

TABLE H-26(1) PROJECT COST AND BENEFITS / I-2-1 MUSAVEREMA

(UNIT : 1 000 Z\$)

YEAR	PROJECT COST		TOTAL	BENEFITS	RETURN	1 %		3 %		5 %	
	CAPITAL	O & M				(COST)	(BENEFITS)	(COST)	(BENEFITS)	(COST)	(BENEFITS)
1 1988	824.7	0.0	824.7	0.0	-824.7	824.70	0.00	824.70	0.00	824.70	0.00
2 1989	1924.3	0.0	1924.3	0.0	-1924.3	1886.39	0.00	1813.84	0.00	1745.40	0.00
3 1990	0.0	12.3	12.3	63.2	50.9	11.94	61.34	11.26	57.84	10.63	54.59
4 1991	0.0	12.3	12.3	94.6	82.3	11.82	90.91	10.93	84.05	10.12	77.83
5 1992	0.0	12.3	12.3	126.0	113.7	11.70	119.89	10.61	108.69	9.64	98.72
6 1993	0.0	12.3	12.3	126.0	113.7	11.59	118.70	10.30	105.52	9.18	94.02
7 1994	0.0	12.3	12.3	126.0	113.7	11.47	117.52	10.00	102.45	8.74	89.55
8 1995	0.0	1.0	1.0	126.0	125.0	0.92	116.36	0.79	99.47	0.68	85.28
9 1996	0.0	1.0	1.0	126.0	125.0	0.91	115.21	0.77	96.57	0.64	81.22
10 1997	0.0	1.0	1.0	126.0	125.0	0.91	114.07	0.74	93.76	0.61	77.35
11 1998	0.0	1.0	1.0	126.0	125.0	0.90	112.94	0.72	91.03	0.58	73.67
12 1999	0.0	1.0	1.0	126.0	125.0	0.89	111.82	0.70	88.37	0.56	70.16
13 2000	0.0	1.0	1.0	126.0	125.0	0.88	110.71	0.68	85.80	0.53	66.82
14 2001	0.0	1.0	1.0	126.0	125.0	0.87	109.62	0.66	83.30	0.51	63.64
15 2002	0.0	1.0	1.0	126.0	125.0	0.86	108.53	0.64	80.88	0.48	60.61
16 2003	0.0	1.0	1.0	126.0	125.0	0.85	107.46	0.62	78.52	0.46	57.72
17 2004	0.0	1.0	1.0	126.0	125.0	0.84	106.39	0.61	76.23	0.44	54.97
18 2005	0.0	1.0	1.0	126.0	125.0	0.84	105.34	0.59	74.01	0.42	52.36
19 2006	0.0	1.0	1.0	126.0	125.0	0.83	104.30	0.57	71.86	0.40	49.86
20 2007	0.0	1.0	1.0	126.0	125.0	0.82	103.27	0.55	69.76	0.38	47.49
21 2008	0.0	1.0	1.0	126.0	125.0	0.81	102.24	0.54	67.73	0.36	45.23
22 2009	0.0	1.0	1.0	126.0	125.0	0.80	101.23	0.52	65.76	0.34	43.07
23 2010	0.0	643.5	643.5	126.0	125.0	511.88	100.23	326.06	63.84	209.51	41.02
24 2011	0.0	1.0	1.0	126.0	125.0	0.79	99.24	0.49	61.98	0.31	39.07
25 2012	0.0	1.0	1.0	126.0	125.0	0.78	98.25	0.48	60.18	0.30	37.21
26 2013	0.0	1.0	1.0	126.0	125.0	0.77	97.28	0.46	58.43	0.28	35.44
27 2014	0.0	1.0	1.0	126.0	125.0	0.76	96.32	0.45	56.73	0.27	33.75
28 2015	0.0	1.0	1.0	126.0	125.0	0.75	95.36	0.44	55.07	0.26	32.14
29 2016	0.0	1.0	1.0	126.0	125.0	0.75	94.42	0.42	53.47	0.24	30.61
30 2017	0.0	1.0	1.0	126.0	125.0	0.74	93.49	0.41	51.91	0.23	29.15
31 2018	0.0	1.0	1.0	126.0	125.0	0.73	92.56	0.40	50.40	0.22	27.77
32 2019	0.0	1.0	1.0	126.0	125.0	0.73	91.64	0.39	48.93	0.21	26.44
33 2020	0.0	1.0	1.0	126.0	125.0	0.72	90.74	0.38	47.51	0.20	25.18
34 2021	0.0	1.0	1.0	126.0	125.0	0.71	89.84	0.37	46.12	0.19	23.99
35 2022	0.0	1.0	1.0	126.0	125.0	0.71	88.95	0.36	44.78	0.18	22.84
36 2023	0.0	1.0	1.0	126.0	125.0	0.70	88.07	0.35	43.48	0.17	21.76
37 2024	0.0	1.0	1.0	126.0	125.0	0.69	87.20	0.33	42.21	0.16	20.72
38 2025	0.0	1.0	1.0	126.0	125.0	0.69	86.33	0.33	40.98	0.15	19.73
39 2026	0.0	1.0	1.0	126.0	125.0	0.68	85.48	0.32	39.79	0.15	18.79
40 2027	0.0	1.0	1.0	126.0	125.0	0.67	84.63	0.31	38.63	0.14	17.90
TOTAL	2749.0	737.0	3486.0	4693.8	1207.8	3306.80	3797.87	3034.08	2586.03	4046.76	1847.71

