TABLES



Table J-1.1 Affordability & Capacity to Pay

										:		Willingness to pay	Capacity to
	1988	1861	1993	1861	1997	2000	2003	2006	2009	2012	2015	1996	198
	***	, ·		8	. 8	6	36.7	;	21.61	07.71		•	
	9	0	<u>.</u>	3	3	? :	0	3 :	01:0	2	0.00	1	
domestic 30	0.55	1.30	500	8	6.50 0.	6.75	10.13	15.19	19.74	21 72	23.89	9	16.75
2	; ;	3.00	8.00	7.50	11.23	16.88	25.31	37.97	49.36	7.13	83.42	15.8	17.25
domestic >>60			6.00	006	13.50	20.25	30.38	45.56	59.23	65.15	71.67	19.0	20.7
			:		:								2-12
Middle income household				1	5			7					-
Average family income (SL/month)				20,500	20,500	23,575	24,328	35.18	25,908	26,736	27,590	20,500	20,50
Water consumption per person (locd)				92	2	8	8	88	913	210	215	170	170
per family (m/month)				30.60	30.60	36.00	36.00	36.00	37.80	37.80	38.70	31	33
						-	:	\				1	•
Water charge (m/month)	: .			31.6	137.70	243.80	8.5	\$46.75	746.31	820.95	45.45	3	513
% of income				0.45%	0.67%	1.03%	1.50%	2.18%	2.88%	3.07%	3.35%	0.94%	2.50%
Low income household		٠		: .			:				-	* !*	-
Average family income (\$L/month)				5,665	5,665	6,515	6.723	6,938	7,159	7.388	7,624	5,665	5,665
Water consumption per person (locd)				110	110	170	170	02.	180	180	8	011	110
per family (m/month)				08.61	19.80	30.66	899	8	32.40	32.40	Y S	8	ล
				:	;	;	:	i				, ;	, ;
Water charge (m'/month)				30.00	29,40	206.55	303	4 4	939.70	703.67	\$ 7.0 8 7.0	\$	74
% of income				0.70%	1.05%	3.17%	461%	6.70%	8.94%	9.52%	10.72%	47%	2.50%

	€	(R)		e	Weighted
•	Willingness	Willingness Avg. water	(C) Avg. Weighting	Weighting	
	to pay	charge	increment	(actor	Increment
	(SL/month)	SL/month) (SL/month)	(B/C)		(CxD)
Middle income household	051	91.80	1.63	0.75	<u> </u>
Low income household	140	39.60	3.54	0.25	60
Weighted average taniff increment based on willinguiss to pay	d on willingness to pay		1	Total	2.1

verage tariff based on willingness to pay

	Exusting tariff	Average	willing pess	willingness % of total Weighted	Weighted
omestic consumption class ((SL/m)	increment	3	(B)	(AxB)
2	6	2.1	4 7	90	253
.00	3.0	2.1	6.3	0.17	8
8	7.5	7	15.8	0.17	2.69
%	0.6	117	19.0	90.0	1,14





marginal cost = incremental production costs (A) + incremental capital investment costs for increased capacity (B)

(A) Incremental production costs

DAWSSA five year plan 1996-2000

		Annual production ⁽¹⁾ (MCM)	(a) increment	Production cost ⁽²⁾ (000 SL)	(b) increment	(a/b) Marginal cost (SL/m3)
	1994	209		73,500		
	1995	209	13	95,879	22,379	1.72
ı	1996	222	0	119,600	23,721	
ı	1997	230	8	131,562	11,962	1.50
	1998	240	10	144,720	13,158	1.32
	1999	250	10	159,375	14,655	1.47
	2000	250	.0	175,316	15,941	

JICA Study team estimates

	:		Annual production ⁽³⁾ (MCM)	(a) increment	Production cost ⁽⁴⁾ (000 SL)	(b) increment	(a/b) Marginal cost (SL/m3)
		1001	200				
		1994	209		73,500		
		1995	218	9	95,879	22,379	2.49
		1996	241	23	132,218	36,339	1.58
	i	1997	254	13	153,707	21,489	1.65
		1998	259	5	161,394	7,686	1.54
	٠	1999	266	7	172,834	11,440	1.63
÷.,		2000	274	8	195,839	23,005	2.88

incremental production cost

(B) incremental capital costs

the next increment in production over 218 MCM requires use of the recently developed Barada Spring Wellfield.

total ivestment costs to develop the well field total production capacity provided is

173 million SP 23 MCM

the incremental cost is

7.5 SP/m³ 0.18 \$US/ m³

Total marginal cost = (A) + (B) =

0.22 \$US/ m3

⁽¹⁾ production identified by DAWSSA for 1996-2000 planing period

⁽²⁾ production costs identified by DAWSSA for 1996-2000 planning period

⁽³⁾ JICA study team estimates of actual production required to meet consumption

⁽⁴⁾ DAWSSA estimates adjusted to reflect increased production

Table J-1.3 Estimated Economic Benefits

	Leakage R	Leakage Reductions (A1.1+A	1+A2.)	New Sor	New Sources (A3.2+B2.)	B2.)	Mer	Metenng (A1.2+B)	C.1	
	חוכובחוכוות אמפו	Unit value	Gross benefits	חוכובותפוומו א מוכן	Unit value	Gross benefits	tucicinental water	Unit value	Gross benefits	
Year	(,m s,000)	(SOS)	(US\$ 000's)	(000's m²)	(SUS)	(US\$ 000's)	(COO,s m.)	(SUS)	(US\$ 000's)	(US\$ 000's)
1997	4.500	0.22	88	2.710	0.18	488	002.5	81.0		7.530
1998	9,510	022	2,092	1,298	0.18	777	13.490	81.0	2,00	020. A
1999	10,020	0.22		11.918	0.18	2.145	24,030	0.18	4,325	8678
2000	12,460	0.22		20,424	0.18	3,676	34,720	0.18	6.250	12.667
2001	14,890	0.22		24,869	0.18	4,476	42,020	0.18	7,564	15,316
2002	17,310	ខ្ល	1	50.579	0.18	9,18	49,340	0.18	8,881	21.794
2003	19,530	0.22		51,373	0.18	9,247	54,720	0.18.	9,850	23,393
\$ \$	21,510	1000	4,732	51,373	0.18	9,247	26.380	0.18	10,148	24,128
	21.430	0.22	4.715	\$1,373	0.18	9.247	58.080	0.18	10,454	24,416
888	026.52	0.22	5,709	51.373	0.18	9,247	050,19	0.18	686'01	25,945
386	066.63	0.22	5.709	51,373	0.18	9,247	61,050	0.18	10,989	25,945
888	08,63	0.22	5,709	51.373	0.18	9,247	61.050	0.18	10,989	25,945
333	25,950	0.22	5.709	51.373	0.18	9,247	61.050	0.18	10,989	25,945
2010	700,200	0.22	5.830		0.18	9.247	61.050	0.18	10,989	26,066
2011	26.500	0.22	5.830	51.373	0.18	9,247	61.050	0.18	686'01	26,066
2012	26.500	0.22	5,830	51,373	0.18	9,247	61,050	0.18	10,989	26,066
2013	26.500	0.22	5.830	51,373	0.18	9.247	61,050	0.18	10,989	26,066
7017	26,500	0.22	\$.830	51,373	0.18	9,247	050'19	0.18	10,989	26,066
2015	26.840	0.22	5,905	51,373	0.18	9,247	61,050	0.18	10,989	26.141
2016	26,840	0.22	5,905	51,373	0.18	9.247	050,19	0.18	686'01	26,141
2017	26,840	0.22	5,905	51,373	0.18	9.247	61.050	0.18	10,989	26,141
8.02	26.840	0.22	5.905	51,373	0.18	9.247	050,19	0.18	10,989	26,141
2000	76.840	0.77	5,905	51,373	0.18	9,247	61,050	0.18	10,989	26.141
7070	70.840	0.22	5,905	51.373	0.18	9.247	61,050	0.18	10,989	26,141
2027	000000	0.22	5.905	51,373	0.18	9.247	61,050	0.18	686'01	26,141
2002	078,07	7770	08.0	51.373	0.18	9.247	050,19	0.18	10,989	26,141
2000	0,000	770	06.0	51,3/3	0.18	9.247	61,050	0.18	10,989	26,141
1707	0000	0.22	5,905	51,373	0.18	9.247	050'19	0.18	686'01	26,141
2000	70,840	0.22	5.905	51.373	0.18	9.247	61,050	0.18	10,989	26.141
2020	26.840	0.22	5,905	51.373	0.18	9.247	61,050	0.18	10,989	26,141
7707	00000	0.22	5.905	51,373	0.18	9,247	61.050	0.18	10,989	26,141
2020	26.840	022	5.905	51.373	0.18	9,247	61,050	0.18	10,989	26,141
2070	70,840	0.22	5,905	51.373	0.18	9,247	61,050	0.18	686'01	26,141
7030	040.07	0.22	5,905	51.373	0.18	9,247	61,050	0.18	686'0;	26,141
Total	0.000	0.22	COS.C	51.373	0.18	9.247	61.050	0.18	10.989	26,141
1 0131	047,620			1.604.613			1.925.870			816,710
										2000

Table 1-1.4 Water Main Replacement

Paris 1.1.4	.,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ave been	 ۰
A - 5 - 14	a 6 d -	_		

		Wat	er Sales (m3)			Econo	mic costs (\$U	(S)	
ĺ				Unit value	Orosa benefita		1		Net benefits
Year	With project 222,000,000	Without project	(nore ase	_(SUS)	(\$U\$)	Capital 24,563,000	0 A M 75,000	Total costs	(\$05)
1997	222,000,000	272,000,000		0 22	331,101	3,070,375 3,070,375	9,375	3,070,375 3,079,750	(3,070,375 (2,748,649
1998 1999	222,410,988 222,612,939	220,890,000 219,285,550	1,520,988 2,827,369	072	615,489	3,070,375	18,750	3,089,125	(2,473,636
2000	222,946,264	218,636,622	4,259,642 5,688,101	022	927,274	3,070,375 3,070,375	28,125 37,500	$-\frac{3,098,500}{3,107,875}$	(2,171,226
2001	223,261,290 223,698,514	217,593,189 216,505,223	7,193,291	0 2 2	1,565,895	3,070,375	45 875	3,117,250	(1,551,355
2003	224,217,209	215,422,692 214,345,584	8,794,512	0.22 0.22	1,914,462 2,195,521	3,070,375 3,070,375	56.250 65.625	3,136,625 3,136,000	(1,212,163
2004 2005	224,431,206 224,765,665	213,273,856	11,491,810	0.22	2,501,632	3,010,313	75,000	75,000	2,426,632
2006. 2007	224,765,665 224,765,665	212,207,486 211,145,449	12,558,179	0.22 0.22	2,733,768 2,964,743		75,000 75,000	75,000 75,000	2,658,768 2,889,743
2007	224,765,665	211,145,449	13,619,216	0.22	2,964,743		75,000	75,000	2,889,743
2009 2010	224,765,665 224,765,565	210,090,717	[4,674,949 [4,674,949	0.22	3,194,563 3,194,563	•	75,000 75,000	75,000 75,000	3,119,563 3,119,563
2011	224,765,665	210,090,717	4,674,949	0.22	3,194,563		75,000	15,000	3,119,563
2013	224,765,665 224,765,665	210,090,717 210,090,717	£4,674,949 £4,674,949	0.22 0.22	3,194,563 3,194,563		75,000 75,000	75,000 75,000	3,119,563 3,119,563
2014	224,765,665	210,090,717	14,674,949	0 2 2	3,194,563		75,000	75,000	3,119,563
2015	224,765,665	210,090,717 210,090,717	14,674,949	0.22	3,191,583 3,194,563	·	75,000	75,000 T	3,119,563
2017	224,765,665	210,090,717	14,674,949	0 22	3,194,563		75,000	25,000	3,119,563 3,119,563
2018 : 2019	224,765,665 224,765,665	210,090,717 210,090,717	14,674,949 14,674,949	0 2 2 D 2 2	3,194,563 3,194,563		75,000 75,000	75,000 75,000	3,119,563
2020	224,765,665	210,020,717	(4,674,949 (4,674,949	0 2 2	3,194,563		75,000	75,000	3,119,563 3,119,563
202 I 202 Z	224,765,665 224,765,665	210,090,717	14,674,949 14,674,949	022	3,194,563 3,194,563		75,000 75,000	75,000 75,000	3,119,563
2023	214,765,665	210,090,717	14,674,949	0.22	3,194,563		75,000 75,000	75,000 75,000	3,119,563 3,119,563
2024 2025	224,765,665 224,765,665	210,090,717	14,674,949 14,674,949	0 2 2 0 2 2	3,194,563 3,194,563		75,000	75,000	3.119.563
2026	224,765,665	210,050,717	14,674,949	0 22	3,194,563		75.000	75,000	3,119,563 3,119,563
2027 2028	224,765,665 224,765,665	210,090,717 210,090,717	14,674,949	0.22	3,194,563 3,194,563	11	75,000 75,000	75,000 75,000	3,119,563
2029	224,765,665	210,090,717	14,574,949	0.22	3,194,563		75,000	75,000 75,000	3.119.563
2030 2031	224,765,665 224,763,665	210,090,717	14,674,949	0 22	3,194,563		75,000 75,000	75,000	3,119,563 3,119,563
2032	224,765,665	210,090,717	14,674,949	0.22	3,194,563	*	75,000	75,000	3,119,563
2033 2034	224,765,665 224,765,665	210,090,717	14,674,949 14,674,949	0 22	3,194,563 3,194,563		75,000 75,000	75,000 75,000	3,119,563 3,119,563
2035	224,765,665	210,090,717	14,674,949	0.22	3,194,563		75,000	75,000	3,119,563
2036	224,763,663 224,765,665	210,090,717	14,674,949 14,674,949	0 22 0 22	3,194,563 3,194,563		75,000	75,000 75,000	3,(19,563 3,(19,563
2038	224,765,665	210,050,717	14,674,949	0.22	3,194,563		75,000	75,000	3,119,563
2039 2040	224,765,665 224,765,665	210,090,717	14,674,949 54,674,949	0.22	3,194,563 3,194,563		75,000 75,000	75,000 75,000	3,119,563 3,119,563
2041	224,765,665	210,020,717	14 674 949	0.22	3,194,563		75,000	75,000 75,000	3,119,563 3,119,563
2643 · 2643	224,765,665 224,765,665	210,090,717	14,674,949	0.22	3,194,563 3,194,563		75,000	75,000	3,119,563
2644	212 765 665	210,000,717	14,674,949	0 22	3,194,563		75,000	75,000	3,119,563 3,119,563
2045	224,765,665 224,765,665	210,090,727	14,674,919	0 22	3,194,563		75,000 75,000	75,000 75,000	3,119,563
2047	224,765,665	210,090,717	14,674,949	0 22	3,194,563 3,194,563		75,000 75,000	75,000 75,000	3,119,563 3,119,563
2048 2049	224,765,665 224,765,665	210,090,717	14,674,949 14,674,949	0 22	3,194,563		75,000	75,000	3,119,563
2050	224,765.665	210,090,717	14,674,949	0.22			75,000 75,000	75,000 75,000	3,119,563
2051	224,765,565 224,765,665	210,090,717	14,674,949	0.22	3.194.563		75,000	75,000	3,419,562
2053 2054	224,765,665 224,765,665	210,090,217	14,674,949 14,674,949	0 22	3,194,563 3,194,563		75,000 75,000	75,000 75,000	3,119,563 3,119,563
2055	224,765,665	210,090,717	14,674,949	0.22	3,194,563		75,000	75,000	3,119,563
2056	224,765,565	210,090,711	14,674,949	0.22	3,194,563 3,194,563		75,000 75,000	75,000 75,000	3,119,56 3,119,56
2057 2058	224,765,665 274,765,665	210,090,717	14,674,949	022	3,194,163	187 1 4	25,000	75,000	3,119,56
2059	224,765,665	210,090,717	14,674,949	022]	75,000 75,000	75,000 75,000	3,119,56 3,119,56
2060	224,765,565 224,765,565	210,090,717	[4,674,949	0 2 2	3.194.563	1	75,000	25.000	3,119,56.
2962 2063	224,765,565 224,765,665	210,090,717	14,674,949				75,000 75,000	75,000 75,000	3,119,56 3,119,56
2064	224,765,665	210,090,717	14,674,949	022	3.194,563	* *	75,000	75,000	3,119,56
2065	274,765,665		14,674,949	0.22			75,000 75,000	75,000 75,000	3,119,56 3,119,56
2066 . 2067	224,765,665	210,090,717	14,674,949	0.22	3,194,563		75,000	75,000	3,119,56
2068	224,765,665 224,765,665		14,674,949				75,000 75,000	75,000 75,000	3,119,56 3,119,56
2069 2070	224,765,665	213,090,717	14,674,949	0.2	3,194,563		75,000	75,000	3,119,56
2071	224,765,665 224,765,665	210,090,717	14,674,949	0.27			75,000 75,000	75,000 75,000	3,119,56 3,119,56
2071	224,765,665 224,765,665	210,090,717	14,674,949	0.27	3,194,563	1 1 1	75,000	75,000	3,119,56
2074	224,765,665	210,090,717	14,674,549	022	3,194,563	1	75,900 75,000	75,000 75,000	3,119,56 3,119,56
<u>2075</u>	224,765,665 224,765,665	210,020,717	14,674,919	0.2	3,194,563	*	75,000	73,000	3,119,56
2077	224,765,665	210,090,717	14,674,949	0.27	3,194,563		75,000	75,000 75,000	3,119,56. 3,119,56.
2078 2079	224,765,665 224,765,665	210,090,717	14,674,949 14,674,949				75,000 75,000	75,000	3,119,56
Total			1,123,579,320	i — — — — — — — — — — — — — — — — — — —	246,756,656	24,563,000		30,450,500	

