ANNEX-F SOCIO-ECONOMY AND RURAL WATER SUPPLY

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Table F-1 Distribution of Population in Masvingo Province

Unit: person

Year	1982	(%)	1985	(%)
District Councils:				
Communal Lands	809 641	(77.8)	888 717	(77.8)
Small Scale Commercial Farms	26 509	(2.6)	27 820	(2.4)
Urban Agglomerations	4 852	(0.5)	6 650	(0.6)
Others	-	(-)	-	(-)
Total	841 002	(80.9)	923 187	(80.8)
Rural Councils:				
Small Scale Commercial Farms	4 633	(0.5)	4 702	(0.4)
Large Scale Commercial Farms	109 535	(10.5)	110 549	(9.7)
Resettlements*	16 707	(1.6)	22 903	(2.0)
Urban Agglomerations	36 647	(3.5)	42 776	(3.7)
Total	167 522	(16.1)	180 930	(15.8)
Municipalities:	30 642	(2.9)	27 645	(3.3)
Others:	779	(0.1)	1 021	(0.1)
Province Total	1 039 945	(100.0)	1 142 783	(100.0)

Note: */..... Including only the resettlement schemes that were noted in 1982 Census.

Source: The 1982 National Population Census by C.S.O.
"Population Development, National Master Plan for Rural Water Supply and Sanitation, Vol. 3.1" by INTERCONSULT A/S.

Table F-2 Distribution of Households by Family Size in Communal Lands, Masvingo

Family Size (person)	Number of Households in C.Ls, Masvingo (Household)	Percentage of Households (%) C.Ls of Masvingo (%)	C.Ls of Zimbabwe*/ (%)
1	8 286	5.4	4.1
2	12 019	7.8	7.5
3	17 926	11.7	11.5
4	19 197	12.6	14.1
5	19 731	12.9	13.7
6	18 582	12.2	13.9
7	17 270	11.3	11.3
8	13 988	9.1	9.2
9	9 763	6.4	5.7
10 and above	16 161	10.6	8.9
Total	152 923	100.0	100.0

Notes */ ..... National Socio-economic Study by NMWP, 1983/84 Sample of 3340 Communal Land Households.

Source: "Report on Demographic Socio-economic Survey (1983/84) Communal Lands (District Councils) of Masvingo Province" by C.S.O., 1985. "Social Studies, National Master Plan for Rural Water Supply and Sanitation Vol. 4.2" by INTERCONSULT A/S.

Table F-3 Distribution of Population by 5 Year Age Groups, and Sex in Communal Lands, Masvingo

(Unit: person)

Age Group	Males	%	Females	%	Total	%	Sex Ratio of Male to Female
0 - 4	87 085	(21.5)	86 306	(18.2)	173 391	(19.7)	1.01
5 - 9	84 132	(20.8)	79 374	(16.7)	163 506	(18.6)	1.06
10 - 14	71 621	(17.7)	70 021	(14.7)	171 642	(16.1)	1.02
15 - 19	49 470	(12.2)	48 978	(10.3)	98 448	(11.2)	1.01
20 - 24	21 659	(5.4)	39 420	(8.3)	61 079	(6.9)	0.55
25 - 29	14 316	(3.5)	32 078	(6.8)	46 394	(5.3)	0.45
30 - 34	10 378	(2.6)	24 325	(5.1)	34 703	(3.9)	0.43
35 - 39	10 214	(2.5)	21 741	(4.6)	31 955	(3.6)	0.47
40 - 44	10 132	(2.5)	16 326	(3.4)	26 458	(3.0)	0.62
45 - 49	9 271	(2.3)	13 126	(2.8)	22 397	(2.5)	0.71
50 - 54	8 245	(2.0)	9 599	(2.0)	17 844	(2.0)	0.86
55 - 59	6 645	(1.6)	8 122	(1.7)	14 767	(1.7)	0.82
60 and above	21 248	(5.5)	25 761	(5.4)	47 009	(5.4)	0.82
Total	404 416	(100.0)	475 177	(100.0)	879 593	(100.0)	0.85

Source : "Report on Demographic Socio-economic Survey (1983/84) Communal Lands (District Councils) of Masvingo Province" by Central Statistical Office (C.S.O.), 1985.

Table F-4 Distribution of Households by Age and Sex in Communal Lands, Masvingo

(Unit: Household)

Age Group	Males	%	Females	%	Total	%	Sex Ratio of Male to Female
10 - 14	41	(0.1)	41	(0.1)	82	(0.1)	1.00
15 - 19	1 108	(1.3)	1 723	(2.4)	2 831	(1.9)	0.64
20 - 24	3 446	(4.2)	10 294	(14.5)	13 472	(8.8)	0.33
25 - 29	7 589	(9.3)	12 716	(17.9)	20 305	(13.3)	0.60
30 - 34	8 614	(10.5)	10 214	(14.4)	18 828	(12.3)	0.84
35 - 39	8 983	(11.0)	8 327	(11.7)	17 310	(11.3)	1.08
40 - 44	9 681	(11.8)	6 030	(8.5)	15 711	(10.3)	1.61
45 - 49	8 573	(10.5)	4 266	(6.0)	12 839	(8.4)	2.01
50 - 54	7 999	(9.8)	3 282	(4.6)	11 281	(7.4)	2.44
55 - 59	6 276	(7.7)	3 241	(4.6)	9 517	(6.2)	1.94
60 and above	19 566	(23.9)	10 911	(15.3)	30 477	(19.9)	1.79
Total	81 876	(100.0)	71 047	(100.0)	152 923	(100.0)	1.15

Note : */ ... ( ) %, Percentage to the total households.

Source : 'Report on Demographic Socio-economic Survey (1983/84) Communal Lands (District Councils) of Masvingo Province' by C.S.O., 1985.

Table F-5 Population of Masvingo Province by District of Birth and District of Enumeration and Migration

(Unit: Person)

	DISTRICT OF BIRTH	POPULATION ENUMERATED	POP. BORN AND LIVING	POP. BORN IN DISTRICT	IN MIGRATION	OUT MIGRATION	NET MIGRATION	IN MIGRATION RATE %	OUT MIGRATION RATE %	NET MIGRATION RATE %
	(1)	(2)	(3)	(4)	(5) 5=(2)-(3)	(6) 6=(4)-(3)	(7) 7=(5)-(6)	(8) 8=(5) /(2) x 100	(9) 9=(6) /(4) x 100	(10) 10=(7) /(4) x 100
I.	Mwenezi	49 640	35 590	53 780	14 050	18 190	-4 140	28.3	33.8	-7.7
II.	Bikita	179 700	112 430	159 690	67 270	47 260	+20 010	37.4	29.6	+12.5
III.	Chiredzi	214 440	103 240	120 620	111 200	17 380	+93 820	51.9	14.4	+77.8
IV.	Gutu	167 740	151 890	246 640	15 850	94 750	-78 900	9.4	38.4	-32.0
V.	Masvingo	105 990	73 210	171 390	32 780	98 180	-65 400	30.9	57.3	-38.2
VI.	Chivi	124 200	98 780	144 180	25 420	45 400	-19 980	20.5	31.5	-13.9
VII.	Zaka	131 650	110 740	210 490	20 910	99 750	-78 840	15.9	47.4	-37.5

Source : Main Demographic Features of the Population of Zimbabwe, C.S.O., June 1985.

Table F-6 Population of Zimbabwe by Province of Birth and Province of Enumeration and Migration Rates

(Unit: Person)

ROVINCE	POPULATION ENUMERATED	POP. BORN AND LIVING IN PROVINCE	POP. BORN IN PROVINCE	IN MIGRATION	OUT MIGRATION	NET MIGRATION	IN MIGRATION RATE %	OUT MIGRATION RATE %	NET MIGRATION RATE %
(1)	(2)	(3)	(4)	(5) 5=(2)-(3)	(6) 6=(4)-(3)	(7) 7=(5)-(6)	(8) 8=(5)/(2) x 100	(9) 9=(6)/(4) x 100	(10) 10=(7)/(4) x 100
Manicaland	1 052 360	899 040	1 134 830	153 320	235 790	-82 470	14.6	20.8	-7.3
Mashonaland Central	677 980	496 280	619 080	181 700	122 800	+58 900	26.8	19.8	+9.5
Mashonaland East	1 335 870	849 240	1 048 890	486 630	199 650	+286 980	36.4	19.0	+27.4
Mashonaland West	823 500	561 160	703 420	262 340	142 260	+120 080	31.9	20.2	+17.1
Matabeleland North	841 220	589 850	691 210	251 370	101 360	+150 010	29.9	14.7	+21.7
Matabeleland South	538 140	494 000	645 550	44 140	151 550	-107 410	8.2	23.5	-16.6
Midlands	1 078 740	820 290	1 042 950	258 450	222 660	+35 790	24.0	21.3	+3.4
Masvingo	973 360	870 500	1 106 790	106 820	236 290	-133 430	10.6	21.3	-12.1

Notes : In-migrants = Population Enumerated in Province - those born and living in Province.
Out-migrants = Population Born in Province - Population Born and living in Province.

Source: Main Demographic Features of the Population of Zimbabwe, C.S.O., June 1985.

Table F-7 (a) Situation of District and Rural Service Centres-1984

District Name of Centre	Category of Centre	Population Within Location (1985 estimated)	Institutions
I. MWENEZI			
1. Neshuro	D.S.C.	350	ABDEFG
2. Rutenga	G.P.	500	ABCDEFG
3. Chirindi	R.S.C.	150	-N.A.-
4. Maranda	R.S.C.	600	BDG
5. Chizumba	R.S.C.	300	AC
6. Sarahuru	R.S.C.	200	AC
7. Masvosva	R.S.C.	200	ACDF
8. Chimbudzi	R.S.C.	150	-N.A.-
II. BIKITA			
1. Nyika	D.S.C.	1 416	ABCDEFG
2. Makuvaza	R.S.C.	50	-N.A.-
3. Ngorima	R.S.C.	30	ABCD
4. Mukore	R.S.C.	75	ABCD
5. Bikita	R.S.C.	200	ABCDEG
6. Chikuku	R.S.C.	75	ACDF
7. Maranganyika	R.S.C.	50	C
8. Chirorwe	R.S.C.	50	ABC
9. Ozei	R.S.C.	50	ABCG
10. Mashoko	R.S.C.	1 000	ABCD
11. Mukanga	R.S.C.	50	ABC
III. CHIREDZI			
1. Chikombedzi	D.S.C.	300	ABCDFG
2. Boli	R.S.C.	150	ACG
3. Chibwedziwa	R.S.C.	100	ABCD
4. Chilonga	R.S.C.	150	ABCDE
5. Tshovani/Muteyo	R.S.C.	100	ABDG
6. (Rukurangwabe)	R.S.C. (Proposed)	50	ACDF
7. Malipati	R.S.C.	150	ABCDE
IV.GUTU			
1. Gutu-Mupandawana	D.S.C.	4 410	ABCDEFG
2. Mawere	R.S.C.	100	ABCD
3. Nerupiri	R.S.C.	100	ABCDG
4. Serima	R.S.C.	3 000	ABCDEG
5. Chingai	R.S.C.	80	ACDF
6. Nemashakwe	R.S.C.	50	ABCD
7. Basera	R.S.C.	150	ABCD
8. Dewure	R.S.C.	100	BCFG
9. Mushavanhu	R.S.C. (Proposed)	100	ABCG
10. Chitsa	R.S.C. (Proposed)	80	ABCG
11. Chinyika	R.S.C.	100	ABCDG
12. Nyazvidzi	R.S.C. (Proposed)	40	AC

Table F-7 (b) Situation of District and Rural Service Centres-1984

District Name of Centre	Category of Centre	Population Within Location (1985 estimated)	Institutions
V. MASVINGO			
1. Nemanwa	D.S.C.	300	ABCDEFG
2. Renco	G.P.	5 234	-N.A.-
3. Mapanzure	R.S.C.	1 500	ABCD
4. Muchakata	R.S.C.	500	CG
5. Sipambi	R.S.C.	50	AC
6. Chatikobo	R.S.C.	1 000	ABCD
7. Mashenjere	R.S.C.	200	CDFG
8. Tetenu	R.S.C.	200	ACD
9. Nyikavanhu	R.S.C.	180	ABCDE
10. Musvovi	R.S.C.	150	ABCD
11. Zimutu	R.S.C.	200	AC
12. Zinyaningwe	R.S.C.	-N.A.-	-N.A.-
VI. CHIVI			
1. Chivi	D.S.C.	1 000	ABCDEFG
2. Ngundu	R.S.C.	200	AB
3. Berejena	R.S.C.	300	C
4. Sese	R.S.C.	100	CF
5. Takavarasha	R.S.C.	400	ABCD
6. Razi	R.S.C.	100	ABCE
7. Shokoni	R.S.C.	50	BCDE
8. Chikofa	R.S.C. (Proposed)	100	ABCE
VI. CHIVI			
9. Mandamabwe	R.S.C.	250	ABCDE
10. Vuranda	R.S.C. (Proposed)	100	BCD
11. Madangombe	R.S.C.	400	BCDE
VII. ZAKA			
1. Jerera	D.S.C.	1 300	ABCEFG
2. Chivamba	R.S.C.	250	ABCDEFG
3. Zingwena	R.S.C.	30	AC
4. Svuure	R.S.C.	80	ABCD
5. Fuve	R.S.C.	60	CD
6. Veza	R.S.C.	110	ACDEG
7. Zaka	R.S.C.	550	ABCDE
8. Jichidza	R.S.C.	500	ABCD
9. Nemauku	R.S.C.	30	ABCD
10. Ndanga	R.S.C.	450	ABCDF
11. Bvukuru	R.S.C.	100	ABCD
12. Chiredzana	R.S.C.	80	CD

Note: A --- Primary School, E --- Bus Terminal,
B --- Secondary School, F --- Parastal Institutions
C --- Store G --- Government Institutions
D --- Clinic, Hospital, R.S.C. --- Rural Service Centre,
D.S.C. --- District Service Centre,
G.P. --- Growth point

Source: 'Inventory of Existing Water Supply Situation, National Master Plan for Rural Water Supply and Situation, Vol. 3.3' by INTERCONSULT A/S, 1984, July.

Table F-8 Commonest Causes of Morbidity, Diagnosed at Primary Health Facilities during 1985, Masvingo Province

DISEASE	NO. OF CASES	BREAKDOWN PERCENTAGES	
Respiratory tract infection	99 573	Viral Bacteria	80% 20%
Sexually transmitted diseases (promiscuity)	59 725	Gonorrhoea P I D Syphilis Othres	51% 22% 15% 12%
Schitosomiasis (water related)	39 939	Haematobium Mansoni	98% 2%
Malaria (water related)	37 451	Clinical Verified	92.4% 7.6%
Diarrhoea (water related)	35 117	Typhoid Dysentry Non Specific	1.5% 13.0% 85.5%
Eye Infections (water related)	25 562	Conjuctivitis Trachoma	83% 17%
Skin Infections (water related)	10 698	Ringworm Scabies	78% 22%
Malnutrition	6 490	Marasmus Kwashiokor	60% 40%
Urinary Tract Infection	5 025	No breakdown	
Measles (EPI)	4 318	No breakdown	
Intestinal Infestation	3 772	Tapeworm Bookworm Ascaris Amoebiasis Others	20% 17% 14% 32% 17%

Source : Masvingo Provincial Office, Ministry of Health, 1986

Table F-9 Distribution of Health Facilities by District-1985

District		Health Facilities		Hospitals		Rural Hospitals		Rural Health Centres		Clinics	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
I.	Mwenezi	14	10.15	1	6.66	1	10	7	14.29	5	7.81
II.	Bikita	16	11.59	2	13.33	2	20	6	12.24	6	9.39
III.	Chiredzi	24	17.39	4	26.67			7	14.29	13	20.31
IV.	Gutu	24	17.39	1	6.67	4	40	7	14.29	12	18.75
V.	Masvingo	28	20.29	4	26.67	1	10	8	16.33	15	23.43
VI.	Chivi	11	7.97	1	6.67	1	10	6	12.24	3	4.69
VII.	Zaka	21	15.22	2	13.33	1	10	8	16.33	10	15.62
					100.00		100.00		100.00		100.00
	Total	138	100.00	15	10.86	10	7.25	49	35.51	64	46.38

Source: 'Masvingo Provincial Development Plan 1985 - 1990'.

Table F-10 Distribution of Primary and Secondary School by District-1985

	District	Facility	No. of Schools	1985 Enrolment	No. of Teachers	% of Trained Teachers	Teacher/ Pupil Ration
I.	Mwenezi	Primary Schs.	39	27 928	679	22	1:41
		Secondary Schs.	11	2 985	97	54	1:30
II.	Bikita	Primary Schs.	83	50 545	1 251	37	1:40
		Secondary Schs.	25	11 135	349	56	1:30
III.	Chiredzi	Primary Schs.	86	39 082	961	56	1:40
		Secondary Schs.	9	3 687	119	72	1:30
IV.	Gutu	Primary Schs.	145	60 262	1 420	52	1:42
		Secondary Schs.	50	17 712	205	48	1:86
V.	Masvingo	Primary Schs.	115	53 259	1 391	59	1:39
		Secondary Schs.	44	16 775	602	61	1:27
VI.	Chivi	Primary Schs.	80	49 490	1 231	48	1:40
		Secondary Schs.	27	10 440	427	50	1:24
VII.	Zaka	Primary Schs.	84	51 326	1 257	59	1:40
		Secondary Schs.	28	11 147	364	44	1:30
	TOTALS/ AVERAGE	Primary Schs.	632	331 892	8 164		1:40
		Secondary Schs.	194	83 881	2 163		1:38

Source : 'Masvingo Provincial Development Plan 1985-1990'.

Table F-11 Number of Cooperatives & Participants in Masvingo, 1986

District	Item	Marketing & Supply	Group Farming	Fishing	Transport	Industry	Saving & Thrift	Credit	Food & Vegetables	Consumers	Venders	Mining	Total
I. Mwenezi	Cooperatives	5	0	0	0	22	0	0	0	0	0	0	27
	Participants	420	0	0	0	524	0	0	0	0	0	0	944
II. Bikita	Cooperatives	18	1	0	0	1	0	1	0	0	0	0	21
	Participants	1961	26	0	0	10	0	122	0	0	0	0	2119
III. Chiredzi	Cooperatives	15	0	0	0	10	0	0	0	0	0	0	25
	Participants	1662	0	0	0	228	0	0	0	0	0	0	1890
IV. Gutu	Cooperatives	43	4	0	0	19	0	0	2	5	10	0	83
	Participants	5352	367	0	0	432	0	0	27	94	191	0	6463
V. Masvingo	Cooperatives	25	1	1	3	8	0	0	0	5	1	1	45
	Participants	3641	42	10	40	158	0	0	0	19	47	80	4037
VI. Chivi	Cooperatives	19	0	0	1	3	1	0	0	0	0	0	24
	Participants	3515	0	0	20	107	25	0	0	0	0	0	3667
VII. Zaka	Cooperatives	20	1	2	0	2	0	0	0	0	0	0	25
	Participants	3753	50	22	0	102	0	0	0	0	0	0	3927
Total	Cooperatives	145	7	3	4	65	1	1	2	10	11	1	250
	Participants	20304	485	32	60	1561	25	122	27	113	238	80	23047

Source: Ministry of Cooperative, Masvingo

Table F-12 Amount Credited by Agricultural Finance Cooperation (A.F.C)

Year	Communal Land				Resettlement Area			
	Less than 1 year		2-5 years		Less than 1 year		2-5 years	
	No. of account	Amount (Z$)	No. of account	Amount (Z$)	No. of account	Amount (Z$)	No. of account	Amount (Z$)
1980/81	300	47 899	0	0	0	0	0	0
1981/82	900	161 184	0	0	350	69 270	0	0
1982/83	2 100	402 757	500	83 143	800	303 104	0	0
1983/84	3 450	724 628	1 000	122 938	2 200	1 024 387	1 150	403 976
1984/85	5 000	1,939 759	1 650	533 154	1 900	790 689	1 150	468 298
1985/86	5 100	2,249 362	1 250	513 342	1 800	606 583	300	133 313

Source: A.F.C, Masvingo

Table F-13 Short-term Package Fund to Irrigation Schemes in Masvingo

Scheme	Year	No. of Accounts	Amount (Z$)	Amount per person (Z$/person)	Remarks
1. Banga	1984/85	41	1 823	45	100% redempted
	1985/86	103	9 453	94	- do -
2. Mapanzure	1982/83	47	2 618	56	for wheat
	1982/83	47	2 455	52	for maize
3. Makonesi	1984/85	40	4 896	122	for maize, 100% redempted

Source: Agritex

Table F-14 Government Retail Price at Business Centre

left figure: price ..... right figure: commission

Commodity	Qty.	$ Dollar	Qty.	$ Dollar	Qty.	$ Dollar	Qty.	$ Dollar	Qty.	$ Dollar
White sugar	12.5 kg.	6.49...0.25	2 kg.	1.05...0.04	1 kg.	0.53...0.02	½ kg.	0.27...0.01		
Brown sugar	12.5 kg.	5.74...0.25	5 kg.	2.30...0.10	2 kg.	0.93...0.04	1 kg.	0.47...0.02		
Polished rice	10.0 kg.	9.66... -	5 kg.	4.90...	2 kg.	2.01... -	1 kg.	1.02... -	½ kg.	0.52
Bread loaf	L1f.	0.39...0.02	½ 1f.	0.21...0.01						
Holsum	500 g.	1.09...0.06	250 g.	0.88...0.04	125 g.	0.32...0.02				
Rynol oil	5 ℓ	8.02...0.23	950 mℓ.	1.41...0.11	375 mℓ.	1.41...0.11				
Olive Oil	5 ℓ	9.57...0.29	2.5 ℓ.	5.15...0.16	750 mℓ.	1.57...0.11	375 mℓ.	0.92...0.06		
Sunflower Oil	5 ℓ	10.16...0.29	2.5 ℓ.	5.76...0.16	750 mℓ.	1.82...0.11	375 mℓ.	1.08...0.06		
Soft drink	1 bttl.	0.25... -	f. size	0.53... -						

Table F-15 Distribution of Households by Water Source, C.Ls, Masvingo Province

Water Source	Percentage of Households	
	Wet Season	Dry Season
1. Piped water		
(a) Inside house	0.1	0.1
(b) Outside house	1.9	3.1
2. Protected wells	8.6	6.6
3. Unprotected wells	46.8	24.9
4. Protected springs	0.8	0.8
5. Unprotected springs	5.6	4.3
6. Boreholes	14.6	21.4
7. River or stream	21.4	38.2
8. Others	0.2	0.6
Total	100.0	100.0

Source : 'Report on Demographic Socio-economy Survey (1983/84) Communal Lands (District Councils) of Masvingo Province' by Central Statistical Office (C.S.O.), 1985.

Table F-16 Primary Water Supplies-1984

Communal Land	Boreholes: Number	Boreholes: No. per sq. km.	Boreholes: Persons per Borehole	Hand-dug Wells: Number	Hand-dug Wells: No. per km²	Hand-dug Wells: Persons per Well	Hand-dug Wells: No. of Dams
I. MWENEZI	160	0.08	526	55	0.03	1 590	18
1. Maranda	54	0.05	718	} 55	0.03	1 590	18
2. Matibi No. 1	106	0.10	428				
II. BIKITA	149	0.06	1 015	39	0.01	3 878	0
1. Bikita	97	0.05	1 129	39	0.02	2 808	0
2. Matsai	52	0.07	803	0	0.00	0	0
III. CHIREDZI	389	0.07	182	(28)*/	(0.01)	(2 543)	(5)
1. Matibi No. 2	198	0.09	182	}			
2. Sangwe	63	0.10	303	} - Not available -			
3. Sengwe	128	0.05	121	}			
IV. GUTU	174	0.05	1 002	73	0.02	2 387	0
1. Chikwanda	26	0.02	1 747	0	0.00	0	0
2. Denhere	2	0.03	2 038	0	0.00	0	0
3. Serima	5	0.03	1 702	0	0.00	0	0
4. Gutu	141	0.06	825	73	0.03	1 593	0
V. MASVINGO	167	0.10	694	(56)*/	(0.02)	(2 322)	(26)
1. Masvingo	72	0.14	545				
2. Mtilikwe	17	0.06	995				
3. Nyajena	47	0.08	982	- Not available -			
4. Zimutu	31	0.11	437				
VI. CHIVI	210	0.08	529	4	0.00	38 072	81
1. Chivi	} 210	0.08	529	4	0.00	38 072	81
2. Mashava							
VII. ZAKA	141	0.05	1 042	41	0.01	3 582	0
1. Ndanga	141	0.05	1 042	41	0.01	3 582	0
Total	1 390	0.07	644	(296)	(0.01)	(3 119)	(130)

Notes : */ The figures in parentheses include the figures of small-scale commercial farms.

Source: "Inventory of Existing Water Supply Situation National Master Plan for Rural Water Supply and Sanitation Vol. 3.3" by INTERCONSULT A/S.

General Water Supply Situation by District

I. Mwenezi District

There are comparatively a large number of boreholes and hand-dug wells in the Distict, especially in Matibi No. 1 C.L. The number of boreholes per sq. km as of 1984 was 0.08, following the figure of Masvingo District of 0.10 in seven districts. On the other hand, persons per borehole as of 1984 was 526, showing the second lowest figure in the Province. The number of hand-dug wells per sq. km was 0.03 and this figure was the highest among all districts in the Province. Judging from the above statistical figures, water supply in the District has made remarkable progress, as compared with other districts. In fact, however, considerable numerous inhabitants still utilize rivers and shallow wells for the domestic use. One of the reasons is that some boreholes are out of function and they are not repaired quickly.

Recently, some small dams have been constructed for cattle watering and garden watering, not for irrigation in the district particularly in Matibi No. 1 C.L.

II. Bikita District

Bikita C.L. is endowed with the surface water sources, e.g. rivers and streams. As of 1986, 126 boreholes have been dug, but most inhabitants get water from surface sources and unprotected wells. There are certain areas where unprotected wells and streams are dried up in the dry season from August to November. Some people travel long distance for water sources, and others dig the river beds for domestic use during the dry season. Most dwellers utilize both mentioned water sources for domestic use. The major population of Matsai C.L. located in the southern part of the District is suffering from shortage of water for domestic use and livestock.

III. Chiredzi District

As shown that almost entire area in the District is classified in Natural Region V, most inhabitants can not get surface water sources due to its topographical and geological conditions. Borehole are sole source of water supply for domestic use in the District, especially, in Sengwe C.L.. Most inhabitants walk for long distance to get water even in the wet season. People rely, to a large extent, on boreholes for cattle watering. It is a big burden for women and children to water cattle, because they sometimes have to take cattle to the perennial rivers and boreholes for more than five hours.

Although most boreholes are not dried up in the dry season, the water quality is not satisfactory for drinking, due to the salinity.

IV. Gutu District

The District has comparatively sufficient surface water sources like springs except for the southern part under Natural Region IV or V. There are a large number of unprotected wells being used within a few households. Most farmers practice vegetable gardening by means of water from wells. Judging from statistical data on water supply, e.g. the number of existing boreholes and protected wells, so far less emphasis has probably been placed on this District under the rural water supply development strategy, as compared with other districts such as Chivi, Chiredzi and Mwenezi. It is because domestic water supply for communal people in terms of not quality but quantity can be achieved without groundwater sources in this District.

The Provincial Development Plan Report (1985 - 1990) indicates that additionally 458 boreholes and 1 374 wells, sharing about 20 per cent of the total number of proposed boreholes and wells in the Province, are necessary by 1993 in the District. This means that the improvement of the quality of water for domestic use is required from the hygienic point of view.

V. Masvingo District

The number of boreholes per sq. km of the District was 0.10. This figure was the highest among seven districts in 1984. The provisions of water supply in the major settlements such as service centres, schools and clinics, has been developed as compared with other districts. In general, the water supply situation in the District, except for Nyajena C.L., therefore, is excepted to be best among seven districts. Nyajena C.L. is in an acute shortage of drinking water, so is Matsai C.L. in Bikita District. many unprotected wells and vegetable gardens were observed during the field survey throughout the District.

VI. Chivi District

Chivi can be referred to as the most serious district in water supply all over the Province. Most dwellers are suffering from the lack of domestic water even after provision of the boreholes, some of which cannot yield the adequate water to cover their beneficiaries. Farmers in certain area have to travel an average of five km in search of water, and it is especially true in the northern part of the District. The numerous small dams normally run out of water by mid August. Therefore, cattle have to travel long distances for seeking water.

VII. Zaka District

From the viewpoint of the water supply situation, Zaka District is largely divided into two areas, namely, the northern and the southern part. There are a number of perennial streams and springs in the northern part of the District. The water supply situation of this area, in general, is similar to those of the northern part of Gutu District and Bikita C.L. On the other hand, the southern part seems to be under similar situation in water supply to that of Matsai and Nyajena C.L.s.

