

APPENDIX-6

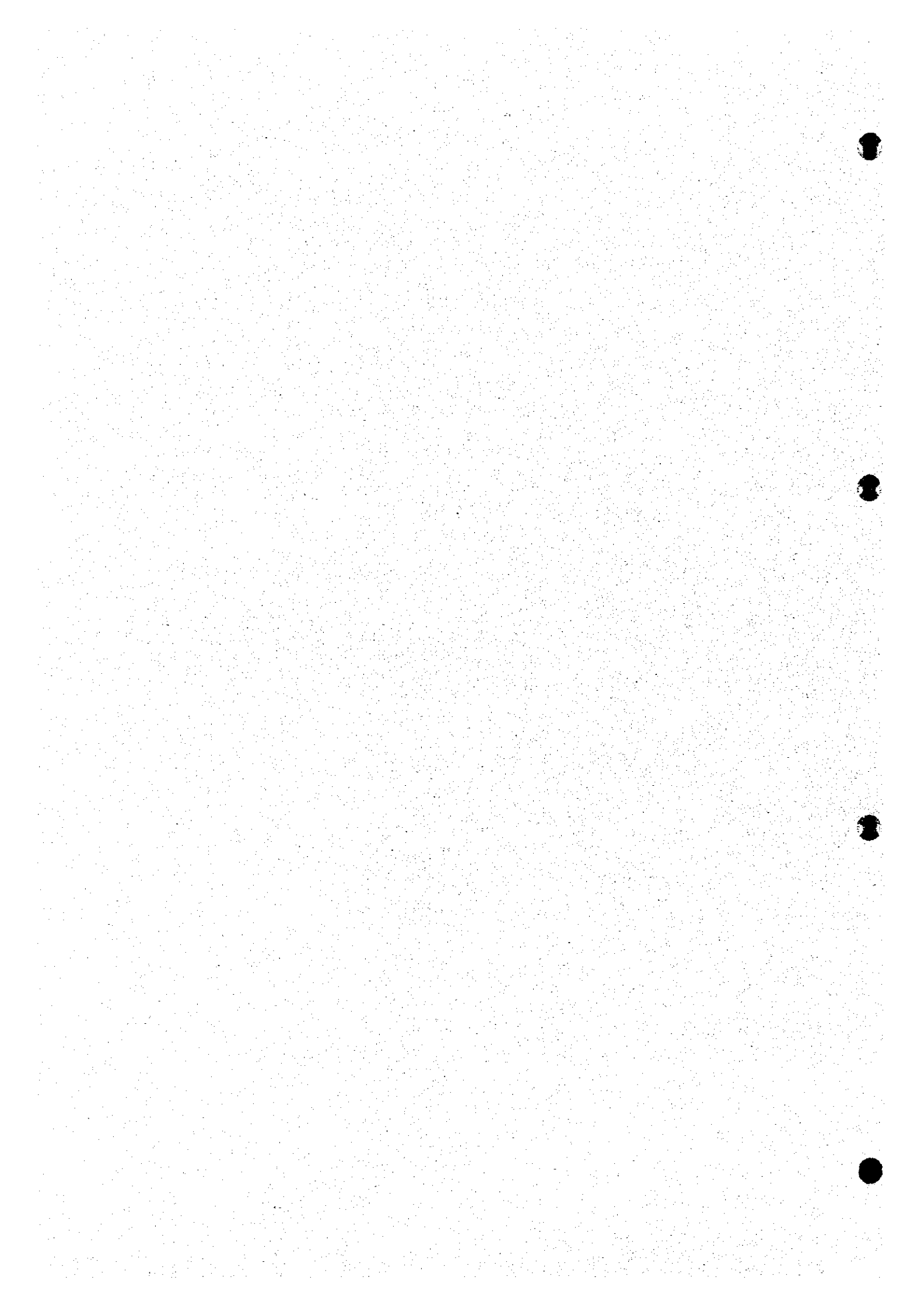


Table 8.1(1) CONSTRUCTION COST OF TANZANIA WATER SUPPLY PROJECT : YEAR 2001

No.	Cost Item	Unit	Q'ty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1.	New Constuction and Reconstruction (Domestic Water Facilities)							
	(1) Hanang District							
	1) Level-1-1 System	place	45	4,763,185	19,908	214,343,325	895,860	
	2) Level-2 System	place	1	21,901,481	106,732	21,901,481	106,732	
	① Garawja Village							
	(2) Singida Rural District							
	1) Level-1-1 System	place	106	4,763,185	19,908	504,897,610	2,110,248	
	2) Level-1-4 System	place	4	16,914,725	124,413	67,658,900	497,652	
	3) Level-2 System							
	① Mang'onyi Village	place	1	22,231,337	109,405	22,231,337	109,405	
	② Mwau Village	place	1	23,425,481	125,932	23,425,481	125,932	
	③ Madamigha Village	place	1	22,993,337	119,005	22,993,337	119,005	
	④ Itaja Village	place	1	22,511,081	114,412	22,511,081	114,412	
	(3) Manyoni District							
	1) Level-1-1 System	place	59	4,763,185	19,908	281,027,915	1,174,572	
	2) Level-1-4 System	place	3	16,914,725	124,413	50,744,175	373,239	
	3) Level-2 System							
	① Kipondoda Village	place	1	21,256,710	103,690	21,256,710	103,690	
	② Itigi Mjini Village	place	1	21,256,710	103,690	21,256,710	103,690	
	(4) Igunga District							
	1) Level-1-1 System	place	54	4,763,185	19,908	257,211,990	1,075,032	
	2) Level-2 System							
	① Chomachankola Village	place	1	22,282,481	111,532	22,282,481	111,532	
	② Ndembezi Village	place	1	22,815,881	118,252	22,815,881	118,252	
	Sub Total					1,576,558,414	7,139,253	

No.	Cost Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
2.	Rehabilitation							
	(1) Hanang District							
	1) Level-1-1 System	place	1	700	2,370	700	2,370	
	2) Level-1-2 System	place	13	76,921	970	999,973	12,610	
	3) Level-1-3 System	place	0	0	435	0	0	
	4) Level-2 System (exist.)	place	0	1,202,920	18,857	0	0	
	(2) Singida Rural District							
	1) Level-1-1 System	place	10	700	2,370	7,000	23,700	
	2) Level-1-2 System	place	3	76,921	970	230,763	2,910	
	3) Level-1-3 System	place	0	0	435	0	0	
	4) Level-2 System (exist.)	place	0	1,202,920	18,857	0	0	
	(3) Manyoni District							
	1) Level-1-1 System	place	6	700	2,370	4,200	14,220	
	2) Level-1-2 System	place	0	76,921	970	0	0	
	3) Level-1-3 System	place	2	0	435	0	870	
	4) Level-2 System (exist.)	place	1	1,140,000	28,500	1,140,000	28,500	
(4) Igunga District								
1) Level-1-1 System	place	0	700	2,370	0	0		
2) Level-1-2 System	place	0	76,921	970	0	0		
3) Level-1-3 System	place	0	0	435	0	0		
4) Level-2 System (exist.)	place	0	1,202,920	18,857	0	0		
	Sub Total					2,382,636	85,180	
3.	Charco							
	(1) Hanang District	place	12	23,962,363	21,860	287,548,356	262,320	
	(2) Singida Rural District	place	24	23,962,363	21,860	575,096,712	524,640	
	(3) Manyoni District	place	17	23,962,363	21,860	407,360,171	371,620	
	(4) Igunga District	place	11	23,962,363	21,860	263,585,993	240,460	
		Sub Total					1,533,591,232	1,399,040
Total Construction Cost						3,112,532,282	8,623,473	

※ L-1: Borehole+handpump (L-1-1 : deep well, L-1-2 : shallow well)

L-1-3: Borehole+windmill pump+1 D.P.