Sensitivity Analysis
1RR 9

EIRR = 11.4%

F. Base case 11.4% 2. Costs +10% 10.3%

1 Renefits 103 0 000

Table J-1.5 EIRR Meter Replacement

Project identification: A-1.2 & A-1.3

		Water	Water Sales (m3)			Ecoi	Economic costs (SUS)	JS)	
				Unit value	Just value Gross benefits				The Part of the Pa
Year	With project	Without project	Increase	(SDS)	(SOS)	Capital	0 & M	Total costs	(SUS)
	220,000,000					8,855,300			
1997	220,000,000	220,000,000	•	0.17	•	1.71.080		1,771,080	090:177:0
8	225.578.000	220,000,000	5.578,000	0.17	948,260	1.71,060	37,000	1,808,060	(829,800
8	231.156.000	220,000,000	11.156,000	0.17	1.896.520	177:060	37,000	1,808,060	88,460
2000	236,734,000	220,000,000	16,734,000	0.17	2,844,780	1,771,060	37,000	1,808,060	1,036,720
2001	242,312,000	220 000 000	22 312 000	0.17	3,793,040	030,177,1	37,000	1,808,060	1,984,980
2002	247.890.000	220,000,000	27.890,000	0.17	4,741,300		37,000	37,000	4,704,300
2003	247.890.000	220,000,000	27.890.000	0.17	4,741,300		37,000	37,000	4,704,300
2007	247.890.000	220,000,000	27.890.000	0.17	4,741,300		37,000	37,000	4,704,300
2005	247.890,000	220,000,000	27.890,000	0.17	4,741,300		37,000	37,000	4,704,300
2006	247.890.000	220,000,000	27.890,000	0.17	4,741,300		37,000	37,000	4,704,300
2007	247,890,000	220,000,000	27,890,000	0.17	4,741,300	1,771,060	37,000	090'808'1	2,933,240
2008	247.890.000	220,000,000	27.890,000	0.17	4,741,300	1.771,060	37,000	1,808,060	2,933,240
2000	247,890,000	220,000,000	27,890,000	0.17	4,741,300	1.771,060	37,000	1,808,060	2,933,240
2010	247,890,000	220,000,000	27.890,000	0.17	4,741,300	1,771,060	37,000	3,808,060	2,933,240
2011	247,890,000	220,000,000	27,890,000	0.17	2,741,300	1,771,060	37,000	1.808,060	2,933,240
Total			334 680 000		26.895.600	17.710,600	518,000	18 228.600	38,667,000

51.6%

Base case
 Costs +10%
 Benefits -10%

35.8%

4. Benefits lagged 1 year

46.4%

Sensitivity Analysis

Internal rate of return

0

46.4% 32.5% 32.6%

5.2 and 3 6.2 and 4

7.2,3 and 4

AIC (\$US) - 0.05 EIRR - 51.6%

Table J-1.6 EIRR, Leakage Reduction Program

ssure control, master metering	
control, DM	
>.	
Project identification:	
	ontrol, DMA, pressure contro

		Wate	ter Sales (m3)			Ecol	Economic costs (SUS)	(Sn		
	1 1 1 1 1 1 1 1 1 1 1 1 1 1			Unit value	Gross benefits				:	Sensitivity Analysi
					:				Net benefits	
Year	With project	Without project	Increase	(SUS)	(SUS)	Capital	0 & M	Total costs	(SDS)	Internal rate of return
	222,000,000					5,118,000				
1887	222,000,000	222,000,000		Si O	•	25,000	0000	35,000	(38,000)	
1998	225,310,000	222,000,000	3,310,000	0.22	720,548	2,170,000	10,000	2,180,000	(1,459,452)	
86	226,410,000	222,000,000	4,410,000	0.23	\$60,005	2,170,000	10,000	2,180,000	(1,219,995)	1. Base case
300	227,520,000	222,000,000	5,520,000	0.22	1,201,639	753,000	103,000	856,000	345,639	:
2001	228,840,000	222,000,000	6.840,000	0 22	1,488 987		132,000	132,000	1356,987	2. Costs +10%
2002	230,160,000	222,000,000	8.160,000	0.22	1,776,336		136,500	136,500	1.639.836	
2003	231,480,000	222,000,000	9,480,000	0.22	2,063,684		36,500	136,500	1,927,184	3. Benefits -10%
288	232,800,000	222,000,000	10,800,000	022	2,351,033		136,500	136,500	2214533	
2005	234,120,000	222,000,000	12,120,000	0.22	2,638,381		136,500	136,500	2,501,881	4. Benefits lagged 1 year
288	234,350,000	222,000,000	12,350,000	0.22	2,688,449		136,500	136,500	2,551,949	
2007	234,570,000	222,000,000	12,570,000	077	2,736,341		136,500	136,500	2,599,841	5.2 and 3
2008	234,800,000	222,000,000	12,800,000	0.22	2,786,409	1	136,500	136,500	2,649,909	
2008	235,020,000	222,000,000	13,020,000	0.22	2,834,301		136,500	136,500	2,697,801	6.2 and 4
200	235,240,000	222,000,000	13,240,000	0.22	2,882,192		136,500	136,500	2,745,692	
2011	235,620,000	222,000,000	13,620,000	0.22	2,964,913		136,500	36,500	2,828,413	7.2.3 and 4
2012	236,770,000	222,000,000	14,770,000	0.22	3215,255		136,500	136,500	3.078.755	
2013	237,810,000	222,000,000	15,810,000	0.22	3,441,651		136,500	136,500	3,305,151	
2014	238,950,000	222,000,000	16,950,000	0.22	3,689,815		136,500	136,500	3,553,315	
2015	240,170,000	222,000,000	18,170,000	0.22	3,955,395		136,500	136,500	3,818,895	
2016	240,170,000	222,000,000	18,170,000	0.22	3,955,395		136,500	136,500	3,8:8,895	
2017	240,170,000	222,000,000	18,170,000	0.22	3,955,395		136,500	136,500	3,818,895	
2018	240,170,000	222,000,000	18,170,000	022	3,955,395		136,500	136,500	3,818,895	
2019	240,170,000	222,000,000	18.:70.000	0.22	3,955,395		136,500	136,500	3,818,895	
2020	240,170,000	222,000,000	18,170,000	0.22	3,955,395		136,500	136,500	3,818,895	
2021	240,170,000	222,000,000	18,170,000	0.22	3,955,395	•	136,500	136,500	3,818,895	
2022	240,170,000	222,000,000	18,170,000	0.22	3,955,395		36,500	136,500	3,818,895	
2023	240,170,000	222:000,000	18,170,000	0.22	3,955,395		136,500	136,500	3,818,895	
2024	240,170,000		18,170,000	0.22	3,955,395		136,500	136,500	3,818,895	
2025	240,170,000	`	18,170,000	0.22	3,955,395	Y	136,500	136,500	3,818,895	
2026	2-0,170,000		18,170,000	022	3,955,395		136,500	136,500	3,818,895	
2027	240,170,000	222,000,000	18,170,000	022	3,955,395		136,500	136,500	3,818,895	
2028	240,170,000	222,000,000	18,170,000	0.22	3,955,395		136,500	136,500	3,818,895	
2029	240,170,000	222,000,000	18,170,000	023	3,955,395		136,500	136,500	3,818,895	
2030	240,170,000	222,000,000	18,170,000	0.22	1,955,395	The second second	136,500	136,500	3,818,895	
Total			476,490,000		103,726,256	5.118,000	4,223,500	7,126,500	94,384,756	

38.4% 37.9% 31,7% 34.3% 29.3%

Sensitivity Analysis

ALC (SUS) = 0.01

Table J-1.7 EIRR, Reinforcement of Water Quality Laboratory

Project identification:

A-5-

September 1			÷	
Š		in nouse testing lab	01	
Š		·. :		
	s Capital	O&M	Total costs	Net benerits (SUS)
	750,000		750.000	(750,000)
		20,000	50,000	433,000
	83,000	50,000	50,000	433,000
	83,000	20,000	50,000	433,000
	83,000	20,000	50,000	433,000
	83,000	20,000	50,000	433,000
	83,000	50,000	50,000	433,000
	83,000	20,000	50,000	433,000
	83,000	50,000	50,000	433,000
	83,000	50,000	50,000	433,000
	83,000	20,000	50,000	433,000
	83,000	50,000	50,000	433,000
1 otal 5,313,900	13,000 750,000	550,000	1,300,000	4,013,000

FIRE = 57 30%

Table J-1.8 EIRR, Reinforcement of Ibn Assaker Wells

Water Sales (m3)
Increase (SUS)
0.17
0.17
-
2,500,000 0.17
2,500,000
2 500,000
-
2,500,000
62,500,000

19.6%

Wells	
Railway	
Kadam J	
nt of l	
forcemen	
, Rein	
ERR	
e J-1.9	
煮	

	Water	r Sales (m3)			Econ	Economic costs (SUS)	(CS)		
			Unit value	Gross benefits				Net benefits	Sensitivity Analysis
With project	Without project	Increase	(SDS)	(SOS)	Capital	0 & M	Total costs	(SUS)	Internal rate of return
220,000,000					1,290,000				
220,000,000	220,000,000		0.17	**	645,000		645,000	(645,000)	1. Base case
220,000,000	220,000,000		0.17	•	645,000		645,000	(645,000)	
222,280,000	220,000,000	2,280,000	0.17	387,600		65.000	85.88 80.88	322,600	2. Costs +10%
222,230,000	220,000,000	2,280,000	0.17	•	:	85.000	65.000	322,600	
222,280,000	220,000,000	2,280,000	0.17		-	65,000	92,000	322,600	3. Benefits -10%
222 280 000	220,000,000	2 280 000	0.17			65,000	65.000	322,600	
222 280,000	220,000,000	2.280,000	0.17			000'59	65,000	322,600	4. Benefits lagged 1 year
22 280 000	220,000,000	2 280 000	0.17			65,000	90059	322,600	
22 280 000	220 000 000	2 280 000	0.17			65.000	65.000	322.600	5. 2 and 3
27.780,000	220,000,000	2 280 000	:	:	:	65,000	65,000	322,600	
22 280 000	220,000,000	2 280 000		387.600		65,000	65,000	322,600	6. 2 and 4
222 280,000	220,000,000	2,280,000	0.17	/		65,000	65,000	322,600	
222 280 000	220 000 000	2,280,000		387,600	:	65,000	65.000	322,600	7. 2, 3 and 4
222 280 000	220,000,000	2,280,000				000'59	65.000	322,600	
222 280 000	220,000,000	2.280.000	0.17	1) 1 (000'59	65,000	322,600	
222 280,000	220,000,000	2,280,000	0.17	1		65,000	65,000	322,600	
222.280.000	220,000,000	2,280,000	0.17		85.50	65,000	129,500	258,100	
22.280.000	220.000.000	2.280.000	0.17			65,000	65,000	322,600	
222,280,000	220,000,000	2,280,000	0.17	387,600		65.000	65.000	322,600	
222,280,000	220,000,000	2,280,000				65,000	00:59	322,600	
222 280 000	220,000,000	2,280,300	:			65,000	000'59	322,600	
22.280.000	220,000,000	2,280,000	:	:		65,000	000'59	322,600	
22 280,000	220,000,000	2,280,000				65,000	65,000	322,600	
222,280,000		2,280,000		-		65,000	65,000	322,600	. •
222,280,000	<u></u> -	2,280,000	0.17			65,000	65,000	322,600	
222,280,000		2,280,000	0.17			65,000	65.000	322,600	
222,280,000	_	2,280,000	0.17			65.000	65,000	322.600	
		000'000'25		000'069'6	1,354,500	1,625,000	2,979,500	6.710.500	

19.3%

18.8%

Table J-1.10 EIRR, Reinforcement of Fringe Wells

Project identification: A-3.2

	: :	Water	'ater Sales (m3)			Econ	Economic costs (SUS)	Sn:		
				Unit value	Gross benefits				Mar hann fire	Sensitivity Analysi
Year	With project	Without project	Increase	(SDS)	(SOS)	Capital	0 & M	Total costs	(SOS)	Internal rate of return
	220,000,000					1,120,000		-		
6661	220,000,000	220,000,000		0.17	•	260,000		260,000	(260,000)	1. Base case
200	220,000,000	220,000,000	•	0.17	•	260,000	•	260.000	(260,000)	
2001	221.760,000	220,000,000	1,760,000	0.17	299,200		\$0.00	50,000	249,200	2. Costs +10%
2002	221,760,000	220,000,000	1.760.000	0.17	299,200	•	20,000	20,000	249,200	
2003	221,760,000	220,000,000	1,760,000	0.17	299,200		20,000	20,000	249,200	3. Benefits -10%
2004	221,760,000	220,000,000	1,760,000	0.17	299,200		20,000	20,000	249,200	
2005	221,760,000	220,000,000	1,760,000	0.17	299,200		20.000	20.000	249,200	4. Benefits lagged 1 year
2006	221.760.000	220,000,000	1,760,000	0.17	299,200		50,000	\$0,000	249,200	
2007	221.760,000	220,000,000	1,760,000	0.17	299,200	•	20,000	80,000	249,200	5.2 and 3
2008	221,760,000	220,000,000	1,760,000	0.17	299,200		20,000	80.00	249,200	
2003	221,760,000	220,000,000	1.760,000	0.17	299,200		80,00	80.0%	249,200	6.2 and 4
2010	221,760,000	220,000,000	1,760,000	0.17	299,200		20,000	20,000	249,200	
2011	221.760.000	220,000,000	000,097,	0.17	299,200		50,000	\$0.000	249.200	7. 2. 3 and 4
2012	221,760,000	220,000,000	1,760,000	0.17	299,200		20,000	80.08	249,200	
2013	221,760,000	220,000,000	1,760,000	0.17	299,200	: .	20,000	20.00	249,200	
2014	221,760,000	220,000,000	1,760,000	0.17	299,200		20,000	80.08	249,200	
2015	221,760,000	220,000,000	1,760,000	0.17	299,200	26,000	20,000	106,000	193,200	
2016	221,760,000	220,000,000	1.760.000	0.17	299,200		\$0,000	20.000	249.200	
2017	221,760,000	220,000,000	1,760,000	0.17	299,200		80.00	20,000	249,200	
2018	221,760,000	220,000,000	1,760,000	0.17	299,200		50,000	20.000	249,200	
2019	221,760,000	220,000,000	1,760,000	0.17	299,200		20,000	20.00	249,200	
2020	221,760,000	220,000,000	1,760,000	0.17	299,200		20,000	20,000	249,200	
202;	221,760,000	220,000,000	1,760,000	0.17	299,200		20,000	20,000	249,200	
2022	221,760,000	220,000,000	1,760,000	0.17	299,200		20,000	20.00	249,200	
2023	221,760,000	220,000,000	1,760,000	0.17	299.200		8 8 8	80.00	249,200	
2024	221,760,000	220,000,000	1,760,000	0.17	289,200		20,00	20,000	249,200	
2025	221,760,000	220,000,000	1,760,000	0.17	299.200		50.000	20.000	249,200	
[23]			XXX XXX XX		VVV VOV	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	C C C C C	1 VVV / VV V	VW 1242	

89'61 17.6% 17.0% 17.2% 16.7%

Sensitivity Analysis

Damascus City

AIC (SUS) - 0.06

EIRR - 20.0%

•		
	Distribution	
	Ą	
	Informal	
	F.001.	
	Mountain	
	Kassioun	
	品品	
	Table J-1.11	

Project identification:

		Water	Water Sales (m3)			Econ	Economic costs (SUS)	US)			
				Unit value	Gross benefits				Net benefite		Sensitivity Analy
Year	With project	Without project	Increase	(SUS)	(SUS)	Capital	0 & M	Total costs	(SOS)		Internal rate of return
	220,000,000					1.577,500					
881	220,000,000	220,000,000	•	0.17		788,750		788,750	(788,750)		1. Base case
2000	220,000,000	220,000,000	•	0.17		788,750	•	788,750	(788.750)		
2001	222,480,175	220,000,000	2,480,175	0.17	421,630		4.000	4,000	4)7,630		2. Costs +10%
2002	222,480,175	220,000,000	2,480,175	0.17	421,630	7	4.000	000;4	417,630		
2003	222,480,175	220,000	2,480,175	0.17	421,630	-	4.000.	000.4	417,630		3. Benefits -10%
5007	222,480,175	220,000	2,480,175	0.17	421,630		4,000	4,000	417,630		
2005	222,480,175	220,000,000	2,480,175	0.17	421,630		4.000	4,000	417,630		4. Benefits lagged 1 year
288	222,480,175	7220,000	2,480,175	0.17	421,630		4.000	4,000	417,630		
2007	222,480,175	220,000	2,480,175	0.17	421,630		000	80.4	417,630		5. 2 and 3
2008	222,480,175	220,000	2,480,175	0.17		:	8.9	4,000	417,630	•	
5006	222,480,175	220,000	2,480,175	0.17			000,7	4,000	417,630		6. 2 and 4
2010	222,480,175	`	2,480,175	0.17			4,000	4,000	417,630		
2011	222,480,175	220,000	2,480,175	0.17	L		4.000	4,000	417,630	:	7. 2. 3 and 4
2012	222,480,175	220,000	2,480,175	0.17			4,000	000,4	417,630		
2013	222,480,175	220,000	2,480,175	0.17			900,4	000,4	417,630		
2014	222,480,175	220,000	2,480,175	0.17			4,000	4,000	417,630	:	
2015	222,480,175	220,000	2,480,175	0.17	421,630	315,500	4,000	319,500	102,130		
2016	222,480,175	220,000	2,480,175	0.17	1		4.000	4.00 00.4	417,630		
2017	222,480,175		2,480,175	0.17	:		4,000	4,000	417,630	٠	
2018	222,480,175	220,000	2,480,175	0.17	:		4,000	4,000	417,630		
2019	222,480,175	220,000	2,480,175	0.17	421,630		4,000	80,4	417,630		
2020	222,480,175	220,000	2,480,175	0.17	421,630		00.4	4,000	417,630		
2021	222,480,175	220,000,000	2,480,175	0.17			4,000	4,000	417,630		
2022	222,480,175		2,480,175	0.17		. :	4,000	4,000	417,630		
2023	222,480,175	220.000.000	2,480,175	0.17			80.4	00,4	417,630		
2024	222,480,175	220,000,000	2,480,175	0.17	421,630	:	200	4,000	417,630		
2025	222,480,175	220,000,000	2,480,175	0.17			4,000	4,000	417,630		
Total			62,004,375		10.540.744	1.893.000	100.000	1.993.000	8,547,744		