Table F-17 Water Supply Situations of Centres, Schools and Clinics-1984

Communal Land	Centres */			Schools			Clinics		
	No. (a)	No. without Piped System (b)	(b)/(a) x 100 (%)	No. (a)	No. without Water Supply (b)	(b)/(a) x 100 (%)	No. (a)	No. without Water Supply (b)	(b)/(a) x 100 (%)
I. MWENEZI	8	6	75	46	18	39	9	4	44
1. Maranda	2	2	100	19	6	32	3	3	100
2. Matibi No.1	6	4	66	27	12	44	6	1	16
II. BIKITA	11	7	64	83	46	55	11	6	55
1. Bikita	8	4	50	68	36	53	} 11	6	55
2. Matsai	3	3	100	15	10	67			
III. CHIREDZI	7	4	57	56	50	89	13	6	46
1. Matibi No.2	4	1	25	24	22	92	4	1	25
2. Sangwe	2	2	100	11	9	82	5	3	60
3. Sengwe	1	1	100	21	19	90	4	2	50
IV. GUTU	11 **/	8	73	135	89	66	17	7	41
1. Chikwanda	2	2	100	43	24	56	5	2	40
2. Denhere	-	-	-	3	1	33	1	0	0
3. Serima	1	1	100	12	9	75	3	2	67
4. Gutu	8	4	50	77	55	71	8	3	38
V. MASVINGO	11 **/	6	55	86	19	22	11	1	9
1. Masvingo	4	1	25	26	1	4	3	0	0
2. Mtilikwe	2	2	100	14	5	36	3	0	0
3. Nyajena	4	3	75	20	5	25	3	0	0
4. Zimutu	1	0	0	26	8	31	2	1	50
VI. CHIVI	11	7	64	102	53	52	8	3	38
1. Chivi	8	6	75	78	39	50	8	3	88
2. Mashava	3	1	33	24	14	58			
VII. ZAKA	12	8	67	116	81	70	14	5	36
1. Ndanga	12	8	67	116	81	70	14	5	36
Total	71	45	63	624	356	57	83	32	39

Note, */ --- Growth Points, District and Rural Service Centres including proposed centres.

**/ -- Zinyaningwe is excluded from the number of the centres in Masvingo due to the lack of data.

Source : 'Inventory of Existing Water Supply Situation, National Master Plan for Rural Water Supply and Sanitation Vol. 3.3' by INTERCONSULT: A/S.

Table F-18 (a) Water Demand for Domestic Use

(unit: thousand cu.m per year)

Dam No.	Persons per sq.km	Case-D1 (10km²)	Case-D2 (30km²)	Case-D3 (50km²)
I. MWENEZI				
1. Maranda C.L				
I-1-1	44.4	3.2	9.7	16.2
I-1-2	45.3	3.3	9.9	16.5
I-1-3	20.7	1.5	4.5	7.6
2. Matibi No.1 C.L				
I-2-1	44.6	3.3	9.8	16.3
I-2-2	53.6	3.9	11.7	19.6
I-2-3	42.9	3.1	9.4	15.7
I-2-4	49.7	3.6	10.9	18.1
I-2-5	49.7	3.6	10.9	18.1
II. BIKITA				
1. Bikita C.L				
II-1-1	141.8	10.4	31.1	51.8
II-1-2	134.1	9.8	29.4	48.9
II-1-3	165.1	12.1	36.2	60.3
II-1-4	134.1	9.8	29.4	48.9
II-1-5	81.1	5.9	17.8	29.6
II-1-6	81.1	5.9	17.8	29.6
II-1-7	147.0*1/	10.7	32.2	53.7
II-1-8	37.2	2.7	8.1	13.6
II-1-9	190.9	13.9	41.8	69.7
II-1-10	37.2	2.7	8.1	13.6
II-1-11	190.9	13.9	41.8	69.7
2. Matsai C.L				
II-2-1	38.4	2.8	8.4	14.0
II-2-2	38.4	2.8	8.4	14.0
II-2-3	38.9	2.8	8.5	14.2
III. CHIREDZI				
1. Matibi No. 2 C.L				
III-1-1	28.0	2.0	6.1	10.2
III-1-2	39.6	2.9	8.7	14.5
III-1-3	34.2	2.5	7.5	12.5
III-1-4	28.0	2.0	6.1	10.2
III-1-5	23.1	1.7	5.1	8.4
2. Sangwe C.L				
III-2-1	51.5	3.8	11.3	18.8
III-2-2	51.5	3.8	11.3	18.8
III-2-3	38.0	2.8	8.3	13.9
III-2-4	147.6	10.8	32.3	53.9
III-2-5	62.9	4.6	13.8	23.0
3. Sengwe C.L				
III-3-1	7.9	0.6	1.7	2.9
III-3-2	7.9	0.6	1.7	2.9
III-3-3	6.8	0.5	1.5	2.5
III-3-4	7.9	0.6	1.7	2.9
III-3-5	16.2	1.2	3.5	5.9
III-3-6	17.6	1.3	3.9	6.4
III-3-7	6.8	0.5	1.5	2.5
III-3-8	6.8	0.5	1.5	2.5
IV. GUTU				
1. Chikuwanda C.L				
IV-1-1	78.3	5.7	17.1	28.6
IV-1-2	78.3	5.7	17.1	28.6
IV-1-3	50.4	3.7	11.0	18.4
IV-1-4	38.5	2.8	8.4	14.1
2. Denhere C.L				
IV-2-1	74.7	5.5	16.4	27.3

*1/ Data regarding population density was not available so that the average figure of thres sites near this site, that is, II-1-1, II-1-2, II-1-3 were applied.

Table F-18 (b) Water Demand for Domestic Use

(unit: thousand cu.m per year)

Dam No.	Persons per sq.km	Case-D1 (10km²)	Case-D2 (30km²)	Case-D3 (50km²)
3. Serima C.L				
IV-3-1	118.1	8.6	25.9	43.1
IV-3-2	120.7	8.8	26.4	44.1
4. Guru C.L				
IV-4-1	82.3	6.0	18.0	30.0
IV-4-2	86.7	6.3	19.0	31.6
IV-4-3	147.7	10.8	32.3	53.9
IV-4-4	76.4	5.6	16.7	27.9
IV-4-5	50.3	3.7	11.0	18.4
IV-4-6	57.5	4.2	12.6	21.0
IV-4-7	68.9	5.0	15.1	25.1
IV-4-8	92.7	6.8	20.3	33.8
IV-4-9	52.4	3.8	11.5	19.1
IV-4-10	50.3	3.7	11.0	18.4
IV-4-11	84.5	6.2	18.5	30.8
V. MASVINGO				
1. Masvingo C.L				
V-1-1	135.7	9.9	29.7	49.5
V-1-2	29.5	2.2	6.5	10.8
V-1-3	64.3	4.7	14.1	23.5
2. Mtilikwe C.L				
V-2-1	51.8	3.8	11.3	18.9
V-2-2	50.4	3.7	11.0	18.4
V-2-3	55.3	4.0	12.1	20.2
V-2-4	77.9	5.7	17.1	28.4
3. Nyajena C.L				
V-3-1	53.0	3.9	11.6	19.3
V-3-2	83.1	6.1	18.2	30.3
V-3-3	74.7	5.5	16.4	27.3
4. Zimutu C.L				
V-4-1	63.9	4.7	14.0	23.3
V-4-2	61.6	4.5	13.5	22.5
V-4-3	99.1	7.2	21.7	36.2
VI. CHIVI				
1. Chivi C.L				
VI-1-1	40.8	3.0	8.9	14.9
VI-1-2	44.5	3.2	9.7	16.2
VI-1-3	45.2	3.3	9.9	16.5
VI-1-4	30.4	2.2	6.7	11.1
VI-1-5	44.5	3.2	9.7	16.2
VI-1-6	46.2	3.4	10.1	16.9
VI-1-7	64.1	4.7	14.0	23.4
VI-1-8	53.2	3.9	11.7	19.4
2. Mashava C.L				
VI-2-1	75.0	5.5	16.4	27.4
VI-2-2	82.6	6.0	18.1	30.1
VII. ZAKA				
1. Ndanga				
VII-1-1	139.7	10.2	30.6	51.0
VII-1-2	64.2	4.7	14.1	23.4
VII-1-3	90.8 *2/	6.6	19.9	33.1
VII-1-4	58.6	4.3	12.8	21.4
VII-1-5	128.8	9.4	28.2	47.0
VII-1-6	115.2	8.4	25.2	42.0
VII-1-7	67.6	4.9	14.8	24.7
VII-1-8	92.3	6.7	20.2	33.7
VII-1-9	64.0	4.7	14.0	23.4
VII-1-10	64.0	4.7	14.0	23.4
VII-1-11	64.0	4.7	14.0	23.4
VII-1-12	200.7	14.7	44.0	73.3
VII-1-13	93.0	6.8	20.4	33.9

*2/ Data regarding, population density was not available so that a figure of Nyakunuwa Area's average was applied.

Table F-19 (a) Water Demand for Livestock

(unit : thousand cu.m. per year)

Dam No.	Livestock Units per km²	Case-1.1 (20 km²) (1) *1/	Case-1.1 (20 km²) (2) *2/	Case-1.2 (50 km²) (1)	Case-1.2 (50 km²) (2)	Case-1.3 (100 km²) (1)	Case-1.3 (100 km²) (2)
I. MWENEZI							
1. Maranda C.L.							
I - 1 - 1	6.9	1.0	2.3	2.5	5.7	5.0	11.3
I - 1 - 2	29.3	4.3	9.6	10.7	24.1	21.4	48.1
I - 1 - 3	5.6	0.8	1.8	2.0	4.6	4.1	9.2
2. Matibi No. 1 C.L.							
I - 2 - 1	16.9	2.5	5.6	6.2	13.9	12.3	27.8
I - 2 - 2	9.6	1.4	3.2	3.5	7.9	7.0	15.8
I - 2 - 3	11.4	1.7	3.7	4.2	9.4	8.3	18.7
I - 2 - 4	15.3	2.2	5.0	5.6	12.6	11.2	25.1
I - 2 - 5	15.3	2.2	5.0	5.6	12.6	11.2	25.1
II. BIKITA							
1. Bikita C.L.							
II - 1 - 1	50.2	7.3	16.5	18.3	41.2	36.4	82.5
II - 1 - 2	84.6	12.4	27.8	30.9	69.5	61.8	138.9
II - 1 - 3	62.6	9.1	20.6	22.8	51.4	45.7	102.9
II - 1 - 4	84.6	12.4	27.8	30.9	69.5	61.8	138.9
II - 1 - 5	108.1	15.8	35.5	39.5	88.8	78.9	177.6
II - 1 - 6	108.1	15.8	35.5	39.5	88.8	78.9	177.6
II - 1 - 7	65.8 *3	9.6	21.6	24.0	54.0	48.0	108.1
II - 1 - 8	50.3	7.3	16.5	18.4	41.3	36.7	82.7
II - 1 - 9	87.1	12.7	28.6	31.8	71.5	63.6	143.0
II - 1 - 10	50.3	7.3	16.5	18.4	41.3	36.7	82.7
II - 1 - 11	87.1	12.7	28.6	31.8	71.5	63.6	143.0
2. Matsai C.L.							
II - 2 - 1	25.9	3.8	8.5	9.5	21.3	18.9	42.5
II - 2 - 2	25.9	3.8	8.5	9.5	21.3	18.9	42.5
II - 2 - 3	38.9	5.7	12.8	14.2	31.9	28.4	63.8
III. CHIREDZI							
1. Matibi No. 2 C.L.							
III - 1 - 1	10.4	1.5	3.4	3.8	8.5	7.6	17.1
III - 1 - 2	11.5	1.7	3.8	4.2	9.4	8.4	18.9
III - 1 - 3	11.0	1.6	3.6	4.0	9.0	8.0	18.1
III - 1 - 4	10.4	1.5	3.4	3.8	8.5	7.6	17.1
III - 1 - 5	9.0	1.3	3.0	3.3	7.4	6.6	14.8
2. Sangwe C.L.							
III - 2 - 1 III - 2 - 2 III - 2 - 3 III - 2 - 4 III - 2 - 5	19.6	2.9	6.4	7.1	16.1	14.3	32.1
3. Sengwe C.L.							
III - 3 - 1	9.1	1.3	3.0	3.3	7.5	6.6	14.9
III - 3 - 2	9.1	1.3	3.0	3.3	7.5	6.6	14.9
III - 3 - 3	9.0	1.3	3.0	3.3	7.4	6.6	14.8
III - 3 - 4	9.1	1.3	3.0	3.3	7.4	6.6	14.9
III - 3 - 5	9.6	1.4	3.2	3.5	7.9	7.0	15.8
III - 3 - 6	9.5	1.4	3.1	3.5	7.8	6.9	15.6
III - 3 - 7	9.0	1.3	3.0	3.3	7.4	6.6	14.8
III - 3 - 8	9.0	1.3	3.0	3.3	7.4	6.6	14.8
IV. GUTU							
1. Chikwanda C.L.							
IV - 1 - 1 *3/ IV - 1 - 2 *3/	23.0	3.4	7.5	8.4	18.9	16.8	37.7
IV - 1 - 3	39.8	5.8	13.1	14.5	32.7	29.1	65.4
IV - 1 - 4	20.5	3.0	6.7	7.5	16.8	15.0	33.7
2. Denhere C.L.							
IV - 2 - 1	42.3	6.2	13.9	15.4	34.7	30.9	69.5
3. Serima C.L.							
IV - 3 - 1	30.7	4.5	10.1	11.2	25.2	22.4	50.3
IV - 3 - 2	37.5	5.5	12.3	13.7	30.8	27.4	61.6

*1/ ----- Daily Water Demand 20 litres/LSU/day

*2/ ----- Daily Water Demand 45 litres/LSU/day.

*3/ ----- Data regarding liveslock units per Km² of the ward was not available so that the average figure of three wards near this site ; II-1-1,II-1-2,II-1-3, was used.

Table F-19 (b) Water Demand for Livestock

(unit : thousand cu.m. per year)

Dam No.	Livestock Units per km²	Case-1.1 (20 km²) (1) *1/	Case-1.1 (20 km²) (2) *2/	Case-1.2 (50 km²) (1)	Case-1.2 (50 km²) (2)	Case-1.3 (100 km²) (1)	Case-1.3 (100 km²) (2)
4. Gutu C.L.							
IV - 4 - 1	51.0	7.4	16.8	18.6	41.9	37.2	83.7
IV - 4 - 2	31.6	4.6	10.4	11.5	26.0	23.0	51.9
IV - 4 - 3	34.6	5.1	11.4	12.6	28.4	25.3	56.8
IV - 4 - 4	36.4	5.3	12.0	13.3	29.9	26.6	59.8
IV - 4 - 5	22.5	3.3	7.4	8.2	18.5	16.4	37.0
IV - 4 - 6	16.0	2.3	5.3	5.8	13.1	11.7	26.3
IV - 4 - 7	20.8	3.0	6.8	7.6	17.1	15.2	34.2
IV - 4 - 8	24.1	3.5	7.9	8.8	19.8	17.6	39.6
IV - 4 - 9	36.8	5.4	12.1	13.4	30.2	26.9	60.4
IV - 4 - 10	22.5	3.3	7.4	8.2	18.5	16.4	37.0
IV - 4 - 11	50.6	7.4	16.6	18.5	41.6	36.9	83.1
V. MASVINGO							
1. Masvingo C.L.							
V - 1 - 1	51.2	7.5	16.8	18.7	42.0	37.4	84.1
V - 1 - 2	10.9	1.6	3.6	4.0	9.0	8.0	17.9
V - 1 - 3	27.0	3.9	8.9	9.9	22.2	19.7	44.3
2. Mtilikwe C.L.							
V - 2 - 1	61.6	9.0	20.2	22.5	50.6	45.0	101.2
V - 2 - 2	35.4	5.2	11.6	12.9	29.1	25.8	58.1
V - 2 - 3	45.8	6.7	15.0	16.7	37.7	33.4	75.2
V - 2 - 4	48.0	7.0	15.8	17.5	39.4	35.0	78.8
3. Nyajena C.L.							
V - 3 - 1	32.8	4.8	10.8	12.0	26.9	23.9	53.9
V - 3 - 2	24.3	3.5	8.9	8.9	20.0	17.7	39.9
V - 3 - 3	32.4	4.7	10.6	11.8	26.6	23.7	53.2
4. Zimutu C.L.							
V - 4 - 1	25.5	3.7	8.4	9.3	20.9	18.6	41.9
V - 4 - 2	39.1	5.7	12.8	14.3	32.1	28.5	64.2
V - 4 - 3	26.2	3.8	8.6	9.6	21.5	19.1	43.0
VI. CHIVI							
1. Chivi C.L.							
VI - 1 - 1	18.1	2.6	5.9	6.6	14.9	13.2	29.7
VI - 1 - 2	22.6	3.3	7.4	8.2	18.6	16.5	37.1
VI - 1 - 3	16.2	2.4	5.3	5.9	13.3	11.8	26.6
VI - 1 - 4	11.4	1.7	3.7	4.2	9.4	8.3	18.7
VI - 1 - 5	22.6	3.3	7.4	8.2	18.6	16.5	37.1
VI - 1 - 6	25.2	3.7	8.3	9.2	20.7	18.4	41.4
VI - 1 - 7	11.2	1.6	3.7	4.1	9.2	8.2	18.4
VI - 1 - 8	18.5	2.7	6.0	6.8	15.2	13.5	30.4
2. Mashava C.L.							
VI - 2 - 1	24.1	3.5	7.9	8.8	19.8	17.6	39.6
VI - 2 - 2	17.2	2.5	5.7	6.3	14.1	12.6	28.3
VII. ZAKA							
1. Ndanga							
VII - 1 - 1	24.5	3.6	8.0	8.9	20.1	17.9	40.2
VII - 1 - 2	20.4	3.0	6.7	7.5	16.8	14.9	33.6
VII - 1 - 3 *3/	28.3	4.1	9.3	10.3	23.2	20.7	46.5
VII - 1 - 4	42.3	6.2	13.9	15.4	34.7	30.9	69.5
VII - 1 - 5	29.5	4.3	9.7	10.8	24.3	21.6	48.5
VII - 1 - 6	10.8	1.6	3.5	3.9	8.9	7.9	17.7
VII - 1 - 7	23.4	3.4	7.7	8.6	19.2	17.1	38.5
VII - 1 - 8	36.5	5.3	12.0	13.3	30.0	26.6	60.0
VII - 1 - 9	43.9	6.4	14.4	16.0	36.1	32.1	72.1
VII - 1 - 10	43.9	6.4	14.4	16.0	36.1	32.1	72.1
VII - 1 - 11	43.9	6.4	14.4	16.0	36.1	32.1	72.1
VII - 1 - 12	74.8	10.9	24.6	27.3	61.5	54.6	122.9
VII - 1 - 13	32.7	4.8	10.8	11.9	26.9	23.9	53.8

Note: *1/ ----- Daily Water Demand 20 litres/LSU/day

*2/ ----- Daily Water Demand 45 litres/LSU/day

*3/ ----- Data regarding livestock units per km² of each ward was not available so that a figure of Nyakunuwa Area's average was used.

Table F-20 (a) Social Situation

Dam No.	1. Diffusion of Impact: Concerned Ward	1. Diffusion of Impact: Population Density (persons/sq.km) 1	2. Security of Foodstuff: Average Acreage per Household: Areable Area (ha) 2-1	2. Security of Foodstuff: Average Acreage per Household: Maize (ha) 2-2	2. Security of Foodstuff: Yield of Maize (bags/ha) 2-3	2. Security of Foodstuff: Drought Situation 2-4	3. Water Supply for Livestock: Livestock Population (LSUs/sq.km) 3-1	3. Water Supply for Livestock: Average Distance to Source (km) 3-2	3. Water Supply for Livestock: Security of Water Supply 3-3	4. Water Supply for Domestic Use: Units per sq.km: Borehole 4-1	4. Water Supply for Domestic Use: Units per sq.km: Well 4-2	4. Water Supply for Domestic Use: Population per unit: Borehole 4-3	4. Water Supply for Domestic Use: Population per unit: Well 4-4	4. Water Supply for Domestic Use: Average Distance to Source (km) 4-5	4. Water Supply for Domestic Use: Security of Water Supply 4-6
I-1-1	23	44.4	6.5	2.6	10	P	6.9	4.0	P	0.05	0.03	871	1452	3.0	F
I-1-2	20	45.3	7.9	3.2	10	P	29.3	4.0	P	0.05	0.06	989	791	3.0	F
I-1-3	17	20.7	15.2	4.7	10	F	5.6	4.0	P	0.02	N.A	853	N.A	3.0	F
I-2-1	9	44.6	8.4	3.2	10	G	16.9	3.0	F	0.06	0.03	799	1332	3.0	F
I-2-2	1, 3	53.6	6.7	2.7	10	F	9.6	3.0	F	0.05	0.03	976	2228	3.0	F
I-2-3	4	42.9	8.2	3.8	10	F	11.4	3.0	F	0.09	0.01	463	3705	3.0	F
I-2-4	11	49.7	6.4	2.8	10	F	15.3	3.0	F	0.08	0.02	585	2049	3.0	F
I-2-5	11	49.7	6.4	2.8	10	F	15.3	3.0	F	0.08	0.02	585	2049	3.0	F
II-1-1	19	141.8	2.3	0.5	10	P	50.2	3.0	F	0.57	1.56	250	91	3.0	F
II-1-2	20	134.1	5.9	0.1	12	P	84.6	2.0	G	0.12	0.29	1150	460	0.5	F
II-1-3	18	165.4	4.5	0.2	18	P	62.6	2.0	G	0.19	1.09	869	152	0.5	F
II-1-4	20	134.1	5.9	0.1	12	P	84.6	2.0	G	0.12	0.29	1150	460	0.5	F
II-1-5	14	81.1	3.5	3.0	18	F	108.1	2.0	F	0.11	0.22	750	375	1.0	G
II-1-6	14	81.1	3.5	3.0	18	F	108.1	2.0	F	0.11	0.22	750	375	1.0	G
II-1-7			-	No Data	-										
II-1-8	16	37.2	15.3	2.7	15	P	50.3	3.0	F	0.04	0.12	1050	323	1.0	G
II-1-9	17	190.9	4.4	1.1	22	F	87.1	2.5	G	0.12	1.61	1633	119	1.0	F
II-1-10	16	37.2	15.3	2.7	15	P	50.3	3.0	F	0.04	0.12	1050	323	1.0	G
II-1-11	17	190.9	4.4	1.1	22	F	87.1	2.5	G	0.12	1.61	1633	119	1.0	F
II-2-1	2	38.4	2.3	1.5	7	F	25.9	3.0	P	0.09	0.05	420	734	2.0	G
II-2-2	2	38.4	2.3	1.5	7	F	25.9	3.0	P	0.09	0.05	420	734	2.0	G
II-2-3	3	38.9	2.0	0.2	10	P	38.9	4.0	P	0.12	-	334	-	3.0	G

Note: 2-4, 3-3, 4-6 G --- Good, F --- Fair, P --- Poor

Source: Agritex, 1986

Table F-20 (b) Social Situation

Dam No.	1. Diffusion of Impact: Concerned Ward	1. Diffusion of Impact: Population Density (persons/sq.km) 1	2. Security of Foodstuff: Average Acreage per Household: Areable Area (ha) 2-1	2. Security of Foodstuff: Average Acreage per Household: Maize (ha) 2-2	2. Security of Foodstuff: Yield of Maize (bags/ha) 2-3	2. Security of Foodstuff: Drought Situation 2-4	3. Water Supply for Livestock: Livestock Population (LSUs/sq.km) 3-1	3. Water Supply for Livestock: Average Distance to Source (km) 3-2	3. Water Supply for Livestock: Security of Water Supply 3-3	4. Water Supply for Domestic Use: Units per sq.km: Borehole 4-1	4. Water Supply for Domestic Use: Units per sq.km: Well 4-2	4. Water Supply for Domestic Use: Population per unit: Borehole 4-3	4. Water Supply for Domestic Use: Population per unit: Well 4-4	4. Water Supply for Domestic Use: Average Distance to Source (km) 4-5	4. Water Supply for Domestic Use: Security of Water Supply 4-6
III-1-1	3	28.0	12.2	2.3	7	P	10.4	4.0	F	0.02	-	1167	-	4.0	F
III-1-2	8	39.6	8.3	1.5	7	G	11.5	4.0	F	0.03	-	1220	-	4.0	F
III-1-3	7	34.2	10.0	1.7	7	G	11.0	4.0	F	0.03	-	1083	-	4.0	F
III-1-4	3	28.0	12.2	2.3	7	P	10.4	4.0	F	0.02	-	1167	-	4.0	F
III-1-5	4	23.1	14.8	2.5	7	F	9.0	4.0	P	0.04	-	620	-	4.0	P
III-2-1	1	51.5	6.7	1.2	7	F	N.A	4.0	F	0.06	N.A	905	N.A	2.0	F
III-2-2	1	51.5	6.7	1.2	7	F	N.A	4.0	F	0.06	N.A	905	N.A	2.0	F
III-2-3	2	38.0	11.3	0.2	7	P	N.A	3.0	F	0.04	N.A	950	N.A	2.0	G
III-2-4	3	147.6	3.6	0.7	7	P	N.A	3.0	F	0.17	0.02	886	6200	2.0	F
III-2-5	5	62.9	7.5	1.2	7	P	N.A	3.0	F	0.09	0.02	678	3050	2.0	F
III-3-1	1	7.9	11.3	1.3	7	P	3.4	6.0	P	0.01	-	875	-	6.0	P
III-3-2	1	7.9	11.3	1.3	7	P	3.4	6.0	P	0.01	-	875	-	6.0	P
III-3-3	4	6.8	12.9	1.4	7	P	3.5	6.0	P	0.01	-	857	-	6.0	P
III-3-4	1	7.9	11.3	1.3	7	P	3.4	6.0	P	0.01	-	875	-	6.0	P
III-3-5	2	16.2	6.7	1.5	7	P	9.6	6.0	P	0.02	-	1000	-	6.0	P
III-3-6	3	17.6	6.7	1.5	7	P	9.5	6.0	P	0.02	-	1000	-	6.0	P
III-3-7	4	6.8	12.9	1.4	7	P	3.5	6.0	P	0.01	-	857	-	6.0	P
III-3-8	4	6.8	12.9	1.4	7	P	3.5	6.0	P	0.01	-	857	-	6.0	P
IV-1-1	28	78.3	4.2	0.7	N.A	F	N.A	1.0	F	0.05	0.16	1513	504	0.1	F
IV-1-2	28	78.3	4.2	0.7	N.A	F	N.A	1.0	F	0.05	0.16	1513	504	0.1	F
IV-1-3	3	50.4	7.9	1.9	N.A	F	39.8	1.0	F	0.03	0.40	1590	127	1.0	F
IV-1-4	1	38.5	9.8	7.4	N.A	F	20.5	2.0	F	0.03	0.43	1500	90	1.0	P

Note: 2-4, 3-3, 4-6 G --- Good, F --- Fair, P --- Poor

Source: Agritex, 1986

Table F-20 (c) Social Situation

Dam No.	Concerned Ward	1. Diffusion of Impact: Population Density (persons/sq.km) 1	2. Security of Foodstuff: Average Acreage per Household: Areable Area (ha) 2-1	Maize (ha) 2-2	Yield of Maize (bags/ha) 2-3	Drought Situation 2-4	3. Water Supply for Livestock: Livestock Population (LSUs/sq.km) 3-1	Average Distance to Source (km) 3-2	Security of Water Supply 3-3	4. Water Supply for Domestic Use: Units per sq.km: Borehole 4-1	Well 4-2	Population per unit: Borehole 4-3	Well 4-4	Average Distance to Source (km) 4-5	Security of Water Supply 4-6
IV-2-1	13	74.7	4.2	N.A	12	F	42.3	2.5	G	0.04	0.11	1867	700	2.0	F
IV-3-1	21	118.1	2.6	2.1	18	F	30.7	2.0	F	0.05	0.12	2363	945	0.2	F-P
IV-3-2	22,23	120.7	3.9	2.5	15	F	37.5	2.5	F	0.07	0.50	1908	272	0.4	F
IV-4-1	5,15	82.3	3.6	N.A	16	F	51.0	2.0	F	0.15	0.49	585	169	1.2	F
IV-4-2	16	86.7	10.5	8.3	10	F	31.6	1.0	F	0.01	0.84	6208	103	0.2	F
IV-4-3	34	147.7	2.5	N.A	15	F	34.6	1.0	F	0.07	5.38	2060	27	0.1	G
IV-4-4	35	76.4	3.7	N.A	12	F	36.4	2.0	F	0.09	0.78	820	98	2.0	F
IV-4-5	26	50.3	7.5	N.A	10	F	22.5	1.0	F	0.02	N.A	3000	N.A	1.0	P
IV-4-6	18,36	57.5	5.5	0.8	16	P	16.0	2.0	F	0.06	0.20	1229	250	1.8	F
IV-4-7	17,18	68.9	6.3	0.6	15	P	20.8	2.5	F	0.03	0.13	2264	625	1.8	F
IV-4-8	17	92.7	6.5	0.4	18	P	24.1	3.0	F	0.03	0.10	3527	950	2.0	F
IV-4-9	26,27	52.4	6.9	N.A	13	F	36.8	0.8	F-G	0.06	6.36	1800	9	0.6	G
IV-4-10	26	50.3	7.5	N.A	10	F	22.5	1.0	F	0.02	N.A	3000	N.A	1.0	P
IV-4-11	15	84.5	5.5	N.A	20	F	50.6	2.0	F	0.12	0.47	712	178	2.0	F
V-1-1	Charumbira	135.7	1.6	N.A	18	P	51.2	3.0	P	0.27	N.A	509	N.A	3.0	P
V-1-2	Musingarawi	29.5	3.1	N.A	6	P	10.9	1.0	P	0.05	0.08	578	347	3.0	F
V-1-3	Shumba	64.3	3.9	N.A	15	G	27.0	2.0	F	0.10	0.12	661	529	1.0	F
V-2-1	Chikuwando	51.8	3.2	0.9	12	F	61.6	2.0	G	0.13	0.51	404	101	1.0	F
V-2-2	Murinye	50.4	4.3	1.5	15	F	35.4	1.0	G	0.05	0.36	1041	139	1.0	F
V-2-3	Murinye B	55.3	7.2	1.4	18	F	45.8	1.0	G	0.07	0.16	800	343	1.0	F
V-2-4	Chatikubo	77.9	4.6	1.5	11	F	48.0	3.0	G	0.06	0.24	1332	331	1.5	F
V-3-1	Gowa, Nyagena 3	53.0	N.A	1.2	10	P	32.8	4.5	P	0.06	0.15	1359	366	3.2	P-F