BENEFIT COST RATIO BY DISCOUNT RATE (B/C) = 1.15 (1%), 0.85 (3%), 0.46 (5%)
INTERNAL RATE OF RETURN (IRR) = 1.9 %

TABLE H-26(2) PROJECT COST AND BENEFITS, II-1-6 CHINYAMATUMWA

(UNIT : 1 000 Z\$)

YEAR	PROJECT COST		TOTAL	BENEFITS	RETURN	PRESENT WORTH VALUE BY DISCOUNT RATE		5 % (BENEFITS)	5 % (COST)	5 % (BENEFITS)
	CAPITAL	O & M				(COST)	(BENEFITS)			
1 1988	941.7	0.0	941.7	0.0	-941.7	0.00	941.70	0.00	941.70	0.00
2 1989	2197.3	0.0	2197.3	0.0	-2197.3	0.00	2071.17	0.00	1993.02	0.00
3 1990	0.0	23.1	23.1	70.0	46.9	67.94	21.14	64.06	19.95	60.47
4 1991	0.0	23.1	23.1	105.0	81.9	100.90	20.52	93.29	19.00	86.38
5 1992	0.0	23.1	23.1	139.0	115.9	132.25	19.98	119.90	18.10	108.91
6 1993	0.0	23.1	23.1	139.0	115.9	130.95	19.35	116.41	17.24	103.72
7 1994	0.0	23.1	23.1	139.0	115.9	129.65	18.78	113.02	16.42	98.79
8 1995	0.0	11.9	11.9	139.0	127.1	128.37	9.39	109.73	8.05	94.08
9 1996	0.0	11.9	11.9	139.0	127.1	127.09	9.12	108.53	7.67	89.60
10 1997	0.0	11.9	11.9	139.0	127.1	125.84	8.85	103.43	7.31	85.33
11 1998	0.0	11.9	11.9	139.0	127.1	124.59	8.60	100.42	6.96	81.27
12 1999	0.0	11.9	11.9	139.0	127.1	123.36	8.35	97.49	6.65	77.40
13 2000	0.0	11.9	11.9	139.0	127.1	122.14	8.10	94.65	6.31	73.72
14 2001	0.0	11.9	11.9	139.0	127.1	120.93	7.87	91.90	6.01	70.21
15 2002	0.0	11.9	11.9	139.0	127.1	119.73	7.64	89.22	5.72	66.86
16 2003	0.0	11.9	11.9	139.0	127.1	118.54	7.42	86.62	5.45	63.68
17 2004	0.0	11.9	11.9	139.0	127.1	117.37	7.20	84.10	5.19	60.65
18 2005	0.0	11.9	11.9	139.0	127.1	116.21	6.99	81.65	4.94	57.76
19 2006	0.0	11.9	11.9	139.0	127.1	115.06	6.79	79.27	4.71	55.01
20 2007	0.0	11.9	11.9	139.0	127.1	113.92	6.59	76.96	4.49	52.39
21 2008	0.0	11.9	11.9	139.0	127.1	112.79	6.40	74.72	4.27	49.89
22 2009	0.0	11.9	11.9	139.0	127.1	111.68	6.21	72.54	4.07	47.52
23 2010	0.0	452.7	452.7	139.0	-313.7	110.57	6.03	70.43	3.89	45.26
24 2011	0.0	11.9	11.9	139.0	127.1	109.48	5.85	68.38	3.69	43.10
25 2012	0.0	11.9	11.9	139.0	127.1	108.39	5.68	66.39	3.51	41.05
26 2013	0.0	11.9	11.9	139.0	127.1	107.32	5.52	64.45	3.35	39.09
27 2014	0.0	11.9	11.9	139.0	127.1	106.26	5.36	62.58	3.19	37.23
28 2015	0.0	11.9	11.9	139.0	127.1	105.20	5.20	60.76	3.04	35.46
29 2016	0.0	11.9	11.9	139.0	127.1	104.16	5.05	58.99	2.89	33.77
30 2017	0.0	11.9	11.9	139.0	127.1	103.13	4.90	57.27	2.75	32.16
31 2018	0.0	11.9	11.9	139.0	127.1	102.11	4.76	55.60	2.62	30.63
32 2019	0.0	11.9	11.9	139.0	127.1	101.10	4.62	53.98	2.50	29.17
33 2020	0.0	11.9	11.9	139.0	127.1	100.10	4.49	52.41	2.38	27.78
34 2021	0.0	11.9	11.9	139.0	127.1	99.11	4.36	50.88	2.27	26.46
35 2022	0.0	11.9	11.9	139.0	127.1	98.13	4.23	49.40	2.16	25.20
36 2023	0.0	11.9	11.9	139.0	127.1	97.16	4.11	47.96	2.05	24.00
37 2024	0.0	11.9	11.9	139.0	127.1	96.19	3.99	46.56	1.96	22.86
38 2025	0.0	11.9	11.9	139.0	127.1	95.24	3.87	45.21	1.86	21.77
39 2026	0.0	11.9	11.9	139.0	127.1	94.30	3.76	43.89	1.77	20.73
40 2027	0.0	11.9	11.9	139.0	127.1	93.36	3.65	42.61	1.69	19.75
TOTAL	3139.0	949.0	4088.0	5179.0	1091.0	4190.60	3536.87	2853.67	4395.29	2039.11