ERR - 23.4%

AIC (SUS) - 0.03

23.4%

Sensitivity Analysis

23.4% 21.1% 19.6% 21.1%

19.6%

Table J-1.12 EIRR, Tishreen Informal Area Distribution

B-1.2

Project identification:

Damascus City

	Sensitivity Analysis	Internal rate of return		1. Base case		2. Costs +10%		3. Benefits -10%		4. Benefits lagged 1 year		5. 2 and 3		6. 2 and 4	:	7.2, 3 and 4															
:	Mar Landson	(SUS)		(826,629)	(826,629)	188,297	188,297	188,297	188,297	188,297	188,297	188,297	188,297	188,297	188,297	188,297	188,297	188,297	188,297	(75,686)	188,297	188,297	188,297	188,297	188,297	188,297	188,297	188,297	188,297	188.297	3,123,516
SUS)		Total costs		856'659	856,659	3,500	3500	3,590	3,500	3,500	3,500	3,500	3,500	3,500	3.500	3,500	3,500	3,500	3,500	267,483	3.500	3,580	3,580	3,500	3,500	3,500	3,500	3500	3,500	3.500	1,671,398
Economic costs (SUS)	:	₩ % O			1	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3.500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3.500	3,500	3,500	3,500	87,500
Eco		Capital	1,319,9:5	856,659	856'659								:							263,983	-										1,583,898
	Gross benefits	(\$U\$)		•	•	191.797	191.797	191,797	191,797	191,797	191,797	191,797	191,797	191,797	191,797	191,797	191,797	191.797	191.797	191.797	191,797	191,797	191,797	191,797	191,797	191,797	191,797	191,797	191,797	191,797	4,794,914
1.0	Chit value	(SUS)		0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	171.0	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	
Water Sales (m3)	<u>-</u>	Increase		•	·,	1,128,215	1,128,215	1,128,215	1,128,215	1,128,215	1.128.215	1,128,215	1.128,215	1,128,215	1,128,215	1,128,215	1,128,215	1.128,215	1,128,215	1,128,215	1,128,215	1,128,215	1,128,215	1.128,215	1,128,215	1,128,215	1,128,215	1,128,215	1,128,215	1,128,215	28,205,375
Water		Without project		220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	
			220,000,000	220,000,000	220,000,000	221.128.215	221.128.215	221,128,215	221,128,215	221,128,215	221,128,215	221,128,215	221,128,215	221,128,215	221,128,215	221.128.215	221.128.215	221.128.215	221 128 215	221,128,215	221,128,215	221,128,215	221.128.215	221,128,215	221,128,215	221,128,215	221,128,215	221.128.215	221,128,215	221,128,215	
	:	Year		6661	2000	2801	2002	2003	2004	2005	7006	2007	2008	5005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2023	2023	2024	2025	Total

12.3%

10.8%

10.7%

12.2%

10.7%

AJC (\$US) - 0.06 EIRR - 12.3%

1

	Distribution	
:	A SS	
	Informal	
	- anbsor	
	Aksab	
	ling A	
	Surround	
	John	
	13 EIRR.	
	Table J-1.	

		Water	Water Sales (m3)			Econ	Economic costs (SUS)	SUS)			
			:	Unit value	Gross benefits	1 .			N fee to an effect		Sensitiv
Year	With project	Without project	Increase	(SUS)	(SCS)	Capital	0.8 M	Total costs	(SUS)		Internal rate of rep
	220,000,000					2,294,600					
88	220,000,000	220,000,000	•	0.17	•	1,147,300		1.147,300	(1,147,300)		 Base case
2000	220,000,000	220,000,000		0.17	•	1,147,300	•	1,147,300	(1,147,300)		
5007	221.876.465	C	1,876,465	6.17	318,999		6,000	8,000	312,999	•	2, Costs +10%
2005	221.876.465		1,876,465	0.17	318,999		8,000	800.9	312,999		
203	221,876,465	CI	1,876,465	0.17	318,999		80.9	8,000	312,999		 Benefits -10%
7007	221.876.465	(4	1.876.465	0.17	318,999		809	8,000	312,999		
2005	221,876,465		1,876,465	0.17	318,999		000'9	80,9	312,999	•	Benefits lagged
300	221 876 465	Ĺ	1.876.465	0.17	318 999		9,000	0009	312 999		
2002	221.876.465	-	1.876.465	0.17	318,999		000'9	000.9	312,999	••	5. 2 and 3
2008	221.876.465		1.876.465	0.17	318,999		9,000	000'9	312,999		
5008	221.876.465		1,876,465	0.17	318,999		000'9	8,000	312,999	·	6. 2 and 4
2010	221.876.465		1,876,465	0.17	318,999		900	000'9	312,999		
2011	221,876,465	220,000,000	1,876,465	0.17	318,999		9,000	000'9	312,999	• •	7. 2. 3 and 4
2012	221,876,465	220,000,000	1,876,465	0.17	318,999	-	000.9	8,000	312,999		
2013	221,876,465	220,000,000	1.876.465	0.17	318,999		90.9	8,000	312,999		
2014	221,876,465	220,000,000	1,876,465	0.17	318,999	:	9,000	9000	312,999		
2015	221,876,465	220,000,000	1,876,465	0.17	318,999	458,920	6,000	464,920	(145,921)		
2016	221,876,465	Ľ	1.876,465	0.17	318,999		000.9	000.9	312,999		-
2017	221,876,465	220,000,000	1,876,465	0.17	318,999		80.9	88.9	312,999		
2018	221.876,465	220,000,000	1,876,465	0.17	318,999		00.9 9	000°9	312,999		
2019	221,876,465	220,000,000	1,876,465	0.17	318,999		900.9	9.00	312,999		
2020	221,876,465		1,876,465	0.17	318,999		90009	9,000	312,999		
2021	221,876,465	220,000,000	1,876,465	0.17	318,999		900.9	9009	312,999		
2022	221,876,465		1,876,465	0.17	318,999		8,8	900,	312,999		
2023	221,876,465		1,876,465	0.17	318,999		000'9	800	312,999	:	
2024	221,876,465	1	1.876.465	0.17	318,999		80.9	900	312,999		
2025	221.876,465	220,000,000	1.876.465	0.17	318,999		9009	9,000	312,999		
Total			46,911,625		7.974.976	2,753,520	150,000	2,503,520	5,071,450		

EIRR - 11.6%

11.6%

Sensitivity Analysis

10.1%

Table J-1.14 EIRR, East-West Tabalch Informal Area Distribution

Project identification: B-1.4

		Water	Vater Sales (m3)			Econ	Economic costs (SUS)	SUS)		
			:	Unit value	Gross benefits					Sensitivity Analy
Year	With project	Without project	Increase	(SOS)	(SUS)	Capital	0 & X	Total costs	Net benefits (SUS)	Internal rate of remm
	220,000,000					3,968,300				
1999	220,000,000	220,000,000		0.17		1.984.400		1 984 400	(1 984 400)	Sac est
2000	220,000,000	220,000,000	•	0.17		1,984,400		1.984.400	(1.984.400)	2
: 02	220,924,910	220,000,000	924,910	0.17	157,235		10.000	10.000	147,235	2 Costs +10%
2002	220,924,910	220,000,000	924,910	0.17	157,235		10,000	10.000	147 235	
2003	220,924,910	220,000,000	924,910	0.17	157,235		10,000	10,000	47.235	3 Benefits -10%
2002	220.924,910	220,000,000	924,910	0.17	157,235		10,000	10.000	147.235	
2005	220,924,910	220,000,000	924,910	0.17	157,235		0000	10,000	147.235	4. Benefits Javoed 1 year
2006	220,924,910	220,000,000	924,910	0.17	157,235		10,000	10,000	147,235	
2007	220,924,910	220,000,000	924,910	0.17	157,235		00001	10.000	147,235	5. 2 and 3
2008	220,924,910	220,000,000	924,910	0.17	157,235		10,000	0000	147.235	
808	220,924,910	220,000,000	924,910	0.17	157,235		0000	0000	147 235	6.2 and 4
20:0	220,924,910	220,000,000	924,910	0.17	157,235		10,000	10,000	147.235	
2011	220,924,910	220,000,000	924.910	0.17	157,235		10,000	10,000	147,235	7.2.3 and 4
2012	220,924,910	220,000,000	924,910	0.17	157,235		10,000	10.000	147.235	
2013	220,924,910	220,000,000	924,910	0.17	157,235		10,000	10.000	147,235	
2014	220,924,910	220,000,000	924,910	0.17	157,235		10.000	10,000	147.235	
2015	220,924,910	220,000,000	924,910	0.17	157 235	793,760	10.000	803.760	(646,525)	
2016	220,924,910	220,000,000	924,910	0.17	157,235		00001	00001	147,235	
2017	220,924,910	220,000,000	924,910	0.17	157,235	:	10,000	10,000	147,235	
2018	220,924,910	220,000,000	924,910	0.17	157,235		10,000	10,000	147,235	
2019	220,924,910	220,000,000	924,910	0.17	157,235		0000	0000	147 235	
2020	220,924,910	220,000,000	924,910	0.17	157,235		10,000	10,000	147.235	
2021	220,924,910	220,000,000	924,910	0.17	157,235		0000:	0000	147.235	
2022	220.924.910	220,000,000	924,910	0.17	157,235	:	10.000	10.000	47.235	
2023	220,924,910	220,000,000	924,910	0.17	157.235		10,000	10.000	47 235	
2024	220,924,910	220,000,000	924,910	0.17	157,235		10,000	10,000	147,235	
2025	220,924,910	220,000,000	924,910	0.17	157,235		10,000	10.000	147,235	
14.5										

-3.3%

Sensitivity Analysis

-2.8%

Yable J.1.15 EIRR, Mokhayam Yarmouk Informal Area Distribution

Project identification:

Damascus City

6,283,110 (m²)

		Water	Sales (m3)			Econ	Economic costs (SUS)	- (S)		
			7,500	Unit value	Gross benefits					Sensitivity Analysis
>	13/10	Wiehous menion	formance	(21)	010	Capital	M & O	Total costs	Net benefits (SUS)	Internal rate of return
1 Car	220 MORELL 220 MORELL	ייי ועוסעון טוסארין	THE CONTRACTOR	(200	(200	502 600 5				
000	220,000,000	220,000,000	•	0.17		2.539,663		2,539,663	(2,539,663)	1. Base case
2000	220,000,000	220.000.000	1	0.17	•	2,539,663		2,539,663	(2,539,663)	
2001	226,283,110	220,000,000	6.283,110	0.17	1.068,129		12,800	12,800	1,055,329	2. Costs +10%
2002	226,283,110	220,000,000	6,283,110	0.17	1,068,129		12,800	12,800	1,055,329	
2003	226,283,110	220,000,000	6.283,110	0.17	1.068.129		12,800	12,800	1.055,329	3. Benefits -10%
2004	226.283.110	220,000,000	6.283,110	0.17	1,068,129	:	12,800	12,800	1,055,329	
2005	226.283.110	220,000,000	6,283,110	0.17	1,068,129		12,800	12,800	1,055,329	4. Benefits lagged 1 year
2006	226,283,110	220,000,000	6,283,110	171.0	1,068,129		12,800	12,800	1,055,329	
2007	226,283,110	220,000,000	6,283,110	0.17	1,068,129	:	12,800	12,800	1,055,329	5. 2 and 3
2008	226,283,110	220,000,000	6.283,110	0.17	1,068,129		12,800	12,800	1,055,329	
5005	226.283.110		6,283,110	0.17	1.068,129		12,800	12,800	1.055,329	6, 2 and 4
2010	226,283,110	•	6,283,110	0.17	1,068,129		12,800	12,800	1,055,329	
2011	226,283,110		6,283,110	0.17	1.068,129		12.800	12,800	1.055,329	7. 2, 3 and 4
2012	226,283 110		6,283,110	0.17	1,068,129		12,800	12,800	.055,329	
2013	226,283,110		6,283,110	0.17	1,068,129		12,800	12,800	1,055,329	
2014	226,283,110	1	6,283,110	0.17	1,068,129	:	12,800	12.800	1.055,329	
2015	226,283,110		6,283,110	0.17	1.068.129	1,015,865	12,800	1,028,665	39.464	
2016	226,283,110	220,000,000	6,283,110	0.17	1.068,129		12,800	12,800	1.055,329	
2017	226,283,110	220,000,000	6,283,110	0.17	1,068,129		12,800	12,800	1.055,329	
2018	226,283,110		6,283,110	0.17	1,068,129		12,800	12,800	1,055,329	
2019	226,283,110	220,000,000	6,283,110	0.17	1,068,129		12,800	12,800	1,055,329	
2020	226.283,110	220,000,000	6,283,110	0.17	1,068,129		12,800	12,800	1.055,329	
2021	226,283,110		6,283,110	0.17	1,068,129		12,800	12,800	1.055,329	
2022	226,283,110	220,000,000	6,283,110	0.17	1,068,129		12,800	12.800	1,055,329	
2023	226,283,110		6,283,110	017	1,068,129	:	12,800	12,800	1,055,329	-
2024	226,283,110		6,283,110	0.17	1,068,129		12,800	12,800	1,055,329	
2025	226,283,110	220,000,000	6,283,110	0.17	1,068,129		12.800	12.800	1,055,329	
Total			157,077,750		26,703,218	6,095,190	320,000	6,415,190	20,288,028	

EIRR - 18.5%

AIC (SUS) - 0.04

18.5% 18.4% 16.6% 15.8% 16.5% 15.8%

Table J-1.16 EIRR, Asalie-Kadam & Naher Esheh-Dahndil Informal Area Distribution

Project identification:

								-	_	
		Water	Nater Sales (m3)			Econ	Economic costs (SUS)	SUS)		
	1			Unit value	Gross benefits					Sensitivity Analy
Year	With project	Without project	Increase	(SUS)	(Sns)	Capital	× % O	Total costs	Net benefits (SUIS)	Internal more of section
	220,000,000					5,455,440				
6661	220,000,000	220,000,000	•	0.17		2.727.720		2.727.720	(2,727,720)	830 530
3000	220,000,000	220,000,000	•	0.17		2,727,720	•	2.727.720	(2.727.720)	
2001	222,701,365	220,000,000	2,701,365	0.17	459 232		14,000	14,000	445.232	2. Costs +10%
2002	222,701,365	220,000,000	2,701,365	0.17			14,000	14,000	445 232	
2003	222,701,365	220,000,000	2,701,365	0.17			4,000	14,000	445 232	3. Benefits -10%
2002	222,701,365	220,000,000	2,701,365	0.17			4,000	14,000	445.232	
2005	222,701,365	220,000,000	2,701,365	0.17	:		14,000	14,000	445,232	4. Benefits tagged 1 year
2005	222,701,365	220,000,000	2,701,365	0.17	_		4.000	14,000	445 232	** (· ** ** ** * * * * * * * * * * * *
2007	222,701,365		2,701,365	:	:		4,000	14,000	445 232	5. 2 and 3
2008	222,701,365		2,701,365				14,000	14,000	445,232	
2002	222,701,365		2,701,365			1	14.000	14.000	445,232	6.2 and 4
2010	222,701,365		2,701,365			-	14,000	14,000	445.232	
 	222,701,365	ļ_	2,701,365				4,000	14,000	445 232	7. 2. 3 and 4
2012	222,701,365	220,000,000	2,701,365	0.17	,		14,000	14,000	445,232	
2013	222,701,365	220,000,000	2,701,365		· 		4.000	14,000	445 232	
2014	222,701,365		2,701,365		459,232	1	14,000	14,000	445,232	
2015	222,701,365		2,701,365	:	1	1,091,088	4,000	1,105,088	(645,856)	
2016	222,701,365	L_	2,701,365		459,232		4,000	14,000	445,232	
2017	222,701,365		2,701,365		<u></u>		4,000	14,000	445,232	
2018	222,701,365		2,701,365			. :	14,000	14,000	445,232	
2019	222,701,365		2,701,365	- 5. - 			14,000	14,000	445,232	
2020	222,701,365		2,701,365	0.17			14,000	14,000	445,232	
2021	222,701,365	L	2,701,365				14,000	14,000	445,232	
2022	222,701,365		2,701,365	0.17	459,232		14,000	14,000	445,232	
2023	S	220,000,000	2,701,365	0.17	459 232		14,000	14,000	445,232	
202	222,701,365	220,000,000	2,701,365	0.17	459,232	. ;	14,000	14,000	445,232	
2025	222,701,365	220,000,000	2,701,365	0.17	459,232		14,000	14,000	445,232	
10,00										