Note: 2-4, 3-3, 4-6 G --- Good, F --- Fair, P --- Poor

Source: Agritex, 1986

Table F-20(d) Social Situation

Dam No.	Concerned Ward	1. Diffusion of Impace: Population Density (persons/sq.km) 1	2. Security of Foodstuff: Average Acreage per Household: Areable Area (ha) 2-1	Maize (ha) 2-2	Yield of Maize (bags/ha) 2-3	Drought Situation 2-4	3. Water Supply for Livestock: Livestock Population (LSUs/sq.km) 3-1	Average Distance to Source (km) 3-2	Security of Water Supply 3-3	4. Water Supply for Domestic Use: Units per sq.km: Borehole 4-1	Well 4-2	Population per unit: Borehole 4-3	Well 4-4	Average Distance to Source (km) 4-5	Security of Water Supply 4-6
V-3-2	Maregere 4	83.1	N.A	1.1	8	P	24.3	5.0	P	0.03	N.A	2436	N.A	3.0	F
V-3-3	Dowa 6	74.7	N.A	0.7	12	P	32.4	4.0	P	0.02	0.02	4592	4592	1.5	P
V-4-1	Mushavhi	63.9	N.A	0.7	15	G	25.5	5.0	G	0.04	0.11	1680	560	4.0	G
V-4-2	Gurajeha	61.6	N.A	0.9	15	G	39.1	14.0	G	0.12	0.15	525	420	4.0	G
V-4-3	Zimuto	99.1	N.A	0.5	15	G	26.2	10.0	F	0.08	0.09	1260	1050	5.0	G
VI-1-1	17	40.8	5.3	0.5	7	P	18.1	12.0	P	0.03	0.04	1518	1012	6.0	P
VI-1-2	21	44.5	6.1	6.1	N.A	P	22.6	4.0	P	0.06	-	762	-	4.0	P
VI-1-3	25	45.2	2.5	1.0	12	F	16.2	2.0	P	0.03	-	1536	-	2.0	P
VI-1-4	20	30.4	9.9	3.7	6	P	11.4	3.0	P	0.04	-	860	-	3.0	P
VI-1-5	21	44.5	6.1	2.2	6	P	22.6	4.0	P	0.06	-	762	-	4.0	P
VI-1-6	23	46.2	3.1	1.6	10	F	25.2	3.0	P	0.09	-	539	-	1.0	P
VI-1-7	11	64.1	3.5	0.4	4	P	11.2	4.0	P	0.06	0.01	1064	5320	4.0	P
VI-1-8	15	53.2	5.3	2.1	8	P	18.5	3.0	P	0.03	-	1529	-	3.0	P
VI-2-1	3	75.0	4.5	1.6	12	P	24.1	2.0	P	0.02	0.14	3150	525	3.0	P
VI-2-2	2	82.6	7.2	2.9	12	G	17.2	2.0	P	0.06	0.10	1420	789	2.0	P

Note: 2-4, 3-3, 4-6 G — Good, F — Fair, P — Poor

Source: Agritex, 1986

Table F-20 (e) Social Situation

Dam No.	Concerned Ward	1. Diffusion of Impace: Population Density (persons/sq.km) 1	2. Security of Foodstuff: Average Acreage per Household: Areable Area (ha) 2-1	Maize (ha) 2-2	Yield of Maize (bags/ha) 2-3	3. Water Supply for Livestock: Drought Situation 2-4	Livestock Population (LSUs/sq.km) 3-1	Average Distance to Source (km) 3-2	Security of Water Supply 3-3	4. Water Supply for Domestic Use: Units per sq.km: Borehole 4-1	Well 4-2	Population per unit: Borehole 4-3	Well 4-4	Distance to Source (km) 4-5	Security of Water Supply 4-6
VII-1-1	Tsuro	139.7	1.3	0.6	10	F	24.5	3.0	F	0.09	-	1572	-	2.0	F
VII-1-2	Mtimwi	64.2	3.5	1.9	8	F	20.4	3.0	F	0.05	0.01	1303	7820	3.0	F
VII-1-3	Mutsvangwa	N.A	N.A	N.A	10	P	N.A	1.0	N.A	N.A	N.A	900	720	1.0	N.A
VII-1-4	Murebwe	58.6	5.1	N.A	8	P	42.3	3.0	N.A	0.08	0.12	751	500	2.0	N.A
VII-1-5	Nemaruku	128.8	1.3	0.5	10	F	29.5	3.0	F	0.17	0.06	775	2067	2.0	F
VII-1-6	Chidzurira	115.2	1.4	0.7	11	P	10.8	3.0	F	0.06	0.06	1913	1913	2.0	F
VII-1-7	Bota North	67.6	9.3	1.7	10	P	23.4	2.0	P	0.09	0.17	750	400	2.0	F
VII-1-8	Mutonhori	92.3	5.7	N.A	8	P	36.5	2.0	N.A	0.11	0.11	857	857	3.0	N.A
VII-1-9	Mushadirapamwe	64.0	5.1	N.A	7	P	43.9	7.0	F	0.08	0.05	840	1400	3.0	F
VII-1-10	- do -	64.0	5.1	N.A	7	P	43.9	7.0	F	0.08	0.05	840	1400	3.0	F
VII-1-11	- do -	64.0	5.1	N.A	7	P	43.9	7.0	F	0.08	0.05	840	1400	3.0	F
VII-1-12	Dzoro North	200.7	3.3	1.9	8	P	74.8	2.0	P	0.20	0.40	1000	500	2.0	F-P
VII-1-13	Bota South	93.0	7.3	3.2	8	P	32.7	2.0	F	0.06	0.25	1500	375	2.0	F-P

Note: 2-4, 3-3, 4-6 G --- Good, F --- Fair, P --- Poor

Source: Agritex, 1986

Table F-21 Base of Social Indicator

Items		Rank A (worst)	B (worse)	C (medium)	D (fair)
1. Diffusion of Impact					
1-1 Population density	(persons per sq.km)	≥100	≥60	≥30	<30
2. Security of Foodstuff					
2-1 Arable area per household	(ha per household)	≤4.0	≤7.0	≤10.0	>10.0
2-2 Cropping area of Maize	(ha per household)	≤0.5	≤1.0	≤2.0	>2.0
2-3 Yield of Maize	(bags per ha)	≤8	≤11	≤14	>14
2-4 Drought situation		Poor	Fair	Good	-
Evaluation	(points, max. = 12)	≥10	≥7	≥5	<5
3. Water Supply for Livestock					
3-1 Livestock population	(LSUs per sq.km)	≥60	≥40	≥20	<20
3-2 Average distance to source	(km)	≥6.0	≥4.0	≥2.0	<2.0
3-3 Security of water supply		Poor	Fair~Poor	Fair	Good
Evaluation	(points, max. = 9)	≥6	≥4	3	<3
4. Water Supply for Domestic Use					
4-1 Units of boreholes per sq.km		≤0.03	≤0.09	≤0.14	>0.14
4-2 Units of wells per sq.km		≤0.10	≤0.50	≤1.0	>1.0
4-3 Population per borehole	(persons per unit)	≥2000	≥1000	≥500	<500
4-4 Population per well	(persons per unit)	≥1000	≥500	≥200	<200
4-5 Average distance to source	(km)	≥6.0	≥4.0	≥2.0	<2.0
4-6 Security of water supply		Poor	Fair~Poor	Fair	Good
Evaluation	(points, max. = 15)	≥11	≥7.5	≥4.5	<4.5

Note: Aside from 4-2 and 4-4, the corresponded point was given to each rank, namely, 'A' to '3', 'B' to '2', 'C' to '1' and 'D' to '0'.

4-2 and 4-4 are evaluated as below: 'A' to '1.5', 'B' to '1.0' and 'C' to '0.5'.

Table F-22 Social Indicator for Project

Dam No.	1. Diffusion of Impact	2. Security of Foodstuff	3. Water Supply for Livestock	4. Water Supply for Domestic Use
I. MWENEZI				
1. Maranda C.L				
I-1-1	C	B	B	B
I-1-2	C	C	A	C
I-1-3	D	D	B	B
2. Matibi No.1 C.L				
I-2-1	C	D	D	B
I-2-2	C	C	D	B
I-2-3	C	C	D	C
I-2-4	C	C	D	B
I-2-5	C	C	D	B
II. BIKITA				
1. Bikita C.L				
II-1-1	A	A	B	D
II-1-2	A	B	B	C
II-1-3	A	B	B	D
II-1-4	A	B	B	C
II-1-5	B	D	B	D
II-1-6	B	C	B	D
II-1-7		- Not Available -		
II-1-8	C	D	B	C
II-1-9	A	C	B	D
II-1-10	C	D	C	C
II-1-11	A	C	B	D
2. Matsai C.L				
II-2-1	C	B	B	C
II-2-2	C	B	B	C
II-2-3	C	A	A	D
III. CHIREDZI				
1. Matibi No.2 C.L				
III-1-1	D	C	C	A
III-1-2	C	C	C	A
III-1-3	C	C	C	A
III-1-4	D	C	C	A
III-1-5	C	C	D	B
2. Sangwe C.L				
III-2-1	C	C	B	B
III-2-2	C	C	B	B
III-2-3	C	B	B	C
III-2-4	A	A	A	C
III-2-5	B	B	A	B
3. Sengwe C.L				
III-3-1	D	B	A	A
III-3-2	D	B	A	A
III-3-3	D	B	A	A
III-3-4	D	B	A	A
III-3-5	D	B	A	A
III-3-6	D	B	A	A
III-3-7	D	B	A	A
III-3-8	D	B	A	A
IV. GUTU				
1. Chikuwanda C.L				
IV-1-1	B	N.A	C	C
IV-1-2	B	N.A	C	C
IV-1-3	C	N.A	C	C
IV-1-4	C	N.A	C	B
2. Denhere C.L				
IV-2-1	B	N.A	C	B
3. Serina C.L				
IV-3-1	A	C	C	B
IV-3-2	A	C	C	C
3. Gutu C.L				
IV-4-1	B	C	B	D
IV-4-2	B	D	D	B
Iv-4-3	A	N.A	D	B
IV-4-4	B	N.A	C	C
IV-4-5	C	N.A	D	B
IV-4-6	C	B	D	C
IV-4-7	B	B	C	B
IV-4-8	B	B	C	B

Table F-22 Social Indicator for Project

Dam No.	1. Diffusion of Impact	2. Security of Foodstuff	3. Water Supply for Livestock	4. Water Supply for Domestic Use
IV-4-9	C	N.A	D	D
IV-4-10	C	N.A	D	B
IV-4-11	B	N.A	B	C
V. MASVINGO				
1. Masvingo C.L				
V-1-1	A	N.A	A	C
V-1-2	D	N.A	C	C
V-1-3	B	N.A	C	C
2. Mcilikwe C.L				
V-2-1	C	B	C	D
V-2-2	C	C	D	C
V-2-3	C	D	D	C
V-2-4	B	B	C	C
3. Nyajena C.L				
V-3-1	C	N.A	A	B
V-3-2	B	N.A	A	B
V-3-3	B	N.A	A	A
4. Zimutu C.L				
V-4-1	B	N.A	C	B
V-4-2	B	N.A	B	C
V-4-3	B	N.A	B	B
VI. CHIVI				
1. Chivi C.L				
VI-1-1	C	A	A	A
VI-1-2	C	B	A	A
VI-1-3	C	B	B	A
VI-1-4	C	B	B	B
VI-1-5	C	B	A	A
VI-1-6	C	B	B	B
VI-1-7	B	A	B	A
VI-1-8	C	B	B	A
2. Mashava C.L				
VI-2-1	B	D	B	B
VI-2-2	B	B	B	A

Dam No.	1. Diffusion of Impact	2. Security of Foodstuff	3. Water Supply for Livestock	4. Water Supply for Domestic Use
VII. ZAKA				
1. Ndanga C.L				
VII-1-1	A	B	C	B
VII-1-2	B	B	C	B
VII-1-3	N.A	N.A	C	N.A
VII-1-4	C	N.A	B	C
VII-1-5	A	A	C	C
VII-1-6	A	A	C	B
VII-1-7	B	B	B	C
VII-1-8	B	N.A	C	C
VII-1-9	B	N.A	A	B
VII-1-10	B	N.A	A	B
VII-1-11	B	N.A	A	B
VII-1-12	A	A	A	C
VII-1-13	B	B	C	B
Distribution of Ranks for Social Effect				
A	15	8	23	20
B	29	32	29	33
C	37	19	27	29
D	12	8	14	10
N.A	1	27	1	2

Figure F-1 Service Centres in Masvingo Province

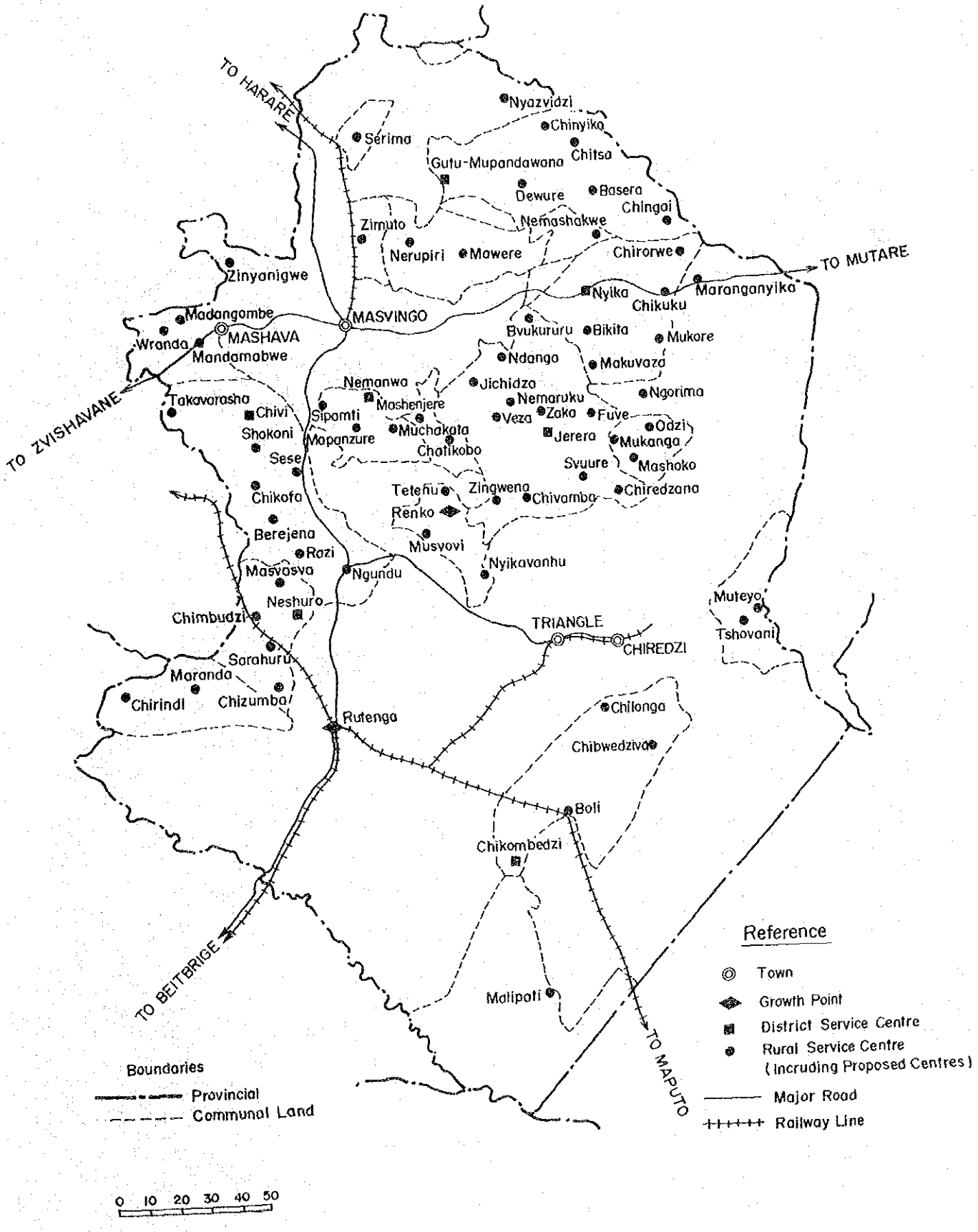
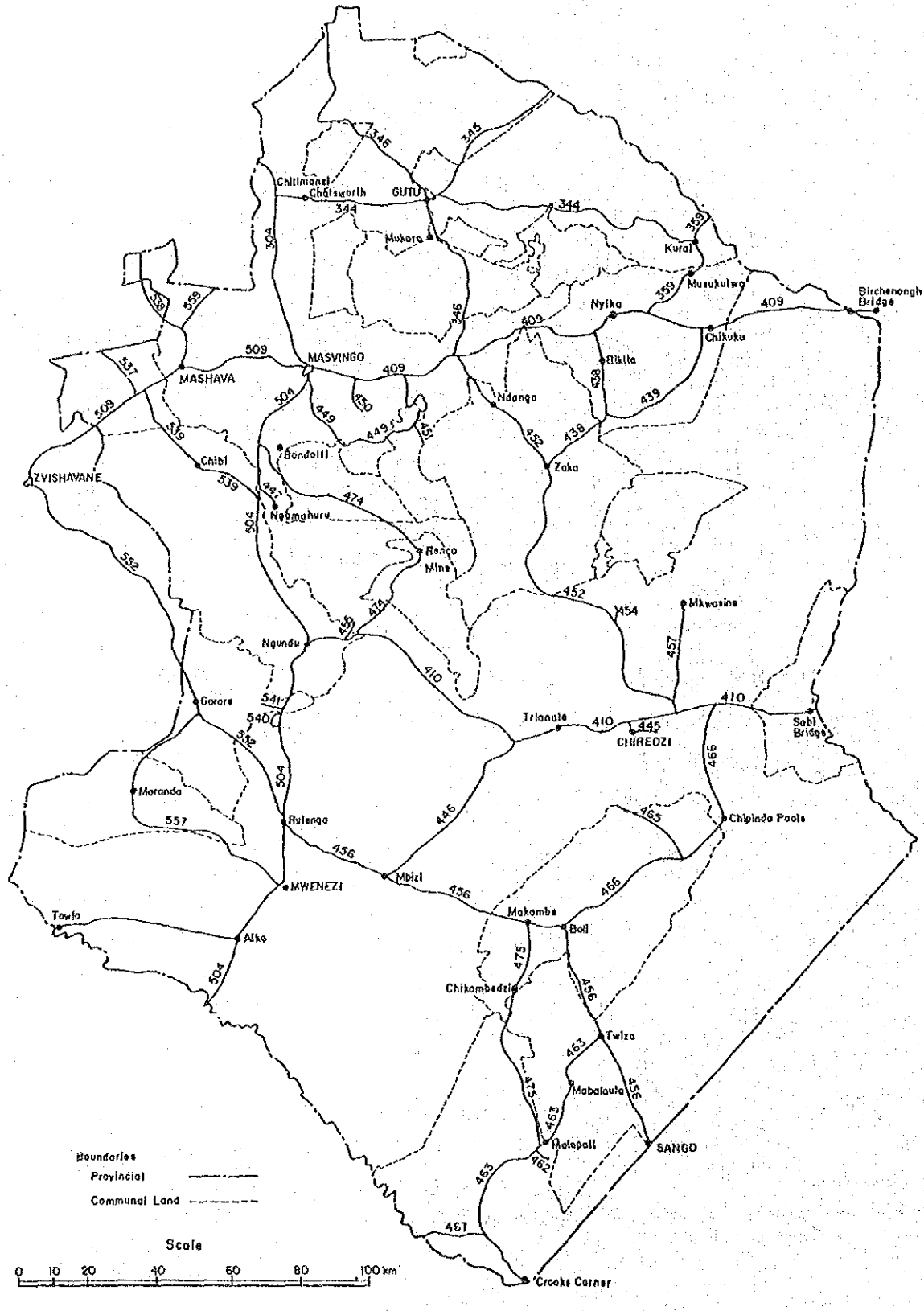


Figure F-2 Road Map



ANNEX G. PROJECT COST

Contents

Table G-1 Base Unit Rates for Construction Cost

Item	Nov. 1985 Unit Price A (Z$)	Nov. 1986 Unit Price B (Z$)
1. Clear site	2 400/ha	4 400/ha
2. Excavation (soil)	---	3/m^3
3. " (soft rock)	4.0/m^3	7/m^3
4. " (hard rock)	22.0/m^3	40/m^3
5. Triming	4.5/m^2	8/m^2
6. Embankment(incl. Excavation less than 1.5km)	2.5/m^3	4.6/m^3
7. Rock Rip-Rap	18/m^3	33/m^3
8. Crusher Run Filter	40/m^3	73/m^3
9. Grout Curtain, 6m stage	350/N.S	350/N.S
10. Concrete(Mass) incl. forme	125/m^3	230/m^3
11. Concrete (Rainforced) incl. forme	200/m^3	370/m^3
12. concrete (Underground) incl. forme	225/m^3	415/m^3
13. Rainforcement	1 150/t	2 100 /t
14. Steel Piping	0.7/m per mm dia.	1.3/m per mm dia.

[Note] B is roughly equal to Ax1.20x1.52

Table G-2 Direct Construction Cost of Spillway Chute per Meter

Item	Unit Price (Z$)	Type A qt	Type A Cost (Z$)	Type B qt	Type B Cost (Z$)	Type C qt	Type C Cost (Z$)
Excavation (soft rock)(m^3)	7	53.2	372	68.0	476	76.8	538
" (hand rock)(m^3)	40	8.3	332	12.0	480	14.2	568
Concrete (Underground) (m^3)	415	4.4	1826	8.5	3528	11.7	4856
Reinforcement (t)	2100	0.352	739	0.680	1428	0.936	1966
Total =			3770		5910		7930

Table G-3 Direct Construction Cost of Canal per Meter

Item		Unit Price ($)	Type A qt	Type A Cost (Z$)	Type B qt	Type B Cost (Z$)	Type C qt	Type C Cost (Z$)	Type D qt	Type D Cost (Z$)	Type E qt	Type E Cost (Z$)	Type F qt	Type F Cost (Z$)
Excavation (soil)	(m^3)	3	2.0	6.0	2.1	6.3	2.1	6.3	2.1	6.3	2.2	6.6	2.2	6.6
Embankment	(m^3)	6	5.5	33.0	6.5	39.0	6.9	41.4	6.9	41.4	7.6	45.6	8.0	48.0
Triming	(m^2)	8	2.5	20.0	2.8	22.4	3.0	24.0	3.0	24.0	3.0	25.6	3.4	27.2
Concrete (Mass)	(m^3)	230	0.015	3.5	0.018	4.1	0.020	4.6	0.023	5.3	0.023	5.3	0.026	6.0
Concrete (Rainforced)	(m^3)	370	0.073	27.0	0.097	35.9	0.112	41.4	0.122	45.1	0.130	48.1	0.148	54.8
Rainforcement	(t)	2100	0.0018	3.8	0.0024	4.4	0.0028	5.9	0.0031	6.5	0.0033	6.9	0.0037	7.8
Crusher Run	(m^3)	73	0.451	32.9	0.461	33.7	0.466	34.0	0.476	34.7	0.476	34.7	0.486	35.4
Fencing	(m)	5	2.0	10.0	2.0	10.0	2.0	10.0	2.0	10.0	2.0	10.0	2.0	10.0
Total				136		156		168		173		183		196

[Note] Embankment (incl. Excavation less than 0.5km) --- 4.5 Z$/$m^3$ x 1.2 x 1.52 x 0.75 = 6 Z$/$m^3$

Fencing
- Perimeter Fence --- 3.22 Z$/m
- Gate (2N.s/km) --- 0.84 Z$/m
- Installation --- 1.00 Z$/m

Total = 5 Z$/m

Table G-4 Direct Construction Cost of Steel Piping per Meter

Dia (mm)	Direct Construction Cost (Z$/m)
65	84.5
80	104
100	130
125	162.5
150	195
200	260
250	325
300	390
350	455
400	520
500	650

[Note] 1.3 Z$/m per mm dia.

- Diesel Oil Cost 0.63 Z$/ℓ
- Pumping hours per year 1700 hours/year
  Bikita, Gutu, Masvingo, Chivi, Zaka.
  Batanai, Gaza Komanai 1900 hours/year

Table G-5(1) Direct Construction Cost

Item		Unit Price Z$	Cheshauga I-1-1 qt	Cheshauga I-1-1 Cost Z$(000)	Sipala I-1-2 qt	Sipala I-1-2 Cost Z$(000)	Dengenya I-1-3 qt	Dengenya I-1-3 Cost Z$(000)	Musaverema I-2-1 qt	Musaverema I-2-1 Cost Z$(000)	Zvirikure I-2-2 qt	Zvirikure I-2-2 Cost Z$(000)	Chinagami I-2-3 qt	Chinagami I-2-3 Cost Z$(000)
1. Dam														
Clear site	(ha)	4 400	1	4.4	1	4.4	1	4.4	2	8.8	2	8.8	2	8.8
Grout curtain	(n.s)	645			50	32.3			42	27.1				
Excavation (soft rock)	(m^3)	7	8 600	60.2	9 900	69.3	10 200	71.4	16 900	118.3	15 000	105.0	12 300	86.1
Embankment	(m^3)	4.6	79 000	363.4	75 000	345.0	65 000	299.0	105 000	483.0	199 000	915.4	102 000	469.2
Triming	(m^2)	8	6 600	52.8	7 200	57.6	7 000	56.0	11 500	92.0	12 600	100.8	9 100	72.8
Rock rip-rap	(m^3)	33	1 860	61.4	1 960	64.7	1 850	61.1	3 030	100.0	3 650	120.5	2 510	82.8
Crusher run filter	(m^3)	73	2 400	175.2	2 300	167.9	2 000	146.0	3 200	233.6	6 000	438.0	3 100	226.3
Spillway Type A	(m)	3 770												
Chute Type B	(m)	5 910			50	295.5								
Type C	(m)	7 930							50	396.5				
Concrete Weir	(m^3)	230	65	15.0	86	19.8	81	18.6	254	58.4	90	20.7	114	26.2
Sub-total				732.4		1 056.5		656.5		1 517.7		1 709.2		972.2
2. Canal														
Canal Type A	(m)	136	4 200	571.2										
Type C	(m)	168									2 200	369.6		
Type D	(m)	173							1 700	294.1				
Pipeline(Steel)	(m)	1.3/dia(mm)	ϕ150 300	58.5					ϕ300 200	78.0	ϕ250 200	65.0		
3. Pumping Facility														
Pumping Station	(n.s)	1 000/dia(mm)			ϕ65x3	195.0	ϕ65x3	195.0					ϕ100x3	300.0
Pipeline(steel)	(m)	1.3/dia(mm)			ϕ100 1 000	130.0	ϕ100 700	91.0					ϕ200 1 700	442.0
Sub-total				629.7		325.0		286.0		372.1		434.6		742.0
4. In-Field Facility														
Night storage reservoir	(Lump Sum)			27.0		27.0		27.0		49.0		39.0		39.0
In-field facility Type A	(ha)	4 000											13.9	55.6
Type B	(ha)	4 200									22.4	94.1		
Type C	(ha)	4 400	3.7	16.3	4.2	18.5	2.8	12.3	40.1	176.4				
Sub-total				43.3		45.5		39.3		225.4		133.1		94.6
Total				1 405.4		1 427.0		981.8		2 115.2		2 276.9		1 808.8

Table G-5(2) Direct Construction Cost

Item		Unit Price Z$	Mushava I-2-4 qt	Mushava I-2-4 Cost Z$(000)	Boyi I-2-5 qt	Boyi I-2-5 Cost Z$(000)	Murwira II-1-1 qt	Murwira II-1-1 Cost Z$(000)	Musukutwa II-1-2 qt	Musukutwa II-1-2 Cost Z$(000)	Mutsinzwa II-1-3 qt	Mutsinzwa II-1-3 Cost Z$(000)	Maranganyika II-1-4 qt	Maranganyika II-1-4 Cost Z$(000)
1. Dam														
Clear site	(ha)	4 400	1	4.4	1	4.4	2	8.8	2	8.8	2	8.8	1	4.4
Grout curtain	(n.s)	645					71	45.8			67	43.2	142	91.6
Excavation (soft rock)	(m^3)	7	6 700	46.9	4 700	32.9	13 400	93.8	11 300	79.1	11 300	79.1	7 400	51.8
Embankment	(m^3)	4.6	41 000	188.6	29 000	133.4	145 000	667.0	104 000	478.4	120 000	552.0	81 000	372.6
Triming	(m^2)	8	4 500	36.0	3 200	25.6	10 700	85.6	8 600	68.8	9 000	72.0	5 900	47.2
Rock rip-rap	(m^3)	33	1 160	38.3	830	27.4	3 100	102.3	2 440	80.5	2 580	85.1	1 720	56.8
Crusher run filter	(m^3)	73	1 200	87.6	900	65.7	4 400	321.2	3 100	226.3	3 600	262.8	2 400	175.2
Spillway Type A	(m)	3 770												
Chute Type B	(m)	5 910			50	295.5	50	295.5			100	591.0		
Type C	(m)	7 930												
Concrete Weir	(m^3)	230	50	11.5	88	20.2	81	18.6	47	10.8	86	19.8	68	15.6
Sub-total				413.3		605.1		1 638.6		952.7		1 713.8		815.2
2. Canal														
Canal Type A	(m)	136	2 300	312.8										
Type B	(m)	156												
Type	(m)													
Pipeline(Steel)	(m)	1.3/dia(mm)	ϕ150 200	39.0										
3. Pumping Facility														
Pumping Station	(n.s)	1 000/dia(mm)			ϕ65x3 ϕ125	195.0	ϕ125x3 ϕ200	375.0	ϕ100x3 ϕ200	300.0	ϕ125x3 ϕ250	375.0	ϕ100x3 ϕ200	300.0
Pipeline(steel)	(m)	1.3/dia(mm)			1 000	162.5	1 200	312.0	1 200	312.0	500	162.5	3 000	780.0
Sub-total				351.8		357.5		687.0		612.0		537.5		1 080.0
4. In-Field Facility														
Night storage reservoir	(Lump Sum)			27.0		27.0		39.0		39.0		39.0		39.0
In-field facility														
Type A	(ha)	4 000												
Type B	(ha)	4 200												
Type C	(ha)	4 400	1.5	6.6	4.1	18.0	16.0	70.4	12.2	53.7	20.4	89.8	12.2	53.7
Sub-total				33.6		45.0		109.4		92.7		128.8		92.7
Total				798.7		1 007.6		2 435.0		1 657.4		2 380.1		1 987.9