BENEFIT COST RATIO BY DISCOUNT RATE (B/C) = 1.08 (1%), 0.81 (3%), 0.46 (5%)
INTERNAL RATE OF RETURN (IRR) = 1.6 %

TABLE H-26(3) PROJECT COST AND BENEFITS, II-2-1 MASHOKO

(UNIT : 1 000 Z\$)

YEAR	PROJECT COST		TOTAL	BENEFITS	RETURN	1 %		3 %		5 %	
	CAPITAL	O & M				(COST)	(BENEFITS)	(COST)	(BENEFITS)	(COST)	(BENEFITS)
1 1988	625.2	0.0	625.2	0.0	-625.2	625.20	0.00	625.20	0.00	625.20	0.00
2 1989	1458.8	0.0	1458.8	0.0	-1458.8	1430.06	0.00	1375.06	0.00	1323.18	0.00
3 1990	0.0	11.7	11.7	28.5	16.8	11.36	27.66	10.71	26.08	10.11	24.62
4 1991	0.0	11.7	11.7	43.5	31.8	11.24	41.80	10.40	38.65	9.63	35.79
5 1992	0.0	11.7	11.7	57.0	45.3	11.13	54.23	10.09	49.17	9.17	44.66
6 1993	0.0	11.7	11.7	57.0	45.3	11.02	53.70	9.80	47.74	8.73	42.53
7 1994	0.0	11.7	11.7	57.0	45.3	10.91	53.17	9.51	46.35	8.32	40.51
8 1995	0.0	0.7	0.7	57.0	56.3	0.65	52.64	0.55	45.00	0.47	38.58
9 1996	0.0	0.7	0.7	57.0	56.3	0.64	52.12	0.54	43.69	0.45	36.74
10 1997	0.0	0.7	0.7	57.0	56.3	0.63	51.60	0.52	42.41	0.43	34.99
11 1998	0.0	0.7	0.7	57.0	56.3	0.63	51.09	0.51	41.18	0.41	33.33
12 1999	0.0	0.7	0.7	57.0	56.3	0.62	50.59	0.49	39.98	0.39	31.74
13 2000	0.0	0.7	0.7	57.0	56.3	0.62	50.08	0.48	38.81	0.37	30.23
14 2001	0.0	0.7	0.7	57.0	56.3	0.61	49.59	0.46	37.68	0.35	28.79
15 2002	0.0	0.7	0.7	57.0	56.3	0.60	49.10	0.45	36.59	0.34	27.42
16 2003	0.0	0.7	0.7	57.0	56.3	0.60	48.61	0.44	35.52	0.32	26.11
17 2004	0.0	0.7	0.7	57.0	56.3	0.59	48.13	0.42	34.49	0.31	24.87
18 2005	0.0	0.7	0.7	57.0	56.3	0.59	47.65	0.41	33.48	0.29	23.69