5 2%

Sensitivity Analysis

Damascus City

2,701,365 (m³)

4.6% 4.1% 4.4% 3.4%

AIC (SUS) - 0.10

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	Distribution
	AFES
:	Informal
٠	Basateen
1 1 1	Shaghour
	Quarzaz &
	7
	-17
	Table

Project identification:

										-	
	0.7.1.0	765				, aced	Cocomo com (CTIC)	116)			
	A CONTRACTOR OF THE CONTRACTOR	water	ater Sales (ms)	Ī		TO COL	COSTS (S	9			Constitution Annual
				Onit value	Gross benefits			:		:	Sensiovity August
} >	With parities	Without project	foresee.	(5.15)	(SIIS)	Capital	N & O	Total costs	Net Debenits (SUS)		Internal rate of return
I Call	130 MAY 144	33000	200		/33	000 500					
	300000000000000000000000000000000000000	330,000,000		0.17	•	80		800	(005 200)		1. Base case
28	200,000,000	220,000,022	• :	2 5		002 500		80	(00) 500)		
3	220,000,022	7000007				32.72	- 2000	2000	,		200
202	220,780,370	220,000,000		0.17	32,663		272	2,200			7 Costs +10%
2002	220,780,370	220,000,000	780,370	0.17	132.663		2500	2,500			
2003	220,780,370	220,000,000	:	0.17	132,663		2,500	2,500			3. Benefits -10%
200	220 780 370	220,000,000	•	0.17	132,663		2,500	2,500			
2005	220 280 320	220,000,000	í	0.17	132,663	- :	2,500	2,500			4. Benefits lagged 1 year
XXX	220 780 370	220,000,000	780 370	0.17	132,663		2.500	2.500	130,163		
2002	220 780 370	220,000,000			132,663		2,500	2,500			5. 2 and 3
300	720 780 370	220 000 000			132.663		2.500	2,500			
2000	220,200,200	220,000,000		-	132.663		2,500	2.500			6. 2 and 4
2010	220 780 370	220.000.000			132,663		2,500	2.500			
200	220 780 370	220,000,000			132,663		2 500	2500			7, 2, 3 and 4
2017	075.087.057	220,000,000			132.663	1	2500	2500			
35	220,780,370	220,000,000			132.663		2500	2,500			
2100	075027027	220,000,000			132.663	: '	2 500	2,500			
2015	220.780.370		780370	0.17	132,663	397,000	2.500	399,500	(266,837)		
2016	220,780,370	1_			132,663	-	2,500	2,500			
2017	220,780,370				132,663		2,500	2,500	130,163		
2018	220.780.370	220,000,000			132,663		2,500	2500	130,163	•	
2019	220,780,370	220,000,000			132,663	-	2,500	2.500	130,163		
2020	220,780,370	220,000,000			132,663		2,500	2.500	130,163	:	
2021	220,780,370	220,000,000	780,370	0.17	132,663		2,500	2,500	130,163		
2022	220,780,370	220,000,000	-	0.17	132,663		2.500	2,500	130,163	;	
2023	220,780,370	220,000,000		0.17	132,663		2,500	2,500	130,163		:
2024	220,780,370	220,000,000		0.17	132,663	-	2,500	2.500	130,163		
2025	220,780,370	220,000,000		0.17	132,663		2,500	2,500	130,163		
FO.3			19,509,250		3.516.573	2,382,000	62,500	08.44.5	872,073		

1.9% 2.4% 1.9% 2.3%

3.0% 2.9%

Sensitivity Analysis

Damascus City

Sensitivity Analysis
Internal rate of return

1. Base case
2. Costs +10%
3. Benefits -10%
4. Benefits lagged 1 year
5. 2 and 3
6. 2 and 4
7. 2. 3 and 4

2.4%

3.0%

3.4%

2.4%

2.8%

3.5%

Damascus City

Arca:

2,393,305 (m²)

Table J.1.18 EIRR, Mezze-Razy & Kafar Sousch Informal Area Distribution

B-1.8

Project identification:

																					:										
	7	Net benefits (SUS)		(2.831.500)	(2,831,500)	391.862	391.862	391.862	391.862	391,862	391,862	391,862	391,862	391,862	391.862	391.862	391.862	391,862	391,862	(740,738)	391,862	391,862	391,862	391,862	391,862	391,862	391.862	391.862	391,862	391,862	3,000,946
SUS)		Total costs		2.831.500	2,831,500	15.000	15.000	15,000	15,000	15,000	15.000	15,000	15,000	15,000	15.000	15,000	15,000	15,000	15,000	1.147,600	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15.000	15,000	7.170,600
Economic costs (SUS)		0 & M			•	15.000	15.000	15,000	15,000	15,000	15,000	15,000	15,000	15.000	15,000	15,000	15,000	2,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15.000	15,000	15,000	15,000	375,000
Ecoi		Capital	\$.663.000	2,831,500	2.831,500								:							1,132,600			-	-		1		. :			6.795.600
	Gross benefits	(SDS)		: 4	•	406,862	406,862	406,862	406,862	406,862	406,862	406,862	406,862	406,862	406,862	406.862	406,862	798'907	406,862	406,862	406,862	406,862	406,862	406,862	406,862	406,862	406,862	406,862	406,862	406.862	10,171,546
	Unit value	(SOS)		0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	
Water Sales (m3)	:	Increase		•		2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2,393,305	2393,305	2,393,305	2,393,305	59.832.625
Water		Without project	÷	220,000,000	220,000,000	220.000,000	220,000,000	220,000,000	220.000.000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	
		- 7	220,000,000	220,000,000	220,000,000	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	222 393 305	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	222,393,305	
		Year		881	2000	1881	2002	2003	2004	2005	500 500 500	2002	7008 7008	5000	2010	1:02	2012	2013	2014	2015	2016	2017	20:8	2019	2020	2021	2022	2023	2024	2025	Total

AIC (SUS) = 0.12

ERR - 3.5%

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System
Distribution
Arca
Informal
Somareyah
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	and the second of the second of	Water	r Sales (m3)			Econ	Economic costs (SUS)	US)		
	:		:	Unit value	Gross benefits					Sensitivity Analysis
Year	With project	Without project	Increase	(SUS)	(Sns)	Capital	0 & M	Total costs	Net benefits (SUS)	Internal rate of return
	220,000,000					1,126,500				
88)	220,000,000	220,000,000	•	0.17	:	563,250		563,250	(563,250)	1. Base case
2000	220,000,000	220,000,000	•	0.17	•	563,250	1	563,250	(563,250)	
380	220,335,070	220,000,000	335,070	0.17	56,962		3.00	3,000	\$3.862	2. Costs +10%
2002	220,335,070	220,000,000	335,070	0.17			3,000	3,000	53,962	
2003	220,335,070	220,000,000	335,070	0.17	•	:	3.00	3,000	53,962	3. Benefix -10%
88	220,335,070	220,000,000	335,070	0.17			000°C	3,000	53,962	
2005	220,335,070	220,000,000	335,070	0.17	56,962		300	3,00	53,962	4. Benefits lagged 1 year
5000	220,335,070	220,000,000	335,070	0.17			3,000	3,000	53,962	
2007	220,335,070	<u>:</u>	335,070	0.17			3.000	3,000	53,962	5.2 and 3
2008	220,335,070	-	335,070	0.17			3,000	3,000	53,962	
2009	220,335,070	220,000,000	335,070	0.17		21	3,000	3 000	53,962	6, 2 and 4
2010	220,335,070	220,000,000	335,070				3,000	3,000	53,962	
2011	220,335,070	220,000,000	335,070	0.17			3,000	3,000	53.962	7. 2, 3 and 4
2012	220,335,070	220,000,000	335,070		:		3.00	3,000	53,962	
2013	220,335,070	220,000,000	335,070	.:	,		80.0	3,000	53,962	
2014	220,335,070	220,000,000	335,070	0.17			3,000	3,000	53,962	
2015	220,335,070	Ċ	335,070			225,300	3,000	228.300	(171.358)	4
2016	220,335,070	7	335,070	0.17			88.	3,000	53,962	
2017	220,335,070	<u> </u>	335,070	0.17			3,000	3,000	53,962	
2018	220,335,070		335,070	0.17			3,00	3,000	53.962	
2019	220,335,070	- }-	335,070	0.17		_	86, 6,	3,00	53,962	
2020	220,335,070	_	335,070	0.17			8	3,000	53,962	
2021	220,335,070		335,070	0.17			3,000	3.80	53,962	
2022	220,335,070		335,070	0.17			3,000	3,000	53,962	
2023	220,335,070	_	335,070	0.17			3,000	3,000	53,962	
2024	220,335,070	_	335,070	0.17	: :		88.	3,000	53,962	
2025	220,335,070	220,000,000	335,070		56.962		3,000	3.000	53,962	
Total			8,376,750		1,424,048	1,351.800	75,000	1.426.800	(2.752)	

Table J-1.20 EIRR, Dummar Wadi Al-Mashare Informal Area

With project												
With project With project With project Capital O.R.M. Total costs GUSS) Capital O.R.M. Total costs GUSS) Capital O.R.M. Total costs GUSS Intermal in Z20,000,000 Z20,000,000 20,000,000 0.17 732,000 7732,000 1732,000 1.8 asc cc Z20,000,000 Z20,000,000 1083,320 0.17 184,164 4,000 180,164 3. Benefit Z11,083,320 Z20,000,000 1083,320 0.17 184,164 4,000 180,164 3. Benefit Z11,083,320 Z20,000,000 1083,320 0.17 184,164 4,000 4,000 180,164 3. Benefit Z11,083,320 Z20,000,000 1083,320 0.17 184,164 4,000 4,000 180,164 3. Benefit Z11,083,320 Z20,000,000 1083,320 0.17 184,164 4,000 4,000 180,164 3. Locotocococococococococococococococococo			Water	Sales (m3)			Econ	omic costs (S	tus)	3		
With project With project With project Increase (SUS) (SUS) Internal in Transport					T	Gross benefits				. :		Sensitivity Analy
TOTAL CONTINUES NOT TOTA	X	With project	Without project	Thorpaco	1.1	(6116)	, and a	ک د د	Total costs	Net benefits (SUS)		്മന്നോ! നാക്കിന
20,000,000 20,000,000 0.17 773,000	13	1300 M	יייייייייייייייייייייייייייייייייייייי	THE COME	(200							mental that of tentin
Z21083.320 Z20000000 Z200000000 Z200000000 Z200000000	9	000000000000000000000000000000000000000	200000000000000000000000000000000000000		,		32.5		427 000	/723 DOW		Q L
221,033,320 220,000,000 1,033,320 0,17 184,164 4,000 4,000 180,164 221,033,320 220,000,000 1,033,320 0,17 184,164 4,000 4,000 180,164 221,033,320 220,000,000 1,033,320 0,17 184,164 4,000 4,000 180,164 221,033,320 220,000,000 1,033,320 0,17 184,164 4,000 4,000 180,164 221,033,320 220,000,000 1,033,320 0,17 184,164 4,000 4,000 180,164 221,033,320 220,000,000 1,033,320 0,17 184,164 4,000 4,000 180,164 221,033,320 220,000,000 1,033,320 0,17 184,164 4,000 4,000 180,164 221,033,320 220,000,000 1,033,320 0,17 184,164 4,000 4,000 180,164 221,033,320 220,000,000 1,033,320 0,17 184,164 4,000 4,000 180,164 221,033,320	255	000,000,027	270,000,000	!			33,65		32.55	(25,000)		i. Dabe case
Z11,083,370 Z20,000,000 1,083,370 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,1	2000	220,000,000	4	TANK SECTION	710		73770	1000	3376/	(37.76)		
221.083.320 220.000.000 1.083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 220.000.000 1.083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 220.000.000 1.083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 220.000.000 1.083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 220.000.000 1.083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 220.000.000 1.083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 220.000.000 1.083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 221.083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 220.000.000 1.083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 220.000.000	2001	221,083,320		1,083,320	0.17	184.194		4,000	000,	30,108		2. Costs +10%
211.083.320 220.000.000 1,033.320 0.17 184,164 4,000 4,000 4,000 180,164 221.083.320 220.000.000 1,083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 220.000.000 1,083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 220.000.000 1,083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 220.000.000 1,083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 220,000.000 1,083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 220,000.000 1,083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 220,000.000 1,083.320 0.17 184,164 4,000 4,000 180,164 221.083.320 220,000.000 1,083.320 0.17 184,164 4,000 4,000 180,164 22	2002	221,083,320		1,083,320	0 17	184,164		80.4	8	180,164	٠	
221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 22	2003	221,083,320		1,083,320	0.17	184,164		200.4	8	180,164	1	3. Benefits -10%
Z1 083 320 Z20 083 320 200 000 1,083 320 0.17 184,164 4,000 4,000 1,000 180,164 Z21 083 320 220 083 320 0.17 184,164 4,000 4,000 180,164 Z21 083 320 220 080 080 1,083 320 0.17 184,164 4,000 4,000 180,164 Z21 083 320 220 080 080 1,083 320 0.17 184,164 4,000 4,000 180,164 Z21 083 320 220 080 080 1,083 320 0.17 184,164 4,000 4,000 180,164 Z21 083 320 220 080 080 1,083 320 0.17 184,164 4,000 4,000 180,164 Z21 083 320 220 080 080 1,083 320 0.17 184,164 4,000 4,000 180,164 Z21 083 320 220 080 080 1,083 320 0.17 184,164 4,000 4,000 180,164 Z21 083 320 220 080 080 1,083 320 0.17 184,164 292,800 4,000 180,164 Z21	2004	221.083.320	220.000.000	1.083.320	0 17	184.164		000,4	98,	180,164		
221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 22	2005	221.083.320	220,000,000	1.083,320	0.17	184.164		4,000	4,000	180,164		4. Benefits lagged 1 year
221.083.320 220.000.000 1.083.320 0.17 184.164 4,000 4,000 180.164 221.083.320 220.000.000 1.083.320 0.17 184.164 4,000 4,000 180.164 221.083.320 220.000.000 1.083.320 0.17 184.164 4,000 4,000 180.164 221.083.320 220.000.000 1.083.320 0.17 184.164 4,000 4,000 180.164 221.083.320 220.000.000 1.083.320 0.17 184.164 4,000 4,000 180.164 221.083.320 220.000.000 1.083.320 0.17 184.164 4,000 4,000 180.164 221.083.320 220.000.000 1.083.320 0.17 184.164 4,000 4,000 180.164 221.083.320 220.000.000 1.083.320 0.17 184.164 4,000 4,000 180.164 221.083.320 220.000.000 1.083.320 0.17 184.164 4,000 4,000 180.164 221.083.320	2008	221 083 320	220 000 000	083,320	0.17	184.164		4,000	400	180,164		}
221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320	2002	721 083 320	220,000,000	1.083.320	0.17	184.164		000,4	4,000	180.164		5. 2 and 3
221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 180,164 221,083,320	2008	221 083 320	220,000,000	1.083.320	0.17	184.164		0004	7000	180,164		
221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 292,800 4,000 1,000,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 1,80,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 1,80,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 1,80,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320	2009	221.083.320	220,000,000	1.083.320	0.17	184,164		4,000	200,4	180.164		6. 2 and 4
221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 292,800 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 292,800 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 <t< td=""><td>2010</td><td>221.083.320</td><td></td><td>1.083,320</td><td>0.17</td><td>184.164</td><td></td><td>4.000</td><td>000,4</td><td>180,164</td><td></td><td></td></t<>	2010	221.083.320		1.083,320	0.17	184.164		4.000	000,4	180,164		
221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 292,800 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 292,800 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 180,164 221,083,320	2011	221,083,320	<u> </u>	1.083,320		184,164		4,000	4,000	180,164		7. 2, 3 and 4
221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 221,083,520 220,000,000 1,083,320 0,17 184,164 292,800 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 292,800 4,000 296,800 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 221,083,320 220,000,000 1,	2012	221,083,320		1,083,320		184,164		4,000	4,000	180,164		
221,083,320 220,000,000 1,083,320 0,17 184,164 292,800 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 292,800 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 221,083,320 220,000,000 1,08	2013	221,083,320		1,083,320	:-	184,164		4,000	000,4	180,164		
221,083,320 220,000,000 1,083,320 0.17 184,164 292,800 4,000 296,800 0 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 4,000 4,000 2,000	2014	221,083,320		1,083,320	1	184,164	:	4,000	000.7	180,164		
221 (383,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221 (383,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221 (383,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221 (383,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221 (383,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221 (383,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221 (383,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221 (383,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221 (383,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221 (383,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221 (383,320 220,000,000 </td <td>2015</td> <td>221,083,320</td> <td></td> <td>1,083,320</td> <td></td> <td>184,162</td> <td>292,300</td> <td>4.000</td> <td>296,800</td> <td>(112,636)</td> <td></td> <td></td>	2015	221,083,320		1,083,320		184,162	292,300	4.000	296,800	(112,636)		
221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221,083	2016	221,083,320	<u> </u>	1,083,320		184,164		4.000	4,000	180,164		
221,083,320 220,000,000 1,083,320 0.17 184,164 4,000	2017	221,083,320		1.083,320	:	184,164		4,000	000,	180,164		
221,083,320 220,000,000 1,083,320 0.17 184,164 4,000	2018	221,083,320	- :	1,083,320	0.17	184,164		4,000	000,4	180,164		
221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0,17 184,164 4,000 4,000 221,083,320 220,000,000	2019	221,083,320	•	1,083,320	0.17	184,164		4,000	000,7	180,164		
221,083,320 226,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 1,000,000	2020	221,083,320	220,000,000	1,083,320	0.17	184,164		80.4 80.	4,00	180,164		
221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 2,000	2021	221,083,320	220,000,000	1,083,320	0.17	184,164		4.00 00.4	4.000	180,164	-	i
221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 4,000 221,083,320 27,083,000 27,083,000 1,356,800 1,356,800 1,356,800 2,000,000 1,356,800 2,000,000	2022	221.083,320	220,000,000	1,083,320	0.17	184,164		4,000	7,000	180,164	: ::	
221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221,083,320 220,000,000 1,083,320 0.17 184,164 4,000 4,000 221,083,320 220,000,000 27,083,000 4,604,110 1,756,800 1,856,800 2	2023	221,083,320	220,000,000	1,083,320	0.17	184,164		2007	4,000	180,164		
221.083.320 220.000.000 1.083.320 0.17 384.164 4,000 4,000 4,000 27,083.000 1,256.800 1,256.800 2	2024	221,083,320	220,000,000	1.083,320	0.17	184,164		4,000	4,000	180,164		
27,083,000 4,604,110 1,756,800 1,00,000 1,856,800 2	2025	221.083,320	220,000,000	1,083,320	0.17	187.164		4,000	4,000	180,164		
	Total			27,083,000		4.604,110	1,756,800	100,000	1,856,800	2,747,310		