Table G-5(3) Direct Construction Cost

Item		Unit Price Z$	Mundzami II-1-5 qt	Mundzami II-1-5 Cost Z$(000)	Chinyamatumwa II-1-6 qt	Chinyamatumwa II-1-6 Cost Z$(000)	Chanyau II-1-7 qt	Chanyau II-1-7 Cost Z$(000)	Beta II-1-8 qt	Beta II-1-8 Cost Z$(000)	Chikuku II-1-9 qt	Chikuku II-1-9 Cost Z$(000)	Chigumisirwa II-1-10 qt	Chigumisirwa II-1-10 Cost Z$(000)
1. Dam														
Clear site	(ha)	4 400	1	4.4	1	4.4	2	8.8	1	4.4	1	4.4	1	4.4
Grout curtain	(n.s)	645	75	48.4	150	96.8			75	48.4	75	48.4		
Excavation (soft rock)	(m^3)	7	7 800	54.6	9 700	67.9	11 500	80.5	9 000	63.0	8 000	56.0	8 500	59.5
Embankment	(m^3)	4.6	93 000	427.8	115 000	529.0	133 000	611.8	104 000	478.4	93 000	427.8	81 000	372.6
Triming	(m^2)	8	6 400	51.2	7 900	63.2	9 300	74.4	7 300	58.4	6 500	52.0	6 600	52.8
Rock rip-rap	(m^3)	33	1 860	61.4	2 300	75.9	2 720	89.8	2 130	70.3	1 890	62.4	1 870	61.7
Crusher run filter	(m^3)	73	2 800	204.4	3 500	255.5	4 000	292.0	3 100	226.3	2 800	204.4	2 400	175.2
Spillway Type A	(m)	3 770												
Chute Type B	(m)	5 910	100	591.0			150	886.5			80	472.8		
Type C	(m)	7 930												
Concrete Weir	(m^3)	230	56	12.9	68	15.6	50	11.5	104	23.9	95	21.9	68	15.6
Sub-total				1 456.1		1 108.3		2 055.3		973.1		1 350.1		741.8
2. Canal														
Canal Type A	(m)	136												
Type B	(m)	156	1 400	218.4					2 800	436.8	2 800	436.8	2 600	405.6
Type	(m)													
Pipeline(Steel)	(m)	1.3/dia(mm)	ϕ200 100	26.0					ϕ200 200	52.0	ϕ200 200	52.0	ϕ200 100	26.0
3. Pumping Facility														
Pumping Station	(n.s)	1 000/dia(mm)			ϕ200x3	600.0	ϕ150x3	450.0						
Pipeline(steel)	(m)	1.3/dia(mm)			ϕ350 1 000	390.0	ϕ250 900	292.5						
Sub-total				244.4		990.0		742.5		488.8		488.8		431.6
4. In-Field Facility														
Night storage reservoir		(Lump Sum)		39.0		45.0		45.0		39.0		39.0		39.0
In-field facility														
Type A	(ha)	4 000												
Type B	(ha)	4 200			38.8	163.0			20.3	85.3	21.4	89.9	18.8	79.0
Type C	(ha)	4 400	15.4	67.8			23.9	105.2						
Sub-total				106.8		208.0		150.2		124.3		128.9		118.0
Total				1 807.3		2 306.3		2 948.0		1 586.2		1 967.8		1 291.4

Table G-5(4) Direct Construction Cost

Item		Unit Price Z$	Boora II-1-11 qt	Boora II-1-11 Cost Z$(000)	Mashoko II-2-1 qt	Mashoko II-2-1 Cost Z$(000)	Zindove II-2-2 qt	Zindove II-2-2 Cost Z$(000)	Mafaune II-2-3 qt	Mafaune II-2-3 Cost Z$(000)	Majyimba III-1-1 qt	Majyimba III-1-1 Cost Z$(000)	Chanyenga III-1-2 qt	Chanyenga III-1-2 Cost Z$(000)
1. Dam														
Clear site	(ha)	4 400	2	8.8	1	4.4	1	4.4	1	4.4	2	8.8	1	4.4
Grout curtain	(n.s)	645	150	96.8	117	75.5	125	80.6	83	53.5	42	27.1		
Excavation (soft rock)	(m^3)	7	14 000	98.0	7 000	49.0	5 000	35.0	5 500	38.5	11 600	81.2	6 100	42.7
Embankment	(m^3)	4.6	161 000	740.6	63 000	289.8	49 000	225.4	31 000	142.6	35 000	161.0	26 000	119.6
Triming	(m^2)	8	11 300	90.4	5 300	42.5	3 900	31.2	3 600	28.8	5 900	47.2	3 600	28.8
Rock rip-rap	(m^3)	33	3 310	109.2	1 510	49.8	1 100	36.3	930	30.7	1 160	38.3	850	28.1
Crusher run filter	(m^3)	73	4 800	350.4	1 900	138.7	1 500	109.5	900	65.7	1 100	80.3	800	58.4
Spillway Type A	(m)	3 770												
Chute Type B	(m)	5 910	200	1 182.0	150	886.5							200	1 182.0
Type C	(m)	7 930									100	793.0		
Concrete Weir	(m^3)	230	68	15.6	95	21.9	53	12.2	112	25.8	193	44.4	124	28.5
Sub-total				2 691.8		1 558.0		534.6		390.0		1 281.3		1 492.5
2. Canal														
Canal Type A	(m)	136					1 100	149.6	3 800	516.8	900	122.4		
Type B	(m)	156	1 900	296.4	1 300	202.8							2 700	421.2
Type	(m)													
Pipeline(Steel)	(m)	1.3/dia(mm)	ϕ200 100	26.0	ϕ200 100	26.0	ϕ150 100	19.5	ϕ200 200	52.0	ϕ150 100	19.5	ϕ150 100	19.5
3. Pumping Facility														
Pumping Station	(n.s)	1 000/dia(mm)												
Pipeline(steel)	(m)	1.3/dia(mm)												
Sub-total				322.4		228.8		169.1		568.8		141.9		440.7
4. In-Field Facility														
Night storage reservoir	(Lump Sum)			39.0		39.0		39.0		27.0		27.0		27.0
In-field facility														
Type A	(ha)	4 000			14.6	58.4	8.1	32.4			0.8	3.2	0.6	2.4
Type B	(ha)	4 200							6.6	27.7				
Type C	(ha)	4 400	16.2	71.3										
Sub-total				1 110.3		97.4		71.4		54.7		30.2		29.4
Total				3 124.5		1 884.2		775.1		1 013.5		1 453.4		1 962.6

Table G-5(5) Direct Construction Cost

Item		Unit Price Z$	Mpagati III-1-3 qt	Mpagati III-1-3 Cost Z$(000)	Malisanga III-1-4 qt	Malisanga III-1-4 Cost Z$(000)	Chingelelani III-1-5 qt	Chingelelani III-1-5 Cost Z$(000)	Chisakwasi III-2-1 qt	Chisakwasi III-2-1 Cost Z$(000)	Chegwama III-2-2 qt	Chegwama III-2-2 Cost Z$(000)	Chompimbi III-2-3 qt	Chompimbi III-2-3 Cost Z$(000)
1. Dam														
Clear site	(ha)	4 400	1	4.4	2	8.8	2	8.8	1	4.4	1	4.4	1	4.4
Grout curtain	(n.s)	645							42	27.1			42	27.1
Excavation (soft rock)	(m^3)	7	8 600	60.0	11 400	79.8	13 600	95.2	9 200	64.4	9 400	65.8	7 500	52.5
Embankment	(m^3)	4.6	48 000	220.8	33 000	151.8	58 000	266.8	63 000	289.8	60 000	276.0	45 000	207.0
Triming	(m^2)	8	5 600	44.8	5 700	45.6	8 000	64.0	6 600	52.8	6 500	52.0	5 000	40.0
Rock rip-rap	(m^3)	33	1 450	47.9	1 120	37.0	1 890	62.4	1 680	55.4	1 620	53.5	1 290	42.6
Crusher run filter	(m^3)	73	1 400	102.2	1 000	73.0	1 700	124.1	1 900	138.7	1 800	131.4	1 400	102.2
Spillway Type A	(m)	3 770												
Chute Type B	(m)	5 910					500	2 955.0			100	591.0		
Type C	(m)	7 930	200	1 586.0	400	3 172.0			100	793.0				
Concrete Weir	(m^3)	230	126	29.0	149	34.3	88	20.2	235	54.1	50	11.5	63	14.5
Sub-total				2 095.1		3 602.3		3 596.5		1 479.7		1 188.6		490.3
2. Canal														
Canal Type A	(m)	136	700	95.2							1 900	258.4		
Type B	(m)	156			5 600	873.6			500	78.0				
Type	(m)													
Pipeline(Steel)	(m)	1.3/dia(mm)	ϕ200 100	26.0	ϕ200 200	52.0			ϕ200 100	26.0	ϕ200 100	26.0		
3. Pumping Facility														
Pumping Station	(n.s)	1 000/dia(mm)												
Pipeline(steel)	(m)	1.3/dia(mm)												
Sub-total				121.2		925.6				104.0		284.4		
4. In-Field Facility														
Night storage reservoir	(Lumps Sum)			27.0		27.0				39.0		27.0		
In-field facility														
Type A	(ha)	4 000	0.6	2.4	0.6	2.4	--		13.9	55.6	1.1	4.4	--	
Type B	(ha)	4 200												
Type C	(ha)	4 400												
Sub-total				29.4		29.4				94.6		31.4		
Total				2 245.7		4 557.3		3 596.5		1 678.3		1 501.4		490.3

Table G-5(6) Direct Construction Cost

Item		Unit Prices Z$	Chitsa III-2-4 qt	Chitsa III-2-4 Cost Z$(000)	Chitsazani III-2-5 qt	Chitsazani III-2-5 Cost Z$(000)	Dunezo III-3-1 qt	Dunezo III-3-1 Cost Z$(000)	Shavani III-3-2 qt	Shavani III-3-2 Cost Z$(000)	Malibangwe III-3-3 qt	Malibangwe III-3-3 Cost Z$(000)	Gezani III-3-4 qt	Gezani III-3-4 Cost Z$(000)
1. Dam														
Clear site	(ha)	4 400	2	8.8	2	8.8	1	4.4	2	8.8	1	4.4	1	4.4
Grout curtain	(n.s)	645	42	27.1			83	53.5			42	27.1	42	27.1
Excavation (soft rock)	(m^3)	7	13 500	94.5	14 500	101.5	5 500	38.5	11 200	78.4	8 100	56.7	5 700	39.9
Embankment	(m^3)	4.6	57 000	262.2	69 000	317.4	31 000	142.6	84 000	386.4	50 000	230.0	32 000	147.2
Triming	(m^2)	8	7 900	63.2	9 000	72.0	3 600	28.8	8 200	65.6	5 500	44.0	3 700	29.6
Rock rip-rap	(m^3)	33	1 860	61.4	2 120	70.0	930	30.7	2 160	71.3	1 450	47.9	960	31.7
Crusher run filter	(m^3)	73	1 700	124.1	2 100	153.3	900	65.7	2 500	182.5	1 500	109.5	1 000	73.0
Spillway Type A	(m)	3 770												
Chute Type B	(m)	5 910					150	886.5	50	295.5	100	591.0	150	886.5
Type C	(m)	7 930			150	1 189.5								
Concrete Weir	(m^3)	230	27	6.2	158	36.3	63	14.5	102	23.5	120	27.6	84	19.3
Sub-total				647.5		1 948.8		1 265.2		1 112.0		1 138.2		1 258.7
2. Canal														
Canal Type A	(m)	136	2 000	272.0					2 300	312.8	1 500	204.0	2 300	312.8
Type B	(m)	156												
Type	(m)													
Pipeline(Steel)	(m)	1.3/dia(mm)	ϕ150 100	19.5					ϕ150 200	39.0	ϕ150 100	19.5	ϕ150 200	39.0
3. Pumping Facility														
Pumping Station	(n.s)	1 000/dia(mm)												
Pipeline(steel)	(m)	1.3/dia(mm)												
Sub-total				291.5						351.8		223.5		351.8
4. In-Field Facility														
Night storage reservoir	(Lump Sum)			27.0						27.0		27.0		27.0
In-field facility														
Type A	(ha)	4 000	0.1	0.4	--		--		1.1	4.4			0.1	0.4
Type B	(ha)	4 200									0.4	1.7		
Type C	(ha)	4 400												
Sub-total				27.4						31.4		28.7		27.4
Total				966.4		1 948.8		1 265.2		1 495.2		1 390.4		1 637.9

Table G-5(7) Direct Construction Cost

Item		Unit Price Z$	Chomnanga III-3-5 qt	Chomnanga III-3-5 Cost Z$(000)	Mangezi III-3-6 qt	Mangezi III-3-6 Cost Z$(000)	Grootvlei III-3-7 qt	Grootvlei III-3-7 Cost Z$(000)	Thinana III-3-8 qt	Thinana III-3-8 Cost Z$(000)	Mutama IV-1-1 qt	Mutama IV-1-1 Cost Z$(000)	Gobriel IV-1-2 qt	Gobriel IV-1-2 Cost Z$(000)
1. Dam														
Clear site	(ha)	4 400	1	4.4	1	4.4	2	8.8	1	4.4	1	4.4	2	8.8
Grout curtain	(n.s)	645	42	27.1	42	27.1	42	27.1						
Excavation (soft rock)	(m^3)	7	5 800	40.6	8 400	58.8	14 200	99.4	7 900	55.3	8 800	61.6	20 000	140.0
Embankment	(m^3)	4.6	38 000	174.8	46 000	211.6	60 000	276.0	44 000	202.4	82 000	377.2	162 000	745.2
Triming	(m^2)	8	4 000	32.0	5 600	44.8	8 700	69.6	5 100	40.8	6 700	53.6	14 800	118.4
Rock rip-rap	(m^3)	33	1 050	34.7	1 280	42.2	1 720	56.8	1 320	43.6	1 900	62.7	4 060	134.0
Crusher run filter	(m^3)	73	1 100	80.3	1 400	102.2	1 800	131.4	1 300	94.9	2 500	182.5	4 900	357.7
Spillway Type A	(m)	3 770												
Chute Type B	(m)	5 910	200	1 182.0	50	295.5	50	295.5						
Type C	(m)	7 930												
Concrete Weir	(m^3)	230	90	20.7	81	18.6	122	28.1	90	20.7	98	22.5	86	19.8
Sub-total				1 596.6		805.2		992.7		462.1		764.5		1 523.9
2. Canal														
Canal Type A	(m)	136			3 200	435.2								
Type B	(m)	156												
Type C	(m)	168											2 500	420.0
Pipeline(Steel)	(m)	1.3/dia(mm)			ϕ150 100	19.5							ϕ250 200	65.0
3. Pumping Facility														
Pumping Station	(n.s)	1 000/dia(mm)												
Pipeline(steel)	(m)	1.3/dia(mm)												
Sub-total						454.7								485.0
4. In-Field Facility														
Night storage reservoir	(Lump Sum)					27.0								45.0
In-field facility														
Type A	(ha)	4 000			0.1	0.4	--		--		--			
Type B	(ha)	4 200												
Type C	(ha)	4 400											27.6	121.4
Sub-total						27.4								166.4
Total				1 596.6		1 287.3		992.7		462.1		764.5		2 175.3

Table G-5(8) Direct Construction Cost

Item		Unit Price Z$	Chimedza IV-1-3 qt	Chimedza IV-1-3 Cost Z$(000)	Mukaro IV-1-4 qt	Mukaro IV-1-4 Cost Z$(000)	Chimombe IV-2-1 qt	Chimombe IV-2-1 Cost Z$(000)	Gondongwe IV-3-1 qt	Gondongwe IV-3-1 Cost Z$(000)	Vushe IV-3-2 qt	Vushe IV-3-2 Cost Z$(000)	Chinyika IV-4-1 qt	Chinyika IV-4-1 Cost Z$(000)
1. Dam														
Clear site	(ha)	4 400	1	4.4	2	8.8	1	4.4	1	4.4	2	8.8	1	4.4
Grout curtain	(n.s)	645			48	31.0							42	27.1
Excavation (soft rock)	(m^3)	7	5 800	40.6	11 400	79.8	8 600	60.2	8 000	56.0	13 500	94.5	7 100	49.7
Embankment	(m^3)	4.6	55 000	253.0	82 000	377.2	94 000	432.4	105 000	483.0	155 000	713.0	39 000	179.4
Triming	(m^2)	8	4 600	36.8	8 100	64.8	6 900	55.2	6 700	53.6	10 900	87.2	4 600	36.8
Rock rip-rap	(m^3)	33	1 230	40.6	2 210	72.9	1 990	65.7	1 950	64.4	3 910	129.0	1 190	39.3
Crusher run filter	(m^3)	73	1 700	124.1	2 500	182.5	2 800	204.4	3 200	233.6	4 700	343.1	1 200	87.6
Spillway Type A	(m)	3 770			200	754.0								
Chute Type B	(m)	5 910							50	295.5			50	295.5
Type C	(m)	7 930												
Concrete Weir	(m^3)	230	56	12.9	40	9.2	40	9.2	68	15.6	88	20.2	108	24.8
Sub-total				512.4		1 580.2		831.5		1 206.1		1 395.8		744.6
2. Canal														
Canal Type A	(m)	136			900	122.4								
Type B	(m)	156	2 300	358.8										
Type	(m)													
Pipeline(Steel)	(m)	1.3/dia(mm)	ϕ200 100	26.0	ϕ150 100	19.5								
3. Pumping Facility														
Pumping Station	(n.s)	1 000/dia(mm)											ϕ80x3	240.0
Pipeline(steel)	(m)	1.3/dia(mm)											ϕ150 800	156.0
Sub-total				384.8		141.9								396.0
4. In-Field Facility														
Night storage reservoir	(Lump Sum)			39.0		39.0								39.0
In-field facility Type A	(ha)	4 000					--		--		--		8.5	34.0
Type B	(ha)	4 200												
Type C	(ha)	4 400	17.7	77.9	7.4	32.6								
Sub-total				116.9		71.6								73.0
Total				1 014.1		1 793.7		831.5		1 206.1		1 395.8		1 213.6

Table G-5(9) Direct Construction Cost

Item		Unit Price Z$	Chatikobo IV-4-2 qt	Chatikobo IV-4-2 Cost Z$(000)	Maruta IV-4-3 qt	Maruta IV-4-3 Cost Z$(000)	Mutero IV-4-4 qt	Mutero IV-4-4 Cost Z$(000)	Sinbanegavi IV-4-5 qt	Sinbanegavi IV-4-5 Cost Z$(000)	Mushangwe IV-4-6 qt	Mushangwe IV-4-6 Cost Z$(000)	Chingai IV-4-7 qt	Chingai IV-4-7 Cost Z$(000)
1. Dam														
Clear site	(ha)	4 400	1	4.4	3	13.2	2	8.8	2	8.8	1	4.4	2	8.8
Grout curtain	(n.s)	645									83	53.5	833	537.3
Excavation (soft rock)	(m^3)	7	10 000	70.0	23 300	163.1	12 800	89.6	16 100	112.7	6 400	44.8	16 200	113.4
Embankment	(m^3)	4.6	82 000	377.2	237 000	1 090.2	121 000	556.6	132 000	607.2	37 000	170.2	92 000	423.2
Triming	(m^2)	8	7 400	59.2	18 300	146.4	9 900	79.2	11 900	95.2	4 200	33.6	10 800	86.4
Rock rip-rap	(m^3)	33	2 070	68.3	5 270	173.9	2 790	92.1	3 330	109.9	1 080	35.6	2 660	87.8
Crusher run filter	(m^3)	73	2 500	182.5	7 100	518.3	3 600	262.8	4 000	292.0	1 100	80.3	2 800	204.4
Spillway Type A	(m)	3 770												
Chute Type B	(m)	5 910									50	295.5	100	591.0
Type C	(m)	7 930												
Concrete Weir	(m^3)	230	73	16.8	60	13.8	73	16.8	108	24.8	76	14.5	50	11.5
Sub-total				778.4		2 118.9		1 105.9		1 250.6		732.4		2 063.8
2. Canal														
Canal Type A	(m)	136			2 500	340.0					3 300	448.8	3 700	503.2
Type B	(m)	156	2 700	421.2			1 900	296.4						
Type C	(m)	168							1 300	218.4				
Pipeline(Steel)	(m)	1.3/dia(mm)	ϕ200 300	78.0	ϕ150 200	39.0	ϕ200 100	26.0	ϕ250 100	32.5	ϕ150 200	39.0	ϕ150 300	58.5
3. Pumping Facility														
Pumping Station	(n.s)	1 000/dia(mm)												
Pipeline(steel)	(m)	1.3/dia(mm)												
Sub-total				499.2		379.0		322.4		250.9		487.8		561.7
4. In-Field Facility														
Night storage reservoir	(Lump Sum)			39.0		39.0		45.0		45.0		27.0		27.0
In-field facility														
Type A	(ha)	4 000	20.6	82.4			22.7	90.8						
Type B	(ha)	4 200			11.6	48.7							3.3	18.9
Type C	(ha)	4 400							28.1	123.6	4.1	18.0		
Sub-total				121.4		87.7		135.8		168.6		45.0		45.9
Total				1 399.0		2 585.6		1 564.1		1 670.1		1 265.2		2 671.4

Table G-5(10) Direct Construction Cost

Item		Unit Price Z$	Mutanda IV-4-8 qt	Mutanda IV-4-8 Cost Z$(000)	Mukuro IV-4-9 qt	Mukuro IV-4-9 Cost Z$(000)	Munjanganja IV-4-10 qt	Munjanganja IV-4-10 Cost Z$(000)	Masunda IV-4-11 qt	Masunda IV-4-11 Cost Z$(000)	Munongo V-1-1 qt	Munongo V-1-1 Cost Z$(000)	Musingarabwe V-1-2 qt	Musingarabwe V-1-2 Cost Z$(000)
1. Dam														
Clear site	(ha)	4 400	2	8.8	1	4.4	2	8.8	1	4.4	1	4.4	2	8.8
Grout curtain	(n.s)	645												
Excavation (soft rock)	(m^3)	7	18 100	126.7	7 900	55.3	11 500	80.5	9 900	69.3	4 900	34.3	12 900	90.3
Embankment	(m^3)	4.6	177 000	814.2	62 000	285.2	133 000	611.8	61 000	280.6	45 000	207.0	142 000	653.2
Triming	(m^2)	8	14 100	112.8	5 800	46.4	9 300	74.4	6 700	53.6	3 800	30.4	10 300	82.4
Rock rip-rap	(m^3)	33	4 040	133.3	1 560	51.5	2 720	89.8	1 770	58.4	1 030	34.0	2 990	98.7
Crusher run filter	(m^3)	73	5 300	386.9	1 900	138.7	4 000	292.0	1 800	131.4	1 400	102.2	4 300	313.9
Spillway Type A	(m)	3 770												
Chute Type B	(m)	5 910	300	1 773.0										
Type C	(m)	7 930												
Concrete Weir	(m^3)	230	50	11.5	324	74.5	146	33.6	23	5.3	65	15.0	50	11.5
Sub-total				3 367.2		656.0		1 190.9		603.0		427.3		1 258.8
2. Canal														
Canal Type A	(m)	136							2 400	326.4	700	95.2		
Type B	(m)	156												
Type C	(m)	168					3 900	655.2						
Pipeline(Steel)	(m)	1.3/dia(mm)					ϕ250 300	97.5	ϕ200 200	52.0	ϕ150 100	19.5		
3. Pumping Facility														
Pumping Station	(n.s)	1 000/dia(mm)	ϕ100x3	300.0	ϕ100x3	300.0							ϕ100x3	300.0
Pipeline(steel)	(m)	1.3/dia(mm)	ϕ200 1 200	312.0	ϕ200 900	234.0							ϕ200 900	234.0
Sub-total				612.0		534.0		752.7		378.4		114.7		534.0
4. In-Field Facility														
Night storage reservoir	(Lump Sum)			39.0		39.0		45.0		27.0		27.0		39.0
In-field facility														
Type A	(ha)	4 000	12.9	51.6			34.4	137.6			0.7	2.8	14.5	58.0
Type B	(ha)	4 200							2.1	8.8				
Type C	(ha)	4 400			11.2	49.3								
Sub-total				90.6		88.3		182.6		35.8		29.8		97.0
Total				4 069.8		1 278.3		2 126.2		1 017.2		571.8		1 889.8

Table G-5(11) Direct Construction Cost

Item		Unit Price Z$	Matsikidzi V-1-3 qt	Matsikidzi V-1-3 Cost Z$(000)	Makwawa V-2-1 qt	Makwawa V-2-1 Cost Z$(000)	Uzeze V-2-2 qt	Uzeze V-2-2 Cost Z$(000)	Majiri V-2-3 qt	Majiri V-2-3 Cost Z$(000)	Chatikubo V-2-4 qt	Chatikubo V-2-4 Cost Z$(000)	Maramwidze V-3-1 qt	Maramwidze V-3-1 Cost Z$(000)
1. Dam														
Clear site	(ha)	4 400	2	8.8	1	4.4	1	4.4	1	4.4	1	4.4	1	4.4
Grout curtain	(n.s)	645												
Excavation (soft rock)	(m^3)	7	12 700	88.9	4 500	31.5	9 000	63.0	6 700	46.9	7 400	51.8	9 900	69.3
Embankment	(m^3)	4.6	147 000	676.2	53 000	243.8	104 000	478.4	81 000	372.6	90 000	414.0	120 000	552.0
Triming	(m^2)	8	10 300	82.4	3 600	28.8	7 300	58.4	5 400	43.2	6 000	48.0	8 100	64.8
Rock rip-rap	(m^3)	33	3 010	99.3	1 060	35.0	2 130	70.3	1 590	52.5	1 770	58.4	2 360	77.9
Crusher run filter	(m^3)	73	4 400	321.2	1 600	116.8	3 100	226.3	2 400	175.2	2 700	197.1	3 600	262.8
Spillway Type A	(m)	3 770												
Chute Type B	(m)	5 910			100	591.0								
Type C	(m)	7 930												
Concrete Weir	(m^3)	230	139	32.0	68	15.6	53	12.2	81	18.6	81	18.6	65	15.0
Sub-total				1 308.8		1 066.9		913.0		713.4		792.3		1 046.2
2. Canal														
Canal Type A	(m)	136												
Type B	(m)	156												
Type	(m)													
Pipeline(Steel)	(m)	1.3/dia(mm)												
3. Pumping Facility														
Pumping Station	(n.s)	1 000/dia(mm)	ϕ250x3	750.0	ϕ150x3	450.0	ϕ200x3	600.0	ϕ200x3	600.0	ϕ200x3	600.0		
Pipeline(steel)	(m)	1.3/dia(mm)	ϕ450 1 100	643.5	ϕ300 1 300	507.0	ϕ350 2 000	910.0	ϕ350 1 300	591.5	ϕ350 1 800	819.0		
Sub-total				1 393.5		957.0		1 510.0		1 191.5		1 419.0		
4. In-Field Facility														
Night storage reservoir		(Lump Sum)		56.0		45.0		49.0		49.0		49.0		
In-field facility Type A	(ha)	4 000			31.4	125.6					43.1	172.4	—	
Type B	(ha)	4 200					45.6	191.5						
Type C	(ha)	4 400	77.2	339.7					43.8	192.7				
Sub-total				395.7		170.6		240.5		241.7		221.4		
Total				3 098.0		2 194.5		2 663.5		2 146.6		2 432.7		1 046.2