L-1-4: Borehole+ Sumbersible Pump/Solar Panel+Some D.P.

L-2: Borehole+Pump/Engine+Distribution pipe+Some D.P.

Table 8.1(2) CONSTRUCTION COST OF TANZANIA WATER SUPPLY PROJECT : YEAR 2006

No.	Cost Item	Unit	Q'ty	Unit Rate		Amount		Remarks	
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)		
1.	New Constuction and Reconstruction (Domestic Water Facilities)								
	(1) Hanang District								
		1) Level-1-1 System	place	100	4,763,185	19,908	476,318,500	1,990,800	
		2) Level-1-2 System	place	28	1,778,021	970	49,784,588	27,160	
	(2) Singida Rural District								
		1) Level-1-1 System	place	317	4,763,185	19,908	1,509,929,645	6,310,836	
		2) Level-1-2 System	place	28	1,778,021	970	49,784,588	27,160	
		3) Level-1-4 System	place	7	16,914,725	124,413	118,403,075	870,891	
		4) Level-2 System	place	1	23,348,765	122,742	23,348,765	122,742	
		(1) Ihanja Village	place	1	21,307,854	105,817	21,307,854	105,817	
	(3) Manyoni District								
		1) Level-1-1 System	place	149	4,763,185	19,908	709,714,565	2,966,292	
		2) Level-1-2 System	place	14	1,778,021	970	24,892,294	13,580	
		3) Level-1-4 System	place	4	16,914,725	124,413	67,658,900	497,652	
	(4) Igunga District								
		1) Level-1-1 System	place	127	4,763,185	19,908	604,924,495	2,528,316	
	2) Level-1-2 System	place	8	1,778,021	970	14,224,168	7,760		
	Sub Total					3,670,291,437	15,469,006		
2.	Rehabilitation								
	(1) Hanang District								
		1) Level-1-1 System	place	46	700	2,370	32,200	109,020	
		2) Level-1-2 System	place	0	76,921	970	0	0	
		3) Level-1-3 System	place	0	0	435	0	0	
		4) Level-2 System (exist.)	place	0	1,202,920	18,857	0	0	
	(1) Garawja Village	place	1	1,202,920	18,857	1,202,920	18,857		
(2) Singida Rural District									
	1) Level-1-1 System	place	139	700	2,370	97,300	329,430		
	2) Level-1-2 System	place	0	76,921	970	0	0		

No.	Cost Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
	3) Level-1-3 System	place	4	0	435	0	1,740	
	4) Level-1-4 System	place	4	3,660,000	84,500	14,640,000	338,000	
	5) Level-2 System (exist.)	place	3	1,202,920	18,857	3,608,760	56,571	
	① Mang'onyi Village	place	1	1,202,920	18,857	1,202,920	18,857	
	② Mwavu Village	place	1	1,202,920	18,857	1,202,920	18,857	
	③ Madamigha Village	place	1	1,202,920	18,857	1,202,920	18,857	
	④ Itaja Village	place	1	1,202,920	18,857	1,202,920	18,857	
	(3) Manyoni District							
	1) Level-1-1 System	place	76	700	2,370	53,200	180,120	
	2) Level-1-2 System	place	0	76,921	970	0	0	
	3) Level-1-3 System	place	25	0	435	0	10,875	
	4) Level-1-4 System	place	3	3,660,000	84,500	10,980,000	253,500	
	5) Level-2 System (exist.)	place	9	1,202,920	18,857	10,826,280	169,713	
	① Kipondoda Village	place	1	1,202,920	18,857	1,202,920	18,857	
	② Itigi Mjini Village	place	1	1,202,920	18,857	1,202,920	18,857	
	③ Manyoni Mjini Village	place	1	1,140,000	28,500	1,140,000	28,500	
	(4) Igunga District							
	1) Level-1-1 System	place	54	700	2,370	37,800	127,980	
	2) Level-1-2 System	place	0	76,921	970	0	0	
	3) Level-1-3 System	place	0	0	435	0	0	
	4) Level-2 System (exist.)	place	2	1,202,920	18,857	2,405,840	37,714	
	① Chomachankola Village	place	1	1,202,920	18,857	1,202,920	18,857	
	② Ndembezi Village	place	1	1,202,920	18,857	1,202,920	18,857	
	Sub Total					54,647,660	1,812,876	
3.	Charco							
	(1) Hanang District	place	21	23,962,363	21,860	503,209,623	459,060	
	(2) Singida Rural District	place	48	23,962,363	21,860	1,150,193,424	1,049,280	
	(3) Manyoni District	place	36	23,962,363	21,860	862,645,068	786,960	
	(4) Igunga District	place	22	23,962,363	21,860	527,171,986	480,920	
	Sub Total					3,043,220,101	2,776,220	
	Total Construction Cost					6,768,159,198	20,058,102	

※ L-1: Borehole+handpump (L-1-1 : deep well, L-1-2 : shallow well)

L-1-3: Borehole+windmill pump+1 D.P.

L-1-4: Borehole+ Sumbersible Pump/Solar Panel+Some D.P.

L-2: Borehole+Pump/Engine+Distribution pipe+Some D.P.

Table 8.1(3) CONSTRUCTION COST OF TANZANIA WATER SUPPLY PROJECT : YEAR 2016

No.	Cost Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1.	New Constuction and Reconstruction (Domestic Water Facilities)							
	(1) Hanang District							
	1) Level-1-1 System	place	340	4,763,185	19,908	1,619,482,900	6,768,720	
	2) Level-1-2 System	place	14	1,778,021	970	24,892,294	13,580	
	3) Level-1-3 System	place	0	7,191,225	52,203	0	0	
	4) Level-2 System	place	1	23,941,145	128,970	23,941,145	128,970	
	① Masakta Village							
	(2) Singida Rural District							
	1) Level-1-1 System	place	1,273	4,763,185	19,908	6,063,534,505	25,342,884	
	2) Level-1-2 System	place	14	1,778,021	970	24,892,294	13,580	
	3) Level-1-3 System	place	4	7,191,225	52,203	28,764,900	208,812	
	4) Level-1-4 System	place	17	16,914,725	124,413	287,550,325	2,115,021	
	(3) Manyoni District							
	1) Level-1-1 System	place	572	4,763,185	19,908	2,724,541,820	11,387,376	
	2) Level-1-2 System	place	7	1,778,021	970	12,446,147	6,790	
	3) Level-1-3 System	place	25	7,191,225	52,203	179,780,625	1,305,075	
	4) Level-1-4 System	place	7	16,914,725	124,413	118,403,075	870,891	
	5) Level-2 System	place	0	21,256,710	103,690	0	0	
	① Kipondoda Village	place	0	21,256,710	103,690	0	0	
	② Itigi Mjini Village	place	0	21,256,710	103,690	0	0	
	(4) Igunga District							
	1) Level-1-1 System	place	372	4,763,185	19,908	1,771,904,820	7,405,776	
	2) Level-1-2 System	place	4	1,778,021	970	7,112,084	3,880	
	3) Level-1-3 System	place	0	7,191,225	52,203	0	0	
	Sub Total					12,887,246,934	55,571,355	

No.	Cost Item	Unit	Q'ty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
2.	Rehabilitation							
	(1) Hanang District	place	145	700	2,370	101,500	343,650	
	1) Level-1-1 System	place	0	1,202,920	18,857	0	0	
	2) Level-2 System (exist.)	place	423	700	2,370	296,100	1,002,510	
	(2) Singida Rural District	place	7	3,660,000	84,500	25,620,000	591,500	
	1) Level-1-1 System	place	0	1,202,920	18,857	0	0	
	2) Level-1-4 System	place	1	1,202,920	18,857	1,202,920	18,857	
	3) Level-2 System (exist.)	place	1	1,202,920	18,857	1,202,920	18,857	
	(1) Ihanja Village	place	208	700	2,370	145,600	492,960	
	(2) Ngimu Village	place	0	1,202,920	18,857	0	0	
	(3) Manyoni District	place	4	3,660,000	84,500	14,640,000	338,000	
	1) Level-1-1 System	place	181	700	2,370	126,700	428,970	
	2) Level-2 System (exist.)	place	0	1,202,920	18,857	0	0	
	Sub Total					43,335,740	3,235,304	
3.	Charco							
	(1) Hanang District	place	46	23,962,363	21,860	1,102,268,698	1,005,560	
	(2) Singida Rural District	place	109	23,962,363	21,860	2,611,897,567	2,382,740	
	(3) Manyoni District	place	87	23,962,363	21,860	2,084,725,581	1,901,820	
	(4) Igunga District	place	30	23,962,363	21,860	718,870,890	655,800	
	Sub Total					6,517,762,736	5,945,920	
Total Construction Cost					19,448,345,410	64,752,579		

※ L-1: Borehole+handpump (L-1-1: deep well, L-1-2: shallow well)

L-1-3: Borehole+windmill pump+1 D.P.

