0)	(284.0)	(269.7)	(246.5)	
Income Statement																												
Annual Sales	0.0	0.0	0.0	0.0	4.8	10.9	18.6	28.3	32.2	36.6	41.6	47.3	53.7	60.9	67.6	75.1	83.5	92.7	103.0	114.4	127.2	141.3	156.9	174.4	193.7	215.2	239.1	
O & M	0.0	0.0	0.0	0.0	7.2	11.3	16.2	21.9	24.1	26.5	29.2	32.1	35.3	38.8	42.7	47.0	51.7	56.9	62.5	68.8	75.7	83.2	91.6	100.7	110.8	121.9	134.1	
Overhead (10 % of Sales)	0.0	0.2	1.7	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
Annual Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Interest Payment (10%)	0.0	2.0	8.7	22.2	21.9	26.8	19.8	18.8	17.8	16.8	15.8	14.7	13.7	12.7	11.7	10.7	9.7	8.7	16.2	15.2	13.8	12.4	11.0	9.6	8.2	6.9	5.9	
Net Income	0.0	(2.3)	(10.4)	(27.7)	(29.8)	(26.7)	(22.9)	(17.9)	(13.2)	(8.8)	(5.0)	(0.8)	3.8	7.7	12.0	16.6	21.7	27.8	35.8	44.5	54.2	64.9	76.6	89.3	103.2	118.1	134.4	
Balance Sheet																												
Cash	(2.0)	(10.7)	(33.9)	(62.2)	(93.6)	(121.1)	(143.7)	(163.6)	(180.4)	(193.9)	(203.6)	(209.1)	(209.6)	(205.9)	(206.9)	(199.6)	(187.6)	(170.5)	(156.5)	(136.2)	(112.6)	(81.1)	(40.8)	9.2	69.9	143.2	232.3	
Capital Investment	203.6	869.8	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1	2,105.1
Less Accum. Depreciation	0.2	1.9	7.4	12.9	18.4	23.8	29.3	34.8	40.3	45.8	51.3	56.8	62.3	67.7	73.2	78.7	84.2	94.1	103.9	113.8	123.6	133.5	143.3	153.2	163.0	172.9		
Land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Assets	201.4	857.2	2,192.6	2,158.9	2,122.0	2,089.0	2,060.9	2,035.5	2,013.2	1,994.2	1,979.1	1,968.1	1,961.7	1,959.3	1,961.1	1,967.6	1,979.2	2,000.8	2,028.6	2,062.6	2,102.6	2,149.3	2,207.8	2,268.1	2,330.2	2,394.1	2,460.0	
Loan Balance	20.4	87.0	222.5	218.5	208.4	198.2	188.0	177.9	167.7	157.6	147.4	137.5	127.1	117.0	106.8	96.7	86.5	162.5	152.3	138.2	124.2	110.1	96.0	82.0	68.8	58.7		
Grant from GSL	183.3	782.8	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	2,010.5	
Reserved Fund	(2.3)	(12.6)	(40.4)	(70.1)	(96.9)	(119.7)	(137.7)	(152.9)	(165.1)	(173.9)	(179.7)	(183.6)	(186.2)	(187.6)	(188.2)	(188.0)	(187.2)	(185.9)	(184.1)	(181.8)	(178.5)	(174.2)	(169.0)	(163.0)	(156.2)	(148.8)	(140.9)	
Total Liab. & Capital	201.4	857.2	2,192.6	2,158.9	2,122.0	2,089.0	2,060.9	2,035.5	2,013.2	1,994.2	1,979.1	1,968.1	1,961.7	1,959.3	1,961.1	1,967.6	1,979.2	2,000.8	2,028.6	2,062.6	2,102.6	2,149.3	2,207.8	2,268.1	2,330.2	2,394.1	2,460.0	

Table A18.10.7

Pro Foruma Financial Statements (M.Rs.)
Kandy Sewerage Project (R/S)