Table G-5(12) Direct Construction Cost

Item		Unit Price Z$	Fusira V-3-2 qt	Fusira V-3-2 Cost Z$(000)	Magudu V-3-3 qt	Magudu V-3-3 Cost Z$(000)	Marongera V-4-1 qt	Marongera V-4-1 Cost Z$(000)	Mocheka V-4-2 qt	Mocheka V-4-2 Cost Z$(000)	Mohoto V-4-3 qt	Mohoto V-4-3 Cost Z$(000)	Chirongwe VI-1-1 qt	Chirongwe VI-1-1 Cost Z$(000)
1. Dam														
Clear site	(ha)	4 400	2	8.8	2	8.8	2	8.8	1	4.4	2	8.8	1	4.4
Grout curtain	(n.s)	645	900	580.5										
Excavation (soft rock)	(m^3)	7	12 900	90.3	11 400	79.8	11 600	81.2	6 700	46.9	17 800	124.6	8 900	62.3
Embankment	(m^3)	4.6	152 000	699.2	129 000	593.4	101 000	464.6	42 000	193.2	121 000	556.6	79 000	363.4
Triming	(m^2)	8	10 500	84.0	9 100	72.8	8 700	69.6	4 600	36.8	12 400	99.2	6 700	53.6
Rock rip-rap	(m^3)	33	3 070	101.3	2 660	87.8	2 400	79.2	1 210	39.9	3 350	110.6	1 900	62.7
Crusher run filter	(m^3)	73	4 600	335.8	3 900	284.7	3 000	219.0	1 300	94.9	3 600	262.8	2 400	175.2
Spillway Type A	(m)	3 770												
Chute Type B	(m)	5 910							100	591.0				
Type C	(m)	7 930												
Concrete Weir	(m^3)	230	104	23.9	128	29.4	53	12.2	100	23.0	86	19.8	63	14.5
Sub-total				1 923.8		1 156.7		934.6		1 030.1		1 182.4		736.1
2. Canal														
Canal Type A	(m)	136												
Type B	(m)	156							2 300	358.8	4 700	733.2		
Type E	(m)	183			5 600	1 024.8								
Pipeline(Steel)	(m)	1.3/dia(mm)			ϕ300 400	156.0			ϕ200 100	26.0	ϕ250 300	97.5		
3. Pumping Facility														
Pumping Station	(n.s)	1 000/dia(mm)	ϕ250x3	750.0			ϕ100x3	300.0					ϕ65x3	195.0
Pipeline(steel)	(m)	1.3/dia(mm)	ϕ400 1 200	624.0			ϕ200 1 500	390.0					ϕ125 600	97.5
Sub-total				1 374.0		1 180.8		690.0		384.8		830.7		292.5
4. In-Field Facility														
Night storage reservoir	(Lump Sum)			56.0		49.0		39.0		39.0		39.0		27.0
In-field facility Type A	(ha)	4 000			56.1	224.4								
Type B	(ha)	4 200											3.7	15.5
Type C	(ha)	4 400	66.4	292.2			10.0	44.0	19.2	84.5	16.2	71.3		
Sub-total				348.2		273.4		83.0		123.5		110.3		42.5
Total				3 646.0		2610.9		1 707.6		1 538.4		2 123.4		1 071.1

Table G-5(13) Direct Construction Cost

Item		Unit Price Z$	Nemavuzhe VI-1-2 qt	Nemavuzhe VI-1-2 Cost Z$(000)	Madzivire VI-1-3 qt	Madzivire VI-1-3 Cost Z$(000)	Musuvovi VI-1-4 qt	Musuvovi VI-1-4 Cost Z$(000)	Magwari VI-1-5 qt	Magwari VI-1-5 Cost Z$(000)	Zifunzi No2 VI-1-6 qt	Zifunzi No2 VI-1-6 Cost Z$(000)	Takavarasha VI-1-7 qt	Takavarasha VI-1-7 Cost Z$(000)
1. Dam														
Clear site	(ha)	4 400	1	4.4	1	4.4	1	4.4	1	4.4	1	4.4	1	4.4
Grout curtain	(n.s)	645	83	53.5			83	53.5			42	27.1	42	27.1
Excavation (soft rock)	(m^3)	7	7 200	50.4	5 000	35.0	5 800	40.6	9 200	64.4	2 400	16.8	7 900	55.3
Embankment	(m^3)	4.6	36 000	165.6	33 000	151.8	33 000	151.8	57 000	262.2	14 000	64.4	44 000	202.4
Triming	(m^2)	8	4 500	36.0	3 500	28.0	3 800	30.4	6 300	50.4	1 600	12.8	5 100	40.8
Rock rip-rap	(m^3)	33	1 070	35.3	920	30.4	980	32.3	1 650	54.5	410	13.5	1 320	43.6
Crusher run filter	(m^3)	73	1 100	80.3	1 000	73.0	1 000	73.0	1 700	124.1	400	29.2	1 300	94.9
Spillway Type A	(m)	3 770												
Chute Type B	(m)	5 910												
Type C	(m)	7 930												
Concrete Weir	(m^3)	230	76	17.5	81	18.6	35	8.1	65	15.0	38	8.7	102	23.5
Sub-total				443.0		341.2		394.1		575.0		176.9		492.0
2. Canal														
Canal Type A	(m)	136			2 800	380.8								
Type B	(m)	156	3 400	530.4					3 300	514.8				
Type	(m)													
Pipeline(Steel)	(m)	1.3/dia(mm)	ϕ200 200	52.0	ϕ150 200	39.0			ϕ200 200	52.0				
3. Pumping Facility														
Pumping Station	(n.s)	1 000/dia(mm)					ϕ65x3	195.0			ϕ65x3	195.0	ϕ80x3	240.0
Pipeline(steel)	(m)	1.3/dia(mm)					ϕ65 1 000	84.5			ϕ125 500	81.3	ϕ150 700	136.5
Sub-total				582.4		419.8		279.5		566.8		276.3		376.5
4. In-Field Facility														
Night storage reservoir		(Lumps Sum)		27.0		27.0		27.0		27.0		27.0		27.0
In-field facility Type A	(ha)	4 000											6.4	25.6
Type B	(ha)	4 200			0.8	3.4	1.3	5.5						
Type C	(ha)	4 400	3.5	15.4					3.7	16.3	3.6	15.8		
Sub-total				42.4		30.4		32.5		43.3		42.8		52.6
Total				1 067.8		791.4		706.1		1 185.1		496.0		921.1

Table G-5(14) Direct Construction Cost

Item		Unit Price Z$	Nyamakwe VI-1-8 qt	Nyamakwe VI-1-8 Cost Z$(000)	Mukovoriri VI-2-1 qt	Mukovoriri VI-2-1 Cost Z$(000)	Madangombe VI-2-2 qt	Madangombe VI-2-2 Cost Z$(000)	Zishiri VII-1-1 qt	Zishiri VII-1-1 Cost Z$(000)	Chido VII-1-2 qt	Chido VII-1-2 Cost Z$(000)	Veza VII-1-3 qt	Veza VII-1-3 Cost Z$(000)
1. Dam														
Clear site	(ha)	4 400	1	4.4	1	4.4	1	4.4	1	4.4	1	4.4	1	4.4
Grout curtain	(n.s)	645					44	28.4						
Excavation (soft rock)	(m^3)	7	8 200	57.4	6 500	45.5	8 100	56.7	6 900	48.3	6 300	44.1	8 700	60.9
Embankment	(m^3)	4.6	68 000	312.8	45 000	207.0	54 000	248.4	84 000	386.4	83 000	381.8	128 000	588.8
Triming	(m^2)	8	6 100	48.8	4 600	36.8	5 600	44.8	5 600	44.8	5 200	41.6	7 500	60.0
Rock rip-rap	(m^3)	33	1 700	56.1	1 210	39.9	1 510	49.8	1 650	54.5	1 540	50.8	2 180	71.9
Crusher run filter	(m^3)	73	2 000	146.0	1 400	102.2	1 600	116.8	2 500	182.5	2 500	182.5	3 800	277.4
Spillway Chute Type A	(m)	3 770					100	377.0						
Type B	(m)	5 910												
Type C	(m)	7 930												
Concrete Weir	(m^3)	230	47	10.8	50	11.5	29	6.7	63	14.5	78	17.9	73	16.8
Sub-total				636.3		447.3		933.0		735.4		723.1		1 080.2
2. Canal														
Canal Type A	(m)	136	2 300	312.8	5 600	761.6								
Type B	(m)	156												
Type C	(m)	168											1 800	302.4
Pipeline(Steel)	(m)	1.3/dia(mm)	ø150 200	39.0	ø200 400	104.0							ø250 200	65.0
3. Pumping Facility														
Pumping Station	(n.s)	1 000/dia(mm)					ø65x3	195.0	ø200x3	600.0	ø150x3	450.0		
Pipeline(steel)	(m)	1.3/dia(mm)					ø65 900	76.1	ø400 1 300	676.0	ø300 1 200	468.0		
Sub-total				351.8		865.6		271.1		1 276.0		918.0		367.4
4. In-Field Facility														
Night storage reservoir	(Lump Sum)			39.0		27.0		27.0		49.0		45.0		45.0
In-field facility Type A	(ha)	4 000	9.4	37.6					57.7	230.8	29.4	117.6		
Type B	(ha)	4 200			3.0	12.6	1.4	5.9					32.3	135.7
Type C	(ha)	4 400												
Sub-total				76.6		39.6		32.9		279.8		162.6		180.7
Total				1 064.7		1 352.5		1 237.0		2 291.2		1 803.7		1 628.3

Table G-5(16) Direct Construction Cost

Item		Unit Price Z$	Zinguo VII-1-4 qt	Zinguo VII-1-4 Cost Z$(000)	Nemakau VII-1-5 qt	Nemakau VII-1-5 Cost Z$(000)	Siyawarewa VII-1-6 qt	Siyawarewa VII-1-6 Cost Z$(000)	Manjeru VII-1-7 qt	Manjeru VII-1-7 Cost Z$(000)	Chenyu VII-1-8 qt	Chenyu VII-1-8 Cost Z$(000)	Maraire VII-1-9 qt	Maraire VII-1-9 Cost Z$(000)
1. Dam														
Clear site	(ha)	4 400	1	4.4	2	8.8	1	4.4	1	4.4	2	8.8	1	4.4
Grout curtain	(n.s)	645	150	96.8									142	91.6
Excavation (soft rock)	(m^3)	7	9 500	66.5	12 400	86.8	7 500	52.5	6 700	46.9	18 900	132.3	7 400	51.8
Embankment	(m^3)	4.6	110 000	506.0	118 000	542.8	65 000	299.0	65 000	299.0	220 000	1 012.0	81 000	372.6
Triming	(m^2)	8	7 700	61.6	9 600	76.8	5 700	45.6	5 200	41.6	15 300	122.4	5 900	47.2
Rock rip-rap	(m^3)	33	2 240	73.9	2 730	90.1	1 580	52.1	1 490	49.2	4 490	148.2	1 720	56.8
Crusher run filter	(m^3)	73	3 300	240.9	3 500	255.5	2 000	146.0	2 000	146.0	6 600	481.8	2 400	175.2
Spillway Type A	(m)	3 770												
Chute Type B	(m)	5 910			100	591.0			100	591.0	150	886.5	100	591.0
Type C	(m)	7 930												
Concrete Weir	(m^3)	230	48	11.0	53	11.5	68	15.6	45	10.4	90	20.7	46	10.6
Sub-total				1 061.1		1 663.3		615.2		1 188.5		2 812.7		1 401.2
2. Canal														
Canal Type A	(m)	136												
Type B	(m)	156	1 800	280.8					3 200	499.2			2 400	374.4
Type F	(m)	196									2 800	548.8		
Pipeline(Steel)	(m)	1.3/dia(mm)	ø200 200	52.0					ø200 300	78.0	ø350 200	91.0	ø200 200	52.0
3. Pumping Facility														
Pumping Station	(n.s)	1 000/dia(mm)			ø150x3	450.0	ø150x3	450.0						
Pipeline(steel)	(m)	1.3/dia(mm)			ø250 1 000	325.0	ø250 900	292.5						
Sub-total				332.8		775.0		742.5		577.2		639.8		426.4
4. In-Field Facility														
Night storage reservoir	(Lump Sum)			39.0		45.0		45.0		45.0		59.0		39.0
In-field facility Type A	(ha)	4 000					25.3	101.2						
Type B	(ha)	4 200	17.8	74.8	27.6	115.9			15.5	65.1	84.9	356.6		
Type C	(ha)	4 400											13.8	60.7
Sub-total				113.8		160.9		146.2		110.1		415.6		99.7
Total				1 507.7		2 599.2		1 503.9		1 875.8		3 868.1		1 927.3

Table G-5(15) Direct Construction Cost

Item		Unit Price Z$	Chivamba VII-1-10 qt	Chivamba VII-1-10 Cost Z$(000)	Fuve VII-1-11 qt	Fuve VII-1-11 Cost Z$(000)	Mabvuti VII-1-12 qt	Mabvuti VII-1-12 Cost Z$(000)	Mujena VII-1-13 qt	Mujena VII-1-13 Cost Z$(000)
1. Dam										
Clear site	(ha)	4 400	2	8.8	1	4.4	1	4.4	1	4.4
Grout curtain	(n.s)	645					142	91.6	75	48.4
Excavation	(m^3)	7	10 900	76.3	9 100	63.7	9 100	63.7	7 200	50.4
Embankment (soft rock)	(m^3)	4.6	113 000	519.8	89 000	409.4	99 000	455.4	87 000	400.2
Triming	(m^2)	8	8 600	68.8	7 100	56.8	7 200	57.6	5 800	46.4
Rock rip-rap	(m^3)	33	2 440	80.5	2 010	66.3	2 100	69.3	1 710	56.4
Crusher run filter	(m^3)	73	3 400	248.2	2 700	197.1	3 000	219.0	2 700	197.1
Spillway Type A	(m)	3 770								
Chute Type B	(m)	5 910					100	591.0	50	295.5
Type C	(m)	7 930								
Concrete Weir	(m^3)	230	75	17.3	137	31.5	104	23.9	114	26.2
Sub-total				1 019.7		829.2		1 575.9		1 125.0
2. Canal										
Canal Type A	(m)	136								
Type B	(m)	156								
Type	(m)									
Pipeline(Steel)	(m)	1.3/dia(mm)								
3. Pumping Facility										
Pumping Station	(n.s)	1 000/dia(mm)	ϕ150x3	450.0	ϕ200x3	600.0	ϕ250x3	750.0	ϕ200x3	600.0
Pipeline(steel)	(m)	1.3/dia(mm)	ϕ300 800	80.0	ϕ400 2 000	1 040.0	ϕ400 1 100	572.0	ϕ350 1 100	500.5
Sub-total				530.0		1 640.0		1 322.0		1 100.5
4. In-Field Facility										
Night storage reservoir		(Lumps Sum)		45.0		49.0		56.0		49.0
In-field facility Type A	(ha)	4 000								
Type B	(ha)	4 200								
Type C	(ha)	4 400	29.8	131.1	58.6	257.8	74.4	327.4	49.6	218.2
Sub-total				176.1		306.8		383.4		267.2
Total				1 725.8		2 776.9		3 281.3		2 492.7

ANNEX H. PROJECT BENEFIT

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Table H-1 Gross Income from Crop per Hectare (Without Project)

Unit: Z$ per hectare

Crop	Composition %	Yield ton per hectare	Gross income Z$/ha
Denhere			
maize	69	0.64	79.3
rapoko	18	0.37	27.7
g'nut	13	0.20	11.9
	100		118.9
Chikwanda			
maize	67	0.55	66.2
rapoko	22	0.37	33.9
g'nut	11	0.20	10.1
	100		110.2
Sengwe			
sorghum	69	0.18	21.4
maize	31	0.09	5.0
	100		26.4
Matibi No.2			
sorghum	72	0.46	57.2
maize	28	0.55	27.7
	100		84.9
Sangwe			
sorghum	65	0.46	51.6
maize	35	0.55	34.6
	100		86.2
Gutu			
maize	52	0.55	51.4
mhunga	39	0.37	34.8
rapoko	9	0.28	10.5
	100		96.7
Chivi, Maranda			
maize	64	0.27	31.0
g'nut	19	0.20	17.4
sorghum	17	0.14	41.1
	100		89.5
Matsai			
maize	61	0.73	80.0
mhunga	25	0.46	27.7
sorghum	14	0.55	13.3
	100		121.0
Bikita			
maize	70	0.72	90.5
mhunga	18	0.82	35.6
g'nut	12	0.85	46.6
	100		172.7
Zaka			
maize	68	0.55	67.2
rapoko	16	0.36	24.0
g'nut	16	0.30	22.0
	100		113.2
Muenezi			
maize	39	0.27	18.9
rapoko	33	0.36	49.4
sorghum	28	0.36	17.4
	100		85.7
Nyajena			
rapoko	57	0.54	128.1
maize	36	0.91	58.8
g'nut	7	0.60	19.2
	100		206.1
Matibi No.1			
maize	71	0.18	23.0
sorghum	16	0.36	9.9
mhunga	13	0.46	14.4
	100		47.3
Zimutu			
maize	62	0.73	81.3
rapoko	28	0.91	106.0
g'nut	10	0.80	36.6
	100		223.9
Masvingo			
maize	73	0.91	119.3
rapoko	16	0.55	36.6
g'nut	11	0.50	25.2
	100		181.1
Serima			
maize	67	0.64	77.0
rapoko	25	0.36	37.4
g'nut	8	0.20	7.3
	100		121.7
Mtilikwe			
maize	39	1.20	84.0
rapoko	39	0.70	113.6
g'nut	22	0.80	80.4
	100		278.0

Note: Prices maize: 179.6 Z$/t, rapoko: 416.2 Z$/t, groundnut : 457.3 Z$/t, sorghum: 172.6 Z$/t, mhunga: 241.2 Z$/t.

Table H-2 Net Income from Crop per ha (Without Project)

Unit: Z$

Crop	Maize			Groundnuts			Rapoko			Sorghum			Mhunga			Total
region	Crude income	Cost	Net income	Crude income	Cost	Net income	Crude income	Cost	Net income	Crude income	Cost	Net income	Crude income	Cost	Net income	Net income
Denhere	79.3	54.7	24.6	11.9	7.5	4.4	27.7	12.5	15.2							44.2
Chikwanda	66.2	45.7	20.5	10.1	6.9	3.2	33.9	15.3	18.6							42.3
Sengwe	5.0	3.8	1.2							21.4	14.6	6.8				8.0
Matibi No.2	27.7	19.1	8.6							57.2	36.0	21.2				29.8
Sangwe	34.6	23.9	10.7							51.6	32.5	19.1				29.8
Gutu	51.4	35.5	15.9				10.5	5.2	5.3				34.8	18.1	16.7	37.9
Chivi, Maranda	31.0	22.6	8.4	17.4	12.0	5.4				41.1	20.5	20.6				34.4
Matsai	80.0	53.6	26.4							13.3	8.2	5.1	27.7	13.8	13.9	45.4
Bikita	90.5	60.6	29.9	46.6	21.4	25.2							35.6	15.7	19.9	75.0
Zaka	67.2	46.4	20.8	22.0	14.5	7.5	24.0	10.8	13.2							41.5
Muenezi	18.9	13.8	5.1				49.4	22.2	27.2	17.4	11.3	6.1				38.4
Myajena	58.8	24.1	34.7	19.2	10.9	8.3	128.1	52.5	75.6							118.6
Matibi No.1	23.0	17.3	5.7							9.9	6.4	3.5	14.4	7.2	7.2	16.4
Zimutu	81.3	54.5	26.8	36.6	16.8	19.8	106.0	24.4	81.6							128.2
Masvingo	119.3	76.4	42.9	25.2	15.1	10.1	36.6	13.5	23.1							76.1
Serima	77.0	53.1	23.9	7.3	5.0	2.3	37.4	16.8	20.6							46.8
Mrilikwe	77.2	47.9	29.3	80.4	40.2	40.2	103.8	38.4	65.4							134.9

Cost estimation yield levels	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0 t/ha
% of crude income maize	0.76	0.75	0.73	0.72	0.70	0.69	0.67	0.66	0.64	0.63
groundnuts	0.72	0.69	0.66	0.63	0.60	0.57	0.54	0.50	0.46	0.42
rapoko	0.57	0.53	0.49	0.45	0.41	0.37	0.33	0.28	0.23	0.18
sorghum*	0.70	0.68	0.67	0.65	0.63	0.62	0.61	0.59	0.58	0.56
mhunga*	0.60	0.58	0.55	0.52	0.50	0.48	0.46	0.44	0.42	0.40

Cost ratio by Govt. crop. program standards.

* estimation

Note; Cost estimation for yield levels.

Table H-3 Farm Input Cost per ha (With Project)

Unit: in Z$ per hectare

Maize	Unit	9t	8t	7t	6t	5t
Fertilizers	Compd. A.N.	354	338	279	258	204
Chemicals	5 kg	27	27	19	19	19
Seed cost	25 kg	28	28	23	23	18
Irrigation charge	per season	-	-	-	-	-
Hired tractor charge	per season	62	62	62	62	62
Total		470	455	383	362	303

Sugar beans	Unit	3t	2.7t	2.5t	2.3t
Fertilizers	Compd. S.S.P.	217	195	176	144
Chemicals	0.9 ℓ	21	21	14	14
Seed cost	90 kg	97	90	81	81
Irrigation charge	per season	-	-	-	-
Hired tractor charge	per season	62	62	62	62
Total		397	368	333	301

Groundnut	Unit	3.5t	3t	2.7t	2.5t	-
Fertilizers	Compd.	182	162	150	141	
Chemicals & gypsum	250 kg	42	38	36	34	
Seed Inoculated	100 kg	160	160	160	160	
Irrigation charge	per season	-	-	-	-	
Hired tractor charge	per season	62	62	62	62	
Total		446	422	408	397	

Tomatos	Unit	20t	16t	12t	8t
Fertilizers and others	Compd. A.N. M.P.	684	604	520	468
Chemicals	1.2 ℓ	200	180	120	120
Seed cost	140 g	24	24	16	16
Irrigation charge	per season	-	-	-	-
Hired tractor charge	per season	62	62	62	62
Total		970	870	718	666

Wheat	Unit	4t	3.5t	3t	2.7t	-
Fertilizers	Compd. A.N.	145	130	115	105	
Chemicals	1 kg	18	16	15	15	
Seed cost	100 kg	98	90	83	83	
Irigation cost		-	-	-	-	
Hired tractor cost		62	62	62	62	
Total		323	298	275	265	

Cotton	Unit	-	3.5t	3t	2.5t
Fertilizers	Compd. A.N.		207	192	178
Chemicals	3 sorts	-	100	91	91
Seed cost	25 kg		5	4	4
Irrigation cost	per season	-	-	-	-
Hired tractor cost	per season	-	62	62	62
Total			374	349	335

Note: These cost do not include any transportation cost, and hence it is necessary to add it according to the distance from G.M.B. depot to the proposed sites.

Table H-4 Farm Income from Crop per Hectare (with Project)

Unit: Z$/ha

Field Conditions		Excellent (a)						Fair (b)						Poor (c)					
Crops	Cropping Intensity	Yield (t/ha)	Unit Price	Gross Income	Prod. Cost*	Net Income	Income Ratio %	Yield (t/ha)	Unit Price	Gross Income	Prod. Cost*	Net Income	Income Ratio %	Yield (t/ha)	Unit Price	Gross Income	Prod. Cost.*	Net Income	Income Ratio %
Cropping Pattern A				Aa						Ab						Ac			
Maize	.60	9	180	972	282	690	71	8	180	864	273	591	68	7	180	756	230	526	69
G'nut	.20	3.5	457	320	89	231	72	3	457	274	84	190	69	2.7	457	247	82	165	67
Wheat	.40	4	297	475	129	346	73	3.5	297	416	119	297	71	3	297	356	110	246	69
Sug. beans	.40	3	438	526	159	367	70	2.7	438	473	147	326	69	2.5	438	438	133	305	70
Tomato	.40	20	300	2 400	388	2 012	84	16	300	1 920	348	1572	82	12	300	1 440	287	1 153	80
Total	2.00			4 693	1 047	3 646	78			3 947	971	2 976	75			3 237	842	2 395	74
Cropping Pattern B				Ba						Bb						Bc			
Maize	.50	7	180	630	192	438	70	6	180	540	181	359	66	5	180	450	152	298	66
G'nut	.40	3	457	548	169	379	69	2.7	457	494	163	331	67	2.5	457	457	159	298	65
Wheat	.40	3.5	297	416	119	297	71	3	297	356	110	246	69	2.7	297	321	106	215	67
Sug. beans	.40	2.7	438	473	147	326	69	2.5	438	438	133	305	69	2.3	438	403	120	283	70
Tomato	.30	16	300	1 440	261	1 179	82	12	300	1 080	215	865	80	8	300	720	200	520	72
Total	2.00			3 507	888	2 619	75			2 908	802	2 106	72			2 351	737	1 614	69
Cropping Pattern C**				Ca						Cb						Cc			
Maize	.60	9	180	972	282	690	71	8	180	864	273	591	68	7	180	756	230	526	69
G'nut	.30	3.5	457	480	134	346	72	3	457	411	127	284	69	2.7	457	370	122	248	67
Wheat	.50	4	297	594	162	432	73	3.5	297	520	149	371	71	3	297	446	138	308	69
Sug. beans	.40	3	438	526	159	367	70	2.7	438	473	147	326	69	2.5	438	438	133	305	70
Tomato	.20	20	300	1 200	194	1 006	84	16	300	960	174	786	82	12	300	720	144	576	80
Total	2.00			3 772	931	2 841	75			3 228	870	2 358	73			2 730	767	1 963	72
Cropping Pattern D				Da						Db						Dc			
Maize	.55	7	180	693	211	482	70	6	180	594	199	395	66	5	180	495	167	328	66
G'nut	.40	3	457	548	169	379	69	2.7	457	494	163	331	67	2.5	457	457	159	298	65
Wheat	.55	3.5	297	572	164	408	71	3	297	490	151	339	69	2.7	297	441	146	295	67
Sug. beans	.40	2.7	438	473	147	326	69	2.5	438	438	133	305	69	2.3	438	403	120	283	70
Tomato	.10	16	300	480	87	393	82	12	300	360	72	288	80	8	300	240	67	173	72
Total	2.00			2 766	778	1 988	72			2 376	1 658	1 658	70			2 036	659	1 377	68

Note: * This does not include transportation cost.

** A part of maize and g'nut is replaced by cotton (C' type) in three of C type sites but here such variation is not included.

Table H-5 Estimated Crop Residue for Livestock

Unit: ton/ha.

	Yield	etc. Stover	d-o. without	Net residual	Yield	etc. Stover	d-o. without	Net residual	Yield	etc. Stover	d-o. without	Net residual
	Aa				Ab				Ac			
Maize	9	10.8	1.2	8.6	8	9.6	1.0	8.6	7	8.4	0.8	7.6
G'nuts	3.5	0.7	0.1	0.6	3	0.6	0.1	0.5	2.7	0.5	0.1	0.4
Wheat	4	1.8		1.8	3.5	1.5		1.5	3	1.3		1.3
Sug.beans	3	1.2	0.2	1.0	2.7	1.1	0.2	0.9	2.5	1.0	0.2	0.8
Total		14.5	1.5	13.0		12.8	1.3	11.5		11.2	1.1	10.1
	Ba				Bb				Bc			
Maize	7	7.0	1.0	6.0	6	6.0	0.8	5.2	5	5.0	0.7	4.3
G'nuts	3	1.2	0.1	1.1	2.7	1.1	0.1	1.0	2.5	1.0	0.1	0.9
Wheat	3.5	1.6		1.6	3	1.3		1.3	2.7	1.1		1.1
Sug.beans	2.7	1.1	0.2	0.9	2.5	1.0	0.1	0.9	2.3	0.9	0.1	0.8
Total		10.9	1.3	9.6		9.4	1.0	8.4		8.0	0.9	7.1
	Ca				Cb				Cc			
Maize	9	10.8	1.2	9.6	8	10.0	1.0	9.0	7	8.4	0.8	7.6
G'nuts	3.5	1.1	0.1	1.0	3	0.9	0.1	0.8	2.7	0.8	0.1	0.7
Wheat	4	2.2		2.2	3.5	1.9		1.9	3	1.8		1.8
Sug.beans	3	1.2	0.2	1.0	2.7	1.1	0.2	0.9	2.5	1.0	0.2	0.8
Total		15.3	1.5	13.8		13.9	1.3	12.6		12.0	1.1	10.9
	Da				Db				Dc			
Maize	7	7.7	1.2	6.5	6	6.6	1.0	5.6	5	5.5	0.8	4.7
G'nuts	3	1.2	0.1	1.1	2.7	1.1	0.1	1.0	2.5	1.0	0.1	0.9
Wheat	3.5	2.1		2.1	3	1.8		1.8	2.7	1.6		1.6
Sug.beans	2.7	1.1	0.2	0.9	2.5	1.0	0.2	0.8	2.3	0.9	0.2	0.7
Total		12.1	1.5	10.6		10.5	1.3	9.2		9.0	1.1	7.9

Note: d-o.without columns give "without project" residue production.

Aa, Dd etc. show the corresponding cropping patterns and field conditions as in Table G-10.

Table H-6 Financial Income from Crop Residue (Cattle Meat) per hectare irrigated

Cropping patters / Calculation process	A			B			C			D		
	Aa	Ab	Ac	Ba	Bb	Bc	Ca	Cb	Cc	Da	Db	Dc
a. Residue (t/ha) as derived in Table G-13	13.0	11.5	10.1	9.6	8.4	7.1	13.8	12.6	10.9	10.6	9.2	7.9
b. Amount of carriage loss (20%) and feeding loss (30%) (total 44%)	5.7	5.1	4.4	4.2	3.7	3.1	6.1	5.5	4.8	4.8	4.0	3.5
c. a-b (t/ha)	7.3	6.4	5.7	5.4	4.7	4.0	7.7	7.1	6.1	5.9	5.2	4.4
d. Conversion ratio to T.D.N.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
e. c×d (t/ha)	0.7	0.6	0.6	0.5	0.5	0.4	0.8	0.7	0.6	0.6	0.5	0.4
f. Conversion ratio to cattle meat	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
g. e×f (kg/ha)	197.0	173.0	162.0	146.0	127.0	108.0	208.0	192.0	165.0	159.0	141.0	119.0
h. Estimated farm gate price of cattle meat (about one third of the cheapest retail price)	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
i. g×h (Z$/ha)	262.0	231.0	215.0	193.0	170.0	143.0	277.0	254.0	219.0	213.0	185.0	159.0
j. Estimated marketing cost (10% of i)(Z$/ha)	27.0	23.0	21.0	19.0	17.0	14.0	28.0	26.0	22.0	21.0	19.0	16.0
k. i-j (Z$/ha)	235.0	208.0	194.0	174.0	153.0	129.0	249.0	228.0	197.0	192.0	166.0	143.0

Note: Round-about figures are listed from a to e.