19 2006	0.0	0.7	0.7	57.0	56.3	0.58	47.18	0.40	32.51	0.28	22.56
20 2007	0.0	0.7	0.7	57.0	56.3	0.57	46.72	0.39	31.56	0.26	21.48
21 2008	0.0	0.7	0.7	57.0	56.3	0.57	46.25	0.38	30.64	0.25	20.46
22 2009	0.0	0.7	0.7	57.0	56.3	0.56	45.79	0.37	29.75	0.24	19.49
23 2010	0.0	68.1	68.1	57.0	-11.1	54.17	45.34	34.51	28.88	22.17	18.56
24 2011	0.0	0.7	0.7	57.0	56.3	0.55	44.89	0.34	28.04	0.22	17.67
25 2012	0.0	0.7	0.7	57.0	56.3	0.55	44.45	0.33	27.22	0.21	16.83
26 2013	0.0	0.7	0.7	57.0	56.3	0.54	44.01	0.32	26.43	0.20	16.03
27 2014	0.0	0.7	0.7	57.0	56.3	0.54	43.57	0.32	25.66	0.19	15.27
28 2015	0.0	0.7	0.7	57.0	56.3	0.53	43.14	0.31	24.91	0.18	14.54
29 2016	0.0	0.7	0.7	57.0	56.3	0.52	42.71	0.30	24.19	0.17	13.85
30 2017	0.0	0.7	0.7	57.0	56.3	0.52	42.29	0.29	23.48	0.16	13.19
31 2018	0.0	0.7	0.7	57.0	56.3	0.51	41.87	0.28	22.80	0.15	12.56
32 2019	0.0	0.7	0.7	57.0	56.3	0.51	41.46	0.27	22.14	0.15	11.96
33 2020	0.0	0.7	0.7	57.0	56.3	0.50	41.05	0.26	21.49	0.14	11.39
34 2021	0.0	0.7	0.7	57.0	56.3	0.50	40.64	0.26	20.87	0.13	10.85
35 2022	0.0	0.7	0.7	57.0	56.3	0.49	40.24	0.25	20.26	0.13	10.33
36 2023	0.0	0.7	0.7	57.0	56.3	0.49	39.84	0.24	19.67	0.12	9.84
37 2024	0.0	0.7	0.7	57.0	56.3	0.48	39.45	0.23	19.09	0.12	9.37
38 2025	0.0	0.7	0.7	57.0	56.3	0.48	39.06	0.23	18.54	0.11	8.93
39 2026	0.0	0.7	0.7	57.0	56.3	0.47	38.67	0.22	18.00	0.10	8.50
40 2027	0.0	0.7	0.7	57.0	56.3	0.47	38.29	0.21	17.47	0.10	8.10
TOTAL	2084.0	149.0	2233.0	2124.0	-109.0	2182.81	1718.68	2096.74	1170.42	1915.23	836.37