Case C-2 90 % sunsidy
1.0 % tariff increase in real terms

Year	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
Fund Flow Table																								
Annual Sales	265.7	295.1	327.9	364.3	404.7	449.7	496.6	555.0	616.6	685.1	761.1	845.6	939.5	1,043.8	1,159.6	1,288.3	1,431.3	1,590.2	1,766.7	1,962.8	2,180.7	2,422.8	2,691.7	2,990.5
Subsidy from GSL	0.0	0.0	0.0	0.0	0.0	0.0	3,237.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loan (10% Interest)	0.0	0.0	0.0	0.0	0.0	0.0	359.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital Investment	0.0	0.0	0.0	0.0	0.0	0.0	3,597.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Interest Payment (10%)	5.5	5.1	4.7	4.3	3.9	3.5	3.1	3.8	3.7	3.4	3.2	3.0	2.8	2.6	2.4	2.2	2.1	1.9	1.8	1.6	1.4	1.2	1.0	0.8
Annual Loan Repayment	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
O & M	147.5	162.2	178.4	196.3	215.9	237.5	261.2	287.4	316.1	347.7	382.5	420.7	462.8	509.1	560.0	616.0	677.6	745.3	819.9	901.9	992.1	1,091.5	1,200.4	1,320.4
Overhead (10 % of Sales)	26.6	29.5	32.8	36.4	40.5	45.0	50.0	55.5	61.7	68.5	76.1	84.6	93.9	104.4	116.0	128.8	143.1	159.0	176.7	196.3	218.1	242.3	269.2	299.0
Net Cash Inflow	108.8	123.9	143.9	159.8	181.0	204.7	195.3	225.0	243.6	282.5	325.8	374.0	427.8	487.9	554.8	633.1	716.1	808.9	912.5	1,028.3	1,157.6	1,313.3	1,452.2	
Working Capital Burden																								
Cumulative cash deficit	341.1	465.0	605.8	765.7	946.7	1,151.4	1,346.7	1,571.8	1,815.3	2,097.8	2,423.5	2,797.6	3,225.4	3,713.3	4,268.1	4,901.2	5,617.3	6,426.2	7,338.7	8,367.0	9,524.6	10,676.4	11,989.7	13,421.8
10% interest on above	34.1	46.5	60.6	76.6	94.7	115.1	134.7	157.2	181.5	209.8	242.4	279.8	322.5	371.3	426.8	490.1	561.7	642.6	733.9	836.7	952.5	1,067.6	1,199.0	1,342.2
Cum. Interest Payment	(212.4)	(165.9)	(105.3)	(28.7)	65.9	181.1	315.8	472.9	654.5	864.2	1,106.6	1,386.4	1,708.9	2,080.2	2,507.0	2,997.1	3,558.9	4,201.5	4,935.4	5,772.1	6,724.5	7,792.2	8,991.1	10,333.3
Income Statement																								
Annual Sales	265.7	295.1	327.9	364.3	404.7	449.7	496.6	555.0	616.6	685.1	761.1	845.6	939.5	1,043.8	1,159.6	1,288.3	1,431.3	1,590.2	1,766.7	1,962.8	2,180.7	2,422.8	2,691.7	2,990.5