Part H-1 Financial Benefit for Pasture Production

Pasture production:	per ha. yield of Berseem 63 t/ha	63 t/ha	1/2 ha	} 69 t/ha
	per ha. yield of canary grass	77 t/ha	1/2 ha	

Available Area: Dam yield (1/10 Yr.) - [1-0.05 (watering cattle)] + 10 500

T.D.N. 63t × 0.2 (dry matter) × 0.6 (T.D.N. ratio) - 7.5 t/ha

77t × 0.15(d.o.) × 0.65 (d.o.) = 7.5 t/ha

7.5t × [1-0.2 (carriage loss)] × [1-0.3 (feeding loss)] = 4.2 t/ha

Meat. 4.2 t/ha 1/2 (offtake ratio) = 2.1 t/ha equiv. to 568 kg or 756 $/ha

Cost ratio (55%) Net benefit per ha - 756 × (1-0.55) = 330 $/ha

Water Requirements: 1 050 mm or 10 500 cu.etere epr ha per anum.

Note: Table G-14 shows Livestock income from crop residue, whereas this table indicates the estimate in method for livestock income derived from pastures for the proposed sites without any existing cropfield to irrigate.

Part H-2 Financial Benefit for Fish Production

Available water surface for fish farming = 1/2 × Reservoir Surface (ha) per ha production of Sarotherodon and Tilapia sp.

200 kg/ha per annum at the stabilized stage.

Rate of catch: 80% of total production, of which 50% is sold at markets.

Farmgate price per kg: 2 Z$. 1 ha of dam surface = 80 Z$.

Costs: Purchasing cost of fry (annual) 2 kg/ha × 2 Z$/kg = 4 Z$
fish net and bait, 10% of gross production (for more than 50 ha.),
5% of it for 10 - 50 ha. and nil for less than 10 ha.

Table H-7 Financial Benefit for Inventry Projects

Number of Dam site	(ha) Irrigable Area	Yield at 1/10 P.	Cropping Pat, Market Distance, Drought Susceptibility	Per ha. Benefit With Project B.				Per ha. Benefit Without Project				Net Corp Production benefit	Livestock. B.		Fishery Benefit	Total Benefit	No. of families dependable	Food Subsidies in Z$ for these families
				Farm Income	Transportation Cost	Net Income	Net Corp Income	Standard Income	Conversion Factor	Net Income	Net Corp Income		Corp Residue	Pasture & Range				
I-1-1	3.7	74	Dc110S	1 377	231	1 146	4 240	38	0.67	25	93	4 147	529	-	1 178	5 854	6.4	205
I-1-2	4.2	84	Db110S	1 658	275	1 383	5 808	38	0.67	25	105	5 703	697	-	2 420	8 820	9.6	326
I-1-3	2.8	56	Cb110S	2 358	396	1 962	5 494	38	0.67	25	70	5 424	638	-	1 415	7 477	8.1	276
I-2-1	40.1	801	Ca90S	2 841	369	2 472	99 127	16	0.67	11	441	98 686	9 985	-	7 296	115 967	126.3	4 294
I-2-2	22.4	447	Da10S	1 988	30	1 958	43 859	16	0.67	11	246	43 613	4 301	-	2 905	50 819	55.3	1 880
I-2-3	13.9	277	Ca5S	2 841	15	2 826	39 281	16	0.67	11	153	39 128	3 461	-	2 279	44 868	49.0	1 666
I-2-4	1.5	30	Ca60S	2 841	246	2 595	3 893	16	0.67	11	17	3 876	374	-	1 739	5 989	6.6	224
I-2-5	4.1	81	Ca60S	2 841	246	2 595	10 640	16	0.67	11	45	10 595	1 021	-	3 625	15 241	16.6	565
II-1-1	16.0	272	Aa25S	3 646	128	3 518	56 288	75	0.67	50	800	55 488	3 760	-	1 004	60 252	65.6	2 230
II-1-2	12.2	208	Aa55S	3 646	280	3 366	41 065	75	0.67	50	610	40 455	2 867	-	768	44 090	52.3	1 627
II-1-3	20.4	347	Bb65N	2 106	195	1 911	38 984	75	1.33	100	2 040	36 944	3 121	-	1 029	41 094	44.8	1 253
II-1-4	12.2	208	Bb60N	2 106	180	1 926	23 498	75	1.33	100	1 220	22 278	1 867	-	918	25 063	27.3	927
II-1-5	15.4	293	Bb15S	2 106	45	2 061	31 739	75	0.67	50	770	30 969	2 356	-	484	33 809	36.8	1 251
II-1-6	38.8	659	Aa35S	3 646	179	3 467	134 519	75	0.67	50	1 940	132 579	9 118	-	2 657	144 354	157.2	5 345
II-1-7	23.9	406	Aa20N	3 646	102	3 544	84 702	75	1.33	100	2 390	82 312	5 617	-	1 609	89 538	97.5	3 315
II-1-8	20.3	345	Bb50S	2 106	150	1 956	39 706	75	0.67	50	1 015	38 691	3 106	-	856	42 653	46.5	1 581
II-1-9	21.4	363	Bb50S	2 106	150	1 956	41 858	75	0.67	50	1 070	40 788	3 274	-	1 134	45 196	49.2	1 666
II-1-10	18.8	319	Ba55S	2 619	198	2 421	45 515	75	0.67	50	940	44 575	3 271	-	1 966	49 812	54.3	1 846
II-1-11	16.2	275	Bb55S	2 106	165	1 941	31 445	75	0.67	50	810	30 635	2 479	-	1 296	34410	37.5	1 275
II-2-1	14.6	248	Ca15S	2 841	62	2 779	40 573	47	0.67	31	453	40 120	3 635	-	1 555	45 310	49.4	1 680
II-2-2	8.1	138	Cb20S	2 358	72	2 286	18 517	47	0.67	31	251	18 266	1 847	-	1 296	21 409	23.3	792
II-2-3	6.6	112	Ca35S	2 841	143	2 698	17 804	47	0.67	31	204	17 600	1 643	-	1 274	20 517	22.3	758
III-1-1	0.8	16	Ca90S	2 841	369	2 472	1 978	30	0.67	20	16	1 962	199	-	4 169	6 330	6.9	235
III-1-2	0.6	11	C'a45S	2 914	180	2 734	1 640	30	0.67	20	12	1 628	126	-	905	2 659	2.9	99
III-1-3	0.6	12	C'a40S	2 914	160	2 754	1 652	30	0.67	20	12	1 640	126	-	2 700	4 466	4.9	167
III-1-4	0.6	12	Ca90S	2 841	369	2 472	1 483	30	0.67	20	12	1 471	149	-	3 262	4 882	5.3	180
III-1-5	-	67	C'b100S	-	-	-	-	-	-	-	-	-	-	2 003	2 905	4 902	5.3	180
III-2-1	13.9	277	Ca90S	2 841	369	2 472	34 361	30	0.67	20	278	34 083	3 461	-	2 884	40 428	44.0	1 496
III-2-2	1.1	21	Ca80S	2 841	328	2 513	2 764	30	0.67	20	22	2 742	274	-	1 091	4 107	4.5	153
III-2-3	-	45	C'a15S	-	-	-	-	-	-	-	-	-	-	1 346	955	2 301	2.5	85
III-2-4	0.1	1	Db90S	1 658	225	1 433	144	30	0.67	20	2	142	166	-	980	1 288	1.4	47
III-2-5	-	75	Db80S	-	-	-	-	-	-	-	-	-	-	2 222	1 350	3 572	3.9	133

Table H-7 Financial Benefit for Inventry Projects

Number of Dam site	(ha) Irrigable Area	Yield at 1/10 P.	Cropping Pat, Market Distance, Drought Susceptibility	Per ha. Benefit With Project B.				Per ha. Benefit Without Project				Net Corp Production benefit	Livestock. B.		Fishery Benefit	Total Benefit	No. of families dependable	Food Subsidies in ZS for these families
				Farm Income	Transportation Cost	Net Income	Net Corp Income	Standard Income	Conversion Factor	Net Income	Net Corp Income		Corp Residue	Pasture & Range				
III-3-1	-	2	Db30S	-	-	-	-	-	-	-	-	-	-	63	1 190	1 253	1.4	48
III-3-2	1.1	22	Ca30S	2 801	123	2 718	2 990	8	0.67	6	7	2 983	273	-	1 458	4 714	5.1	173
III-3-3	0.4	8	Ca30S	2 841	123	2 718	1 087	8	0.67	6	2	1 085	-	-	1 685	2 870	3.1	105
III-3-4	0.1	2	Db35S	1 658	88	1 570	157	8	0.67	6	1	156	17	-	930	1 103	1.2	41
III-3-5	-	2	Db25S	-	-	-	-	-	-	-	-	-	-	63	955	1 018	1.1	37
III-3-6	0.1	1	Db50S	1 658	125	1 533	153	8	0.67	6	1	152	17	-	707	876	0.9	32
III-3-7	-	2	Cb60S	-	-	-	-	-	-	-	-	-	-	63	1 091	1 154	1.3	44
III-3-8	-	2	Ca40S	-	-	-	-	-	-	-	-	-	-	63	992	1 055	1.1	37
IV-1-1	-	423	Bc40N	-	-	-	-	-	-	-	-	-	-	12 614	1 609	14 223	13.9	473
IV-1-2	27.6	469	Bb40N	2 106	120	1 986	54 814	43	1.33	57	1 573	53 241	4 223	-	3 467	60 931	65.7	2 234
IV-1-3	17.7	301	Aa75N	3 646	383	3 263	57 755	43	1.33	57	1 009	56 746	4 160	-	2 160	63 066	68.7	2 336
IV-1-4	7.4	125	Bb15N	2 106	45	2 061	15 251	43	1.33	57	422	14 829	1 132	-	2 376	18 337	19.9	677
IV-2-1	-	293	Bb80M	-	-	-	-	-	-	-	-	-	-	8 733	1 512	10 245	104.5	3 553
IV-3-1	-	436	Ba25M	-	-	-	-	-	-	-	-	-	-	12 990	1 307	14 297	15.6	530
IV-3-2	-	772	Aa40M	-	-	-	-	-	-	-	-	-	-	23 006	2 689	25 695	28.0	952
IV-4-1	8.5	144	Bb40M	2 106	120	1 986	16 881	38	1.00	38	323	16 558	1 301	-	1 178	19 037	20.7	704
IV-4-2	20.6	350	Aa40M	3 646	204	3 442	70 905	38	1.00	38	782	70 123	4 841	-	2 149	77 113	84.0	2 856
IV-4-3	11.6	198	Bb25N	2 106	75	2 031	23 560	38	1.33	51	591	22 969	1 775	-	2 646	27 390	29.8	1 013
IV-4-4	22.7	386	Bc30M	1 614	75	1 509	34 935	38	1.00	38	863	34 072	2 928	-	2 981	39 981	43.6	1 482
IV-4-5	28.1	477	Bb20N	2 106	60	2 046	57 493	38	1.33	51	1 433	56 060	4 299	-	2 020	62 379	68.0	2 312
IV-4-6	4.1	70	Bb75M	2 106	225	1 881	7 712	38	1.00	38	156	7 556	627	-	1 091	9 274	10.1	343
IV-4-7	3.3	56	Bb75M	2 106	225	1 881	6 207	38	1.00	38	125	6 082	505	-	1 177	7 764	8.5	289
IV-4-8	12.9	220	Bb80M	2 106	240	1 866	24 071	38	1.00	38	490	23 581	1 974	-	1 588	27 143	29.6	1 006
IV-4-9	11.2	190	Bb25N	2 106	75	2 031	22 747	38	1.33	51	571	22 176	1 714	-	1 242	25 132	27.4	932
IV-4-10	34.4	584	Aa30M	3 646	153	3 493	120 159	38	1.00	38	1 307	118 852	8 084	-	1 976	128 912	14.0	4 773
IV-4-11	2.1	36	Bb40M	2 106	120	1 986	4 171	38	1.00	38	80	4 091	321	-	1 004	5 416	5.9	201
V-1-1	0.7	12	Aa30S	3 646	153	3 493	2 445	76	0.67	51	36	2 409	165	-	620	3 194	3.5	119
V-1-2	14.5	270	Bb60S	2 106	180	1 926	27 927	76	0.67	51	740	27 187	2 219	-	1 066	30 472	33.2	1 129
V-1-3	77.2	313	Ba80M	2 619	288	2 331	179 953	76	1.00	76	5 867	174 086	13 433	-	3 845	191 364	208.4	7 086
V-2-1	31.4	534	Aa50S	3 646	255	3 391	106 477	135	0.67	90	2 826	103 651	7 379	-	632	111 662	121.7	4 138
V-2-2	45.6	776	Bb50M	2 106	150	1 956	89 194	135	1.00	135	6 156	83 038	6 977	-	1 696	91 711	99.9	3 397
V-2-3	43.8	745	Bb55N	2 106	165	1 941	85 016	135	1.33	180	7 884	77 132	6 701	-	1 598	85 431	93.1	3 165

Table H-7 Financial Benefit for Inventry Projects

Number of Dam site	(ha) Irrigable Area	Yield at 1/10 P.	Cropping Pat, Market Distance, Drought Susceptibility	Per ha. Benefit With Project B.				Per ha. Benefit Without Project				Net Corp Production benefit	Livestock. B.		Fishery Benefit	Total Benefit	No. of families dependable	Food Subsidies in Z$ for these famflies
				Farm Income	Transportation Cost	Net Income	Net Corp Income	Standard Income	Conversion Factor	Net Income	Net Corp Income		Corp Residue	Pasture & Range				
V-2-4	43.1	732	Ba65N	2 619	234	2 385	102 794	135	1.33	180	7 758	95 036	7 499	-	2 095	104 630	10.7	364
V-3-1	-	556	Bc55S	-	-	-	-	-	-	-	-	-	-	16 589	1 685	18 274	19.9	677
V-3-2	66.4	1 128	Bb45S	2 106	135	1 971	130 874	119	0.67	79	5 246	125 628	10 159	-	3 337	139 124	151.6	5 154
V-3-3	56.1	954	Aa50S	3 646	255	3 391	190 235	119	0.67	79	4 432	185 803	13 184	-	5 962	204 949	223.3	7 592
V-4-1	10.0	170	Bb40M	2 106	120	1 986	19 860	128	1.00	128	1 280	18 580	1 530	-	2 311	22 421	24.4	830
V-4-2	19.2	326	Bc40M	1 614	100	1 514	29 069	128	1.00	128	2 458	26 611	2 477	-	2 365	31 453	34.3	1 166
V-4-3	16.2	275	Aa25M	3 646	128	3 518	56 992	128	1.00	128	2 073	54 919	3 807	-	2 290	61 016	66.4	2 259
VI-1-1	3.7	108	Bb30S	2 106	90	2 016	7 459	34	0.67	23	85	7 374	566	-	1 123	9 063	9.9	337
VI-1-2	3.5	60	Aa40S	3 646	204	3 442	12 047	34	0.67	23	81	11 966	823	-	1 153	13 942	15.2	517
VI-1-3	0.8	13	Aa25S	3 646	128	3 518	2 814	34	0.67	23	18	2 796	188	-	1 458	4 442	4.8	164
VI-1-4	1.3	22	Bb60M	2 106	180	1 926	2 504	35	1.00	35	46	2 458	199	-	955	3 612	3.9	133
VI-1-5	3.7	63	Bb50S	2 106	150	1 956	7 237	34	0.67	23	85	7 152	566	-	1 318	9 036	9.8	333
VI-1-6	3.6	62	Bb55M	2 106	165	1 941	6 988	35	1.00	35	126	6 862	551	-	880	8 293	9.0	306
VI-1-7	6.4	109	Bb30M	2 106	90	2 016	12 902	35	1.00	35	224	12 678	979	-	1 231	14 888	16.2	551
VI-1-8	9.4	183	Bb20S	2 106	60	2 046	19 232	34	0.67	23	216	19 016	1 438	-	1 166	21 620	23.5	800
VI-2-1	3.0	51	Bb45M	2 106	135	1 971	5 913	35	1.00	35	105	5 808	459	-	1 361	7 628	8.3	282
VI-2-2	1.4	23	Bb35M	2 106	105	2 001	2 801	35	1.00	35	49	2 752	214	-	756	3 722	4.1	139
VII-1-1	57.7	981	Aa35N	3 646	178	3 468	200 104	42	1.33	56	3 231	196 844	13 560	-	1 782	212 186	231.1	7 857
VII-1-2	29.4	500	Aa40N	3 646	204	3 444	101 195	42	1.33	56	1 646	99 549	6 909	-	397	106 855	116.4	3 957
VII-1-3	32.3	549	Aa15N	3 646	77	3 569	115 279	42	1.33	56	1 809	113 479	7 591	-	1 393	122 463	133.4	4 536
VII-1-4	17.8	302	Bb10M	2 106	30	2 076	36 953	42	1.00	42	748	36 205	2 723	-	1 128	40 056	43.7	1 485
VII-1-5	27.6	475	Bb20N	2 106	60	2 046	56 470	42	1.33	56	1 546	54 924	4 223	-	1 382	60 529	65.9	2 241
VII-1-6	25.3	430	Bb10M	2 106	30	2 076	52 523	42	1.00	42	1 063	51 460	3 871	-	1 482	56 813	61.9	2 105
VII-1-7	15.5	263	Bb10N	2 106	30	2 076	32 178	42	1.33	56	868	31 310	2 372	-	1 404	35 086	38.2	1 299
VII-1-8	84.9	1 443	Bb20M	2 106	60	2 046	173 705	42	1.00	42	3 566	170 139	12 990	-	4 644	187 773	204.6	6 956
VII-1-9	13.8	234	Bb30M	2 106	90	2 016	27 821	42	1.00	42	580	27 241	2 111	-	1 285	30 637	33.4	1 136
VII-1-10	29.8	506	Bb30M	2 106	90	2 016	60 077	42	1.00	42	1 252	58 825	4 559	-	2 430	65 814	71.7	2 438
VII-1-11	58.6	996	Bb35M	2 106	105	2 001	117 259	42	1.00	42	2 461	114 798	8 966	-	3 661	127 425	138.9	4 723
VII-1-12	74.4	1 265	Aa15S	3 646	77	3 569	265 534	42	0.67	28	2 083	263 451	17 484	-	3 351	284 186	309.7	10 531
VII-1-13	49.6	844	Bb10S	2 106	30	2 076	102 970	42	0.67	28	1 389	101 581	7 589	-	1 490	110 660	120.5	4 097

Note: Ab, Ca etc.: Farming Pattern adopted for individual site, where subscript gives farming suitability, f.ex. Aa > Ab > Ac

Aa15S: Where figures show the distance from the site to the nearby G.M.B. depot.

N.M.S.: Stand for no, medium and severe susceptibility of crop to drought attack.

Table H-8 Gross Economic Value, Without Proj. per Hectare

Crop	%	Yield t/ha	Econ price	Gross Econ value	Crop	%	Yield t/ha	Econ price	Gross Econ value	Crop	%	Yield t/ha	Econ price	Gross Econ value
Denhere					Chivi					matibi No.1				
m	69	0.64	250	110	m	64	0.27	250	43	m	71	0.18	250	32
r	18	0.37	375**	25	g	19	0.20	509	19	s	16	0.36	219	13
g	13	0.20	509	13	s	17	0.14	219	5	h	13	0.46	217***	13
				148					67					58
Chikwanda					Matsai					Zimitu				
m	67	0.55	250	92	m	61	0.73	250	111	m	62	0.73	250	113
r	22	0.37	375	31	h	25	0.46	217	25	r	28	0.91	375	96
g	11	0.20	509	11	s	14	0.55	219	17	g	10	0.80	509	41
				134					153					250
Sengwe					Bikita					Masvingo				
					m	70	0.72	250	126	m	73	0.91	250	166
s	69	0.18	219*	27	h	18	0.82	217	32	r	16	0.55	375	33
m	31	0.09	250	7	g	12	0.85	509	52	g	11	0.50	509	28
				34					210					227
Matibi No.2					Zaka					Serima				
					m	68	0.55	250	94	m	67	0.64	250	107
s	72	0.46	219	73	r	16	0.36	375	22	r	25	0.36	375	34
m	28	0.55	250	39	g	16	0.30	509	24	g	8	0.20	509	8
				112					140					149
Sangwe					Muenazi					Mtilikwe				
					m	39	0.27	250	26	m	39	1.10	250	107
s	65	0.46	219	65	r	33	0.36	375	45	r	39	0.64	375	94
m	35	0.55	250	48	s	28	0.36	219	22	g	22	0.80	509	90
				113					93					291
Gutu					Nyajena									
m	52	0.55	250	72	r	57	0.54	375	115					
h	39	0.37	217	31	m	36	0.91	250	82					
r	9	0.28	375	9	g	7	0.60	509	21					
				112					218					

Note: m; maize r; rapoko g; groundnut s; sorghum h; mhunga
*; multiplied by the rate of price in November, 1986.

H-9 Economic Net Income from Crop per ha
(Without Project)

Crop	Yield level	Gross Value	Retur n ratio	Net Value
Denhere				
m	0.64	110	0.31	34
r	0.37	25	0.54	14
g	0.20	13	0.31	4
	(69~35)			52
Chikwanda				
m	0.55	92	0.30	28
r	0.37	31	0.54	17
g	0.20	11	0.31	3
	(64~32)			48
Sengwe				
s	0.18	27	0.32	9
m	0.09	7	0.24	2
	(15~7)			11
Matibi No.2				
s	0.46	73	0.36	26
m	0.55	39	0.30	12
	(51~25)			38
Sangwe				
s	0.46	65	0.36	23
m	0.55	48	0.30	14
	(49~25)			37
Gutu				
m	0.55	72	0.30	22
b	0.37	31	0.47	15
r	0.28	9	0.50	5
	(56~28)			42

Crop	Yield level	Gross Value	Retur n ratio	Net Value
Chibi(Mashaha)				
m	0.27	43	0.27	12
g	0.20	19	0.31	6
s	0.14	5	0.31	2
	(27~13)			20
Matsai				
m	0.73	111	0.33	37
h	0.46	25	0.49	13
s	0.55	17	0.38	6
	(75~37)			56
Bikita				
m	0.72	126	0.33	42
h	0.82	32	0.58	19
g	0.85	52	0.50	26
	(116~58)			87
Zaka				
m	0.55	94	0.30	28
r	0.36	22	0.53	12
g	0.30	24	0.34	8
	(64~32)			48
Muenezi				
m	0.27	26	0.25	7
r	0.36	45	0.53	24
s	0.36	22	0.34	7
	(51~25)			38
Nyajena				
r	0.54	115	0.61	70
m	0.91	82	0.36	30
g	0.60	21	0.43	9
	(145~73)			109

Crop	Yield level	Gross Value	Retur n ratio	Net Value
Matibi No.1				
m	0.18	32	0.25	8
s	0.36	13	0.34	4
h	0.46	13	0.49	6
	(24~12)			18
Zimutu				
m	0.73	113	0.33	37
r	0.91	96	0.77	74
g	0.80	41	0.50	21
	(176~88)			132
Masuingo				
m	0.91	166	0.36	60
r	0.55	33	0.61	20
g	0.80	28	0.40	11
	(121~61)			91
Serima				
m	0.64	107	0.31	33
r	0.36	34	0.53	18
g	0.20	8	0.31	2
	(70~35)			53
Mtilikwe				
m	1.10	107	0.38	41
r	0.64	94	0.65	61
g	0.80	90	0.50	45
	(196~98)			147

Note: m; maize, r; rapoko, g; groundnut, s; sorghum, h; mhunga

H-10 Economic Farm Input Cost per ha
(With Project)

Crop	Conversion factor	Maize (White)					Sugar Bean			
Target Yield	t/ha	9	8	7	6	5	3	2.7	2.5	2.3
Fertilizer	0.9	317	304	251	232	184	243	176	158	130
Chemicals	0.91	24	24	17	17	17	19	19	13	13
Seeds	0.9	25	25	21	21	21	85	81	73	73
Soil Improve	0.9	0	0	0	0	0	-	-	-	-
Irrigation	0	0	0	0	0	0	0	0	0	0
Troctor Hire	0.9	56	56	56	56	56	56	56	56	56
Labour	0.45	32	32	32	32	32	20	20	20	20
Tramsportation Cost	0.9	2.4x	2.2x	1.9x	1.6x	1,4x	0.8x	0.7x	0.6x	0.6x
Total	-	454	441	377	358	310	423	352	320	292
		2.4x	2.2x	1.9x	1.6x	1.4x	0.8x	0.7x	0.6x	0.6x

Crop	Conversion factor	Ground Nut					Tomato			
Target Yield	t/ha	3.5	3	2.7	2.5	-	20	16	12	8
Fertilizer	0.9	164	146	135	127	-	616	544	468	421
Chemicals	0.9	0	0	0	0	-	180	162	108	108
Seeds	0.9	144	144	144	144	-	22	22	14	14
Soil Improve	0.9	38	34	32	31	-	-	-	-	-
Irrigation	0	0	0	0	0	-	0	0	0	0
Troctor Hire	0.9	56	56	56	56	-	56	56	56	56
Labour	0.45	25	25	25	25	-	68	68	68	68
Tramsportation Cost	0.9	1.0x	0.8x	0.7x	0.6x	-	5.4x	4.3x	3.2x	2.2x
Total	-	427	405	392	383	-	942	852	714	667
		1x	0.8x	0.7x	0.6x		5.4x	4.3x	3.2x	2.2x

Crop	Conversion factor	Wheat					Cotton			
Target Yield	t/ha	4	3.5	3	2.7	-	3.5	3	2.5	-
Fertilizer	0.9	126	117	104	95	-	186	173	160	-
Chemicals	0.9	16	14	14	14	-	90	82	82	-
Seeds	0.9	88	81	75	75	-	5	4	4	-
Soil Improve	0.9	0	0	0	0	-	-	-	-	-
Irrigation	0	0	0	0	0	-	0	0	0	-
Troctor Hire	0.9	56	56	56	56	-	56	56	56	-
Labour	0.45	27	27	27	27	-	48	48	48	-
Tramsportation Cost	0.9	1.1x	1x	0.8x	0.8x	-	1x	0.8x	0.6x	-
Total	-	313	295	276	267	-	385	363	350	-
		1.1x	1x	0.8x	0.8x		1x	0.8x	0.6x	

Note: x represents the distance from the site to the nearest G.M.B depot.

H-11 Economic Farm Income from Crop per ha
(With Project)

Crop	Crop intensity	Econ-Price	Yield	Gross Value	Product Cost	Net Value	Yield	Gross Value	Product Cost	Net Value	Yield	Gross Value	Product Cost	Net Value
				Aa (4.5x)				Ab (3.9x)				Ac (3,0x)		
Maize	0.6	250	9	1 350	272	1 078	8	1 200	265	935	7	1 050	226	824
Gr.nut	0.2	509	3.5	356	85	271	3	305	81	224	27	275	7.8	197
Wheat	0.4	288	4	461	125	336	3.5	403	118	285	3	346	110	236
Sug.bean	0.4	509	3	611	169	442	2.7	550	141	409	2.5	509	128	381
Tomato	0.4	300	20	2 400	377	2 023	16	1 920	341	1 579	12	1 440	286	1 154
Veg.home Consumption	(0.4)	—	—	360	—	360	—	288	—	288	—	216	—	216
Total	2.0	—				4 510				3 720				3 008
				Ba (3.3x)				Bb (2.6x)				Bc (2.1x)		
Maize	0.5	250	7	875	189	686	6	750	179	571	5	625	155	470
Gr.nut	0.4	509	3	611	162	449	2.7	550	172	378	2.5	509	153	356
Wheat	0.4	288	3.5	403	118	285	3	346	110	236	2.7	311	107	204
Sug.bean	0.4	509	2.7	550	141	409	2.5	509	128	381	2.3	468	117	351
Tomato	0.3	300	16	1 440	256	1 184	12	1 080	214	866	8	720	200	520
Veg.home Consumption	(0.3)	—	—	216	—	216	—	162	—	162	—	108	—	108
Total	2.0	—				3 229				2 594				2 009
				Ca (3.7x)				Cb (3.2x)				Cc (2.8x)		
Maize	0.6	250	9	1 350	272	1 078	8	1 200	265	935	7	1 050	226	824
Gr.nut	0.3	509	3.5	534	128	406	3	458	122	336	2.7	412	118	294
Wheat	0.5	288	4	576	157	419	3.5	504	148	356	3	432	138	294
Sug.bean	0.4	509	3	611	169	442	2.7	550	141	409	2.5	509	128	381
Tomato	0.2	300	20	1 200	188	1 012	16	960	170	790	12	720	143	577
Veg.home Consumption	(0.2)	—	—	180	—	180	—	144	—	144	—	108	—	108
Total	2.0	—				3 537				2 970				2 478
				Da (2.6x)				Db (2.1x)				Dc (1.8x)		
Maize	0.55	250	7	963	207	756	6	825	197	628	5	688	171	517
Gr.nut	0.4	509	3	611	162	449	2.7	550	157	393	2.5	509	153	356
Wheat	0.55	288	3.5	554	162	392	3	475	152	323	2.7	428	147	281
Sug.bean	0.4	509	2.7	550	141	409	2.5	509	128	381	2.3	468	117	351
Tomato	0.1	300	16	480	85	395	12	360	71	289	8	240	67	173
Veg.home Consumption	(0.1)	—	—	72	—	72	—	54	—	54	—	36	—	36
Total	2.0	—				2 473				2 068				1 714

Excluding: Transportation costs, which are variable with distances to markets, perhectare costs are expressed like (5.1x) where x represents these distances.

Table H-12 Ecomonic Livestock Income from Crop Residue per Hectare Irrigated

Cropping Patterns	A			B			C			D		
	Aa	Ab	Ac	Ba	Bb	Bc	Ca	Cb	Cc	Da	Db	Dc
Cattle meat kg. per ha.	197	173	162	146	127	108	208	192	165	159	141	119
Economic price (export price 1985) Z$/kg	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
Product (Economic value)	384	337	316	285	250	211	406	376	322	313	271	233
Cost (10% of the economic vlaue)	39	34	32	29	25	21	40	38	32	31	27	23
Net economic livestock income	345	303	284	256	225	190	366	335	290	282	244	210

Note: Round about figures are used. In case of pasture production (where no crop field is available).