BENEFIT COST RATIO BY DISCOUNT RATE (B/C) = 0.79 (1%), 0.56 (3%), 0.44 (5%)
 INTERNAL RATE OF RETURN (IRR) = -1.0 %

(UNIT : 1 000 Z\$)

TABLE H-26(4) PROJECT COST AND BENEFITS / IV-4-10 MUNJANGANJA

YEAR	PROJECT COST		RETURN	PRESENT WORTH VALUE BY DISCOUNT RATE		5 % (BENEFITS)	5 % (COST)	5 % (BENEFITS)
	CAPITAL	O & M		TOTAL	1 % (BENEFITS)			
1 1988	730.8	0.0	-730.8	0.00	730.80	0.00	730.80	0.00
2 1989	1705.2	0.0	-1705.2	0.00	1607.31	0.00	1546.67	0.00
3 1990	0.0	12.0	56.5	66.49	10.98	66.49	10.37	59.17
4 1991	0.0	12.0	91.0	98.98	10.66	98.98	9.87	84.74
5 1992	0.0	12.0	125.0	130.35	10.35	130.35	9.40	107.34
6 1993	0.0	12.0	125.0	129.06	10.05	118.74	8.95	102.23
7 1994	0.0	12.0	125.0	127.78	9.76	111.39	8.53	97.36
8 1995	0.0	1.0	136.0	126.52	0.79	108.15	0.68	92.73
9 1996	0.0	1.0	136.0	125.27	0.77	105.00	0.64	88.31
10 1997	0.0	1.0	136.0	124.03	0.74	101.94	0.61	84.11
11 1998	0.0	1.0	136.0	122.80	0.72	98.97	0.58	80.10
12 1999	0.0	1.0	136.0	121.58	0.70	96.09	0.56	76.29
13 2000	0.0	1.0	136.0	120.38	0.68	93.29	0.53	72.65
14 2001	0.0	1.0	136.0	119.19	0.66	90.57	0.51	69.20
15 2002	0.0	1.0	136.0	118.01	0.64	87.94	0.48	65.90
16 2003	0.0	1.0	136.0	116.84	0.62	85.37	0.46	62.76
17 2004	0.0	1.0	136.0	115.68	0.61	82.89	0.44	59.77
18 2005	0.0	1.0	136.0	114.54	0.59	80.47	0.42	56.93
19 2006	0.0	1.0	136.0	113.40	0.57	78.13	0.40	54.22
20 2007	0.0	1.0	136.0	112.28	0.55	75.85	0.38	51.63
21 2008	0.0	1.0	136.0	111.17	0.54	73.65	0.36	49.18
22 2009	0.0	1.0	136.0	110.07	0.52	71.50	0.34	46.83
23 2010	0.0	181.0	-44.0	108.98	91.71	69.42	58.93	44.60
24 2011	0.0	1.0	136.0	107.90	0.49	67.40	0.31	42.48
25 2012	0.0	1.0	136.0	106.83	0.48	65.43	0.30	40.46
26 2013	0.0	1.0	136.0	105.77	0.46	63.53	0.28	38.53
27 2014	0.0	1.0	136.0	104.73	0.45	61.68	0.27	36.70
28 2015	0.0	1.0	136.0	103.69	0.44	59.88	0.26	34.95
29 2016	0.0	1.0	136.0	102.66	0.42	58.14	0.24	33.28
30 2017	0.0	1.0	136.0	101.65	0.41	56.44	0.23	31.70
31 2018	0.0	1.0	136.0	100.64	0.40	54.80	0.22	30.19
32 2019	0.0	1.0	136.0	99.64	0.39	53.20	0.21	28.75
33 2020	0.0	1.0	136.0	98.66	0.38	51.65	0.20	27.38
34 2021	0.0	1.0	136.0	97.68	0.37	50.15	0.19	26.08
35 2022	0.0	1.0	136.0	96.71	0.36	48.69	0.18	24.84
36 2023	0.0	1.0	136.0	95.76	0.35	47.27	0.17	23.65
37 2024	0.0	1.0	136.0	94.81	0.35	45.89	0.16	22.53
38 2025	0.0	1.0	136.0	93.87	0.33	44.56	0.16	21.46
39 2026	0.0	1.0	136.0	92.94	0.33	43.26	0.15	20.43
40 2027	0.0	1.0	136.0	92.02	0.31	42.00	0.14	19.46
TOTAL	2436.0	273.0	2594.5	419.36	2498.01	2811.72	4789.07	2008.94

BENEFIT COST RATIO BY DISCOUNT RATE (B/C) = 1.57 (1%), 1.13 (3%), 0.42 (5%)
INTERNAL RATE OF RETURN (IRR) = 3.8 %

TABLE H-26(5) PROJECT COST AND BENEFITS / V-3-3 MAGUDU

(UNIT : 1 000 Z\$)