L-1-4: Borehole+ Sumbersible Pump/Solar Panel+Some D.P.

L-2: Borehole+Pump/Engine+Distribution pipe+Some D.P.

Table 8.2.1
COST OF LEVEL-1-1 SYSTEM (Per One Location)

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Construction of borehole	set	1	3,538,000	14,340	3,538,000	14,340	Φ 100mm
2	Dry Hole	place	0.25	3,385,500	12,950	846,375	3,238	
3	Headworks	set	1	311,100	0	311,100	0	
4	Supply of handpump	set	1	0	2,160	0	2,160	India MK2
5	Installation of handpump above	LS	1	67,710	170	67,710	170	(above cost)x13%
	Total					4,763,185	19,908	

Table 8.2.2
COST OF LEVEL-1-2 SYSTEM (Per One Location)

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Construction of dug well	set	1	1,390,000	0	1,390,000	0	Φ 1000mm
2	Headworks	set	1	311,100	0	311,100	0	
3	Supply of handpump	set	1	0	970	0	970	NIRA AF 85
4	Installation of handpump above	LS	1	76,921	0	76,921	0	(above cost)x13%
	Total					1,778,021	970	

Table 8.2.3
COST OF LEVEL-1-3 SYSTEM (Per One Location)

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Construction of borehole	set	1	4,690,900	23,160	4,690,900	23,160	Φ 150mm
2	Dry hole	place	0.25	3,714,900	14,210	928,725	3,553	
3	Construction of windmill	set	1	366,500	25,100	366,500	25,100	H: 9m
4	Supply and Laying of delivery pipe	m	15	1,200	24	18,000	360	G.S. pipe (Φ 2")
5	Construction of water tank	set	1	984,000	0	984,000	0	V:4m3
6	Supply and Laying of distribution pipe	m	10	310	3	3,100	30	Polythene Φ 1 1/2"
7	Construction of public tap	place	1	200,000	0	200,000	0	
	Total					7,191,225	52,203	

Table 8.2.4
COST OF LEVEL-1-4 SOLAR SYSTEM (Per One Location)

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Construction of borehole	set	1	4,690,900	23,160	4,690,900	23,160	Φ 150mm
2	Dry hole	place	0.25	3,714,900	14,210	928,725	3,553	
3	Supply of solar panel & submersible pump	set	1	0	75,500	0	75,500	
4	Installation of above	LS	1	3,660,000	9,000	3,660,000	9,000	
5	Supply and Laying of delivery pipe G.S. pipe (Φ 3")	m	25	1,200	24	30,000	600	
6	Construction of water tank	set	1	3,600,000	0	3,600,000	0	V:30m3
7	Construction of public tap	place	2	200,000	0	400,000	0	
8	Construction of soak-way	place	1	311,100	0	311,100	0	
9	Fence	m	90	36,600	140	3,294,000	12,600	
	Total					16,914,725	124,413	

Table 8.2.5-1
COST OF LEVEL-2 SYSTEM

Hanang District, Garawja Village

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Site Preparation	m2	25,884	10	0	258,840	0	
2	Construction of borehole	set	1	4,690,900	23,160	4,690,900	23,160	Φ 150mm
3	Dry Hole	place	0.25	3,714,900	14,210	928,725	3,553	
4	Supply of borehole pump	set	1	0	8,360	0	8,360	MONO-640
5	Supply of engine	set	1	0	7,540	0	7,540	LISTER-ST2
6	Installation of 2 and 3 above	LS	1	1,202,920	2,957	1,202,920	2,957	(above cost)x31%
7	Construction of pump house	LS	1	1,600,000	0	1,600,000	0	
8	Supply and Laying of delivery pipe							
	G.S. pipe (Φ 3")	m	100	1,200	24	120,000	2,400	class-c
	PVC pipe (Φ 3")	m	1,400	610	8	854,000	11,200	20% of above
	Accessories	LS	1	194,800	2,720	194,800	2,720	
	Sub total					1,168,800	16,320	
9	Construction of water tank	set	1	6,000,000	0	6,000,000	0	V:90m3
10	Supply and Laying of distribution pipe							
	PVC pipe (Φ 4")	m	864	810	9	699,840	7,776	class-c
	PVC pipe (Φ 3")	m	1,728	610	8	1,054,080	13,824	class-c
	Polythene pipe (Φ 2")	m	2,160	410	4	885,600	8,640	class-c
	Polythene pipe (Φ 1 1/2")	m	2,376	310	3	736,560	7,128	class-c
	Accessories	LS	1	675,216	7,474	675,216	7,474	20% of above
	Sub total					4,051,296	44,842	
11	Construction of public tap	place	10	200,000	0	2,000,000	0	
	Total					21,901,481	106,732	

Table 8.2.5-2

Hanang District, Masakta Village

No.	Item	Unit	Qty	Unit Rate		F.C.(US\$)	Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)		L.C.(Tsh)	F.C.(US\$)	
1	Site Preparation	m2	35,700	10	0	0	357,000	0	
2	Construction of borehole	set	1	4,690,900	23,160	23,160	4,690,900	23,160	Φ 150mm
3	Dry Hole	place	0.25	3,714,900	14,210	14,210	928,725	3,553	
4	Supply of borehole pump	set	1	0	8,360	8,360	0	8,360	MONO-640
5	Supply of engine	set	1	0	7,540	7,540	0	7,540	LISTER-ST2
6	Installation of 2 and 3 above	LS	1	1,202,920	2,957	2,957	1,202,920	2,957	(above cost)x31%
7	Construction of pump house	LS	1	1,600,000	0	0	1,600,000	0	
8	Supply and Laying of delivery pipe G.S. pipe (φ 3") PVC pipe (φ 3") Accessories Sub total	m m LS	100 1,900 1	1,200 610 255,800	24 8 3,520	24 8 3,520	120,000 1,159,000 255,800	2,400 15,200 3,520	class-c 20% of above
9	Construction of water tank	set	1	6,000,000	0	0	6,000,000	0	V:90m3
10	Supply and Laying of distribution pipe PVC pipe (φ 4") PVC pipe (φ 3") Polythene pipe (φ 2") Polythene pipe (φ 1 1/2") Accessories Sub total	m m m m LS	1,200 2,400 3,000 3,300 1	810 610 410 310 937,800	9 8 4 3 10,380	9 8 4 3 10,380	972,000 1,464,000 1,230,000 1,023,000 937,800	10,800 19,200 12,000 9,900 10,380	class-c class-c class-c class-c 20% of above
11	Construction of public tap	place	10	200,000			2,000,000	0	
	Total						23,941,145	128,970	