AIC (SUS) - 0.07

10.1% 8.3% 9.0% 8.8% 8.9% 7.6%

Sensitivity Analysis

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		Water	Sales (m3)			Econ	Economic costs (SUS)	US)	-	•
				Unit value (Gross benefits	:			Net benefits	Schsitivity Analysis
Year	With project	Without project	Increase	(SUS)	(SOS)	Capital	ORM	Total costs	(SUS)	Internal rate of return
	220,000,000					1,814,000				
1999	220,000,000	220,000,000		0.17		90,000		82,000	(804.080)	l. Base case
88	220,000,000	220,000,000	- 445-01/V	11.0	00.000	3	- SAV 9	33.	202120	2 Coers +10%
8	221,518,400	220,000,000	1,518,400	710	238.78		200	38	071.07	2. CUSD +10.70
2002	221,518,400	220,000,000	1,518,400	0.17	258,128		88	38	25.128	2 Banation 100
2003	221,518,400	220,000,000	38,814	7.0	97,000		38	38	363 536	of transfer and the
888	221.518,400	220,000,000	20,014	7.	258,128	:	38.6	38	253.128	4. Benefits lagged 1 year
333	VVV 013 100	200,000,000	1,000	12.0	248 128		000	000	253 128	3
3 8	24.01.01.0	320,000,000	518 400	:	258 128		2000	2000	253.128	5, 2 and 3
38	221 518 AM	20000000	518 400	٠.	258 128		8000	2000	253,128	
35	221 518 400	220,000,000	518.400		258.128		8,000	2,000	253,128	6. 2 and 4
2010	221.518.400	220,000,000	1518,400		258,128		2,000	2,000	253,128	
102	221 518 400	220,000,000	518,400		258, 128		5,000	5,000	253,128	7.2, 3 and 4
2012	221 518 400	220,000,000	1,518,400	٠,	258,128		8000	2,000	253,128	
2013	221,518,400	220,000,000	1,518,400	: :	258,128		8,000	2.000	253,128	
2014	221,518,400	220,000,000	1,518,400	:	258,128		2,000	2,000	253,128	
2015	221,518,400	220,000,000	1,518,400	0.17	258,128	362,800	2.000	367,800	(109,672)	
2016	221,518,400	220,000,000	1,518,400		258.128		2,000	2,000	253.128	
2017	221,518,400	220,000,000	1,518,400		258.128		80%	2,000	23.128	
2018	221,518,400	220,000,000	1,518,400	0.17	258.128		80.5	2,000	253,128	
2019	221,518,400		1,518,400		258,128		2,000	000. 000.	253,128	:
2020	221,518,400	_	1,518,400	0.17	258.128		5.000	2,000	253,128	
2021	221,518,400	Ľ	1,518,400	0.17	258.128		2,000	2,000	253,128	
2022	221.518,400	220,000,000	1,518,400	0.17	28.138	:	% 80%	2,000	253,128	
2023	221,518,400		1,518,400	0.17	258,128		2,000	8,000 8,000	253.128	
2024	221,518,400	<u> </u>	1,518,400	0.17	258,128		2000	2,000	253,128	
2025	221,518,400	220.000,000	1,518,400	0.17	258.128	i	000 V	\$.000	253, 28	
Total			37,960,000		6,453,200	2176,800	125,000	2,301,800	4,151,400	

AIC (SUS) - 0.06

10.5%

Project identification:	ufication:	% -1	: :		21,504,705 (m')	(m')	Arca:	Ď	Damascus City	
		Wate	ater Sales (m3)			Econ	Economic costs (SUS)	18)	1: :	
				Unit value	Gross benefits				Net benefits	Sensitivity Analysis
Year	With project	Without project	Increase	(SUS)	(SOS)	Capital	N % O	Total costs	(SUS)	internal rate of return
	220,000,000			F1 V		31,748,080		6 249 616	(6.349.616)	1. Base case
1999	220,000,000	220,000,000	170 000 7	0.0	731 160	6 349 616	15,960	6.365.576	(5,634,416)	
2000	224.500.941	200,000,000		7.0	1.462.320	6349.616	31,920	6,381,536	(4919216)	2. Costs +10%
38 88 88	720,000,007	220,000,000	12.902.823	0.17	2,193,480	6,349,616	47,880	6,397,496	(4,204,016)	1 1 1
7002	737.703.764	220,000,000	7 203 764	0.17	2,924,640	6.349,616	63,840	6,413,456	(3,488,816)	3. Benefits -10%
200	241,504,705	220,000,000	21,504,705	0,17	3,655,800	:	79,800	79.800	3576,000	Town I bearing of the second 1
2005	241 504,705		21,504,705	0.17	3,655,800		79.800	008.67	30,000	* Deficiely lagged 1 year
2006	241,504,705	 -	C.I	0.17	3,655,800	:	08.66	000,00	000000	5.2 and 3
2002	241,504,705	220,000,000	cı	0.17	3,655,800		000.67	86.65	000,075,0	
2008	241,504,705	-	7	0.17	3,655,800		200	800	25/2/5	6.2 and 4
2009	241 504,705		7	0.17	3,622,800		36.6	2000	3 576 000	
2010	241.504,705		7	0.17	300,000,000		30,02	200.00	- V-	7.2.3 and 4
20 N	241.504.705		ដ	21	008,550,5		30.00	20.05	3.576.000	
2012	241,504,705		7) c	000 500		20%	20%	3.576.000	
2013	241,504,705		•		000 559 2		208.07	79,800	3.576,000	
2014	241,504,705	-+-	20,400	0.17	3,655,800		79.800	79.800	3,576,000	
2012	54, 45, 145, 150, 150, 150, 150, 150, 150, 150, 15		م ا	71.0	3 655 800		79.800	29.800	3,576,000	
2019	241,345,105		ic	0.17	3,655,800		79,800	29.800	3,576,000	
2012	241 504 705		. ~	0.17	3,655,800	:	79,800	79,800	3,576,000	
2010	241 504,705		7	0.17	3,655,800		79,800	79,800	3576.000	
2020	241,504,705		Ç1	0.17	3,655,800		38.80	33.5	30,0,0,0	
2021	241,504,705	220,000,000	7	0.17			300.00	200.6/	200	
2022	241,504,705		7	0.17	3,655,800		86.0	86.05	2 576 000	
2023	241,504,705		21,004,700	110			288	208.00	3.576.000	
2024	241.504.705		Ž (200			008.62	79.800	3,576,000	
2025	241,504,703		21,504,705	0.0		:	79.800	79,800	3,576,000	
2020	207.202.125		3 (1	0.17		:	208.67	79,800	3,576,000	
2028	241.504.705	220,000,000		0.17			79.800	79.800	3.576.000	
Total		L.	580,627,035		98,706,596	31.748.080	2.1.24.900	33,902,080	016.606.40	
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Sensitivity Analysis

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	Sensitivity Analysis	en:							ı year																				
	Sensitivit	Internal rate of return	1. Base case		2. Costs +10%	•	3. Benefits -10%		4. Beneius lagged i year	, v	5. 7. 20d 5	6 3 mg	0.7.434.4	4	7. Z, 3 and 4	٠													
	Nac homofine	(SUS)	(1 217 500)	(1217,500)	362,000	362,000	362,000	362,000	362,000	207,000	30700	307,000	307,000	207700	362,000	362,000	362,000	362,000	240.230	362,000	362,000	362,000	362,000	362,000	362,000	367000	362,000	200,000	207,205
US)		Total costs	1 217 500	1217.500	250,000	250,000	250,000	250,000	250,000	20,000	250,000	220,000	2000	220,000	250,000	250.000	250,000	250,000	371,750	250,000	250,000	250,000	250,000	250.000	250,000	220,000	250,000	20,000	220:052
Economic costs (\$US)		O&M			250,000	250,000	250,000	250,000	250.000	3000	250,000	250,000	8000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250.000	250,000	250,000	250,000	250,000
Econ		Capital	2,435,000	217.500				:											121.750										
	Gross benefits	(\$U\$)			612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000
	Unit value	(Sns)	- V	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0,17	0.171	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	7.0
Calce (m3))	Increase		• 10	3 600 000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000
Water		Without project		220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000.000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220000000
		With project	83	220,000,000	222,000,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223.600.000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223.600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	000 009 222
		Year		1999	386	200	2003	88	2005	2006	2007	2008	500 700 700 700 700 700 700 700 700 700	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2006

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		Water	Water Sales (m3)			Econ	Economic costs (SUS)	CS)	,	
				Unit value	Gross benefits	-				Sensitivity Analys
	With project	Without project	Increase	(\$2.5)	(SUS)	Capital	0 & X	Total costs	Net benefits (SUS)	Internal rate of return
	220,000,000					486.000		-		
1999	220,000,000	220.000.000	•	0.17		743.000		743,000	(743,000)	1. Base case
888	220,000,000		•	0.17	ı	743,000	•	743,000	(743,000)	
5001	221.690.000	220,000,000	000,069,1	0.17	287,300		110,000	000'01'	177,300	2. Costs +10%
2002	221,690,000	220,000,000	000:069:1	0.17	287,300		10,000	110,000	177,300	
2003	221,690,000	220,000,000	000,069.1	0.17	287,300	:	10,000	110,000	177,300	3. Benefits -10%
200	221.690.000	220,000,000	000,069,1	0.17	287,300		110,000	110,000	177,300	
2005	221,690,000	220,000,000	1.690.000	0.17	287,300		110,000	110,000	177,300	4. Benefits lagged 1 year
788	221.690,000	220,000,000	000:069:1	0.17	287.300		110,000	110,000	177,300	
2007	221.690,000	220,000,000	000:069:1	0.17	287,300		110,000	110,000	177,300	5.2 and 3
2008	221.690,000		1,690,000	0.17	287,300		110,000	110,000	177,300	
500	221,690,000	220,000,000	000,069,1	0.17	287300	:	110,000	110,000	177,300	6.2 and 4
2010	221,690,000		000:069:1	0.17	287,300		110,000	110,000	177,300	
2011	221,690,000	220,000	000,069,1	0.17	287.300		110,000	10,000	77,300	7. 2. 3 and 4
2012	22:,690,000	220,000	000:069:1	71.0	287,300		110,000	110,000	177,300	
2013	221,690,000	220,000,000	000,069,1	0.17	287,300		00001	110,000	177,300	
2014	221,690,000	220,000,000	1,690,000	0.17	287,300		110,000	110,000	177,300	
2015	221,690,000	220,000,000	000,069,1	0.17	287,300	74,300	110,000	184,300	103,000	
2016	221,690,000		1.690,000	0.17	287.300		110,000	110,000	177,300	
2017	221.690,000	220,000,000	1,690,000	0.17	287,300		10,000	110,000	177,300	
2018	221.690,000	220,000,000	1,690,000	0.17	287,300		110,000	10,000	177,300	
2019	221,690,000	220,000,000	1.690,000	0.17	28738		20.00	110,000	17.38	
2020	221.690,000	220,000,000	1,690,000	0.17	287,300		110.000	110.000	177,300	
702	221,690,000	220,000,000	1,690,000	0.17	287,300		0000	00001	17,300	-
2022	221,690,000	220,000,000	1,690,000	0.17	287,300		10,000	110,000	177,300	
2023	221,690,000	220,000,000	1,690,000	71.0	287,300		110,000	110,000	177,300	
2024	221,690,000	220,000,000	000'069'1	0.17	287,300	- 1	00001	110,000	177 300	
2025	221.690,000	220,000,000	1,690,000	0.17	287.300		110,000	110.000	177,300	
Total			42,250,000		7.182,500	1.560,300	2,750,000	4.310,300	2.872.200	

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	ity		Sensitivity Analysis	ts Internal rate of return		00) 1. Base case		20 2. Costs +10%		3. Benefits -10%		11 4. Benefits lagged 1 year		11 5.2 and 3		11 6.2 and 4		[1] 7.2.3 and 4	-							=			:			=	
	Damascus City		;	Net benefits (SUS)		_		288,820					820,61					L		_			L		_				_		1	820.611	19.539.3
		(Sns)		Total costs		415,000		L	151.00	151,000		_	Ĺ			_					-		_	151,000	_	151,000			_		151,000		4,499,000
	Arca:	Economic costs (SUS)		0 & M	L				151,000	151,000	151,000	151,000	151.000	151,000	151,000	151,000	151,000	151,000	151,000	151,000	151,000	151,000	151.00	151,000	151,000	151,000	151,000	151.000	151,000	151,000	151,000	151,000	3,711,000
	(m) (m)	Eco		Capital	773,000	415,000	258,000	000'001													15,000								,				788,000
i de la companya de l	1,058,400		Gross benefits	(\$US)		•	269,892	449,820	971,611	971,611	971,611	971,611	971.611	971,611	971,611	971,611	119,176	119,179	971,611	971,611	971,611	971,611	971,611	971,611	971.611	971,611	971,611	971,611	971,611	971,611	971,611	971,611	24,038,381
 	Phase 1 Phase 2 Phase 3		Unit value	(SUS)		0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	r T		0.17	1		0.17	0.17	0.17	0.17	71.0	0.17	0.17	0.17	0.17	0.17	0.17	0.17	
Kywan		Sales (m3)	*	Increase		•	1.587,600	2,646,000	5,715,360	5,715,360	5,715,360	5,715,360	5,715,360	5,715,360	5,715,360	5,715,360	5,715,360	571538	5,715,360	5.715.360	5,715,360	5.715,360	5,715,360	5.715.360	2,712,380	5,715,360	5,715,360	5,715,360	5,715,360	5,715,360	5,715,360	5.715.360	141 402,240
nter, Tishreen &	B-2.2	Water		Without project		220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000			220,000,000	:	220,000,000		220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	
Table J-1.25 EIRR, New Well Center, Tishreen &	fication;			With project	220,000,000	000'000'072	221,587,600	222,646,000	225,715,360	225,715,360	225,715,360	225,715,360	225,715,360	225.715.360	225,715,360	225,715,360	225,715,360	225,715,360	225,715,360	225,715,360	225,715,360	225,715,360	225,715,360	225.715.360	70, 12, 40	225,715,360	225,715,360	225.715.360	225,715,360	225,715,360	225,715,360	225,715,360	
Table J-1.25	Project identification			Year		8661	2000	2001	2002	2003	2005	2005	5005	2002	2008	888	2010	2011	2012	2013	20.5	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total

AIC (SUS) - 0.03

70.3% 53.9%

50.1% 63.8%

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	Wate	Water Sales (m3)			Ä	Economic costs (SUS)	(Sns)	
-			Unit value	Gross benefits				
	Without project	Increase	(SOS)	(Sns)	Capital	O & M	Total costs	Net penelits (SUS)
					4,850,000			
220,000,000	220,000,000	• 1	200	•	20000		970,000	(2000) (2
200000000000000000000000000000000000000	220,000,000	•	0		2000	:	00000	(000 026)
220,000,000	220,000,000	•	0.17	•	970,000		970,000	(000,026)
220,000,000	220,000,000		0.17		970,000	100,000	1,070,000	(1,070,000)
223,200,000	220,000,000	3,200,000	0.17			00,00	100.000	444,000
223,200,000	220,000,000	3,200,000	0.17			888	00000	44 000
223,200,000	220,000,000	3,200,000	0.17			82	100:000	24,000
223,200,000	220,000,000	3,200,000	0.17			00000	100,000	8
223,200,000	220,000,000	200,000	0.17			8	000,000	88.
223,200,000	220,000,000	3,200,000	0.17			80.00	100,000	88,44
8	220,000,000	200,000	0.17			000	00000	86,4
223,200,000	220,000,000	3,200,000	0.17	, :		0000	100.000	989
223.200.000	220,000,000	3,200,000	0			8	000:00	8
223,200,000	220,000,000	3,200,000	0.17		:	000	000'00!	88,4
223,200,000	000000	2000025	2 6			000001	00000	8
223 200,000	220,000,000	3,200,000	0.17			0000	00000	88
272,200,000	38,88	2000	200		2/10/60	38	20,00	88
223 200 000	220 000 000	3 200 000			200	00000	000000	444 000
223.200.000	220,000,000	3 200 000	0.17			00,00	0000001	44
23200,000	220,000,000	3,200,000	0.17	1	,	0000	000001	24,000
223,200,000	220,000,000	3,200,000	0.17	} !		0000	100,000	44,000
223,200,000	220,000,000	3,200,000	0.17	\$44,000	:	8.00	100,000	44,000
223,200,000	220,000,000	3,200,000				000'001	100,000	444,000
223,200,000	220,000,000	3,200,000	: 			80.00	00,000	00,44
200,000	220,000,000	3,200,000	:			000	000,000	000,444
20000	220,000,000	3,200,000	:			888	00000	8
23,200,000	220,000,000	3,200,000	1	344,000		000.000	100,000	444,000
200,000	220,000,000	3,200,000	0.17	38,4		200,001	000001	86,4
000'007'577	000,000,022	3700000	300	000,440		0000	00000	300,444
200000	200,000,000			•		38	38.5	38
22.00		3000		_		38	88.6	28
223 200 000	220,000,000	3200,000	0 17	• • •		000	000,001	44
23 200 000 :	220,000,000	3 200 000	0 17	4		00000	000,001	24
223,200,000	220,000,000	3 200,000	0,17	\$4,000		80.00	100,000	44,000
223,200,000	220,000,000	3,200,000	0.17	\$4,000		100,000	100,000	444,000
223,200,000	220,000,000	3,200,000	0.17	544,000		100,000	100,000	44,000
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6.8% 6.0% 6.5% 5.7% 6.4%