YEAR	PROJECT COST		TOTAL	BENEFITS	RETURN	PRESENT WORTH VALUE BY DISCOUNT RATE		5 % (BENEFITS)	5 % (COST)	5 % (BENEFITS)
	CAPITAL	O & M				(BENEFITS)	(COST)			
1 1988	793.5	0.0	793.5	0.0	-793.5	793.50	0.00	793.50	793.50	0.00
2 1989	1851.5	0.0	1851.5	0.0	-1851.5	1815.02	0.00	1745.22	1679.37	0.00
3 1990	0.0	12.3	12.3	97.6	85.3	11.94	94.73	11.26	10.63	84.31
4 1991	0.0	12.3	12.3	146.4	134.1	11.82	140.69	10.93	10.12	120.44
5 1992	0.0	12.3	12.3	195.0	182.7	11.70	185.54	10.61	9.64	152.79
6 1993	0.0	12.3	12.3	195.0	182.7	11.59	183.70	10.30	9.18	145.51
7 1994	0.0	12.3	12.3	195.0	182.7	11.47	181.88	10.00	8.74	138.58
8 1995	0.0	1.1	1.1	195.0	193.9	1.02	180.08	0.87	0.74	131.98
9 1996	0.0	1.1	1.1	195.0	193.9	1.01	178.30	0.84	0.71	125.70
10 1997	0.0	1.1	1.1	195.0	193.9	1.00	176.53	0.82	0.68	119.71
11 1998	0.0	1.1	1.1	195.0	193.9	0.99	174.79	0.79	0.64	114.01
12 1999	0.0	1.1	1.1	195.0	193.9	0.98	173.06	0.77	0.61	108.58
13 2000	0.0	1.1	1.1	195.0	193.9	0.97	171.34	0.75	0.58	103.41
14 2001	0.0	1.1	1.1	195.0	193.9	0.96	169.65	0.73	0.56	98.49
15 2002	0.0	1.1	1.1	195.0	193.9	0.95	167.97	0.71	0.53	93.80
16 2003	0.0	1.1	1.1	195.0	193.9	0.94	166.30	0.69	0.50	89.33
17 2004	0.0	1.1	1.1	195.0	193.9	0.93	164.66	0.67	0.48	85.08
18 2005	0.0	1.1	1.1	195.0	193.9	0.92	163.03	0.65	0.46	81.03
19 2006	0.0	1.1	1.1	195.0	193.9	0.91	161.41	0.63	0.44	77.17
20 2007	0.0	1.1	1.1	195.0	193.9	0.90	159.82	0.61	0.41	73.49
21 2008	0.0	1.1	1.1	195.0	193.9	0.89	158.25	0.59	0.39	70.00
22 2009	0.0	1.1	1.1	195.0	193.9	0.88	156.67	0.57	0.38	66.66
23 2010	0.0	1.1	1.1	195.0	193.9	0.87	155.12	0.54	0.34	63.49
24 2011	0.0	1.1	1.1	195.0	193.9	0.86	153.58	0.53	0.32	60.46
25 2012	0.0	1.1	1.1	195.0	193.9	0.85	152.06	0.51	0.31	57.59
26 2013	0.0	1.1	1.1	195.0	193.9	0.84	150.55	0.50	0.29	54.84
27 2014	0.0	1.1	1.1	195.0	193.9	0.83	149.06	0.48	0.28	52.23
28 2015	0.0	1.1	1.1	195.0	193.9	0.82	147.59	0.47	0.27	49.74
29 2016	0.0	1.1	1.1	195.0	193.9	0.82	146.13	0.45	0.25	47.38
30 2017	0.0	1.1	1.1	195.0	193.9	0.81	144.68	0.44	0.24	45.12
31 2018	0.0	1.1	1.1	195.0	193.9	0.80	143.25	0.43	0.23	42.97
32 2019	0.0	1.1	1.1	195.0	193.9	0.80	141.83	0.41	0.22	40.93
33 2020	0.0	1.1	1.1	195.0	193.9	0.79	140.43	0.41	0.22	38.98
34 2021	0.0	1.1	1.1	195.0	193.9	0.78	139.04	0.40	0.21	37.12
35 2022	0.0	1.1	1.1	195.0	193.9	0.77	137.66	0.39	0.20	35.35
36 2023	0.0	1.1	1.1	195.0	193.9	0.77	136.30	0.38	0.19	33.67
37 2024	0.0	1.1	1.1	195.0	193.9	0.76	134.95	0.37	0.18	32.07
38 2025	0.0	1.1	1.1	195.0	193.9	0.75	133.61	0.36	0.17	30.54
39 2026	0.0	1.1	1.1	195.0	193.9	0.75	132.29	0.35	0.16	29.09
40 2027	0.0	1.1	1.1	195.0	193.9	0.74	130.98	0.34	0.16	27.70
TOTAL	2645.0	219.0	2864.0	7264.0	4400.0	2792.17	5877.45	2671.80	2573.14	2859.36

BENEFIT COST RATIO BY DISCOUNT RATE (B/C) = 2.10 (1%), 1.50 (3%), 1.11 (5%)
 INTERNAL RATE OF RETURN (IRR) = 5.8 %

(UNIT : 1 000 Z\$)