Table 8.2.5-3

Singida Rural District, Mang'onyi Village

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Site Preparation	m2	27,948	10	0	279,480	0	
2	Construction of borehole	set	1	4,690,900	23,160	4,690,900	23,160	Φ 150mm
3	Dry Hole	place	0.25	3,714,900	14,210	928,725	3,553	
4	Supply of borehole pump	set	1	0	8,360	0	8,360	MONO-640
5	Supply of engine	set	1	0	7,540	0	7,540	LISTER-ST2
6	Installation of 2 and 3 above	LS	1	1,202,920	2,957	1,202,920	2,957	(above cost)x31%
7	Construction of pump house	LS	1	1,600,000	0	1,600,000	0	
8	Supply and Laying of delivery pipe							
	G.S. pipe (Φ 3")	m	100	1,200	24	120,000	2,400	class-c
	PVC pipe (Φ 3")	m	900	610	8	549,000	7,200	class-c
	Accessories	LS	1	133,800	1,920	133,800	1,920	20% of above
	Sub total					802,800	11,520	
9	Construction of water tank	set	1	6,000,000	0	6,000,000	0	V:90m3
10	Supply and Laying of distribution pipe							
	PVC pipe (Φ 4")	m	1,008	810	9	816,480	9,072	class-c
	PVC pipe (Φ 3")	m	2,016	610	8	1,229,760	16,128	class-c
	Polythene pipe (Φ 2")	m	2,520	410	4	1,033,200	10,080	class-c
	Polythene pipe (Φ 1 1/2")	m	2,772	310	3	859,320	8,316	class-c
	Accessories	LS	1	787,752	8,719	787,752	8,719	20% of above
	Sub total					4,726,512	52,315	
11	Construction of public tap	place	10	200,000	0	2,000,000	0	
	Total					22,231,337	109,405	

Table 8.2.5-4

Singida Rural District, Mwau Village

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Site Preparation	m2	31,884	10	0	318,840	0	
2	Construction of borehole	set	1	4,690,900	23,160	4,690,900	23,160	Φ150mm
3	Dry Hole	place	0.25	3,714,900	14,210	928,725	3,553	
4	Supply of borehole pump	set	1	0	8,360	0	8,360	MONO-640
5	Supply of engine	set	1	0	7,540	0	7,540	LISTER-ST2
6	Installation of 2 and 3 above	LS	1	1,202,920	2,957	1,202,920	2,957	(above cost)x31%
7	Construction of pump house	LS	1	1,600,000	0	1,600,000	0	
8	Supply and Laying of delivery pipe							
	G.S. pipe (φ 3")	m	100	1,200	24	120,000	2,400	class-c
	PVC pipe (φ 3")	m	3,400	610	8	2,074,000	27,200	20% of above
	Accessories	LS	1	438,800	5,920	438,800	5,920	
	Sub total					2,632,800	35,520	
9	Construction of water tank	set	1	6,000,000	0	6,000,000	0	V:90m3
10	Supply and Laying of distribution pipe							
	PVC pipe (φ 4")	m	864	810	9	699,840	7,776	class-c
	PVC pipe (φ 3")	m	1,728	610	8	1,054,080	13,824	class-c
	Polythene pipe (φ 2")	m	2,160	410	4	885,600	8,640	class-c
	Polythene pipe (φ 1 1/2")	m	2,376	310	3	736,560	7,128	class-c
	Accessories	LS	1	675,216	7,474	675,216	7,474	20% of above
	Sub total					4,051,296	44,842	
11	Construction of public tap	place	10	200,000	0	2,000,000	0	
	Total					23,425,481	125,932	

Table 8.2.5-5

Singda Rural District, Madamigha Village

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Site Preparation	m2	30,948	10	0	309,480	0	
2	Construction of borehole	set	1	4,690,900	23,160	4,690,900	23,160	Φ 150mm
3	Dry Hole	place	0.25	3,714,900	14,210	928,725	3,553	
4	Supply of borehole pump	set	1	0	8,360	0	8,360	MONO-640
5	Supply of engine	set	1	0	7,540	0	7,540	LISTER-ST2
6	Installation of 2 and 3 above	LS	1	1,202,920	2,957	1,202,920	2,957	(above cost)x31%
7	Construction of pump house	LS	1	1,600,000	0	1,600,000	0	
8	Supply and Laying of delivery pipe							
	G.S. pipe (Φ 3")	m	100	1,200	24	120,000	2,400	
	PVC pipe (Φ 3")	m	1,900	610	8	1,159,000	15,200	class-c
	Accessories	LS	1	255,800	3,520	255,800	3,520	20% of above
	Sub total					1,534,800	21,120	
9	Construction of water tank	set	1	6,000,000	0	6,000,000	0	V:90m3
10	Supply and Laying of distribution pipe							
	PVC pipe (Φ 4")	m	1,008	810	9	816,480	9,072	class-c
	PVC pipe (Φ 3")	m	2,016	610	8	1,229,760	16,128	class-c
	Polythene pipe (Φ 2")	m	2,520	410	4	1,033,200	10,080	class-c
	Polythene pipe (Φ 1 1/2")	m	2,772	310	3	859,320	8,316	class-c
	Accessories	LS	1	787,752	8,719	787,752	8,719	20% of above
	Sub total					4,726,512	52,315	
11	Construction of public tap	place	10	200,000	0	2,000,000	0	
	Total					22,993,337	119,005	

Table 8.2.5-6

Singida Rural District, Itaja Village

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Site Preparation	m2	28,284	10	0	282,840	0	
2	Construction of borehole	set	1	4,690,900	23,160	4,690,900	23,160	Φ 150mm
3	Dry Hole	place	0.25	3,714,900	14,210	928,725	3,553	
4	Supply of borehole pump	set	1	0	8,360	0	8,360	MONO-640
5	Supply of engine	set	1	0	7,540	0	7,540	LISTER-ST2
6	Installation of 2 and 3 above	LS	1	1,202,920	2,957	1,202,920	2,957	(above cost)x31%
7	Construction of pump house	LS	1	1,600,000	0	1,600,000	0	
8	Supply and Laying of delivery pipe							
	G.S. pipe (Φ 3")	m	100	1,200	24	120,000	2,400	
	PVC pipe (Φ 3")	m	2,200	610	8	1,342,000	17,600	class-c
	Accessories	LS	1	292,400	4,000	292,400	4,000	20% of above
	Sub total					1,754,400	24,000	
9	Construction of water tank	set	1	6,000,000	0	6,000,000	0	V:90m3
10	Supply and Laying of distribution pipe							
	PVC pipe (Φ 4")	m	864	810	9	699,840	7,776	class-c
	PVC pipe (Φ 3")	m	1,728	610	8	1,054,080	13,824	class-c
	Polythene pipe (Φ 2")	m	2,160	410	4	885,600	8,640	class-c
	Polythene pipe (Φ 1 1/2")	m	2,376	310	3	736,560	7,128	class-c
	Accessories	LS	1	675,216	7,474	675,216	7,474	20% of above
	Sub total					4,051,296	44,842	
11	Construction of public tap	place	10	200,000	0	2,000,000	0	
	Total					22,511,081	114,412	