Similar replacement of Z$1.95/kg meat to the farm-gate price (Z$ 1.33/kg) was applied to calculate economic income.

H-13 Economic Benefit for Inventry Project

Site NO.	Area ha.	Cropping Pattern	Gravity or pump	Crop with project	transpo-rtation	per ha with proje Benefit	Crop with proj Benefit	Crop per ha without proj	Crop without proj Benefit	Net Crop Benefit	per ha Livestock	Livestock Benefit	Fishery Benefit	Total Exonomic Benefit
I-1-1	3.7	Dc110S	G	1 714	198	1 516	5 609	12	44	5 565	210	777	1 744	8 086
-2	4.2	Db110S	P	2 068	231	1 837	7 715	12	50	7 665	244	1 025	4 068	12 758
-3	2.8	Cb110S	P	2 970	352	2 618	7 330	12	34	7 296	335	938	1 791	10 025
-2-1	40.1	Ca90S	G	3 537	333	3 204	128 480	12	481	127 999	366	14 677	12 276	154 952
-2	22.4	Da10S	G	2 473	26	2 447	54 812	12	269	54 543	282	6 317	4 552	65 412
-3	13.9	Ca5S	P	3 537	19	3 518	48 900	12	167	48 733	366	5 087	3 567	57 387
-4	1.5	Ca60S	G	3 537	222	3 315	4 973	12	18	4 955	366	549	2 724	8 228
-5	4.1	Ca60S	p	3 537	222	3 315	13 592	12	49	13 543	366	1 501	5 736	20 780
II-1-1	16.0	Aa25S	P	4 510	113	4 397	70 352	58	928	69 424	345	5 520	1 487	76 431
-2	12.2	Aa55S	P	4 510	248	4 262	51 996	58	708	51 288	245	4 209	1 195	56 692
-3	20.4	Bb65S	P	2 594	169	2 425	49 470	58	1 241	48 229	225	4 590	1 520	54 339
-4	12.2	Bb60N	P	2 594	156	2 438	29 744	116	1 415	28 329	225	2 745	1 355	32 429
-5	15.4	Bb15S	G	2 594	39	2 555	39 347	58	893	38 454	225	3 465	717	42 636
-6	38.8	Aa35S	P	4 510	158	4 352	168 858	58	2 250	166 608	345	13 386	4 051	184 045
-7	23.9	Aa20N	P	4 510	90	4 420	105 638	116	2 772	102 866	345	8 246	2 521	113 633
-8	20.3	Bb50S	G	2 594	130	2 464	50 019	58	1 177	48 842	225	4 568	1 267	54 697
-9	21.4	Bb50S	G	2 594	130	2 464	52 730	58	1 241	51 489	225	4 815	1 773	58 077
-10	18.8	Ba55S	G	3 229	182	3 047	57 284	58	1 090	56 194	256	4 813	3 079	64 086
-11	16.2	Bb55S	G	2 594	143	2 451	39 706	58	940	38 766	225	3 645	2 030	44 441
-2-1	14.6	Ca15S	G	3 537	56	3 481	50 823	37	540	50 283	366	5 344	2 437	58 064
-2	8.1	Cb20S	G	2 970	64	2 906	23 539	37	300	23 239	335	2 714	2 030	27 983
-3	6.6	Ca35S	G	3 537	130	3 407	22 486	37	244	22 242	366	2 416	1 993	26 651
III-1-1	0.8	Ca90S	G	3 537	333	3 204	2 563	25	20	2 543	366	293	6 531	9 367
-2	0.6	Ca45S	G	3 537	167	3 370	2 022	25	15	2 007	366	220	1 341	3 568
-3	0.6	Ca40S	G	3 537	148	3 389	2 033	25	15	2 018	366	220	4 226	6 464
-4	0.6	Ca90S	G	3 537	333	3 204	1 922	25	15	1 907	366	220	5 107	7 234
-5	-	Cb100S	G	-	-	-	-	-	-	-	-	2 944	4 552	7 496
-2-1	13.9	Ca90S	G	3 537	333	3 204	44 563	25	348	44 215	366	5 087	3 168	52 470
-2	1.1	Ca80S	G	3 537	296	3 241	3 565	25	28	3 537	366	403	1 706	5 646
-3	-	Ca15S	G	-	-	-	-	-	-	-	-	1 979	1 411	3 390
-4	0.1	Db90S	G	2 068	189	1 879	188	25	3	185	244	24	1 451	1 660
-5	-	Db80S	G	-	-	-	-	-	-	-	-	3 266	2 115	5 381
-3-1	-	Db30S	G	-	-	-	-	-	-	-	-	93	1 759	1 852
-2	1.1	Ca30S	G	3 537	111	3 426	3 769	7	8	3 761	366	403	2 284	6 448
-3	0.4	Ca30S	G	3 537	111	3 426	1 370	7	3	1 367	366	146	2 640	4 153

H-13 Economic Benefit for Inventry Project

Site NO.	Area ha.	Cropping Pattern	Gravity or pump	Crop with project	transpo-rtation	per ha with proje Benefit	Crop with proj Benefit	Crop per ha without proj	Crop without proj. Benefit	Net Crop Benefit	per ha Livestock	Livestock Benefit	Fishery Benefit	Total Exonomic Benefit
-4	0.1	Db35S	G	2068	74	1994	199	7	1	198	244	24	1 373	1 595
-5	-	Db25S	G	-	-	-	-	-	-	-	-	93	1 313	1 406
-6	0.1	Db50S	G	2 068	105	1 963	196	7	1	195	244	24	1 043	1 262
-7	-	Cb60S	G	-	-	-	-	-	-	-	-	93	1 616	1 709
-8	-	Ca40S	G	-	-	-	-	-	-	-	-	93	1 465	1 558
IV-1-1	-	Bc40N	G	-	-	-	-	-	-	-	-	18 543	2 496	21 039
-2	27.6	Bb40N	G	2 594	104	2 490	68 724	64	1 766	66 958	225	6 210	5 431	78 599
-3	17.7	Aa75N	G	4 510	338	4 172	73 844	64	1 133	72 711	345	6 107	3 380	82 198
-4	7.4	Bb15N	G	2 594	39	2 555	18 907	64	474	18 433	225	1 665	3 718	23 816
-2-1	-	Bb80M	G	-	-	-	-	-	-	-	-	12 837	2 369	15 206
-3-1	-	Aa40M	G	-	-	-	-	-	-	-	-	19 095	2 044	21 139
-2	-	Aa25M	G	-	-	-	-	-	-	-	-	33 819	4 209	38 028
-4-1	8.5	Bb40M	P	2 594	104	2 490	21 165	42	357	20 808	225	1 913	1 740	24 461
-2	20.6	Aa40M	G	4 510	180	4 330	89 198	42	865	88 333	345	7 107	3 363	98 803
-3	11.6	Bb25N	G	2 594	65	2 529	29 336	56	650	28 686	225	2 160	4 145	34 991
-4	22.7	Bc30M	G	2 009	63	1 946	44 174	42	953	43 221	190	4 313	4 670	52 204
-5	28.1	Bb20N	G	2 594	52	2 542	71 430	56	1 574	69 856	225	6 223	3 164	79 243
-6	4.1	Bb75M	G	2 594	195	2 399	9 836	42	172	9 664	225	923	1 423	12 010
-7	3.3	Bb75M	G	2 594	195	2 399	7 917	42	139	7 778	225	743	1 840	10 361
-8	12.9	Bb80M	P	2 594	208	2 386	30 779	42	542	30 237	225	2 903	2 484	35 624
-9	11.2	Bb25N	P	2 594	65	2 529	28 325	56	627	27 698	225	2 520	2 306	32 524
-10	34.4	Aa30M	G	4 510	135	4 375	150 500	42	1 445	149 055	345	11 868	2 732	163 655
-11	2.1	Bb40M	G	2 594	104	2 490	5 229	42	88	55 141	225	473	1 487	7 101
V-1-1	0.7	Aa30S	G	4 510	135	4 375	3 062	61	43	3 019	345	242	914	4 175
-2	14.5	Bb60S	P	2 594	156	2 438	35 351	61	885	34 466	225	3 263	1 575	39 304
-3	77.2	Ba80M	P	3 229	264	2 965	228 898	91	7 025	221 873	256	19 763	6 021	247 657
-2-1	31.4	Aa50S	P	4 510	225	4 285	134 549	98	3 077	131 472	345	10 833	933	143 238
-2	45.6	Bb50M	P	2 594	130	2 464	112 358	147	6 703	105 655	225	10 260	2 656	118 571
-3	43.8	Bb55N	P	2 594	143	2 451	107 354	196	8 585	98 769	225	9 855	2 511	111 135
-4	43.1	Ba65N	P	3 229	215	3 014	129 903	196	8 448	121 455	256	11 034	2 959	135 448
-3-1	-	Bc55S	G	-	-	-	-	-	-	-	-	24 382	2 637	27 019
-2	66.4	Bb45S	P	2 594	117	2 477	164 473	73	4 847	159 626	225	14 940	5 228	179 794
-3	56.1	Aa50S	G	4 510	225	4 285	240 388	73	4 095	236 293	345	19 355	9 968	265 616
-4-1	10.0	Bb40M	P	2 544	104	2 490	24 900	132	1 320	23 580	225	2 250	3 621	29 451
-2	19.2	Bc40M	G	2 009	84	1 925	36 960	132	2 534	34 426	190	3 648	3 702	41 776

H-13 Economic Benefit for Inventry Project

Site NO.	Area ha.	Cropping Pattern	Gravity or pump	Crop with project	transpo-rtation	per ha with proje Benefit	Crop with proj Benefit	Crop per ha without proj	Crop without proj. Benefit	Net Crop Benefit	per ha Livestock	Livestock Benefit	Fishery Benefit	Total Exonomic Benefit
-3	16.2	Aa25M	G	4 510	113	4 397	71 231	132	2 138	69 093	345	5 589	3 584	78 266
VI-1-1	3.7	Bb30S	P	2 594	78	2 516	9 309	13	48	9 261	225	833	1 760	11 854
-2	3.5	Aa40S	G	4 510	180	4 330	15 155	13	46	15 109	345	1 208	1 708	18 025
-3	0.8	Aa25S	G	4 510	113	4 397	3 518	13	10	3 508	345	276	2 284	6 068
-4	1.3	Bb60M	P	2 594	156	2 438	3 169	20	26	3 143	225	293	1 414	4 850
-5	3.7	Bb50S	G	2 594	130	2 464	9 117	13	48	9 069	225	833	2 064	11 966
-6	3.6	Bb55M	P	2 594	143	2 451	8 824	20	72	8 752	225	810	1 300	10 862
-7	6.4	Bb30M	P	2 594	78	2 516	16 102	20	128	15 974	225	1 440	1 929	19 343
-8	9.4	Bb20S	G	2 594	52	2 542	23 895	13	122	23 773	225	2 115	1 726	27 614
VI-2-1	3.0	Bb45M	G	2 594	117	2 477	7 431	20	60	7 371	225	675	2 132	10 178
-2	1.4	Bb35M	P	2 594	91	2 503	3 504	20	28	3 476	225	315	1 116	4 907
VII-1-1	57.7	Aa35N	P	4 510	158	4 352	251 110	64	3 693	247 417	345	19 907	2 792	270 116
-2	29.4	Aa40N	P	4 510	180	4 330	127 302	64	1 882	125 420	345	10 143	587	136 150
-3	32.3	Aa15N	G	4 510	68	4 442	143 477	64	2 067	141 410	345	11 144	2 183	154 737
VII-1-4	17.8	Bb10M	G	2 594	26	2 568	45 710	48	854	44 856	225	4 005	1 670	50 531
-5	27.6	Bb20N	P	2 594	52	2 542	70 159	64	1 766	68 393	225	6 210	2 166	76 769
-6	25.3	Bb10M	P	2 594	26	2 568	64 970	48	1 214	63 756	225	5 693	2 799	72 248
-7	15.5	Bb10N	G	2 594	26	2 568	39 804	64	992	38 812	225	3 488	2 196	44 496
-8	84.9	Bb20N	G	2 594	52	2 542	215 816	64	5 434	210 382	225	19 103	7 272	236 757
-9	13.8	Bb30N	G	2 594	78	2 516	34 721	64	883	33 838	225	3 105	2 010	38 953
-10	29.8	Bb30N	P	2 594	78	2 516	74 977	64	1 907	73 070	225	6 705	3 807	83 582
-11	58.6	Bb35M	P	2 594	91	2 503	146 676	48	2 813	143 863	225	13 185	4 638	161 686
-12	74.4	Aa15S	P	4 510	68	4 442	330 485	32	2 381	328 104	345	25 668	5 090	358 862
-13	49.6	Bb10S	P	2 594	26	2 568	127 373	32	1 587	125 786	225	11 160	2 335	139 281

Note: Figures in the column of cropping patterns indicate distances from the nearest G.M.B. depot. and S stands for higher drought susceptibility, M stands for medium susceptibility and N does for negligeable susceptibility.

Part H-3 Economic Fishery Income from Dam

Available water surface, catch per hectare and marketing rate is the same as used in financial income calculation.

Farmgate price (2 Z$/kg) was replaced by economic price (2x0.9=1.8 Z$/kg, where general conversion factor was used.) cost (mainly consisting of material and fry) was also converted into economic cost by multiplying the same factor 0.9.

In addition, half of the inmarkettable catch ($200^{kg} \times 0.8 \times \frac{1}{2} \times \frac{1}{2}$) as home consumption was evaluated into economic value at the price rate of 0.9 x Z$2/kg.

ANNEX I. Rural (Ward) Survey

D.C : BATANAI C.L : MARANDA WARD : WARD 23 CONCERNED DAM : I-1-1

I. LAND USE

1. TOTAL AREA	9815 HA	(100.%)
2. ARABLE AREA	4020 HA	(41.%)
3. GRAZING AREA	5795 HA	(59.%)

II. SOCIAL ASPECT

1. POPULATION	4355	
2. POPULATION DENSITY	44.4 /KM2	
3. NO.OF HOUSEHOLDS	622	(100.%)
4. NO.OF PLOTHOLDERS	522	(84.%)
5. NO.OF LIVESTOCK OWENERS	467	(75.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	2	
7. POPULATION PER P.S	2178.	
8. NO.OF SECONDARY SCHOOLS	NIL	
9. NO.OF BUSINESS CENTRES	1	
10. NO.OF CLINICS	1	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	MARANDA	
12. DISTANCE TO ABOVE CENTRE	17 KM	
13. LITERACY RATE	20-30 %	

III. AGRICULTURE

1. NATURAL REGION V
2. SOIL
(1) SOIL TEXTURE SAND-LOAMY SAND LOAM SANDY CLAY LOAM
(2) SOIL DEPTH 1.0M < 0.5-1.0M
(3) SOIL PH N.A
(4) LAND SLOPE UNDULATE SLOPE

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	1600	10	0.40
(2) RAPOCO	NIL	-	-
(3) MHUNGA	525	4	0.13
(4) GROUNDNUTS **)	800	9	0.20
(5) SORGHUM	700	8	0.17
(6) COTTON ***)	15	600	0.00
(7) SUNFLOWER	NIL	-	-

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		658
(2) GOATS & SHEEP		1323
(3) DONKEY		282
(4) LIVESTOCK UNITS	(LSU) *)	673
(5) LSUS PER KM2	(LSU)	6.9
(6) GRAZING AREA PER LSU (HA)		8.6

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	NO

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	5	0.05	871.
(2) WELL	3	0.03	1452.

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN *) SOURCE	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	2) 3)	FAIR	3.0
(2) LIVESTOCK	2) 3)	POOR	4.0

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	1
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	NIL
4. ELECTRICITY	NO
5. POST	NIL
6. TELEPHONE	NIL

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	N.A
1. MASTER FARMERS	14
3. MASTER FARMERS' CLUB	6
4. WOMEN'S GROUP	6
5. YOUTH GROUP	6

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	6.5
2. GRAZING AREA (HA)	9.3
3. CROPPING AREA OF MAIZE (HA)	2.6
4. CROPPING AREA OF SORGHUM (HA)	1.1
5. NO.OF FAMILY MEMBERS	7.0
6. NO.OF CATTLE	1.1
7. LIVESTOCK UNITS (LSU)	1.1
8. INCOME PER ANNUM	< ZS 100
9. MAIN INCOME SOURCE	LIVESTOCK

SOURCE : AGRITEX, 1986

D.C : BATANAI C.L : MATIBI NO. 1 WARD : WARD 1 CONCERNED DAM : I-2-2

I. LAND USE

1. TOTAL AREA	4625 HA	(100.%)
2. ARABLE AREA	2125 HA	(46.%)
3. GRAZING AREA	2500 HA	(54.%)

II. SOCIAL ASPECT

1. POPULATION	3348	
2. POPULATION DENSITY	72.4 /KM2	
3. NO.OF HOUSEHOLDS	381	(100.%)
4. NO.OF PLOTHOLDERS	300	(79.%)
5. NO.OF LIVESTOCK OWENERS	286	(75.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	1	
7. POPULATION PER P.S	3348.	
8. NO.OF SECONDARY SCHOOLS	1	
9. NO.OF BUSINESS CENTRES	1	
10. NO.OF CLINICS	1	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	NESHURO	
12. DISTANCE TO ABOVE CENTRE	12	KM
13. LITERACY RATE	20-30	%

III. AGRICULTURE

1. NATURAL REGION	V
2. SOIL	
(1) SOIL TEXTURE	SAND-LOAMY SAND SANDY LOAM LOAM
(2) SOIL DEPTH	0.5-1.0M
(3) SOIL PH	N.A
(4) LAND SLOPE	UNDULATE

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	1000	10	0.47
(2) RAPOCO	NIL	-	-
(3) MHUNGA	400	7	0.19
(4) GROUNDNUTS **)	600	9	0.28
(5) SORGHUM	100	8	0.05
(6) COTTON ***)	25	600	0.01
(7) SUNFLOWER	NIL	-	-

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		629
(2) GOATS & SHEEP		564
(3) DONKEY		69
(4) LIVESTOCK UNITS	(LSU) *)	493
(5) LSUS PER KM2	(LSU)	10.7
(6) GRAZING AREA PER LSU (HA)		5.1

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	NO

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	3	0.06	1116.
(2) WELL	1	0.02	3348.

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN *) SOURCE	WATER SECURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	1) 2) 3)	FAIR	3.0
(2) LIVESTOCK	1) 2) 3)	FAIR	3.0

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	1
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	NIL
4. ELECTRICITY	YES
5. POST	NIL
6. TELEPHONE	1

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	5
1. MASTER FARMERS	10
3. MASTER FARMERS' CLUB	5
4. WOMEN'S GROUP	5
5. YOUTH GROUP	5

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	5.6
2. GRAZING AREA (HA)	6.6
3. CROPPING AREA OF MAIZE (HA)	2.6
4. CROPPING AREA OF SORGHUM (HA)	0.3
5. NO.OF FAMILY MEMBERS	8.8
6. NO.OF CATTLE	1.7
7. LIVESTOCK UNITS (LSU)	1.3
8. INCOME PER ANNUM	< ZS 100
9. MAIN INCOME SOURCE	LIVESTOCK

SOURCE : AGRITEX, 1986

D.C : BATANAI C.L : MARANDA WARD : WARD 17 CONCERNED DAM : I-1-3

I. LAND USE

1. TOTAL AREA	20625 HA	(100.%)
2. ARABLE AREA	9725 HA	(47.%)
3. GRAZING AREA	10900 HA	(53.%)

II. SOCIAL ASPECT

1. POPULATION	4266	
2. POPULATION DENSITY	20.7 /KM2	
3. NO.OF HOUSEHOLDS	639	(100.%)
4. NO.OF PLOTHOLDERS	600	(94.%)
5. NO.OF LIVESTOCK OWENERS	479	(75.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	1	
7. POPULATION PER P.S	4266.	
8. NO.OF SECONDARY SCHOOLS	NIL	
9. NO.OF BUSINESS CENTRES	1	
10. NO.OF CLINICS	N.A	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	MARANDA	
12. DISTANCE TO ABOVE CENTRE	12 KM	
13. LITERACY RATE	20-30 %	

III. AGRICULTURE

1. NATURAL REGION V
2. SOIL
(1) SOIL TEXTURE SAND-LOAMY SAND SANDY LOAM SANDY CLAY LOAM
(2) SOIL DEPTH 1.0M < 0.5-1.0M
(3) SOIL PH N.A
(4) LAND SLOPE UNDULATE SLOPE

3.CROPS

CROPS	AREA (HA)	YIELD (BAGS/HA) *)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	3000	10	0.31
(2) RAPOCO	NIL	-	-
(3) MHUNGA	500	4	0.05
(4) GROUNDNUTS **)	1500	9	0.15
(5) SORGHUM	1000	8	0.10
(6) COTTON ***)	25	600	0.00
(7) SUNFLOWER	NIL	-	-

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		1135
(2) GOATS & SHEEP		2721
(3) DONKEY		355
(4) LIVESTOCK UNITS	(LSU) *)	1152
(5) LSUS PER KM2	(LSU)	5.6
(6) GRAZING AREA PER LSU (HA)		9.5

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	NO

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	5	0.02	853.
(2) WELL	N.A	N.A	N.A

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN SOURCE *)	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	1) 2) 3)	FAIR	3.0
(2) LIVESTOCK	1) 2) 3)	POOR	4.0

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	1
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	NIL
4. ELECTRICITY	NO
5. POST	NIL
6. TELEPHONE	NIL

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	2
1. MASTER FARMERS	10
3. MASTER FARMERS' CLUB	5
4. WOMEN'S GROUP	5
5. YOUTH GROUP	5

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	15.2
2. GRAZING AREA (HA)	17.1
3. CROPPING AREA OF MAIZE (HA)	4.7
4. CROPPING AREA OF SORGHUM (HA)	1.6
5. NO.OF FAMILY MEMBERS	6.7
6. NO.OF CATTLE	1.8
7. LIVESTOCK UNITS (LSU)	1.8
8. INCOME PER ANNUM	< ZS 100
9. MAIN INCOME SOURCE	LIVESTOCK

SOURCE : AGRITEX, 1986

D.C : BATANAI C.L : MARANDA WARD : WARD 20 CONCERNED DAM : I-1-2

I. LAND USE

1. TOTAL AREA	8725 HA	(100.%)
2. ARABLE AREA	3731 HA	(43.%)
3. GRAZING AREA	4994 HA	(57.%)

II. SOCIAL ASPECT

1. POPULATION	3956	
2. POPULATION DENSITY	45.3 /KM2	
3. NO.OF HOUSEHOLDS	471	(100.%)
4. NO.OF PLOTHOLDERS	410	(87.%)
5. NO.OF LIVESTOCK OWENERS	353	(75.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	2	
7. POPULATION PER P.S	1978.	
8. NO.OF SECONDARY SCHOOLS	1	
9. NO.OF BUSINESS CENTRES	1	
10. NO.OF CLINICS	1	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	MARANDA	
12. DISTANCE TO ABOVE CENTRE	6	KM
13. LITERACY RATE	20-30	%

III. AGRICULTURE

1. NATURAL REGION V
2. SOIL
(1) SOIL TEXTURE SAND-LOAMY SAND LOAM SANDY CLAY LOAM
(2) SOIL DEPTH 1.0M < 0.5-1.0M
(3) SOIL PH N.A
(4) LAND SLOPE UNDULATE SLOPE

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	1500	10	0.40
(2) RAPOCO	NIL	-	-
(3) MHUNGA	500	4	0.13
(4) GROUNDNUTS **)	700	9	0.19
(5) SORGHUM	400	8	0.11
(6) COTTON ***)	35	600	0.01
(7) SUNFLOWER	NIL	-	-

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		2836
(2) GOATS & SHEEP		4464
(3) DONKEY		658
(4) LIVESTOCK UNITS	(LSU) *)	2553
(5) LSUS PER KM2	(LSU)	29.3
(6) GRAZING AREA PER LSU (HA)		2.0

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	NO

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	4	0.05	989.
(2) WELL	5	0.06	791.

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN *) SOURCE	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	1) 2) 3)	FAIR	3.0
(2) LIVESTOCK	1) 2) 3)	POOR	4.0

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	1
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	NIL
4. ELECTRICITY	NO
5. POST	NIL
6. TELEPHONE	NIL

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	2
1. MASTER FARMERS	13
3. MASTER FARMERS' CLUB	5
4. WOMEN'S GROUP	5
5. YOUTH GROUP	5

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	7.9
2. GRAZING AREA (HA)	10.6
3. CROPPING AREA OF MAIZE (HA)	3.2
4. CROPPING AREA OF SORGHUM (HA)	0.8
5. NO.OF FAMILY MEMBERS	8.4
6. NO.OF CATTLE	6.0
7. LIVESTOCK UNITS (LSU)	5.4
8. INCOME PER ANNUM	< ZS 100
9. MAIN INCOME SOURCE	LIVESTOCK

SOURCE : AGRITEX, 1986

D.C : BATANAI C.L : MATIBI NO. 1 WARD : WARD 3 CONCERNED DAM : I-2-2

I. LAND USE

1. TOTAL AREA	9562 HA	(100.%)
2. ARABLE AREA	4230 HA	(44.%)
3. GRAZING AREA	5332 HA	(56.%)

II. SOCIAL ASPECT

1. POPULATION	3323	
2. POPULATION DENSITY	34.8 /KM2	
3. NO.OF HOUSEHOLDS	541	(100.%)
4. NO.OF PLOTHOLDERS	500	(92.%)
5. NO.OF LIVESTOCK OWENERS	406	(75.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	2	
7. POPULATION PER P.S	1662.	
8. NO.OF SECONDARY SCHOOLS	2	
9. NO.OF BUSINESS CENTRES	1	
10. NO.OF CLINICS	NIL	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	NESHURO	
12. DISTANCE TO ABOVE CENTRE	8 KM	
13. LITERACY RATE	20-30 %	

III. AGRICULTURE

1. NATURAL REGION V
2. SOIL

(1) SOIL TEXTURE	SAND-LOAMY SAND	SANDY LOAM	SANDY CLAY LOAM	
(2) SOIL DEPTH	0.5-1.0M			
(3) SOIL PH	N.A			
(4) LAND SLOPE	UNDULATE			

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	1500	10	0.35
(2) RAPOCO	NIL	-	-
(3) MHUNGA	500	7	0.12
(4) GROUNDNUTS **)	700	9	0.17
(5) SORGHUM	900	8	0.21
(6) COTTON ***)	10	600	0.00
(7) SUNFLOWER	NIL	-	-

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		979
(2) GOATS & SHEEP		1271
(3) DONKEY		97
(4) LIVESTOCK UNITS	(LSU) *)	802
(5) LSUS PER KM2	(LSU)	8.4
(6) GRAZING AREA PER LSU (HA)		6.6

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	NO

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	4	0.04	831.
(2) WELL	3	0.03	1108.

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN *) SOURCE	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	2) 3)	FAIR	3.0
(2) LIVESTOCK	2) 3)	FAIR	3.0

*)...1)..RIVERS, 2)..BORFHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	2
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	NIL
4. ELECTRICITY	NO
5. POST	NIL
6. TELEPHONE	N.A

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	1
1. MASTER FARMERS	9
3. MASTER FARMERS' CLUB	5
4. WOMEN'S GROUP	5
5. YOUTH GROUP	5

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	7.8
2. GRAZING AREA (HA)	9.9
3. CROPPING AREA OF MAIZE (HA)	2.8
4. CROPPING AREA OF SORGHUM (HA)	1.7
5. NO.OF FAMILY MEMBERS	6.1
6. NO.OF CATTLE	1.8
7. LIVESTOCK UNITS (LSU)	1.5
8. INCOME PER ANNUM	< ZS 100
9. MAIN INCOME SOURCE	LIVESTOCK

SOURCE : AGRITEX, 1986

D.C : BATANAI C.L : MATIBI NO. 1 WARD : WARD 4 CONCERNED DAM : I-2-3

I. LAND USE

1. TOTAL AREA	8628 HA	(100.%)
2. ARABLE AREA	4312 HA	(50.%)
3. GRAZING AREA	4316 HA	(50.%)

II. SOCIAL ASPECT

1. POPULATION	3705	
2. POPULATION DENSITY	42.9 /KM2	
3. NO.OF HOUSEHOLDS	523	(100.%)
4. NO.OF PLOTHOLDERS	423	(81.%)
5. NO.OF LIVESTOCK OWENERS	392	(75.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	2	
7. POPULATION PER P.S	1853.	
8. NO.OF SECONDARY SCHOOLS	NIL	
9. NO.OF BUSINESS CENTRES	NIL	
10. NO.OF CLINICS	NIL	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	NESHURO	
12. DISTANCE TO ABOVE CENTRE	6	KM
13. LITERACY RATE	20-30	%

III. AGRICULTURE

1. NATURAL REGION: V
2. SOIL
(1) SOIL TEXTURE: SAND-LOAMY SAND SANDY LOAM SANDY CLAY LOAM
(2) SOIL DEPTH: 0.5-1.0M
(3) SOIL PH: N.A
(4) LAND SLOPE: UNDULATE

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	2000	10	0.46
(2) RAPOCO	NIL	-	-
(3) MHUNGA	600	7	0.14
(4) GROUNDNUTS **)	900	9	0.21
(5) SORGHUM	600	8	0.14
(6) COTTON ***)	50	600	0.01
(7) SUNFLOWER	NIL	-	-

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		1057
(2) GOATS & SHEEP		1696
(3) DONKEY		326
(4) LIVESTOCK UNITS	(LSU) *)	987
(5) LSUS PER KM2	(LSU)	11.4
(6) GRAZING AREA PER LSU (HA)		4.4

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	NO

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	8	0.09	463.
(2) WELL	1	0.01	3705.