O & M	147.5	162.2	178.4	196.3	215.9	237.5	261.2	287.4	316.1	347.7	382.5	420.7	462.8	509.1	560.0	616.0	677.6	745.3	819.9	901.9	992.1	1,091.5	1,200.4	1,320.4
Overhead (10 % of Sales)	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
Annual Depreciation	5.5	5.1	4.7	4.3	3.9	3.5	3.1	3.8	3.7	3.4	3.2	3.0	2.8	2.6	2.4	2.2	2.1	1.9	1.8	1.6	1.4	1.2	1.0	0.8
Interest Payment (10%)	102.9	118.0	134.9	153.9	175.1	198.8	171.1	200.9	235.8	274.6	317.9	366.2	420.0	480.0	547.0	621.4	704.4	797.2	900.8	1,016.5	1,145.8	1,295.9	1,472.5	
Net Income	34.1	46.5	60.6	76.6	94.7	115.1	134.7	157.2	181.5	209.8	242.4	279.8	322.5	371.3	426.8	490.1	561.7	642.6	733.9	836.7	952.5	1,067.6	1,199.0	1,342.2
Balance Sheet																								
Cash	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2	2,966.2
Capital Investment	182.8	192.6	202.5	212.3	222.2	232.0	241.8	251.6	261.4	271.2	281.0	290.8	300.6	310.4	320.2	330.0	339.8	349.6	359.4	369.2	379.0	388.8	398.6	408.4
Less Accum. Depreciation	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8	128.8
Land	3,253.3	3,267.4	3,498.4	3,648.4	3,819.5	4,014.4	4,233.8	4,488.9	4,775.7	5,098.1	5,455.5	5,849.6	6,285.5	6,768.1	7,292.9	7,864.4	8,488.3	9,171.6	9,923.9	10,754.4	11,671.6	12,684.4	13,794.4	14,914.4
Total Assets	54.8	50.9	47.0	43.1	39.1	35.2	31.0	26.9	22.8	18.7	14.6	10.5	6.4	2.3	-1.8	-5.9	-11.0	-16.1	-21.2	-26.3	-31.4	-36.5	-41.6	-46.7
Loan Balance	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5	2,785.5
Grant from GSL	413.0	531.0	665.9	819.8	994.9	1,193.7	1,364.8	1,565.7	1,801.4	2,076.0	2,394.0	2,761.1	3,180.1	3,660.2	4,207.2	4,823.5	5,522.9	6,301.1	7,236.9	8,247.4	9,393.2	10,457.1	11,624.4	13,094.9
Reserved Fund	3,253.3	3,267.4	3,498.4	3,648.4	3,819.5	4,014.4	4,233.8	4,488.9	4,775.7	5,098.1	5,455.5	5,849.6	6,285.5	6,768.1	7,292.9	7,864.4	8,488.3	9,171.6	9,923.9	10,754.4	11,671.6	12,684.4	13,794.4	14,914.4
Total Liab. & Capital	54.8	50.9	47.0	43.1	39.1	35.2	31.0	26.9	22.8	18.7	14.6	10.5	6.4	2.3	-1.8	-5.9	-11.0	-16.1	-21.2	-26.3	-31.4	-36.5	-41.6	-46.7