Table 8.2.5-7
Singida Rural District, Ihanja Village

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Site Preparation	m2	32,730	10	0	327,300	0	
2	Construction of borehole	set	1	4,690,900	23,160	4,690,900	23,160	Φ 150mm
3	Dry Hole	place	0.25	3,714,900	14,210	928,725	3,553	
4	Supply of borehole pump	set	1	0	8,360	0	8,360	MONO-640
5	Supply of engine	set	1	0	7,540	0	7,540	LISTER-ST2
6	Installation of 2 and 3 above	LS	1	1,202,920	2,957	1,202,920	2,957	(above cost)x31%
7	Construction of pump house	LS	1	1,600,000	0	1,600,000	0	
8	Supply and Laying of delivery pipe G.S. pipe (Φ 3") PVC pipe (Φ 3") Accessories Sub total	m m LS	100 1,900 1	1,200 610 255,800	24 8 3,520	120,000 1,159,000 255,800	2,400 15,200 3,520	class-c class-c 20% of above
9	Construction of water tank	set	1	6,000,000	0	6,000,000	0	V:90m3
10	Supply and Laying of distribution pipe PVC pipe (Φ 4") PVC pipe (Φ 3") Polythene pipe (Φ 2") Polythene pipe (Φ 1 1/2") Accessories Sub total	m m m m LS	1,080 2,160 2,700 2,970 1	810 610 410 310 844,020	9 8 4 3 9,342	874,800 1,317,600 1,107,000 920,700 844,020	9,720 17,280 10,800 8,910 9,342	class-c class-c class-c class-c 20% of above
11	Construction of public tap	place	10	200,000	0	2,000,000	0	
	Total					23,348,765	122,742	

Table 8.2.5-8
Singida Rural District, Ngimu Village

No.	Item	Unit	Q'ty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Site Preparation	m2	27,384	10	0	273,840	0	
2	Construction of borehole	set	1	3,819,210	17,839	3,819,210	17,839	Φ 150mm
3	Dry Hole	place	0.25	3,303,150	12,635	825,788	3,159	
4	Supply of borehole pump	set	1	0	8,360	0	8,360	MONO-640
5	Supply of engine	set	1	0	7,540	0	7,540	LISTER-ST2
6	Installation of 2 and 3 above	LS	1	1,202,920	2,957	1,202,920	2,957	(above cost)x31%
7	Construction of pump house	LS	1	1,600,000	0	1,600,000	0	
8	Supply and Laying of delivery pipe G.S. pipe (Φ 3") PVC pipe (Φ 3") Accessories Sub total	m m LS	100 1,900 1	1,200 610 255,800	24 8 3,520	120,000 1,159,000 255,800 1,534,800	2,400 15,200 3,520 21,120	class-c 20% of above
9	Construction of water tank	set	1	6,000,000	0	6,000,000	0	V:90m3
10	Supply and Laying of distribution pipe PVC pipe (Φ 4") PVC pipe (Φ 3") Polythene pipe (Φ 2") Polythene pipe (Φ 1 1/2") Accessories Sub total	m m m m LS	864 1,728 2,160 2,376 1	810 610 410 310 675,216	9 8 4 3 7,474	699,840 1,054,080 885,600 736,560 675,216 4,051,296	7,776 13,824 8,640 7,128 7,474 44,842	class-c class-c class-c class-c 20% of above
11	Construction of public tap	place	10	200,000	0	2,000,000	0	
	Total					21,307,854	105,817	

Table 8.2.5-9

Manyoni District, Kipondoda Village

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Site Preparation	m2	27,948	10	0	279,480	0	
2	Construction of borehole	set	1	3,819,210	17,839	3,819,210	17,839	Φ 150mm
3	Dry Hole	place	0.25	3,303,150	12,635	825,788	3,159	
4	Supply of borehole pump	set	1	0	8,360	0	8,360	MONO-640
5	Supply of engine	set	1	0	7,540	0	7,540	LISTER-ST2
6	Installation of 2 and 3 above	LS	1	1,202,920	2,957	1,202,920	2,957	(above cost)x31%
7	Construction of pump house	LS	1	1,600,000	0	1,600,000	0	
8	Supply and Laying of delivery pipe G.S. pipe (Φ 3") PVC pipe (Φ 3") Accessories	m m LS	100 900 1	1,200 610 133,800	24 8 1,920	120,000 549,000 133,800	2,400 7,200 1,920	class-c class-c 20% of above
	Sub total					802,800	11,520	
9	Construction of water tank	set	1	6,000,000	0	6,000,000	0	V:90m3
10	Supply and Laying of distribution pipe PVC pipe (Φ 4") PVC pipe (Φ 3") Polythene pipe (Φ 2") Polythene pipe (Φ 1 1/2") Accessories	m m m m LS	1,008 2,016 2,520 2,772 1	810 610 410 310 787,752	9 8 4 3 8,719	816,480 1,229,760 1,033,200 859,320 787,752	9,072 16,128 10,080 8,316 8,719	class-c class-c class-c class-c 20% of above
	Sub total					4,726,512	52,315	
11	Construction of public tap	place	10	200,000	0	2,000,000	0	
	Total					21,256,710	103,690	

Table 8.2.5-10

Manyoni District, Itigi Mjini Village

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Site Preparation	m2	27,948	10	0	279,480	0	
2	Construction of borehole	set	1	3,819,210	17,839	3,819,210	17,839	Ø 150mm
3	Dry Hole	place	0.25	3,303,150	12,635	825,788	3,159	
4	Supply of borehole pump	set	1	0	8,360	0	8,360	MONO-640
5	Supply of engine	set	1	0	7,540	0	7,540	LISTER-ST2
6	Installation of 2 and 3 above	LS	1	1,202,920	2,957	1,202,920	2,957	(above cost)x31%
7	Construction of pump house	LS	1	1,600,000	0	1,600,000	0	
8	Supply and Laying of delivery pipe G.S. pipe (Ø 3") PVC pipe (Ø 3") Accessories Sub total	m m LS	100 900 1	1,200 610 133,800	24 8 1,920	120,000 549,000 133,800	2,400 7,200 1,920	class-c class-c 20% of above
9	Construction of water tank	set	1	6,000,000	0	6,000,000	0	V:90m3
10	Supply and Laying of distribution pipe PVC pipe (Ø 4") PVC pipe (Ø 3") Polythene pipe (Ø 2") Polythene pipe (Ø 1 1/2") Accessories Sub total	m m m m LS	1,008 2,016 2,520 2,772 1	810 610 410 310 787,752	9 8 4 3 8,719	816,480 1,229,760 1,033,200 859,320 787,752	9,072 16,128 10,080 8,316 8,719	class-c class-c class-c class-c 20% of above
11	Construction of public tap	place	10	200,000	0	2,000,000	0	
	Total					21,256,710	103,690	

Table 8.2.5-11

Igunga District, Chomachankola Village

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Site Preparation	m2	27,384	10	0	273,840	0	
2	Construction of borehole	set	1	4,690,900	23,160	4,690,900	23,160	Φ 150mm
3	Dry Hole	place	0.25	3,714,900	14,210	928,725	3,553	
4	Supply of borehole pump	set	1	0	8,360	0	8,360	MONO-640
5	Supply of engine	set	1	0	7,540	0	7,540	LISTER-ST2
6	Installation of 2 and 3 above	LS	1	1,202,920	2,957	1,202,920	2,957	(above cost)x31%
7	Construction of pump house	LS	1	1,600,000	0	1,600,000	0	
8	Supply and Laying of delivery pipe							
	G.S. pipe (Φ 3")	m	100	1,200	24	120,000	2,400	
	PVC pipe (Φ 3")	m	1,900	610	8	1,159,000	15,200	class-c
	Accessories	LS	1	255,800	3,520	255,800	3,520	20% of above
	Sub total					1,534,800	21,120	
9	Construction of water tank	set	1	6,000,000	0	6,000,000	0	V:90m3
10	Supply and Laying of distribution pipe							
	PVC pipe (Φ 4")	m	864	810	9	699,840	7,776	class-c
	PVC pipe (Φ 3")	m	1,728	610	8	1,054,080	13,824	class-c
	Polythene pipe (Φ 2")	m	2,160	410	4	885,600	8,640	class-c
	Polythene pipe (Φ 1 1/2")	m	2,376	310	3	736,560	7,128	class-c
	Accessories	LS	1	675,216	7,474	675,216	7,474	20% of above
	Sub total					4,051,296	44,842	
11	Construction of public tap	place	10	200,000	0	2,000,000	0	
	Total					22,282,481	111,532	