TABLE H-26(6) PROJECT COST AND BENEFITS / VII-1-12 MABVUTE

YEAR	PROJECT COST		TOTAL	BENEFITS	RETURN	PRESENT VALUE BY DISCOUNT RATE		WORTH	3 %		5 %
	CAPITAL	O & M				(BENEFITS)	(COST)		(BENEFITS)	(COST)	
1 1988	1262.1	0.0	1262.1	0.0	-1262.1	0.00	1262.10	1262.10	0.00	1262.10	0.00
2 1989	2944.9	0.0	2944.9	0.0	-2944.9	0.00	2886.88	2775.85	0.00	2671.12	0.00
3 1990	0.0	44.5	44.5	146.0	101.5	141.71	43.19	40.72	133.61	38.44	126.12
4 1991	0.0	44.5	44.5	219.0	174.5	210.46	42.76	39.54	194.58	36.61	180.17
5 1992	0.0	44.5	44.5	292.0	247.5	277.83	42.34	38.39	244.55	34.87	228.79
6 1993	0.0	44.5	44.5	292.0	247.5	275.08	41.92	37.27	244.55	33.21	217.90
7 1994	0.0	44.5	44.5	292.0	247.5	272.36	41.51	36.18	237.42	31.63	207.52
8 1995	0.0	33.7	33.7	292.0	258.3	269.66	31.12	26.60	230.51	22.81	197.64
9 1996	0.0	33.7	33.7	292.0	258.3	266.99	30.81	25.83	223.80	21.72	188.23
10 1997	0.0	33.7	33.7	292.0	258.3	264.35	30.51	25.08	217.28	20.69	179.26
11 1998	0.0	33.7	33.7	292.0	258.3	261.73	30.21	24.35	210.95	19.70	170.73
12 1999	0.0	33.7	33.7	292.0	258.3	259.14	29.91	23.64	204.80	18.77	162.60
13 2000	0.0	33.7	33.7	292.0	258.3	256.57	29.61	22.95	198.84	17.87	154.86
14 2001	0.0	33.7	33.7	292.0	258.3	254.03	29.32	22.28	193.05	17.02	147.48
15 2002	0.0	33.7	33.7	292.0	258.3	251.52	29.03	21.63	187.43	16.21	140.46
16 2003	0.0	33.7	33.7	292.0	258.3	249.03	28.74	21.00	181.97	15.44	133.77
17 2004	0.0	33.7	33.7	292.0	258.3	246.56	28.46	20.39	176.67	14.70	127.40
18 2005	0.0	33.7	33.7	292.0	258.3	244.12	28.17	19.82	171.52	14.00	121.33
19 2006	0.0	33.7	33.7	292.0	258.3	241.71	27.90	19.22	166.53	13.34	115.56
20 2007	0.0	33.7	33.7	292.0	258.3	239.31	27.62	18.66	161.68	12.70	110.05
21 2008	0.0	33.7	33.7	292.0	258.3	236.94	27.35	18.12	156.97	12.10	104.81
22 2009	0.0	33.7	33.7	292.0	258.3	234.60	27.08	17.59	152.40	11.52	99.82
23 2010	0.0	694.7	694.7	292.0	-402.7	232.28	552.61	352.01	147.96	226.18	95.07
24 2011	0.0	33.7	33.7	292.0	258.3	229.98	26.54	16.58	143.65	10.45	90.54
25 2012	0.0	33.7	33.7	292.0	258.3	227.70	26.28	16.10	139.46	9.95	86.23
26 2013	0.0	33.7	33.7	292.0	258.3	225.45	26.02	15.63	135.40	9.48	82.12
27 2014	0.0	33.7	33.7	292.0	258.3	223.21	25.76	15.17	131.46	9.03	78.21
28 2015	0.0	33.7	33.7	292.0	258.3	221.00	25.51	14.73	127.63	8.60	74.49
29 2016	0.0	33.7	33.7	292.0	258.3	218.82	25.25	14.30	123.91	8.19	70.94
30 2017	0.0	33.7	33.7	292.0	258.3	216.65	25.00	13.88	120.30	7.80	67.56
31 2018	0.0	33.7	33.7	292.0	258.3	214.51	24.76	13.48	116.80	7.43	64.35
32 2019	0.0	33.7	33.7	292.0	258.3	212.38	24.51	13.09	113.40	7.07	61.28
33 2020	0.0	33.7	33.7	292.0	258.3	210.28	24.27	12.71	110.09	6.74	58.36
34 2021	0.0	33.7	33.7	292.0	258.3	208.20	24.03	12.34	106.89	6.42	55.59
35 2022	0.0	33.7	33.7	292.0	258.3	206.14	23.79	11.98	103.77	6.11	52.94
36 2023	0.0	33.7	33.7	292.0	258.3	204.10	23.55	11.63	100.75	5.82	50.42
37 2024	0.0	33.7	33.7	292.0	258.3	202.08	23.32	11.29	97.82	5.54	48.02
38 2025	0.0	33.7	33.7	292.0	258.3	200.07	23.09	10.96	94.97	5.28	45.73
39 2026	0.0	33.7	33.7	292.0	258.3	198.09	22.86	10.64	92.20	5.03	43.55
40 2027	0.0	33.7	33.7	292.0	258.3	196.13	22.64	10.33	89.52	4.79	41.48
TOTAL	4207.0	1995.6	6202.6	10877.0	4674.4	8800.75	5766.32	5134.00	5992.40	9380.84	4281.40