Table A18.10.10
Calculation of FIRR
Kandy Sewerage Project (F/S)
Case C-2

(1998 Price)

Year	Volume		Tariff		Revenue			Investment	10% of Inv.	O&M	OH	Net Inflow	FIRR
	Dom cum/d	Non-Dom cum/d	Dom Rs./cum	Non-Dom Rs./cum	Dom M Rs./Y	Non-Dom M Rs./Y	Total M Rs./Y						
2000													
2001								153.0	15.3			(15.30)	
2002								455.0	45.5			(45.50)	
2003								847.0	84.7			(84.70)	
2004	404	1102	2.00	10.00	0.3	4.0	4.3		0.0	4.09	0.43	0.23	
2005	829	2259	2.02	10.10	0.6	8.3	8.9		0.0	5.82	0.89	3.12	
2006	1273	3469	2.04	10.20	0.9	12.9	13.9		0.0	7.56	1.39	6.30	
2007	1737	4736	2.06	10.30	1.3	17.8	19.1		0.0	9.30	1.91	9.82	
2008	1779	4850	2.08	10.41	1.4	18.4	19.8		0.0	9.30	1.98	10.48	
2009	1822	4966	2.10	10.51	1.4	19.1	20.4		0.0	9.30	2.04	11.15	
2010	1866	5086	2.12	10.62	1.4	19.7	21.2		0.0	9.30	2.12	11.86	
2011	1907	5198	2.14	10.72	1.5	20.3	21.8		0.0	9.30	2.18	12.54	
2012	1949	5312	2.17	10.83	1.5	21.0	22.5		0.0	9.30	2.25	13.24	
2013	1988	5420	2.19	10.94	1.6	21.6	23.2		0.0	9.30	2.32	13.93	
2014	1988	5420	2.21	11.05	1.6	21.9	23.5		0.0	9.30	2.35	14.16	
2015	1988	5420	2.23	11.16	1.6	22.1	23.7		0.0	9.30	2.37	14.39	
2016	1988	5420	2.25	11.27	1.6	22.3	23.9		0.0	9.30	2.39	14.63	
2017	1988	5420	2.28	11.38	1.7	22.5	24.2		0.0	9.30	2.42	14.87	
2018	1988	5420	2.30	11.49	1.7	22.7	24.4	128.0	12.8	9.30	2.44	2.31	
2019	1988	5420	2.32	11.61	1.7	23.0	24.7		0.0	9.30	2.47	15.36	
2020	1988	5420	2.35	11.73	1.7	23.2	24.9		0.0	9.30	2.49	15.60	
2021	1988	5420	2.37	11.84	1.7	23.4	25.1		0.0	9.30	2.51	15.85	
2022	1988	5420	2.39	11.96	1.7	23.7	25.4		0.0	9.30	2.54	16.10	
2023	1988	5420	2.42	12.08	1.8	23.9	25.7		0.0	9.30	2.57	16.36	
2024	1988	5420	2.44	12.20	1.8	24.1	25.9		0.0	9.30	2.59	16.61	
2025	1988	5420	2.46	12.32	1.8	24.4	26.2		0.0	9.30	2.62	16.87	
2026	1988	5420	2.49	12.45	1.8	24.6	26.4		0.0	9.30	2.64	17.13	
2027	1988	5420	2.51	12.57	1.8	24.9	26.7		0.0	9.30	2.67	17.40	
2028	1988	5420	2.54	12.70	1.8	25.1	27.0		0.0	9.30	2.70	17.67	
2029	1988	5420	2.56	12.82	1.9	25.4	27.2		0.0	9.30	2.72	17.94	
2030	1988	5420	2.59	12.95	1.9	25.6	27.5		0.0	9.30	2.75	18.21	
2031	1988	5420	2.62	13.08	1.9	25.9	27.8		0.0	9.30	2.78	18.48	
2032	1988	5420	2.64	13.21	1.9	26.1	28.1		0.0	9.30	2.81	18.76	
2033	1988	5420	2.67	13.35	1.9	26.4	28.3	128.0	12.8	9.30	2.83	6.24	
2034	1988	5420	2.70	13.48	2.0	26.7	28.6		0.0	9.30	2.86	19.32	
2035	1988	5420	2.72	13.61	2.0	26.9	28.9		0.0	9.30	2.89	19.61	
2036	1988	5420	2.75	13.75	2.0	27.2	29.2		0.0	9.30	2.92	19.90	
2037	1988	5420	2.78	13.89	2.0	27.5	29.5		0.0	9.30	2.95	20.19	
2038	1988	5420	2.81	14.03	2.0	27.7	29.8		0.0	9.30	2.98	20.49	
2039	1988	5420	2.83	14.17	2.1	28.0	30.1		0.0	9.30	3.01	20.78	
2040	1988	5420	2.86	14.31	2.1	28.3	30.4		0.0	9.30	3.04	21.09	
2041	1988	5420	2.89	14.45	2.1	28.6	30.7		0.0	9.30	3.07	21.39	
2042	1988	5420	2.92	14.60	2.1	28.9	31.0		0.0	9.30	3.10	21.70	
2043	1988	5420	2.95	14.74	2.1	29.2	31.3	0.0	0.0	9.30	3.13	22.01	
2044	1988	5420	2.98	14.89	2.2	29.5	31.6		0.0	9.30	3.16	22.32	
2045	1988	5420	3.01	15.04	2.2	29.7	31.9		0.0	9.30	3.19	22.64	
2046	1988	5420	3.04	15.19	2.2	30.0	32.3		0.0	9.30	3.23	22.95	
2047	1988	5420	3.07	15.34	2.2	30.3	32.6		0.0	9.30	3.26	23.28	
2048	1988	5420	3.10	15.49	2.2	30.7	32.9	128.0	12.8	9.30	3.29	10.80	
2049	1988	5420	3.13	15.65	2.3	31.0	33.2		0.0	9.30	3.32	23.93	
2050	1988	5420	3.16	15.80	2.3	31.3	33.6	(253.0)	(25.3)	9.30	3.36	49.56	7.61%

- Note: 1. 1 % annual tariff increase in real terms.
2. Unit tariff of Non Domestic User is 5 times of Domestic User.
3. 90 % subsidy for capital investment.
4. Overhead is assumed to be 10% of Revenue.
5. Investment Cost in 2050 is assumed salvage value.





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