Internal rate of return

4. Benefits lagged 1 year

3. Benefits -10% 2. Costs +10% 1. Base case

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		Sensitivity	Internal rate of retu		 Base case 	:	2. Costs +10%	1: 1: 1:	 Benefits -10% 		4. Benefits lagged		5.2 and 3		6. 2 and 4		7. 2, 3 and 4						,									
Validascus City		Not handlite	(\$US)		(870,000)	(870,000)	462,000	462,000	462,000	462,000	462,000	462,000	462,000	462,000	462,000	462,000	462,000	462,000	462,000	462,000	375,000	462,000	462,000	462,000	462,000	462.000	462,000	462,000	462,000	462,000	462,000	9,723,000
\$	US)		Total costs		870,000	870,000	150,000	150.000	150,000	150,000	150,000	150,000	150,000	150,000	20,000	150,000	150,000	150,000	150,000	150,000	237,000	150,000	150,000	150,000	150,000	150.000	20,000	20.000	150,000	20,000	150,000	5.577,000
Variation 1	Economic costs (SUS)	1 1 1 1	0 & M			٠	150.000	150,000	150,000	150,000	20.000	150,000	150,000	20,000	150,000	150,000	150,000	20 000	20,000	150,000	150,000	150,000	150.000	150,000	150,000	150,000	150,000	20,000	150,000	150,000	20,000	3,750,000
	Econ	:	Capital	1,740,000	870,000	870,000															87,000							:				1.827,000
2,000,000		Gross benefits	(SUS)		•	•	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	612.000	612,000	612,000	612,000	612,000	612,000	612,000	612,000	15,300,000
		Unit value	(SDS)		0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	
	Water Sales (m3)		Increase		·	•	3.600,000	3.600.000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	000,000,00
D-2.4	Water		Without project		220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000,000	220,000.000	220,000,000	:
			With project	220,000,000	220,000,000	220,000,000	223.600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223.600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	223,600,000	
rroject identification.			Year		1886	2000	2001	2002	2003	2004	2005	2006	2002	2008	2009	2010	20:1	2012	2073	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total

22.9% 20.6% 19.7% 19.9%

Table J-1.28 EIRR, New Resource Kanawat Garden

Project identification:	trification.	B-2.4			1,690,000		Area:	ра	Damascus City	
		Water	r Sales (m3)		k 	Econ	Economic costs (SUS)	us)		
				Unit value G	Gross benefits	:			Net benefits	Sensitivity Analysis
Year	With project	Without project	Increase	(SUS)	(SUS)	Capital	0 & M	Total costs	(SDS)	Internal rate of return
	226,000,000					1,492,000				
8	220,000,000	220,000,000	•	0.17	•	746,000		746,000	(000)	1. Base case
2000	220,000,000	220,000,000		0.17		746,000	•	746,000	(746,000)	
2001	221.690.000	220,000,000	1,690,000	0.17	287,300		107.000	107.000	180,300	2. Costs +10%
2002	221.690,000	220,000,000	1,690,000	0.17	287,300		107,000	00.70	180,300	
2003	221,690,000	220,000,000	1.690.000	0.17	287.300		107.000	107.000	180,300	3. Benefits -10%
2005	221.690.000	220,000,000	1.690.000	0.17	287,300	٠.	107.000	107,000	180,300	
200	221 690 000	220,000,000	1.690.000	0.17	287,300		107,000	107,000	180,300	4. Benefits lagged 1 year
300	221 690 000	220 000 000	1 690,000	0.17	287.300		107,000	107.000	180,300	
300	771 690 000	220,000,000	000 000	0.17	287,300		107,000	107,000	180,300	5. 2 and 3
300	221 690 000	220,000,000	1,690,000	0	287.300		107,000	107,000	180,300	
300	221 690 000		1.690,000	0.17	287300		107,000	107,000	180,300	6.2 and 4
2010	221 690,000		000'069'	0.17	287,300		107,000	000,701	180,300	
2011	221.690.000	220,000,000	000,069.1	0.17	287,300		107,000	107,000	180,300	7. 2. 3 and 4
2012	221.690.000	220,000,000	1.690,000	0.17	287,300	:	107,000	107.000	180,300	
2013	221,690,000	_	1,690,000	0.17	287,300	. 3	107,000	107.000	180,300	
2014	221.690.000		1,690,000	0.17	287,300		100.00	107.000	180,300	
2015	221,690,000	_	000'069'	0.17	287,300	74.600	107,000	81.60	105,700	
2016	221,690,000	220,000,000	000,069.1	0.17	287,300		102:000	107.000	180,300	
2017	221,690,000	220,000,000	1.690,000	0.17	287,300		107.000	107,000	180 300	
2018	221,690,000	220,000,000	1,690,000	0.17	287,300		107.000	00,000	180,300	
2019	221.690.000	220,000,000	1,690,000	0.17	287,300		107.000	107,000	180,300	
2020	221.690.000		1,690,000	0.17	287,300		107,000	107,000	180.300	
2021	221.690,000	L	1,690,000	0.17	287,300		107,000	107.000	180,300	
2022	221,690,000		1,690,000	0.17	287,300		107,000	107.000	180,300	
2023	221,690,000	_	1,690,000	0.17	287,300		107.000	107.000	180,300	
2024	221.690,000		1.690,000	0.17	287300		107.000	107,080	180,300	
2025	221,690,000	220,000,000	20000	210	287.500	300,000	000,01	3	200.00	
Total			42,250,000		32,281./	000.000.1	2,0/2,000	000,147,0	4340,300	

8.3%

AIC (SUS) - 0.10

Sensitivity Analysis	temal rate of return	Base case	Costs +10%	Benefits - 10%	Benefits lagged 1 year	2 and 3	2 and 4	
	3	Ω.	O	₫.	αŭ	, ci	C4	

Table J-1.29 EIRR, New Resource Beit Jen

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6.1%

53%

With project With project With project With project Capital O.R.M. Total 220,000,000 220,000,000 0.17 3.50,000 7.000		:	Wate	Water Sales (m3)			ស	Economic costs (SUS)	(S)	
With project Writh project Increase (5135) (5103) Capital O & M Total 220,000,000 220,000,000 220,000,000 -					Unit value	Gross benefits				Net benefits
Total Control Contro		With project	Without project	Increase	(sns)	(SUS)	Capital	0 & M	Total costs	(SUS)
Z20,000,000 220,000,000 0.17 7,000,000 7,000,000 Z20,000,000 220,000,000		220,000,000					35,000,000		200	
220,000,000 220,000,000 1 7,000,000 220,000,000 220,000,000 1,017 1,000,000 239,700,000 220,000,000 1,017 3,349,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 239,700,000 220,000,000 19,700,000 0,17 <t< td=""><td>_</td><td>220,000,000</td><td>220,000,000</td><td>•</td><td>0.17</td><td>•</td><td>7,000,000</td><td></td><td>38.6</td><td></td></t<>	_	220,000,000	220,000,000	•	0.17	•	7,000,000		38.6	
220,000,000 220,000,000 - 0,17 - 7,000,000 220,000,000 220,000,000 19,700,000 0,17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 239,700,000 220,000,000 19,700,000<		220,000,000	220,000,000		0.17	•	200,000,		200.00	
230,000,000 230,000,000 230,000,000 230,000,000 230,000,000 230,000,000 230,000,000 230,000,000 230,000,000 230,000 235,000	_	220,000,000	220,000,000	•	0.17	•	7,000,000		000,000.	2000000
239,700,000 230,700,000	_	220,000,000	220,000,000	•	0.17	•	7.000,000		00000	(2000) (2000) (2000)
239,700,000 220,000,000 13,700,000 239,700,000		220 000 000	220,000,000		0.17		7,000,000	385,000	7,385,000	(7,385,000
239,700,000 239,700,000 217,700,000 0.17 3,249,000 335,000 239,700,000 220,700,000 19,700,000 0.17 3,249,000 335,000 239,700,000 220,000,000 19,700,000 0.17 3,249,000 335,000 239,700,000 220,000,000 19,700,000 0.17 3,249,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,249,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,249,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,249,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,249,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,349,000 385,000 239,700,000 220,000,000		239,700,000	220,000,000	19,700,000	0.17			385,000	385,000	2,964,000
239,700,000 230,700,000 231,800 0.17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,449,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,449,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,449,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,449,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,449,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,449,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,449,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,449,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,449,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,449,000 385,000 239,700,000 220,000,000 <td< td=""><td></td><td>230,000,000</td><td>220,000,000</td><td>19,700,000</td><td>0.17</td><td></td><td></td><td>385,000</td><td>385,000</td><td>2,964,000</td></td<>		230,000,000	220,000,000	19,700,000	0.17			385,000	385,000	2,964,000
259,700,000 220,000,000 19,700,000 0,17 3,349,000 335,000 259,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 259,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 259,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 259,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 259,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 259,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 259,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 259,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 259,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 259,700,000 220,000,000 19,700,000 0,17 3,349,000 385,000 259,700,000 220,000,000		720,700,000	330000000	10,700,000	0.17			385,000	385,000	2,964,000
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239,700,000 220,000,000 19,700,000 0.17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,349,000 385,000 239,700,000 220,000,000 19,700,000 0.17 3,349,000 385,000 230,700,000 19,700,000 10,7700,000 0.17 3,349,000 385,000	٠.	239 700 000		19.700,000		٠ :		385,000	382,000	
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239,700,000 220,000,000 19,700,000 0.17 3,349,000 385,000 385,000 0.17 3,349,000 385,000 385,000 0.17 3,349,000 320,000,000 19,700,000 0.17 3,349,000 385,000 385,000 0.17 3,349,000 0.17	- ‹	230,700,000		19,700,000				385,000	385,000	
239,700,000 220,000,000 19,700,000 0.17 3,349,000 385,000 385,000 0.17 3,349,000 385,000 385,000 0.17 3,349,000 385,000 385,000 0.17 3,349,000 0.00 19,700,000 19,700		000,000,000		19 700.000		1		385 000	385,000	
239,700,000 220,000,000 19,700,000 0.17 3,349,000 385,000 0.17 3,349,000 385,000	. 4	239 700 000		19.700,000	· : 			385,000	385,000	
335 700 000 320 MO 000 10 700 000 10 33 349 000	v	239.700.000		19,700,000	1			385,000	385,000	-
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Project identification:

		War	Water Sales (m3)			3 1	Economic costs (SUS)	S) .		
:				Unit value	Gross benefits					Sensitivity Analys
Year	With project	Without project	Increase	· (SOS)	(SUS)	Capital	O&M	Total costs	Net benefits (SUS)	Internal rate of return
,	220,000,000	1				54,468,000	-			
1997	220,000,000	220,000,000	•	0.17	•	10.893.600	:	10,893,600	(10.893.600)	1. Base case
86 66	220,000,000	220,000,000	•	0.17		10.893,600		10.893,600	(10,893,600)	
8	220,000,000	_	•	0.17		10,893,600	. :	10,893,600	(10,893,600)	2. Costs +10%
200	220,000,000	_	•	0.17		10.893,600	:	10,893,600	(10,893,600)	
2001	220 000 000	L		0.17		10,893,600	520,000	11.413.600	(11.413.600)	3. Benefits -10%
200	244 180 000		24,180,000	0.17	4,110,600		\$20,000	\$20,000	3.590,600	
2003	244 180 000	_	24,180,000	0.17	_		220,000	\$20,000	3,590,600	4. Benefits lagged 1 year
2002	244 180 000	_	24 180 000	0.17			\$20,000	\$20,000	3.590,600	
200	244 180 000	-	24 180 000	0.17			220 000	220,000	3.590,600	5.2 and 3
	000,001,110	1	200 001 70				200,000	(30,000)	2 505 2	*
3 5	0000017		24.190.000				00000	20000	3 500 500	1 par (y
38	200.001.117	-	200,000				200,000	2000000	000000	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
Š	744,180,000	-	000000	7			000000	200000	0000000	7 1
5003	244,180,000		24,180,000	2.6	:		000000	200,025	200000	1. 4, 5 and 4
2010	244,180,000	4	24,180,000	0.17			220,000	220,000	3,590,000	
2011	244,180,000	220,000,000	24,180,000	0.17	4,110,600		520,000	220,000	3,590,600	
2012	244.180.000	220,000,000	24,180,000	0.17	4,110,600		220,000	220,000	3,590,600	
2013	244.180.000	220,000,000	24,180,000	0.17	4,110,600	_	220,000	\$20,000	3,590,600	
2014	244.180.000		24,180,000	0.17	4,110,600	_	\$20,000	\$20,000	3,590,600	
2015	244 180 000	_	24 180 000	0.17	4,110,600		520,000	520,000	3,590,600	
70.6	244.1%0.000	1	24 180 000	0.17	4,110,600		\$20,000	520,000	3.590,600	
201.7	244 180 000		24.180.000	0 17			520.000	\$20,000	3,590,600	
3100	224 160 000		24 180 000	0.12	:		220 000	200,000	3 500 600	
9 6	200001111		200000			-	200000	000000	2 500 500	
N 650	2000001		200.00	3	•	000	200000	2000	200000	
2707	200,081,202	1	24.18U.WU	7.7	000011.	33.33	200,000	220,000	30,000	
8	244.180.000		24,180,000	0.17	4,110,600		220,000	220,000	3.590,600	
333	244,180,000	· ·	24.180,000	0.17	4,110,600		220,000	220,000	3.590,600	
2023	244,180,000		24,180,000	0.17	4,110,600		220,000	220,000	3,590,600	
2004	244 180 000	220,000,000	24,180,000	0.17	4,110,600		520,000	220,000	3,590,600	
2025	244,180,000		24,180,000	0.17	4,110,600		520,000	520,000	3,590,600	
2026	244.180.000	220,000,000	24,180,000	0.17	4,110,600		\$20,000	\$20,000	3,590,600	
2027	244,180,000		24,180,000	0.17	4,110,600		520,000	520,000	3.590,600	
2028	244.180.000	220.000,000	24.180.000	0.17			\$20,000	520,000	3,590,600	
2029	244.180.000		24.180.000	0.17			520,000	\$20,000	3.590,600	
2030	244,180,000	220,000,000	24,180,000	0.17			220,000	520,000	3,590,600	•
2031	244,180,000	220,000,000	24,180,000	0.17			520,000	520,000	3,590,600	
2032	244,180,000	220,000,000	24,180,000	0.17	4.110.600		220,000	220,000	3.590,600	
2033	244.180.000		24.180.000	0.17			220,000	520.000	3,590,600	
2034	244.180.000		24.180.000	0.17			520,000	520,000	3.590,600	
2035	244,180,000	220,000,000	24,180,000	0.17			520,000	520,000	3590,600	
2036	244,180,000	220,000,000	24,180,000	0.17	4,110,600		\$20,000	\$20,000	3,590,600	

EIRR = 4.7%

AIC (SUS) = 0.09

1

3.7%

2.9%

3.2%

3.9%

Sensitivity Analysis

Hermon & Zabadani

Arca:

Table J-1.31 EIRR, New Resource Retmon Spring

									_		
		Wate	ater Sales (m3)			ପ୍ର	Economic costs (\$US)	S) .			
-				Unit value	Gross benefits				Net benefits		Sensitivity Analys
Year	With project	Without project	Increase	(SOS)	(SUS)	Capital	O&M	Total costs	(SUS)	Inter	Internal rate of return
	220,000,000	_				53,346,000		0000000	(000 00) (1)	•	
8	220,000,000		1	0.17	•	10,009,200		007,690,01	(007,600,01)		I. Base case
8	220,000,000		•	0.17	• •	10.669,200		10,009,200	(10,009,200)		200
8	220,000,000		•	0.17		10,009,200		0,009,200	(10,009,200)	3	2. Costs +19%
8	220,000,000			0.17		10,669,200		0.000,200	(007.600.01)	6	
3	220,000,000			0.17	-	10,669,200	220,000	11,189,200	(11.189.200)	ži ri	3. Benefits -: 0%
500	244,180,000		24,180,000	0.17	4,110,600		220,000	520,000	3,390,600	•	
8	244,180,000		24,180,000	0 17	4,110,600		220,000	220,000	3,590,600	4. B	 Benefits lagged 1 year
8	244,180,000		24,180,000	0.17	1.		220,000	220,000	3,590,600	: (
2005	244,180,000		24,180,000	0.17		,	\$20,000	\$20,000	3,590,600	5, 2,	5. 2 and 3
88	244,180,000		22,180,000	0.17			520,000	520,000	3,590,600		
2002	244,180,000	220,000,000	24,180,000	0.17	4,110,600		220,000	220,000	3,590,600	6.2	6.2 and 4
8	244.180.000		24.180,000	0.17	4,110,600		220,000	\$20,000	3,590,600		
8	244.180.000		24.180.000	0.17	- 5		\$20,000	520,000	3,590,600	7.2	7.2, 3 and 4
010	244 180 000		24.180.000	0.17			\$20,000	\$20,000	3.590,600		
lic	244 (80,000		000 081 20	0.17			\$20,000	\$20,000	3 590 600		
5	244 180 000		24 180 000	0.17	-		520.000	\$20,000	3 590 600		
200	224 180 000		24 180 000	0			\$20,000	420,000	3 500 600		
2014	24 180 000		24 180 000	0		;	\$20,000	520,000	3.590,600		
510	244 180 000		24.180.000	0.17	:		\$20,000	\$20,000	3.590.600		ē
1	000081 870	1	000 081 70	610			\$20,000	\$20,000	3.590,600		
36	244 180 000		24 180 000				220,000	000 025	3 500 600		
	244 180 000		24 180 000				20,000	220,000	3 590,600		
9 6	00003. VVC		24.20				000 005	220000	3 500 600		
280	244 180 000	-	24 180 000	0 12		1 000 000	520.000	1.520.000	2 590,600		
	244 180 000		24 180 000	017		<u> </u>	\$20,000	\$20,000	3.590,600		
8	244 180 000		24 180 000	0.17			520,000	520,000	3.590,600		
Ę	244 180 000		24.180.000	0.17			\$20,000	520,000	3,590,600		
. 420	244.180.000		24.180.000	0.17		:	520,000	520,000	3,590,600		
Š	244 180 000	_	24.1%0.000	0.17			220,000	\$20,000	3.590,600		
300	244 180 000	L	24.180.000	0.17			520,000	520,000	3.590,600		
22	244 180 000		24,180,000	0.17	_		520,000	520,000	3.590,600		
33	244.180.000	٠.	24,180,000	0.17			\$20,000	220,000	3,590,600		
5020	244 180,000		24,180,000	0.17			520,000	520,000	3,590,600		
030	244.180.000	_	24,180,000	0.17			520,000	520,000	3,590,600		
8	244,180,000		24.180.000	0.17	4,110,600		520,000	520,000	3,590,600		
632	244,180,000		24,180,000	0.17	4,110,600		220,000	520,000	3,590,600		
2033	244 180,000		24,180,000	0.17		- 34	220,000	520,000	3,590,600		
034	244.180.000	-	24,180,000	017			220,000	220,000	3,590,600		
2035	244,180,000		24,180,000	0.17			220,000	520,000	3,590,600		
2036	244,150,000	0 220:000:000	24.180.000	0.17			\$20.000	520,000	3.590,600		
Ofal			846,300,000		143.871.000	54,346,000	18,720,000	73,066,000	70,805,000		

3.4%

3.9%

4.1% 4.5%

Sensitivity Analysis

AIC (SUS) = 0.09

_		Water	ator Salas (m2)			Ĺ	(C)			
1		NGW.	CL Saics (III.s)			บ	Economic costs (SUS)	(2)		
				Unit value	Gross benefits				Net benefite	Sensitivity Analys
Year	With project	Without project	Increase	(SOS)	(SUS)	Capital	O&M	Total costs	(SUS)	Internal rate of return
	270,000,000	1				55.668.000				
1997	220,000,000	3.	•	0.17	•	11,133,600		11.133.600	(11.133.600)	1. Base case
1988	220,000,000		•	0.17	•	11.133,600		11,133,600	(11,133,600)	
8	220,000,000	220,000,000		0:13	.•	11,133,600		11,133,600	(11,133,600)	2. Costs +10%
2000	220,000,000	220,000,000		0.17	•	11,133,600		11.133,600	(11,133,600)	
88	220,000,000	220,000,000	•	0.17		11.133,600	\$48,500	11,682,100	(11.682,100)	3. Benefits -10%
88	244,180,000		24,180,000	0.17	4,110,600		548,500	548,500	3,562,100	
2003	244,180,000		24.180.000	0.17	4,110,600		548,500	548,500	3,562,100	4. Benefits lagged 3 year
300	244,180,000	220 000 000	24.180,000	0.17	4,110,600		248,500	548.500	3.562,100	8
3003	244,180,000	220,000,000	24.180,000	0.17	4,110,600		548,500	248.500	3,562,100	5,2 and 3
2005	244,180,000	220,000,000	24,180,000	0.17	4,110,600		548,500	548,500	3,562,100	
2002	244,180,000	220,000,000	24,180,000	0.7	4,110,600		548,500	548,500	3,562,100	6. 2 and 4
8002	244,180,000	220,000,000	24,180,000	0.17	4,110,600		548.500	548,500	3,562,100	
2000	244,180,000	220,000,000	24,180,000	0.17	4,110,600	1	548.500	\$48,500	3.562.100	7.2.3 and 4
2010	244,180,000	220,000,000	24.180.000	0.17	4110,600	:	548 500	548 500	3.562.100	
2011	244,180,000	220 000 000	24 180,000	0.17	4 110 600		\$48,500	\$48 500	3.562.100	
2012	244,180,000	220,000,000	24.180,000	0 17	4110 600		00×87V	248 500	3.562.100	
2013	244,180,000	220.000.000	24 180 000	0.17	4110,600		248 500	248 500	2,66	
2014	244,180,000	220,000,000	24:80.000	0.17	41:0600	:	\$48 500	248.500	3 562 100	
2015	244 180 000	220,000,000	24 180 000	0.17	4110,600		248 500	248 500	2,552	
2016	000 00 1 776	220 000 000	00000176	1.10	1000		200	200000	2000	
210	200,000,000	200000000000000000000000000000000000000	200000		2000		00000	2000	3202.100	
707	700,000,000	000,000,000	200,000	\	000011.4		200,000	2500	2007	
2018	700000	270,000,000	24,180,000	0.17	4,110,600		548,500	248,500	3,562,100	
2019	244,180,000	220,000,000	24,180,000	0.17	4,110,600		548,500	548,500	3,562,100	
2020	244,180,000	`	24.180,000	0.17	4.110,600	1,000,000	548,500	1.548.500	2,562,100	
2023	244,180,000		24.180.000	0.17	4,110,600	-	548,500	248,500	3,562,100	
2022	244,180,000	220,000,000	24,180,000	0.17	4.110,600		248,500	548,500	3,562,100	
2023	244.180.000	220,000,000	24.180.000	0.17	4,110,600		548,500	548,500	3,562,100	
2024	244,180,000	220,000,000	24,180,000	0.17	4.110,600		548,500	548,500	3,562,100	
2023	244,180,000	220,000,000	24,180,000	0.17	4,110,600		248,500	548,500	3,562,100	
2026	244,180,000	220,000,000	24,180,000	0.17	4,110,600		548,500	548,500	3,562,100	
2027	244,180,000	220,000,000	24,180,000	0.17	4,110,600		548,500	548,500	3,562,100	
2028	244,180,000	220,000,000	24.180.000	0.17	4,110,600		548,500	548,500	3.562,100	
5029	244,180,000	220,000,000	24,180,000	0.17	4,110,600		548,500	548,500	3,562,100	
2030	244,180,000	220,000,000	24,180,000	0.17	4,110,600		548,500	548.500	3.562.100	
2031	244,180,000	220,000,000	24.180.000	0.17	4,110,600		548,500	548,500	3,562,100	
2032	244.180.000	220,000,000	24,180,000	0.17	4,110,600		548,500	548,500	3.562,100	
2033	244,180,000	220,000,000	24,180,000	0.17	4,110,600		548,500	548,500	3,562,100	
2034	244,180,000	220,000,000	24,180,000	0.17	4,110,600		248,500	548,500	3,562,100	
2035	244.180,000	220,000,000	24,180,000	0.17	4,110,600		548,500	548,500	3,562,100	
2036	244.180,000	220,000,000	24.180.000	0.17	4,110,600		548,500	548,500	3,562,100	
Total		_	CAK 200 AND			XXX \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				

3.5%

3.8% 3.7% 4.2% 30%

Sensitivity Analysis

Table J-1.32 EIRR, New Resource Hermon Spring

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			Carrie Anno	I Intervalue	Carree beneation	2	DITTE COSO (S	(20)		
;									Net benefits	:
તું ડેઇ	With project	Without project	Increase	(SUS)	(SUS)	Capital	ORM	Total costs	(SOS)	Internal rate o
	000'000'077	000	:		 -	12,030,000				
2 8	720,000,000	_	•	0.17		2,406,000		2,406,000	(2,406,000)	1. Base case
8	220,000,000		•	0.17		2,406,000		2,406,000	(2,406,000)	
	000'000'077	•	•	0.17		2,406,000		2,406,000	(2,406,000)	2. Costs +10%
3	220,000,000			0.17		2,406,000		2,406,000	(2,406,000)	:
38	220,000,000	• • • •		0.17	•	2,406,000	140,000	2,546,000	(2.546.000)	3. Benefits -1
783	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621,600	
3	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621,600	4. Benefits las
\$ 500 E	224,480,000		4,480,000	0.77	761.600		140,000	140,000	621,600	
S02	224 480 000		4,480,000	0.17	761,600	-	:40,000	140,000	621.600	5.2 and
8	224,480,000		4,480,000	0.17	761.680		140,000	140,000	621.600	
2007	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	62: 600	6. 2 and 4
8	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621,600	
8	224,480,000	220,000,000	4,480,000	0.17	761,600	:	140,000	140.000	621 600	7.2 3 and 4
202	224,480,000	220,000,000	4,480,000	0.17	761,600	:	140,000	140,000	621,600	
2011	224,480,000	220,000,000	4,480,000	0.17	761.600		140,000	140,000	621 600	
2012	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621 600	
2013	224,480,000	220,000,000	4,480,000	0.17	761,600	-	140,000	140,000	621,600	
2014	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621 600	
2015	224,480,000	220,000,000	4,480,000	0.17	761,600	601.500	140,000	741.500	20,100	
2016	224.480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621 600	
2017	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621.600	
2018	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621 600	
50.5	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621.600	
2020	224,480,000	220,000,000	4,480,000	0.17	761,600		140.000	140,000	621.600	
502	224,480,000	220,000,000	4,480,000	0.17	761,600	-	140,000	140,000	621.600	
202	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621.600	
2023	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621.600	
2024	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621.600	
2025	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621.600	
2026	224,480,000	220,000,000	4,480,000	0.17	761.600		140,000	140,000	621.600	
2027	224,480,000	220,000,000	4,480,000	0.17	761,680		140,000	140,000	621 600	٠
2028	224,480,000.	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621.600	
633	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621.600	:
000	224,480,000	220.000,000	4,480,000	0.17	761,600		140,000	140,000	621.600	
2031	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621.600	
2032	224 480,000	220,000,000	4,480,000	0.17	761,600		140,000	140,000	621.600	
2033	224,480,000	220,000,000	4,430,000	0.17	761,600		140,000	40.000	621.600	
2034	224,480,000	220,000,000	4,480,000	0.17	761,600	:	40,000	40.00	009129	
2035	224,480,000	220,000,000	4,480,000	0.17	761,600		140,000	40,000	621,600	
2036	224,480,000	220,000,000	4 480 000		1007.72		100		Certificati	
			2010		ma*10/	:	40,000	140,000	621,600	

2.0%

4. Benefits lagged 1 year

3. Benefits -10% 2. Costs +10% 1. Base case

2.6%

2.9% 2.2% 2.8%

Internal rate of return

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Resource,	
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		Water	Water Sales (m3)			Econ	Economic costs (SUS)	(SD:	
				Unit value	Gross benefits				Not benefits
Year	With project	Without project	Increase	(SOS)	(SUS)	Capital	ORM	Total costs	(SUS)
	220,000,000					8,420,444			
8	220,000,000	220,000,000	•	0.17	4	1,684,089		1,684,089	(1,684,089)
×	220,000,000	220,000,000	1	0.17		1,684,089		1,684,089	(1,684,089)
: &	220,000,000	220,000,000	•	0.17	•	1,684,089		1,684,089	(1,684,089)
8	220,000,000	220,000,000	•	0.17	•	1,684,089		1,684,089	(1,684,089)
282	220,000,000	220,000,000	•	0.17	•	1,684,089	133 000	1.817.089	(1,817,089)
g	222,900,000	220,000,000	2,900,000	0.17	493.000		133,000	133,000	360,000
Š	222,900,000	220,000,000	2,900,000	0.17	493,000		133,000	133,000	360,000
Š	222,900,000	220,000,000	2,900,000	0.17	493,000		133,000	133,000	360,000
Š	222,900,000	220,000,000	2,900,000	0.17	493,000		133,000	133,000	360,000
8	222 900,000	220,000,000	2,900,000	0.17	493,000		133,000	133,000	360,000
201	222,900,000	220 000 000	2,900,000	0.17	000 65		133,000	133,000	360,000
Š	222 900 000	220,000,000	2,900,000	0.17	493,000		133,000	133,000	360,000
8	222 000 000	220 000 000	2 800 000	0 17	403 000	•	133,000	133 000	360000
<u> </u>	000,000	200000000000000000000000000000000000000	2000		100		122,000	2	35,000
	000 000 CCC	300000	000000	,,,	30		22.00	30.00	340,000
	227,200,000	330,000,000	200000		000		122	33.55	360,036
4 c	200,000,000	200000000000000000000000000000000000000		2 6			3000	33.55	36,656
3.5	227,300,000	220,020,020	3333	> <	38		22,000	38	2000
1	000'006'777	200,000,000	200,000	· .	200		3000	200	2000
CT/	777,300,000	20,000,027	200,000	3	300	770,124	30,00	770,400	(270,10)
9107	000'006'777	770,000,000	2,500,000	3	33		000,000	35.56	300,000
717	222,900,000	220,000,000	2,900,000	0.17	493,000		133,000	133,000	000,000
2018	222,900,000	220,000,000	2,900,000	0.17	86,89		133,000	133,000	360,000
91	222,900,000	220,000,000	2,900,000	0.17	68,88		133,000	133,000	360,000
8	222,900,000	220,000,000	2,900,000	0.17	493 000		133,000	133,000	360,000
2	222,900,000	220,000,000	2,900,000	0.17	493,000		133,000	33,000	360,000
2022	222,900,000	220,000,000	2,900,000	0.17	493,000		133,000	133,000	360,000
23	222,900,000	220,000,000	2,900,000	0.17	493,000		133.000	133,000	360,000
2	222,900,000	220,000,000	2,900,000	0.17	493.000		133,000	133,000	360,000
ă	222 900 000	220,000,000	2,900,000	0.17	493,000		133,000	133,000	360,000
2	222 900 000	220,000,000	2 900 000	0.17	000 200		133,000	133,000	360,000
1	222 900 000	220000000	2 000 000	0	40.00		133 000	133 000	30000
ć	222 000 000	220,000,000	2000	•	60.00		13300	33.00	80.00
8	222 000 000	220 000 000	00000		60.00	:	2	33	36,000
700	277,000,000	27,000,000	200,000	2.0	38	•	300	200	86,88
3 5	200,000,000				200		250	200	2000
1000	000'006'777	200,000,000	200,000	> <	3000		2000	200	2000
3 6	200,000,000	27000000	2,300,000	3 6	200,000		00000	300	200,000
3.	200:00	270,000,000	7,500,000	> i	23.00		33.55	35.00	2000
¥.,	222,900,000	000,000,022	2,900,000		493,000		33,000	33,000	300,000
2035	222,900,000	220,000,000	2,900,000	0.17	493,000		133,000	133,000	360,000