BENEFIT COST RATIO BY DISCOUNT RATE (B/C) = 1.53 (1%), 1.17 (3%), 0.46 (5%)
INTERNAL RATE OF RETURN (IRR) = 4.2 %

Table H-27 Water Costs for Medium Size Dam Projects

unit: * thousandZ\$ ** Z\$/year

Site No.	I-2-1	II-1-6	II-2-1	IV-4-10	V-3-3	VII-1-12
Reservoir Yield (10% risk)	757 000m ³	642 000m ³	313 000m ³	659 000m ³	1 012 000m ³	1 298 000m ³
Total Yield during Project Life	28.77 × 10 ⁶ m ³	24.40 × 10 ⁶ m ³	11.89 × 10 ⁶ m ³	25.04 × 10 ⁶ m ³	38.46 × 10 ⁶ m ³	49.32 × 10 ⁶ m ³
Project Cost (Without Price Esc.*)	4 349	4 407	3 168	3 839	4 220	5 971
O.M. Cost & Replacement*	1 031	1 260	209	381	306	2 849
Total Cost during Project Life*	5 380	5 667	3 377	4 220	4 526	8 820
Financial Cost for Water Z\$/m ³	*** 0.19	0.23	0.28	0.17	0.12	0.18
Economic Project Cost*	2 749	3 139	2 084	2 436	2 645	4 207
Economic O.M. Cost etc.*	737	949	149	273	219	1 995
Total Economic Cost*	3 486	4 088	2 233	2 709	2 864	6 202
Economic Cost for Water Z\$/m ³	0.12	0.17	0.19	0.19	0.07	0.13
Reservoir Yield (20% risk)	1 114 000m ³	811 000m ³	431 000m ³	861 000m ³	1 272 000m ³	1 631 000m ³
Total Yield during Project Life	42.33 × 10 ⁶ m ³	30.82 × 10 ⁶ m ³	16.38 × 10 ⁶ m ³	32.72 × 10 ⁶ m ³	48.34 × 10 ⁶ m ³	61.99 × 10 ⁶ m ³
Project Cost (Without Price Esc.*)	4 883	4 759	3 334	4 192	4 541	6 658
O.M. Cost & Replacement*	1 037	1 375	211	384	310	3 150
Total Cost during Project Life*	5 920	6 134	3 545	4 576	4 851	9 808
Financial Cost for Water Z\$/m ³	*** 0.14	0.20	0.22	0.14	0.10	0.16
Economic Project Cost*	3 490	4 092	2 236	2 710	2 846	6 202
Economic O.M. Cost etc.*	280	330	86	136	177	733
Total Economic Cost*	3 770	4 422	2 322	2 846	3 041	6 935
Economic Cost for Water Z\$/m ³	0.09	0.14	0.14	0.09	0.06	0.11
Financial Cost per Plotholder**at 10%	**** 391	430	585	333	233	329
Ditto **at 20%	**** 282	364	435	266	193	284

*** Water Cost for the existing small irrigation schemes ranges Z\$0.12~0.17 on a replacement cost basis.

**** Water charge is imposed at the rate of Z\$145 per 1 ha per annum, equivalent to Z\$119 (economic cost).

Table H-28 PROJECT COST(under 20% risk)
(unit:1,000z\$)

Description	MUSAVEREMA (I-2-1)			CHINYAMATUMWA (II-1-6)			MASHOKO (II-2-1)			MUNJANGANJA (IV-4-10)			MAGUDU (V-3-3)			MABUTE (VII-1-12)			
	F/C	L/C	Total	F/C	L/C	Total	F/C	L/C	Total	F/C	L/C	Total	F/C	L/C	Total	F/C	L/C	Total	
1. Construction Cost																			
(A) MEWRD																			
Dam works	1 165	966	2 131	966	768	1 734	1 064	912	1 976	1 079	926	2 005	960	831	1 791	1 106	843	1 949	
Water conveyance works	198	196	394	937	152	1 089	43	41	84	158	159	317	300	290	590	1 353	189	1 542	
(Sub-Total)	1 363	1 162	2 525	1 903	920	2 823	1 107	953	2 060	1 237	1 085	2 322	1 260	1 121	2 381	2 459	1 032	3 491	
(B) AGRITEX																			
Field Consolidation works	713	694	1 407	499	527	1 026	253	269	522	534	493	1 027	633	661	1 294	993	1 042	2 035	
Total (A+B)	2 076	1 856	3 932	2 402	1 447	3 849	1 360	1 222	2 582	1 771	1 578	3 349	1 893	1 782	3 675	3 452	2 074	5 526	
2. Engineering and Administration cost	227	280	507	205	272	477	209	240	449	203	259	462	197	256	453	210	317	527	
3. Total (1+2)	2 303	2 136	4 439	2 607	1 719	4 326	1 569	1 462	3 031	1 974	1 837	3 811	2 090	2 038	4 128	3 662	2 391	6 053	
4. Physical Contingency (10%)	230	214	444	261	172	433	157	146	303	197	184	381	209	204	413	366	239	605	
5. Total (3+4)	2 533	2 350	4 883	2 868	1 891	4 759	1 726	1 608	3 334	2 171	2 021	4 192	2 299	2 242	4 541	4 028	2 630	6 658	
6. Price Contingency (43% of L/C for 3years)	-	1 011	1 011	-	813	813	-	691	691	-	869	869	-	964	964	-	1 131	1 131	
7. Grand total	2 533	3 361	5 894	2 868	2 704	5 572	1 726	2 299	4 025	2 171	2 890	5 061	2 299	3 206	5 505	4 028	3 761	7 789	