Table 8.2.5-12
Igunga District, Ndembezi Village

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Site Preparation	m2	29,484	10	0	294,840	0	
2	Construction of borehole	set	1	4,690,900	23,160	4,690,900	23,160	Φ 150mm
3	Dry Hole	place	0.25	3,714,900	14,210	928,725	3,553	
4	Supply of borehole pump	set	1	0	8,360	0	8,360	MONO-640
5	Supply of engine	set	1	0	7,540	0	7,540	LISTER-ST2
6	Installation of 2 and 3 above	LS	1	1,202,920	2,957	1,202,920	2,957	(above cost)x31%
7	Construction of pump house	LS	1	1,600,000	0	1,600,000	0	
8	Supply and Laying of delivery pipe							
	G.S. pipe (Φ 3")	m	100	1,200	24	120,000	2,400	
	PVC pipe (Φ 3")	m	2,600	610	8	1,586,000	20,800	class-c
	Accessories	LS	1	341,200	4,640	341,200	4,640	20% of above
	Sub total					2,047,200	27,840	
9	Construction of water tank	set	1	6,000,000	0	6,000,000	0	V:90m3
10	Supply and Laying of distribution pipe							
	PVC pipe (Φ 4")	m	864	810	9	699,840	7,776	class-c
	PVC pipe (Φ 3")	m	1,728	610	8	1,054,080	13,824	class-c
	Polythene pipe (Φ 2")	m	2,160	410	4	885,600	8,640	class-c
	Polythene pipe (Φ 1 1/2")	m	2,376	310	3	736,560	7,128	class-c
	Accessories	LS	1	675,216	7,474	675,216	7,474	20% of above
	Sub total					4,051,296	44,842	
11	Construction of public tap	place	10	200,000	0	2,000,000	0	
	Total					22,815,881	118,252	

Table 8.2.6

COST OF LEVEL-1-1 SYSTEM REHABILITATION (Per One Location)

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Supply of handpump	set	1	0	2,160	0	2,160	India MK2
2	Installation of handpump above	LS	1	700	210	700	210	(above cost)x13%
	Total					700	2,370	

Table 8.2.7

COST OF LEVEL-1-2 SYSTEM REHABILITATION (Per One Location)

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Supply of handpump	set	1	0	970	0	970	NIRA AF 85
2	Installation of handpump above	LS	1	76,921	0	76,921	0	(above cost)x13%
	Total					76,921	970	

Table 8.2.8

COST OF LEVEL-1-3 SYSTEM REHABILITATION (Per One Location)

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Supply of windmill pump	set	1	0	385	0	385	
2	Installation of windmill pump above	LS	1	0	50	0	50	(above cost)x13%
	Total					0	435	

Table 8.2.9

COST OF LEVEL-1-4 SOLAR SYSTEM REHABILITATION(Per One Location)

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
3	Supply of solar panel & sumbersible pump	set	1	0	75,500	0	75,500	
4	Installation of above	LS	1	3,660,000	9,000	3,660,000	9,000	
	Total					3,660,000	84,500	

Table 8.2.10-1

COST OF LEVEL-2 SYSTEM REHABILITATION (Per One Location)

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Supply of borehole pump	set	1	0	8,360	0	8,360	MONO-640
2	Supply of engine	set	1	0	7,540	0	7,540	LISTER-ST2
3	Installation of them above	LS	1	1,202,920	2,957	1,202,920	2,957	(above cost)x31%
	Total					1,202,920	18,857	

TIPE 2(Manyoni District Mhala Village)

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Supply of booster pump	set	2	0	3,100	0	6,200	
2	Supply of engine	set	2	0	5,250	0	10,500	4.5kw
3	Installation of them above	LS	1	815,000	2,000	815,000	2,000	(above cost)x20%
4	Supply and laying of pipe PVC pipe (φ 3") G.S. pipe (φ 4")	m m	100 300	610 880	8 30	61,000 264,000	800 9,000	class-c
	Total					1,140,000	28,500	

TIPE 3

No.	Item	Unit	Qty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Supply of borehole pump	set	1	0	0	0	0	MONO-640
2	Supply of engine	set	1	0	0	0	0	LISTER-ST2
3	Installation of them above	LS	1	0	0	0	0	(above cost)x31%
	Total					0	0	

Table 8.2.11

COST OF CHARCO

No.	Item	Unit	Q'ty	Unit Rate		Amount		Remarks
				L.C.(Tsh)	F.C.(US\$)	L.C.(Tsh)	F.C.(US\$)	
1	Site Preparation	LS	1	2,122,000	0	2,122,000	0	
2	Excavation works	m3	5,000	1,820	0	9,100,000	0	
3	Embankment works	m3	3,400	910	0	3,094,000	0	
4	Stone pitching works	m3	20	50,000	0	1,000,000	0	
5	Well works	m3	60	104,700	220	6,282,000	13,200	
6	Inlet pipe works	m	45	880	30	39,600	1,350	φ4" GI pipe
7	Handpump works	set	3	76,921	970	230,763	2,910	NIRA AF 85
8	Cattle trough works	m3	20	104,700	220	2,094,000	4,400	
	Total					23,962,363	21,860	

Table 8.3(1)

No. 1-1 Breakdown List : 4" Successful Borehole, average depth = 100m (sedimentary layer=40m, rock=60m)									
Item	Specification	Q'ty	Unit	Unit Cost		Amount		Remarks	
				L.C. (US\$)	F.C. (US\$)	L.C. (US\$)	F.C. (US\$)		
A: Personnel Cost									
1 Drilling									
Foreman	0.5person/day*6days	3.0	P/day	30.00		90.00	0.00		
Driller	1.0person/day*6days	6.0	P/day	25.00		150.00	0.00		
Asst. Driller	1.0person/day*6days	6.0	P/day	20.00		120.00	0.00		
Labor	4.0person/day*6days	24.0	P/day	12.00		288.00	0.00		
2 Pump Test									
Engineer	1.0person/day*2days	2.0	P/day	20.00		40.00	0.00		
labor	1.0person/day*2days	2.0	P/day	12.00		24.00	0.00		
3 Headworks									
Foreman	0.5person/day*2days	1.0	P/day	20.00		20.00	0.00		
labor	2.0person/day*2days	4.0	P/day	12.00		48.00	0.00		
Sub-total						780.00	0.00	780.00	

No. 1-2 Breakdown List ; 4" Successful Borehole, average depth = 100m (sedimentary layer=40m, rock=60m)

Item	Specification	Q'ty	Unit	Unit Cost		Amount		Remarks
				L. C. (US\$)	F. C. (US\$)	L. C. (US\$)	F. C. (US\$)	
8: Cost of Material								
1 Drilling								
Fuel, Lubricant		2.184	L			1,965.60	0.00	(0.155*336hp+0.04*21.5hp)*6*6d
Tri-cone bit	10-5/8"	0.28	no.		3,400.00	0.00	952.00	(0.028/m)*10m
Tri-cone bit	8-1/2"	0.96	no.		3,100.00	0.00	2,976.00	(0.032/m)*30m
Hammer bit	6-1/4"	0.30	no.		5,450.00	0.00	1,635.00	(0.005/m)*60m
Bentonite		1,120	kg		0.55	0.00	616.00	(28kg/m)*40m
Casing pipe	4"PVC	70.0	M		13.00	0.00	910.00	
Screen pipe	4"PVC	30.0	M		18.00	0.00	540.00	
Gravel		0.61	M3	48.00		29.04	0.00	(9.60L/m)*63m
Surface Casing	9"	3.0	M		265.00	0.00	795.00	(0.3/m)*10m
Work Casing	7"	12.0	M		240.00	0.00	2,880.00	(0.3/m)*40m
Miscellaneous materials		1	L.S.		367.50	0.00	367.50	10% of the casing cost
2 Pump Test								
Fuel, Lubricant		27.84	L	0.90		25.06	0.00	
Miscellaneous materials		1	L.S.	2.51		2.51	0.00	10% of the above cost
3 Headworks								
Cement		0.30	T	17.60		5.28	0.00	C:S:A=1:2.5:3.8
Coarse Aggregate		1.10	T	28.80		31.68	0.00	
Sand		0.80	T	11.20		8.96	0.00	
Concrete block		60	no.	1.60		96.00	0.00	
Form		2.20	M2	48.00		105.60	0.00	
Sub-total						2,269.72	11,671.50	13,941.22