1.0%

3. Benefits -10% 2. Costs +10% 1. Base case

0.8% 1.5%

5.2 and 3 6.2 and 4 7.2,3 and 4

5. Benefits lagged 1 year

1,9% 1.6%

Internal rate of return

J-41

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		Water	Water Sales (m3)	- 1		Econ	Economic costs (SUS)	(SOS)		
				Unit value	Gross benefits					Sensitivity Ana
Year	With project	Without project	Increase	(SDS)	(SUS)	Capital	X 30	Total costs	Net benefits (SUS)	Internal rate of return
	220,000,000					2,078,000				
1999	220,000,000	220,000,000		0.17		1,039,000		1,039,000	(1.039.000)	1. Base case
2000	220,000,000	220,000,000		0.17	•	1,039,000	1	000'650'1	(1,039,000)	
2007	222,540,000	220,000,000	2,540,000	0.17	431,800		115,000	115,000	316,800	2. Costs +10%
2002	222,540,000	220,000,000	2,540,000	0.17	431,800		115.000	115,000	316.800	
2003	222,540,000	220,000,000	2,540,000	0.17	431,800	;	115,000	115,000	316,800	3. Benefits -10%
88	222,540,000	22	2.540,000	0.17	431,800		115,000	115,000	316,800	
2002	222,540,000	220	2,540,000	0.17	431,800		115.000	115,000	316,800	4. Benefits lagged 1 year
2006	222,540,000	L	2,540,000	0.17	431,800		115,000	115,000	316,800	
2002	222,540,000	ន្ត	2,540,000	0.17	431,800		115,000	115,000	316,800	5. 2 and 3
2008	222,540,000	220,000,000	2,540,000	0.17	431,800		115,000	115,000	316,800	
2009	222,540,000	22	2,540,000	0.17	431.800		115,000	115,000	316,800	6. 2 and 4
2010	222,540,000	220,	2,540,000	0.17	431,800		115,000	115,000	316,800	
2011	222,540,000	220	2,540,000	0.17	431.800		115,000	115,000	316,800	7. 2, 3 and 4
2012	222.540,000	8	2,540,000	0.17	431.800		115,000	115,000	316,800	
2013	222,540,000	220	2.540,000	0.17	431,800		115,000	115,000	316,800	
2014	222,540,000	220	2,540,000	0.17	431.800		115,000	115,000	316,800	
2015	222,540,000	ន្ត	2,540,000	0.17	431,800	103,900	115,000	218,900	212,900	
2016	222,540,000	220	2,540,000	0.17	431,800		115,000	115,000	316,800	
2017	222,540,000	220	2,540,000	0.17	431,800		115,000	115,000	316,800	
2018	222,540,000	ន្ត	2,540,000	0.17	431,800	:	15,000	115,000	316,800	
2019	222,540,000	2200	2,540,000	0.17	431,800		115,000	115,000	316,800	
2020	222,540,000	ដ	2,540,000	0.17	431,800	-	115,000	115,000	316,800	
2021	222,540,000	23	2,540,000	0.17	431,800		15,000	115,000	316,800	
2022	222,540,000	22	2,540,000	0.17	431,800	-	115,000	115,000	316,800	
202	222,540,000	8	2,540,000	0.17	431,800		115.000	115,000	316,800	
2024	222,540,000	ន្ត	2,540,000	0.17	431,800		115,000	115,000	316,800	
2025	222,540,000		2,540,000	0.17	431,800		115,000	115,000	316,800	
Total			63.500,000		10,795,000	2.181.900	2.875,000	5,056,900	\$.738.100	

ERR - 13.6%

Table J-1.36 EIRR, New Resource, Takadom

		Water	Water Sales (m3)			Eco	Economic costs (SUS)	SUS)	
				Unit value	Gross benefits				Nat hanafite
Year	With project	Without project	Increase	(Sns)	(SUS)	Capital	0 & M	Total costs	(SUS)
	220,000,000					110,000			
8	220,000,000	220,000,000	•	0.17		110,000		10,000	(110,000)
Ŕ	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	15,000	488,200
8	222,960,000	220,000,000	2,960,000	0.17	503.200		15.000	15,000	488,200
2002	222,960,000	220,000,000	2,960,000	0.17	503,200		15.000	15.000	488,200
2003	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	15,000	488,200
2004	222,960,000	220,000,000	2,960,000	0.17	503,200		15.000	15,000	488,200
2005	222,960,000	220,000,000	2,960,000	0.17	503,200	.=.	15,000	15,000	488,200
2002	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	15,000	488,200
2007	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	15,000	488,200
2008	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	15,000	488,200
5002	222,960,000	220,000,000	2,960,000	0.17	503,200	:	15,000	15,000	488,200
2010	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	15,000	488,200
2011	222,960,000	220,000,000	2,960,000	0.17	\$03,200		15,000	15,000	488,200
V	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	15,000	488,200
6.7	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	15,000	488,200
2014	222,960,000	220,000,000	2,960,000	0.17	503,200	15.000	15,000	30,000	473,200
S)	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	15,000	488,200
2016	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	3,000	488,200
_	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	15,000	488,200
2018	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	15,000	488,200
Ġ.	222,960,000	220,000,000	2,960,000	0.17	503.200		15,000	15,000	488,200
ဋ	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	15,000	488,200
2021	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	15,000	488,200
Ω	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	15,000	488,200
ಬ	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	3,000	488,200
· •	222,960,000	220,000,000	2,960,000	0.17	503,200		15,000	15,000	488,200
2024	222,960,000	220.000.000	2.960.000	0.17	503,200		15.000	2000	006 887

443.8%

Sensitivity Analysis

Internal rate of return

402.2% 398.1% 166.0%

4. Benefits lagged 1 year

3. Benefits -10% 2. Costs +10% 1. Base case

360.6% 156.2% 145.9%

5. 2 and 3 6.2 and 4 7.2.3 and 4

EIRR - 443.8%

AIC (SUS) = 0:01

J-43

8	
SUS) -	
AIC (

		, m,	Wasan Cales (m2)			Tool	Foonomic costs (VIIV)			
		W diff	CI Orales (IIIS)	Unit value	Gross benefits		TO PERSON AND AND AND AND AND AND AND AND AND AN			Sensitivity Analysis
, , , , , , , , , , , , , , , , , , ,	With smiles	Without penion	Tomesce	(\$178)	(SUS)	Capital	N % O	Total costs	Net benefits (SUS)	Internal rate of return
3	000 000 000	1	2			051 868 8				
8	220.000.000	220,000,000	* •	0.17	•	1.765.630		1,765,630	(1,765,630)	1. Base case
88	224,000,000	220,000,000	4,000,000	0.17	000'089	1,765,630	320,613	2,086,243	(1,406,243)	
8	228,000,000	220,000,000	8,000,000	0.17	1,360,000	1,765,630	641,227	2,406,857	(1.046,857)	2. Costs +10%
200	232,000,000	220,000,000	12,000,000	0.17	2,040,000	1,765,630	961.840	2,727,470	(687,470)	
8	236,000,000	220,000,000	16,000,000	141.0 171.0	2,720,000	1.765.630	1,282,454	3,048,084	(328,084)	3. Benefits - 10%
2002	240,000,000	220,000,000	20,000,000	0.17	3,400,000	-	1,603,067	1,603,067	1 796,933	
2003	240,000,000	220,000,000	20,000,000	0.17	3,400,000	- 1	1,603,067	1,603,067	1.796,933	Benefits lagged 1 year
2005	240,000,000	220,000,000	20,000,000	0,17	3,400,000	:	1,603,067	1,603,067	1.796,933	÷.
2002	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1,603,067	1,603,067	1,796,933	5.2 and 3
2006	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1,603,067	1,603,067	1,796,933	1
2007	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1,603,067	1,603,067	1,796,933	6. 2 and 4
2008	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1,603,067	1,603,067	1,796,933	
300	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1,603,067	1,603,067	1,796,933	7. 2, 3 and 4
2010	240,000,000	220,000,000	20,000,000	0.17	3,400,000	•	1 603 067	1,603,067	1,796,933	
2011	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1,603,067	1,603,067	1,796,933	
2012	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1,603,067	1,603,067	1,796,933	
2013	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1,603,067	1,603,067	1,796,933	
2014	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1.603.067	1,603,067	1,796,933	
2015	240,000,000	220,000,000	20,000,000	0.17	3,400,000	441,408	1.603.067	2.044,475	1.355,526	
2016	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1,603,067	1,603,067	1,796,933	
2017	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1.603,067	1,603,067	1,796,933	
2018	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1,603,067	1,603,067	1,796,933	
2019	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1,603,067	1,603,067	1,796,933	
2020	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1,603,067	1,603,067	1,796,933	
2021	240,000,000	220,000,000	20,000,000	0.:7	3,400,000		1,603,067	1,603,067	1,796,933	. 1
2022	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1,603,067	1,607,067	1,796,933	
2023	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1,603,067	1.603.067	1,796,933	V
2024	240,000,000	220,000,000	20,000,000	0.17	3,400,000		,603,067	1,603,067	1,796,933	
2025	240,000,000	220,000,000	20,000,000	0.17	3,400,000		1,603,067	1,603,067	1,796,933	
2026	240,000,000	220,000,000	20,000,000	0.17	3,400,000	-	1,603,067	1,603,067	1.796,933	
2027	240,000,000	220,000,000	20,000,000	0.17	3,400,000		/90:00:	/903:00	200,000	
2028	240,000,000	220,000,000	2000000	212	2,400,000	. ;	7903.007	1,003:00	1,796,933	
6707	000'000'047	200,000,000	33000		30000	:	280	7505,05	1 70 407 1	
200	200000000	220,000,022	3000		200,000		1000000	200000	200000	
				17.77			Š	700	1,796,933	

14.4%

Sensitivity Analysis

Table J-1.37 EIRR, Reinforcement of Barada Spring

34.0% 29.7% 25.8%

3, 2 and Benefits -10%

2. Costs +10% 1. Base case

Sensitivity Analysis Internal rate of return

Net Benefits	(032,000.8)	(1,794)	(14.017)	(1,661)	(754)	1,239	11.711	15,075	20,209	20,793	24,148	22.462	22.503	22,503	22.886	22,886	22,805	21.940	24.012	22.984	21,776	22,538	22,583	22,657	22.538	22.961	22.961	22,961	24.428	24,428	24,428	24,428	24.428	24,428	24,428	24,428	620.389
)0's)	Total	4,314	19,311	16,336	13,421	14,077	10,023	8,318	3,919	3,623	1,797	3,483	3,442	3,442	3.180	3,180	3.261	4,126	2.054	3,157	4,365	3,603	3.558	3,484	3,603	3,180	3.180	3.180	1,713	1.713	1,713	1,713	1.713	1,713	1,713	1,713	166,321
Economic costs (US\$ 000's)	O&M	86	245	837	1,097	1,451	1,552	1,558	1.563	1,675	1,713	1,713	1.713	1,713	1,713	1.713	1,713	1,713	1,713	1,713	1,713	1.713	1,713	1.713	1.713	1,713	1,713	1.713	1.713	1,713	1,713	1,713	1,713	1,713	1,713	1.713	54.614
Econom	Capital	4.216	19,066	15,499	12,324	12,626	8,471	6.760	2,356	1.948	**	1,770	1,729	.729	1,467	1.467	1,548	2,413	<u>¥</u>	4	2,652	2.170	1,845	1.77.1	1,890	1,467	1,467	1,467					•	4:4: 4 :4:4:	1		111.987
Economic Benefit	(CS\$ 000.8)	2.520	\$ 284	8.675	12,667	15,316	21.794	23,393	24,128	24,416	25,945	25,945	25.945	25,945	26.066	26.066	26.066	26,066	26.066	26.141	26,141	26,141	26,141	26,141	26,141	26,141	26,141	26,141	26,141	26,141	26,141	26,141	26,141	26,141	26,141	26.141	816,710
ш	Year	1907	3001	86	2000	2001	2002	2003	2002	2005	200	2007	2008	5000	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total

able J-2.1 Inc	remental Water Sales and R		
laster plan proje	ecte total		
raster plan proje	ets total		
	Consumption	Unit Value	Incremental Water Revenue
Year	(m³ 000's)	(US\$)	(US\$ 000's)
	<u> </u>		
1997	13,000	0.11	1,4
1998	27,910	0.11	3,0
1999	43,460	0.11	4,
2000	58,990	0.11	6,4
2001	70,420	0.11	7;
2002	81,860	0.11	9,(
2003	91,660	0.11	10,
2004	97,200	0.11	10,
2005	100,120	0.11	11,1
2006	108,810	0.11	11,
2007	109,410	0.11	12,
2008	109,910	0.11	12,
2009	110,410	0.11	12,
2010	111,060	0.11	12,
2011	111,060	0.11	12,
2012	111,060	0.11	12,
2013	111,060	0.11	12,
2014	111,060	0.11	12,
2015	111,400	0.11	12,
2016	111,400	0.11	12,
2017	111,400	0.11	12,
2018	111,400	0.11	12,
2019	111,400	0.11	12,
2020	111,400	0.11	12,
2021	111,400	0.11	12,
2022	111,400	0.11	12,
2023	111,400	0.11	12,
2024	111,400	0.11	12,
2025	111,400	0.11	12,
2026	111,400	0.11	12,
2027	111,400	0.11	12,
2028	111,400	0.11	12,
2029	111,400	0.11	12,
2030	111,400	0.11	12,
2031	111,400	0.11	12,
Total	3,472,260		381,

FIRR = 9.8%

AIC(SUS) = 0.05

8.3%

Sensitivity Analysis Internal rate of return

1. Base case

6.8%

5.2 and 3 6.2 and 4 7.2.3 and 4

8.4%

4. Benefits lagged 1 year

2. Costs +10% 3. Benefits -10%

															÷																					<u>.</u>		_
et Benefits	(US\$ 000's)		(3,498)	(22,379)	(13,818)	(8.373)	(8,453)	(1,018)	2,769	6.524	7,320	10,160	8.18	8,297	8,352	8,759	8,759	8,676	1.77.	10,155	9,106	9.294	8,229	4,5	8,417	8,229	8.796	8.796	96/×	10.541	10.541	10,541	10,541	10.541	10.541	10 K	110.01	
	Ę.		4.928	25,449	18.599	14.862	16,199	10,023	7.314	4.168	3,693	1,809	3.836	3,793	3.793	3.458	3,458	3.41	4,440	2,062	3.148	2,960	4,025	3,913	3.837	4.025	3,458	3,458	3,458	1.713	1,713	1,713	1,713	1.713	1,713	1,713	11/10	714.701
Incremental costs (US\$ 000's)	0.8 M		86	245	837	1,097	1,451	1.552	1.558	1.563	1.675	1.713	1.713	1.713	1.713	1,713	1,713	1.713	1,713	1,713	1,713	1.713	1.713	1.713	1.713	1.713	1.713	1.713	1,713	1,713	1.713	1,713	1,713	1,713	1,713	1.713	1.713	74.014
Jacremen	Investment		4.830	25.204	17.762	13,765	14.748	8,471	5,756	2,605	2018	8	2,123	2,080	2,080	1,745	1.745	1.828	2,727	350	1,435	1,247	2,529	2,200	2.124	2.312	1.745	1,745	1.745								10000	127.014
Incremental Water Revenue	(s,000 sSU)		1.430	3.070	7.78	6.489	7.746	500.6	10,083	10,692	11,013	11.969	12,035	12.090	12,145	12,217	12,217	12,217	12,217	12,217	12.254	12.254	12254	12,254	12,254	12.254	12,254	12,254	12,254	12,254	12,28	12,284	12,254	12,254	12,254	12,254	* 7771	
	X.	1,000	2001	8	8	2000	1002	2002	203	300	2005	2006	2007	2008	5002	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2051	Total

Table J-2.3 Least Cost Comparison

Project	Incremental Water (mcm/yr)	Project Cost (US\$ 000's)	\$/m3
A-1.1 mains replacement	2.76	25,241	9.15
A-1.2 meter replacement	38.53	11,662	0.30
A-2 leakage reduction	24.08	5,842	0.24
A-3 & B-2 increase water production capacity	23.51	23,231	0.99
B-1 provide distribution in informal areas	22.52	29,418	1.31

FIGURES

(1)

Figure J-1.1 Household Income Distribution

Cumulative no. of families no. of families as % of total Total 7017% 178 29.67% 365 60.83% 1 484 80.67% 500 83.33% 600 100.00% 5									
No. of families Cumulative no. of families no. of families Total income Cumulative no. of families 25 4.17% 25 4.17% 50.000 0.5 i 153 25.50% 178 29.67% 612.000 6.3 i 187 31.17% 36.5 60.83% 1.402.500 14.4 119 19.83% 48.4 80.67% 2.082.500 21.4 10 16.67% 500 83.33% 600.000 6.2 100 16.67% 500 100.00% 5.000.000 51.3			. 3		Cumulative				
of families as % of total Total income % i 25 4.17% 25 4.17% 50.000 0.5 153 25.50% 178 29.67% 612.000 6.3 187 31.17% 36.5 60.83% 1.402.500 14.4 119 19.83% 48.4 80.67% 2.082.500 21.4 16 2.67% 600 83.33% 600.000 6.2 100 16.67% 600 100.00% 5.000.000 51.3	Monthly	:	No. of families	Cumulative	no. of families		Total income	Cumulative	Cumulative
25 4.17% 25 4.17% 50.000 0.5 153 25.50% 178 29.67% 612.000 6.3 137 31.17% 365 60.83% 1,402.500 14.4 119 19.83% 4.84 80.67% 2,082,500 21.4 16 2.67% 500 83.33% 600,000 6.2 100 16.67% 600 100.00% 5,000,000 51.3	income level	···	as % of total	no, of families	as % of total	ä	%	income	income %
153 25.50% 178 29.67% 612,000 6.3 187 31.17% 36.5 60.83% 1,402,500 14.4 119 19.83% 4.84 80.67% 2,082,500 21.4 16 2.67% 500 83.33% 600,000 6.2 100 16.67% 600 100,00% 5,000,000 51.3	3,000	•	4.17%	25	4.17%		0.5	20,000	0.0
187 31.17% 365 60.83% 1,402,500 14.4 119 19.83% 484 80.67% 2,082,500 21.4 16 2.67% 500 83,33% 600,000 6.2 100 16.67% 600 100,00% 5,000,000 51.3	2,000	153	25.509	178	29.67%		6.3	662,000	3.9
119 19,83% 484 80,67% 2,082,500 21.4 16 2,67% 500 83,33% 600,000 6.2 100 16,67% 600 100,00% 5,000,000 51.3	10,000	187	31.179	365	60.83%		14.4	2,064,500	21.2
16 2.67% 500 83.33% 600,000 6.2 100 16.67% 600 100.00% 5.000,000 51.3	25,000	119	19.83%	484	80.67%		21.4	4,147,000	42.4
100 16.67% 600 100.00% 5,000.000 51.3	50.000	16	2.67%	900	83.33%	: 1	6.2	4,747,000	48.7
	>50,000	100	16.67%	009	100.00%		51.3	9,747,000	100.