No. 1-3 Breakdown List : 4" Successful Borehole, average depth = 100m (sedimentary layer=40m, rock=60m)

Item	Specification	Q'ty	Unit	Unit Cost		Amount		Remarks
				L. C. (US\$)	F. C. (US\$)	L. C. (US\$)	F. C. (US\$)	
C: Rental Cost for Machinery								
1	Drilling							
	Drilling-rig	6.0	day		558.00	0.00	3,348.00	@=500000*(0.000186*6)
	Air-compressor	6.0	day		485.64	0.00	2,913.84	@=120000*(0.001349*6)
	Cargo Truck	4.0	day		111.60	0.00	446.40	@=120000*(0.000155*6)
	Water Lorry	3.0	day		75.84	0.00	227.52	@=80000*(0.000158*6)
	Pick-up Truck	12.0	day		22.80	0.00	273.60	@=20000*(0.000190*6)
2	Pump Test							
	Submersible-motor Pump	2.0	day		60.03	0.00	120.06	@=13000*(0.002309*2)
	Generator	2.0	day		39.74	0.00	79.48	@=18000*(0.001104*2)
	Pick-up Truck	2.0	day		22.80	0.00	45.60	@=20000*(0.000190*6)
	Measuring Equipment	2.0	day		74.52	0.00	149.04	@=20000*(0.001863*2)
3	Headworks							
	Pick-up Truck	2.0	day		22.80	0.00	45.60	@=20000*(0.000190*6)
Sub-total								
						0.00	7,649.14	7,649.14
Total						3,049.72	19,320.64	22,370.36
								Rounded
								22,300 US\$

Table 8.3(2)

No. 2-1 Breakdown List : 4" Dry Borehole, average depth = 100m (sedimentary layer=40m, rock=60m)

Item	Specification	Q'ty	Unit	Unit Cost		Amount		Remarks
				L. C. (US\$)	F. C. (US\$)	L. C. (US\$)	F. C. (US\$)	
A: Personnel Cost								
1 Drilling								
Foreman	0.5person/day*5days	2.5	P/day	30.00		75.00	0.00	
Driller	1.0person/day*5days	5.0	P/day	25.00		125.00	0.00	
Asst. Driller	1.0person/day*5days	5.0	P/day	20.00		100.00	0.00	
Labor	4.0person/day*5days	20.0	P/day	12.00		240.00	0.00	
Sub-total						540.00	0.00	540.00
B: Cost of Material								
1 Drilling								
Fuel, Lubricant		1.820	L	0.90		1,638.00	0.00	(0.155*336hp+0.04*215hp) 6*5d
Tri-cone bit	10-5/8"	0.28	no.		3,400.00	0.00	952.00	(0.028/m)*10m
Tri-cone bit	8-1/2"	0.96	no.		3,100.00	0.00	2,976.00	(0.032/m)*30m
Hammer bit	6-1/4"	0.30	no.		5,450.00	0.00	1,635.00	(0.005/m)*60m
Bentonite		1,120	Kg		0.55	0.00	616.00	(28kg/m)*40m
Surface Casing	9"	3.0	M		265.00	0.00	795.00	(0.3/m)*10m
Work Casing	7"	12.0	M		240.00	0.00	2,880.00	(0.3/m)*40m
Miscellaneous materials		1	L.S.		367.50	0.00	367.50	10% of the casing cost
Sub-total						1,638.00	10,221.50	11,859.50

No. 2-2 Breakdown List : 4" Dry Borehole, average depth = 100m (sedimentary layer=40m, rock=60m)

Item	Specification	Quantity	Unit	Unit Cost		Amount		Remarks
				L. C. (US\$)	F. C. (US\$)	L. C. (US\$)	F. C. (US\$)	
C: Rental Cost for Machinery								
1	Drilling							
	Drilling-rig	5.0	day		558.00	0.00	2,790.00	@=500000*(0.000186*6)
	Air-compressor	5.0	day		485.64	0.00	2,428.20	@=120000*(0.001349*3)
	Cargo Truck	4.0	day		111.60	0.00	446.40	@=120000*(0.000155*6)
	Water Lorry	3.0	day		75.84	0.00	227.52	@=80000*(0.000158*6)
	Pick-up Truck	10.0	day		22.80	0.00	228.00	@=20000*(0.000190*6)
	Sub-total					0.00	6,120.12	6,120.12
	Total					2,178.00	16,341.62	18,519.62
								Rounded
								18,500 US\$

Table 8.3(3)

No. 3-1 Breakdown List : 6" Successful Borehole, average depth = 100m (sedimentary layer=40m, rock=60m)

Item	Specification	Quantity	Unit	Unit Cost		Amount		Remarks
				L. C. (US\$)	F. C. (US\$)	L. C. (US\$)	F. C. (US\$)	
A: Personnel Cost								
1 Drilling								
Foreman	0.5person/day*9days	4.5	P/day	30.00		135.00	0.00	
Driller	1.0person/day*9days	9.0	P/day	25.00		225.00	0.00	
Asst. Driller	1.0person/day*9days	9.0	P/day	20.00		180.00	0.00	
Labor	4.0person/day*9days	36.0	P/day	12.00		432.00	0.00	
2 Pump Test								
Engineer	1.0person/day*2days	2.0	P/day	20.00		40.00	0.00	
labor	1.0person/day*2days	2.0	P/day	12.00		24.00	0.00	
3 Headworks								
Foreman	0.5person/day*2days	1.0	P/day	20.00		20.00	0.00	
labor	2.0person/day*2days	4.0	P/day	12.00		48.00	0.00	
Sub-total						1,104.00	0.00	1,104.00

No. 3-2 Breakdown List : 6" Successful Borehole, average depth = 100m (sedimentary layer=40m, rock=60m)

Item	Specification	Q'ty	Unit	Unit Cost		Amount		Remarks
				L. C. (US\$)	F. C. (US\$)	L. C. (US\$)	F. C. (US\$)	
B: Cost of Material								
1 Drilling								
Fuel, Lubricant		3,277	L	0.90		2,949.30	0.00	(0.155*336hp*0.04*215hp) *6*9d
Tri-cone bit	12-1/4"	0.24	no.		3,500.00	0.00	840.00	(0.024/m)*10m
Tri-cone bit	10-5/8"	0.84	no.		3,400.00	0.00	2,856.00	(0.028/m)*30m
Hammer bit	8-5/8"	0.30	no.		5,650.00	0.00	1,695.00	(0.005/m)*60m
Bentonite		1,280	Kg		0.55	0.00	704.00	(32Kg/m)*40m
Casing pipe	6"	70.0	M		47.00	0.00	3,290.00	
Screen pipe	6"	30.0	M		57.00	0.00	1,710.00	
Gravel		1.19	M3	48.00		57.17	0.00	(18.90L/m)*63m
Surface Casing	11"	3.0	M		300.00	0.00	900.00	(0.3/m) 10m
Work Casing	9"	12.0	M		265.00	0.00	3,180.00	(0.3/m)*40m
Miscellaneous materials		1	L.S.		408.00	0.00	408.00	10% of the casing cost
2 Pump Test								
Fuel, Lubricant		27.84	L	0.90		25.06	0.00	
Miscellaneous materials		1	L.S.	2.51		2.51	0.00	10% of the above cost
3 Headworks								
Cement		0.10	T	17.60		1.76	0.00	C:S:A=1:2.5:3.8
Coarse Aggregate		0.37	T	28.80		10.66	0.00	
Sand		0.27	T	11.20		3.02	0.00	
Concrete block		20	no.	1.60		32.00	0.00	
Form		0.68	M2	48.00		32.64	0.00	
Sub-total						3,114.11	15,583.00	18,697.11

No. 3-3 Breakdown List : 6" Successful Borehole, average depth = 100m (sedimentary layer=40m, rock=60m)

Item	Specification	Q'ty	Unit	Unit Cost		Amount		Remarks
				L. C. (US\$)	F. C. (US\$)	L. C. (US\$)	F. C. (US\$)	
C: Rental Cost for Machinery								
1 Drilling								
Drilling-rig		9.0	day		558.00	0.00	5,022.00	@=50000*(0.000186*6)
Air-compressor		9.0	day		485.64	0.00	4,370.76	@=12000*(0.001349*3)
Cargo Truck		9.0	day		111.60	0.00	1,004.40	@=12000*(0.000155*6)
Water Lorry		4.0	day		75.84	0.00	303.36	@=8000*(0.000158*6)
Pick-up Truck		16.0	day		22.80	0.00	364.80	@=2000*(0.000190*6)
2 PumpTest								
Submersible-motor Pump		2.00	day		60.03	0.00	120.06	@=13000*(0.002309*2)
Generator		2.00	day		39.74	0.00	79.48	@=18000*(0.001104*2)
Pick-up Truck		2.00	day		22.80	0.00	45.60	@=2000*(0.000190*6)
Measuring Equipment		2.00	day		74.52	0.00	149.04	@=2000*(0.001863*2)
3 Headworks								
Pick-up Truck		2.00	day		22.80	0.00	45.60	@=2000*(0.000190*6)
Sub-total						0.00	11,505.10	11,505.10
Total						4,218.11	27,088.10	31,306.21
								Rounded
								31,300 US\$

Table 8.3(4)

No. 4-1 Breakdown List : 6" Dry Borehole, average depth = 100m (sedimentary layer=40m, rock=60m)

Item	Specification	Q'ty	Unit	Unit Cost		Amount		Remarks
				L. C. (US\$)	F. C. (US\$)	L. C. (US\$)	F. C. (US\$)	
Personnel								
1 Drilling								
Foreman	0.5 person/day*6days	3.0	P/day	30.00		90.00	0.00	
Driller	1.0 person/day*6days	6.0	P/day	25.00		150.00	0.00	
Asst. Driller	1.0 person/day*6days	6.0	P/day	20.00		120.00	0.00	
Labor	4.0 person/day*6days	24.0	P/day	12.00		288.00	0.00	
Sub-total						648.00	0.00	
B: Cost of Material								
1 Drilling								
Fuel, Lubricant		2,184	L	0.90		1,965.60	0.00	(0.155*336hp*0.04*215hp)*6*6d
Tri-cone bit	12-1/4"	0.24	no.		3,500.00	0.00	840.00	(0.024/m)*10m
Tri-cone bit	10-5/8"	0.84	no.		3,400.00	0.00	2,856.00	(0.028/m)*30m
Hammer bit	8-5/8"	0.30	no.		5,650.00	0.00	1,695.00	(0.005/m)*60m
Bentonite		1,280	Kg		0.55	0.00	704.00	(32Kg/m)*40m
Surface Casing	11"	3.0	M		300.00	0.00	900.00	(0.3/m)10m
Work Casing	9"	12.0	M		265.00	0.00	3,180.00	(0.3/m)*40m
Miscellaneous materials		1	L.S.		408.00	0.00	408.00	10% of the casing cost
Sub-total						1,965.60	10,583.00	12,548.60

No. 4-2 Breakdown List : 6" Dry Borehole, average depth = 100m (sedimentary layer=40m, rock=60m)

Item	Specification	Quantity	Unit	Unit Cost		Amount		Remarks
				L. C. (US\$)	F. C. (US\$)	L. C. (US\$)	F. C. (US\$)	
C: Rental Cost for Machinery								
1 Drilling								
Drilling-rig		6.0	day		558.00	0.00	3,348.00	@=50000*(0.000186*6)
Air-compressor		6.0	day		485.64	0.00	2,913.84	@=12000*(0.001349*3)
Cargo Truck		4.0	day		111.60	0.00	446.40	@=12000*(0.000155*6)
Water Lorry		3.0	day		75.84	0.00	227.52	@=8000*(0.000158*6)
Pick-up Truck		10.0	day		22.80	0.00	228.00	@=2000*(0.000190*6)
Sub-total						0.00	7,163.76	7,163.76
Total						2,613.60	17,746.76	20,360.36
								Rounded
								20,300 US\$

Table 8.4(1) Construction Cost for Target Years

YEAR 2001

Cost Item	place	L. C. (Tsh)	F. C. (US\$)	Remarks
A) Domestic Water Facilities				
L-1-1	264	1,257,480,800	5,255,700	
L-1-2	0	-	-	
L-1-3	0	-	-	
L-1-4	7	118,403,100	870,900	
L-2	9	200,674,500	1,012,700	
Rehabilitation	36	2,382,600	85,200	

B) Charco	64	1,533,591,200	1,399,000	
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YEAR 2006

Cost Item	place	L. C. (Tsh)	F. C. (US\$)	Remarks
A) Domestic Water Facilities				
L-1-1	693	3,300,887,200	13,796,200	
L-1-2	78	138,685,600	75,700	
L-1-3	0	-	-	
L-1-4	11	186,062,000	1,368,500	
L-2	2	44,656,600	228,600	
Rehabilitation	315	220,500	746,600	
	60	54,427,200	1,066,300	

B) Charco	127	3,043,220,100	2,776,200	
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YEAR 2016

Cost Item	place	L. C. (Tsh)	F. C. (US\$)	Remarks
A) Domestic Water Facilities				
L-1-1	2,557	12,179,464,000	50,904,800	
L-1-2	39	69,342,800	37,800	
L-1-3	29	208,545,500	1,513,900	
L-1-4	24	405,953,400	2,985,900	
L-2	1	23,941,100	129,000	
Rehabilitation	957	669,900	2,268,100	
	13	42,665,800	967,200	

B) Charco	272	6,517,762,700	5,945,900	
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Table 8.4(2) Construction Cost for Target Years

YEAR 2001

Cost Item	place	L. C. (US\$)	F. C. (US\$)	Remarks
A) Domestic Water Facilities				
L-1-1	264	2,012,000	5,255,700	
L-1-2	0	-	-	
L-1-3	0	-	-	
L-1-4	7	189,400	870,900	
L-2	9	321,100	1,012,700	
Rehabilitation	36	3,800	85,200	

B) Charco	64	2,453,700	1,399,000	
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YEAR 2006

Cost Item	place	L. C. (US\$)	F. C. (US\$)	Remarks
A) Domestic Water Facilities				
L-1-1	693	5,281,400	13,796,200	
L-1-2	78	221,900	75,700	
L-1-3	0	-	-	
L-1-4	11	297,700	1,368,500	
L-2	2	71,500	228,600	
Rehabilitation	315	400	746,600	
	60	87,100	1,066,300	

B) Charco	127	4,869,200	2,776,200	
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YEAR 2016

Cost Item	place	L. C. (US\$)	F. C. (US\$)	Remarks
A) Domestic Water Facilities				
L-1-1	2,557	19,487,100	50,904,800	
L-1-2	39	110,900	37,800	
L-1-3	29	333,700	1,513,900	
L-1-4	24	649,500	2,985,900	
L-2	1	38,300	129,000	
Rehabilitation	957	1,100	2,268,100	
	13	68,300	967,200	

B) Charco	272	10,428,400	5,945,900	
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