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN SOURCE *)	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	2) 3)	FAIR	3.0
(2) LIVESTOCK	2) 3)	FAIR	3.0

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	1
2. CATTLE SALE PENS	1
3. COOPERATIVE MARKETING OUTLETS	NIL
4. ELECTRICITY	NO
5. POST	NIL
6. TELEPHONE	N.A

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	1
1. MASTER FARMERS	11
3. MASTER FARMERS' CLUB	5
4. WOMEN'S GROUP	5
5. YOUTH GROUP	5

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	8.2
2. GRAZING AREA (HA)	8.3
3. CROPPING AREA OF MAIZE (HA)	3.8
4. CROPPING AREA OF SORGHUM (HA)	1.1
5. NO.OF FAMILY MEMBERS	7.1
6. NO.OF CATTLE	2.0
7. LIVESTOCK UNITS (LSU)	1.9
8. INCOME PER ANNUM	< ZS 100
9. MAIN INCOME SOURCE	LIVESTOCK

SOURCE : AGRITEX, 1986

D.C : BATANAI C.L : MATIBI NO. 1 WARD : WARD 9 CONCERNED DAM : I-2-1

I. LAND USE

1. TOTAL AREA	8950 HA	(100.%)
2. ARABLE AREA	4123 HA	(46.%)
3. GRAZING AREA	4827 HA	(54.%)

II. SOCIAL ASPECT

1. POPULATION	3996	
2. POPULATION DENSITY	44.6 /KM2	
3. NO.OF HOUSEHOLDS	575	(100.%)
4. NO.OF PLOTHOLDERS	525	(91.%)
5. NO.OF LIVESTOCK OWENERS	431	(75.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	2	
7. POPULATION PER P.S	1998.	
8. NO.OF SECONDARY SCHOOLS	1	
9. NO.OF BUSINESS CENTRES	1	
10. NO.OF CLINICS	1	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	NESHURO	
12. DISTANCE TO ABOVE CENTRE	30 KM	
13. LITERACY RATE	20-30 %	

III. AGRICULTURE

1. NATURAL REGION V
2. SOIL
(1) SOIL TEXTURE SAND-LOAMY SAND SANDY LOAM SANDY CLAY LOAM
(2) SOIL DEPTH 0.5-1.0M
(3) SOIL PH N.A
(4) LAND SLOPE UNDULATE SLOPE

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	1850	10	0.45
(2) RAPOCO	NIL	-	-
(3) MHUNGA	525	7	0.13
(4) GROUNDNUTS **)	700	9	0.17
(5) SORGHUM	800	8	0.19
(6) COTTON ***)	20	600	0.00
(7) SUNFLOWER	NIL	-	-

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		1510
(2) GOATS & SHEEP		3528
(3) DONKEY		440
(4) LIVESTOCK UNITS	(LSU) *)	1510
(5) LSUS PER KM2	(LSU)	16.9
(6) GRAZING AREA PER LSU (HA)		3.2

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	NO

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	5	0.06	799.
(2) WELL	3	0.03	1332.

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN *) SOURCE	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	1) 2) 3)	FAIR	3.0
(2) LIVESTOCK	1) 2) 3)	FAIR	3.0

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	1
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	NIL
4. ELECTRICITY	YES
5. POST	NIL
6. TELEPHONE	N.A

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	2
1. MASTER FARMERS	16
3. MASTER FARMERS' CLUB	6
4. WOMEN'S GROUP	6
5. YOUTH GROUP	6

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	7.2
2. GRAZING AREA (HA)	8.4
3. CROPPING AREA OF MAIZE (HA)	3.2
4. CROPPING AREA OF SORGHUM (HA)	1.4
5. NO.OF FAMILY MEMBERS	6.9
6. NO.OF CATTLE	2.6
7. LIVESTOCK UNITS (LSU)	2.6
8. INCOME PER ANNUM	< ZS 100
9. MAIN INCOME SOURCE	LIVESTOCK

SOURCE : AGRITEX, 1986

D.C : BATANAI C.L : MATIBI NO. 1 WARD : WARD 11 CONCERNED DAM : I-2-4, I-2-5

I. LAND USE

1. TOTAL AREA	8250 HA	(100.%)
2. ARABLE AREA	3927 HA	(48.%)
3. GRAZING AREA	4323 HA	(52.%)

II. SOCIAL ASPECT

1. POPULATION	4098	
2. POPULATION DENSITY	49.7 /KM2	
3. NO.OF HOUSEHOLDS	610	(100.%)
4. NO.OF PLOTHOLDERS	570	(93.%)
5. NO.OF LIVESTOCK OWENERS	458	(75.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	2	
7. POPULATION PER P.S	2049.	
8. NO.OF SECONDARY SCHOOLS	1	
9. NO.OF BUSINESS CENTRES	1	
10. NO.OF CLINICS	1	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	NESHURO	
12. DISTANCE TO ABOVE CENTRE	18 KM	
13. LITERACY RATE	20-30 %	

III. AGRICULTURE

1. NATURAL REGION V
2. SOIL
(1) SOIL TEXTURE SAND-LOAMY SAND LOAM SANDY CLAY LOAM
(2) SOIL DEPTH 0.5-1.0M
(3) SOIL PH N.A
(4) LAND SLOPE UNDULATE SLOPE

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	1700	10	0.43
(2) RAPOCO	NIL	-	-
(3) MHUNGA	497	7	0.13
(4) GROUNDNUTS **)	600	9	0.15
(5) SORGHUM	700	8	0.18
(6) COTTON ***)	5	600	0.00
(7) SUNFLOWER	NIL	-	-

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		1366
(2) GOATS & SHEEP		2669
(3) DONKEY		271
(4) LIVESTOCK UNITS	(LSU) *)	1263
(5) LSUS PER KM2	(LSU)	15.3
(6) GRAZING AREA PER LSU (HA)		3.4

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	NO

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	7	0.08	585.
(2) WELL	2	0.02	2049.

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN SOURCE *)	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	N.A	FAIR	3.0
(2) LIVESTOCK	N.A	FAIR	3.0

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	1
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	NIL
4. ELECTRICITY	N.A
5. POST	NIL
6. TELEPHONE	N.A

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	1
1. MASTER FARMERS	13
3. MASTER FARMERS' CLUB	5
4. WOMEN'S GROUP	5
5. YOUTH GROUP	5

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	6.4
2. GRAZING AREA (HA)	7.1
3. CROPPING AREA OF MAIZE (HA)	2.8
4. CROPPING AREA OF SORGHUM (HA)	1.1
5. NO.OF FAMILY MEMBERS	6.7
6. NO.OF CATTLE	2.2
7. LIVESTOCK UNITS (LSU)	2.1
8. INCOME PER ANNUM	< ZS 100
9. MAIN INCOME SOURCE	LIVESTOCK

SOURCE : AGRITEX, 1986

D.C : BIKITA C.L : BIKITA WARD : 14 CONCERNED DAM : II-1-5, II-1-6

I. LAND USE

1. TOTAL AREA	3700 HA	(100.%)
2. ARABLE AREA	2100 HA	(57.%)
3. GRAZING AREA	1600 HA	(43.%)

II. SOCIAL ASPECT

1. POPULATION	3000	
2. POPULATION DENSITY	81.1 /KM2	
3. NO.OF HOUSEHOLDS	600	(100.%)
4. NO.OF PLOTHOLDERS	600	(100.%)
5. NO.OF LIVESTOCK OWENERS	560	(93.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	2	
7. POPULATION PER P.S	1500.	
8. NO.OF SECONDARY SCHOOLS	1	
9. NO.OF BUSINESS CENTRES	2	
10. NO.OF CLINICS	1	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	NYIKA	
12. DISTANCE TO ABOVE CENTRE	38	KM
13. LITERACY RATE	40	%

III. AGRICULTURE

1. NATURAL REGION III
2. SOIL

(1) SOIL TEXTURE	SANDY LOAM	LOAM	CLAY-LOAM
(2) SOIL DEPTH	0.5-1.0M		
(3) SOIL PH	5.5-6.5	4.5-5.5	
(4) LAND SLOPE	UNDULATE		

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	1800	18	0.86
(2) RAPOCO	300	15	0.14
(3) MHUNGA	150	17	0.07
(4) GROUNDNUTS **)	800	28	0.38
(5) SORGHUM	400	20	0.19
(6) COTTON ***)	18	720	0.01
(7) SUNFLOWER	13	17	0.01

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		5600
(2) GOATS & SHEEP		3200
(3) DONKEY		100
(4) LIVESTOCK UNITS	(LSU) *)	4000
(5) LSUS PER KM2	(LSU)	108.1
(6) GRAZING AREA PER LSU (HA)		0.4

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	YES

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	4	0.11	750.
(2) WELL	8	0.22	375.

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN *) SOURCE	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	2) 3)	GOOD	1.0
(2) LIVESTOCK	1)	FAIR	2.0

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	1
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	2
4. FLECTRICITY	NO
5. POST	NIL
6. TELEPHONE	NIL

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	1
1. MASTER FARMERS	40
3. MASTER FARMERS' CLUB	3
4. WOMEN'S GROUP	3
5. YOUTH GROUP	NIL

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	3.5
2. GRAZING AREA (HA)	2.7
3. CROPPING AREA OF MAIZE (HA)	3.0
4. CROPPING AREA OF SORGHUM (HA)	0.7
5. NO.OF FAMILY MEMBERS	5.0
6. NO.OF CATTLE	9.3
7. LIVESTOCK UNITS (LSU)	6.7
8. INCOME PER ANNUM	ZS 200-400
9. MAIN INCOME SOURCE	CROPS

SOURCE : AGRITEX, 1986

D.C : BIKITA C.L : BIKITA WARD : 16 CONCERNED DAM : II-1-8, II-1-10

I. LAND USE

1. TOTAL AREA	11300 HA	(100.%)
2. ARABLE AREA	9200 HA	(81.%)
3. GRAZING AREA	2100 HA	(19.%)

II. SOCIAL ASPECT

1. POPULATION	4200	
2. POPULATION DENSITY	37.2 /KM2	
3. NO.OF HOUSEHOLDS	600	(100.%)
4. NO.OF PLOTHOLDERS	600	(100.%)
5. NO.OF LIVESTOCK OWENERS	530	(88.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	3	
7. POPULATION PER P.S	1400.	
8. NO.OF SECONDARY SCHOOLS	1	
9. NO.OF BUSINESS CENTRES	2	
10. NO.OF CLINICS	NIL	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	NYIKA	
12. DISTANCE TO ABOVE CENTRE	51 KM	
13. LITERACY RATE	45 %	

III. AGRICULTURE

1. NATURAL REGION	IV		
2. SOIL			
(1) SOIL TEXTURE	SANDY LOAM	LOAM	CLAY-LOAM
(2) SOIL DEPTH	0.5-1.0M		
(3) SOIL PH	5.5-6.5	4.5-5.5	
(4) LAND SLOPE	UNDULATE		

3. CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	1600	15	0.17
(2) RAPOCO	300	18	0.03
(3) MHUNGA	1400	16	0.15
(4) GROUNDNUTS **)	1650	25	0.18
(5) SORGHUM	160	17	0.02
(6) COTTON ***)	85	720	0.01
(7) SUNFLOWER	60	18	0.01

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		7850
(2) GOATS & SHEEP		5501
(3) DONKEY		85
(4) LIVESTOCK UNITS	(LSU) *)	5687
(5) LSUS PER KM2	(LSU)	50.3
(6) GRAZING AREA PER LSU (HA)		0.4

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	YES

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	4	0.04	1050.
(2) WELL	13	0.12	323.

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN *) SOURCE	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	2) 3)	GOOD	1.0
(2) LIVESTOCK	1)	FAIR	3.0

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	2
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	1
4. ELECTRICITY	NO
5. POST	NIL
6. TELEPHONE	NIL

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	NIL
1. MASTER FARMERS	46
3. MASTER FARMERS' CLUB	4
4. WOMEN'S GROUP	1
5. YOUTH GROUP	NIL

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	15.3
2. GRAZING AREA (HA)	3.5
3. CROPPING AREA OF MAIZE (HA)	2.7
4. CROPPING AREA OF SORGHUM (HA)	0.3
5. NO.OF FAMILY MEMBERS	7.0
6. NO.OF CATTLE	13.1
7. LIVESTOCK UNITS (LSU)	9.5
8. INCOME PER ANNUM	ZS 200-400
9. MAIN INCOME SOURCE	CROPS

SOURCE : AGRITEX, 1986

D.C : BIKITA C.L : BIKITA WARD : 17 CONCERNED DAM : II-1-9, I-1-11

I. LAND USE

1. TOTAL AREA	3421 HA	(100.%)
2. ARABLE AREA	3011 HA	(88.%)
3. GRAZING AREA	410 HA	(12.%)

II. SOCIAL ASPECT

1. POPULATION	6530	
2. POPULATION DENSITY	190.9 /KM2	
3. NO.OF HOUSEHOLDS	678	(100.%)
4. NO.OF PLOTHOLDERS	660	(97.%)
5. NO.OF LIVESTOCK OWENERS	635	(94.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	3	
7. POPULATION PER P.S	2177.	
8. NO.OF SECONDARY SCHOOLS	2	
9. NO.OF BUSINESS CENTRES	4	
10. NO.OF CLINICS	NIL	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	NYIKA	
12. DISTANCE TO ABOVE CENTRE	32 KM	
13. LITERACY RATE	7 %	

III. AGRICULTURE

1. NATURAL REGION III-IV
2. SOIL
(1) SOIL TEXTURE SAND-LOAMY SAND SANDY LOAM
(2) SOIL DEPTH 0.5-1.0M
(3) SOIL PH 4.5-5.5
(4) LAND SLOPE SLOPE

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	750	22	0.25
(2) RAPOCO	300	15	0.10
(3) MHUNGA	800	15	0.27
(4) GROUNDNUTS **)	200	25	0.07
(5) SORGHUM	45	12	0.01
(6) COTTON ***)	30	960	0.01
(7) SUNFLOWER	120	20	0.04

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		4328
(2) GOATS & SHEEP		1400
(3) DONKEY		62
(4) LIVESTOCK UNITS	(LSU) *)	2978
(5) LSUS PER KM2	(LSU)	87.1
(6) GRAZING AREA PER LSU (HA)		0.1

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	YES

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	4	0.12	1633.
(2) WELL	55	1.61	119.

2. WATER SUPPLY SITUATION

UTILIZATION	MAIN SOURCE *)	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	2) 3)	FAIR	1.0
(2) LIVESTOCK	1) 4)	GOOD	2.5

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	1
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	1
4. FLECTRICITY	NO
5. POST	NIL
6. TELEPHONE	1

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	NIL
1. MASTER FARMERS	56
3. MASTER FARMERS' CLUB	6
4. WOMEN'S GROUP	3
5. YOUTH GROUP	NIL

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	4.4
2. GRAZING AREA (HA)	0.6
3. CROPPING AREA OF MAIZE (HA)	1.1
4. CROPPING AREA OF SORGHUM (HA)	0.1
5. NO.OF FAMILY MEMBERS	9.6
6. NO.OF CATTLE	6.4
7. LIVESTOCK UNITS (LSU)	4.4
8. INCOME PER ANNUM	ZS 400-600
9. MAIN INCOME SOURCE	CROPS

SOURCE : AGRITEX, 1986

D.C : BIKITA C.L : BIKITA WARD : 18 CONCERNED DAM : II-1-3

I. LAND USE

1. TOTAL AREA	3675 HA	(100.%)
2. ARABLE AREA	3122 HA	(85.%)
3. GRAZING AREA	400 HA	(11.%)

II. SOCIAL ASPECT

1. POPULATION	6080	
2. POPULATION DENSITY	165.4 /KM2	
3. NO.OF HOUSEHOLDS	690	(100.%)
4. NO.OF PLOTHOLDERS	644	(93.%)
5. NO.OF LIVESTOCK OWENERS	507	(73.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	3	
7. POPULATION PER P.S	2027.	
8. NO.OF SECONDARY SCHOOLS	NIL	
9. NO.OF BUSINESS CENTRES	4	
10. NO.OF CLINICS	1	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	NYIKA	
12. DISTANCE TO ABOVE CENTRE	32	KM
13. LITERACY RATE	4	%

III. AGRICULTURE

1. NATURAL REGION	IV
2. SOIL	
(1) SOIL TEXTURE	SANDY LOAM
(2) SOIL DEPTH	0.5M >
(3) SOIL PH	4.5-5.5
(4) LAND SLOPE	SLOPE

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	170	18	0.05
(2) RAPOCO	50	12	0.02
(3) MHUNGA	300	11	0.10
(4) GROUNDNUTS **)	80	20	0.03
(5) SORGHUM	4	10	0.00
(6) COTTON ***)	11	900	0.00
(7) SUNFLOWER	4	10	0.00

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		3234
(2) GOATS & SHEEP		1800
(3) DONKEY		50
(4) LIVESTOCK UNITS	(LSU) *)	2302
(5) LSUS PER KM2	(LSU)	62.6
(6) GRAZING AREA PER LSU (HA)		0.2

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	YES

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	7	0.19	869.
(2) WELL	40	1.09	152.

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN *) SOURCE	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	1) 2) 3)	FAIR	0.5
(2) LIVESTOCK	1)	GOOD	2.0

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	3
2. CATTLE SALE PENS	1
3. COOPERATIVE MARKETING OUTLETS	1
4. ELECTRICITY	NO
5. POST	1
6. TELEPHONE	6

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	2
1. MASTER FARMERS	23
3. MASTER FARMERS' CLUB	3
4. WOMEN'S GROUP	4
5. YOUTH GROUP	NIL

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	4.5
2. GRAZING AREA (HA)	0.6
3. CROPPING AREA OF MAIZE (HA)	0.2
4. CROPPING AREA OF SORGHUM (HA)	0.0
5. NO.OF FAMILY MEMBERS	8.8
6. NO.OF CATTLE	4.7
7. LIVESTOCK UNITS (LSU)	3.3
8. INCOME PER ANNUM	ZS 200-400
9. MAIN INCOME SOURCE	CROPS

SOURCE : AGRITEX, 1986

D.C : BIKITA C.L : BIKITA WARD : 19 CONCERNED DAM : II-1-1

I. LAND USE

1. TOTAL AREA	705 HA	(100.%)
2. ARABLE AREA	450 HA	(64.%)
3. GRAZING AREA	255 HA	(36.%)

II. SOCIAL ASPECT

1. POPULATION	1000	
2. POPULATION DENSITY	141.8 /KM2	
3. NO.OF HOUSEHOLDS	195	(100.%)
4. NO.OF PLOTHOLDERS	180	(92.%)
5. NO.OF LIVESTOCK OWENERS	175	(90.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	1	
7. POPULATION PER P.S	1000.	
8. NO.OF SECONDARY SCHOOLS	N.A	
9. NO.OF BUSINESS CENTRES	1	
10. NO.OF CLINICS	1	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	N.A	
12. DISTANCE TO ABOVE CENTRE	N.A	
13. LITERACY RATE	68 %	

III. AGRICULTURE

1. NATURAL REGION IV
2. SOIL
(1) SOIL TEXTURE SANDY LOAM
(2) SOIL DEPTH 0.5-1.0M
(3) SOIL PH 4.5-5.5
(4) LAND SLOPE SLOPE

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	90	10	0.20
(2) RAPOCO	20	8	0.04
(3) MHUNGA	350	11	0.78
(4) GROUNDNUTS **)	85	12	0.19
(5) SORGHUM	32	7	0.07
(6) COTTON ***)	15	700	0.03
(7) SUNFLOWER	17	8	0.04

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		500
(2) GOATS & SHEEP		170
(3) DONKEY		30
(4) LIVESTOCK UNITS	(LSU) *)	354
(5) LSUS PER KM2	(LSU)	50.2
(6) GRAZING AREA PER LSU (HA)		0.7

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	YES

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	4	0.57	250.
(2) WELL	11	1.56	91.

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN SOURCE *)	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	1)	FAIR	3.0
(2) LIVESTOCK	1)	FAIR	3.0

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	2
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	NIL
4. ELECTRICITY	NO
5. POST	NIL
6. TELEPHONE	NIL

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	NIL
1. MASTER FARMERS	18
3. MASTER FARMERS' CLUB	NIL
4. WOMEN'S GROUP	1
5. YOUTH GROUP	NIL

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	2.3
2. GRAZING AREA (HA)	1.3
3. CROPPING AREA OF MAIZE (HA)	0.5
4. CROPPING AREA OF SORGHUM (HA)	0.2
5. NO.OF FAMILY MEMBERS	5.1
6. NO.OF CATTLE	2.6
7. LIVESTOCK UNITS (LSU)	1.8
8. INCOME PER ANNUM	< ZS 100
9. MAIN INCOME SOURCE	CROPS

SOURCE : AGRITEX, 1986

D.C : BIKITA C.L : BIKITA WARD : 20 CONCERNED DAM : II-1-2, II-1-4

I. LAND USE

1. TOTAL AREA	5146 HA	(100.%)
2. ARABLE AREA	4123 HA	(80.%)
3. GRAZING AREA	600 HA	(12.%)

II. SOCIAL ASPECT

1. POPULATION	6900	
2. POPULATION DENSITY	134.1 /KM2	
3. NO.OF HOUSEHOLDS	700	(100.%)
4. NO.OF PLOTHOLDERS	600	(86.%)
5. NO.OF LIVESTOCK OWENERS	863	(123.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	4	
7. POPULATION PER P.S	1725.	
8. NO.OF SECONDARY SCHOOLS	2	
9. NO.OF BUSINESS CENTRES	4	
10. NO.OF CLINICS	NIL	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	NYIKA	
12. DISTANCE TO ABOVE CENTRE	N.A	
13. LITERACY RATE	6 %	

III. AGRICULTURE

1. NATURAL REGION IV-V
2. SOIL
(1) SOIL TEXTURE SANDY LOAM
(2) SOIL DEPTH 0.5M >
(3) SOIL PH 4.5-5.5
(4) LAND SLOPE SLOPE

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	80	12	0.02
(2) RAPOCO	100	10	0.02
(3) MHUNGA	3730	12	0.90
(4) GROUNDNUTS **)	190	16	0.05
(5) SORGHUM	18	10	0.00
(6) COTTON ***)	14	600	0.00
(7) SUNFLOWER	5	15	0.00

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		5665
(2) GOATS & SHEEP		6590
(3) DONKEY		30
(4) LIVESTOCK UNITS	(LSU) *)	4353
(5) LSUS PER KM2	(LSU)	84.6
(6) GRAZING AREA PER LSU (HA)		0.1

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	YES

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	6	0.12	1150.
(2) WELL	15	0.29	460.

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN *) SOURCE	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	1)	FAIR	0.5
(2) LIVESTOCK	2)	GOOD	2.0

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	1
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	21
4. ELECTRICITY	N.A
5. POST	NIL
6. TELEPHONE	1

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	1
1. MASTER FARMERS	27
3. MASTER FARMERS' CLUB	3
4. WOMEN'S GROUP	2
5. YOUTH GROUP	NIL

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	5.9
2. GRAZING AREA (HA)	0.9
3. CROPPING AREA OF MAIZE (HA)	0.1
4. CROPPING AREA OF SORGHUM (HA)	0.0
5. NO.OF FAMILY MEMBERS	9.9
6. NO.OF CATTLE	8.1
7. LIVESTOCK UNITS (LSU)	6.2
8. INCOME PER ANNUM	ZS 200-400
9. MAIN INCOME SOURCE	CROPS

SOURCE : AGRITEX, 1986

D.C : BIKITA C.L : MATSAI WARD : 2 CONCERNED DAM : II-2-1, II-2-2

I. LAND USE

1. TOTAL AREA	15300 HA	(100.%)
2. ARABLE AREA	2648 HA	(17.%)
3. GRAZING AREA	11483 HA	(75.%)

II. SOCIAL ASPECT

1. POPULATION	5875	
2. POPULATION DENSITY	38.4 /KM2	
3. NO.OF HOUSEHOLDS	1175	(100.%)
4. NO.OF PLOTHOLDERS	1175	(100.%)
5. NO.OF LIVESTOCK OWENERS	1020	(87.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	3	
7. POPULATION PER P.S	1958.	
8. NO.OF SECONDARY SCHOOLS	2	
9. NO.OF BUSINESS CENTRES	3	
10. NO.OF CLINICS	2	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	N.A	
12. DISTANCE TO ABOVE CENTRE	N.A	
13. LITERACY RATE	70 %	

III. AGRICULTURE

1. NATURAL REGION	IVB
2. SOIL	
(1) SOIL TEXTURE	SANDY CLAY LOAM
(2) SOIL DEPTH	0.5-1.0M
(3) SOIL PH	4.5-5.5
(4) LAND SLOPE	UNDULATE

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	1763	7	0.67
(2) RAPOCO	473	5	0.18
(3) MHUNGA	18	6	0.01
(4) GROUNDNUTS **)	378	12	0.14
(5) SORGHUM	752	7	0.28
(6) COTTON ***)	240	1330	0.09
(7) SUNFLOWER	193	10	0.07

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		5795
(2) GOATS & SHEEP		1642
(3) DONKEY		68
(4) LIVESTOCK UNITS	(LSU) *)	3958
(5) LSUS PER KM2	(LSU)	25.9
(6) GRAZING AREA PER LSU (HA)		2.9

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	N.A

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BORFHOLE	14	0.09	420.
(2) WELL	8	0.05	734.

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN SOURCE *)	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	2)	GOOD	2.0
(2) LIVESTOCK	4)	POOR	3.0

*)...1)..RIVERS, 2)..BORFHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	2
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	1
4. ELECTRICITY	NO
5. POST	1
6. TELEPHONE	2

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	2
1. MASTER FARMERS	66
3. MASTER FARMERS' CLUB	5
4. WOMEN'S GROUP	4
5. YOUTH GROUP	1

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	2.3
2. GRAZING AREA (HA)	9.8
3. CROPPING AREA OF MAIZE (HA)	1.5
4. CROPPING AREA OF SORGHUM (HA)	0.6
5. NO.OF FAMILY MEMBERS	5.0
6. NO.OF CATTLE	4.9
7. LIVESTOCK UNITS (LSU)	3.4
8. INCOME PER ANNUM	ZS 200-400
9. MAIN INCOME SOURCE	CROPS

SOURCE : AGRITEX, 1986

D.C : BIKITA C.L : MATSAI WARD : 3 CONCERNED DAM : II-2-3

I. LAND USE

1. TOTAL AREA	14600 HA	(100.%)
2. ARABLE AREA	2452 HA	(17.%)
3. GRAZING AREA	12148 HA	(83.%)

II. SOCIAL ASPECT

1. POPULATION	5678	
2. POPULATION DENSITY	38.9 /KM2	
3. NO.OF HOUSEHOLDS	1246	(100.%)
4. NO.OF PLOTHOLDERS	1246	(100.%)
5. NO.OF LIVESTOCK OWENERS	869	(70.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	3	
7. POPULATION PER P.S	1893.	
8. NO.OF SECONDARY SCHOOLS	2	
9. NO.OF BUSINESS CENTRES	4	
10. NO.OF CLINICS	NIL	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	N.A	
12. DISTANCE TO ABOVE CENTRE	N.A	
13. LITERACY RATE	70 %	

III. AGRICULTURE

1. NATURAL REGION	IVB	
2. SOIL		
(1) SOIL TEXTURE	SANDY LOAM	SANDY CLAY LOAM
(2) SOIL DEPTH	0.5-1.0M	
(3) SOIL PH	4.5-5.5	
(4) LAND SLOPE	UNDULATE	

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	279	10	0.11
(2) RAPOCO	171	7	0.07
(3) MHUNGA	442	5	0.18
(4) GROUNDNUTS **)	49	10	0.02
(5) SORGHUM	281	8	0.11
(6) COTTON ***)	52	1330	0.02
(7) SUNFLOWER	69	15	0.03

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		8434
(2) GOATS & SHEEP		1593
(3) DONKEY		82
(4) LIVESTOCK UNITS	(LSU) *)	5674
(5) LSUS PER KM2	(LSU)	38.9
(6) GRAZING AREA PER LSU (HA)		2.1

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	N.A

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	17	0.12	334.
(2) WELL	NIL	-	-

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN SOURCE *)	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	2)	GOOD	3.0
(2) LIVESTOCK	4)	POOR	4.0

*)...1)..RIVERS, 2)..BORFHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	2
2. CATTLE SALE PENS	1
3. COOPERATIVE MARKETING OUTLETS	1
4. ELECTRICITY	NO
5. POST	NIL
6. TELEPHONE	NIL

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	1
1. MASTER FARMERS	37
3. MASTER FARMERS' CLUB	3
4. WOMEN'S GROUP	5
5. YOUTH GROUP	NIL

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	2.0
2. GRAZING AREA (HA)	9.7
3. CROPPING AREA OF MAIZE (HA)	0.2
4. CROPPING AREA OF SORGHUM (HA)	0.2
5. NO.OF FAMILY MEMBERS	4.6
6. NO.OF CATTLE	6.8
7. LIVESTOCK UNITS (LSU)	4.6
8. INCOME PER ANNUM	ZS 200-400
9. MAIN INCOME SOURCE	LIVESTOCK

SOURCE : AGRITEX, 1986

D.C : GAZA KOMANAI C.L : MATIBI NO. 2 WARD : WARD 3 CONCERNED DAM : III-1-1, III-1-4

I. LAND USE

1. TOTAL AREA	25000 HA	(100.%)
2. ARABLE AREA	8000 HA	(32.%)
3. GRAZING AREA	17000 HA	(68.%)

II. SOCIAL ASPECT

1. POPULATION	7000	
2. POPULATION DENSITY	28.0 /KM2	
3. NO.OF HOUSEHOLDS	655	(100.%)
4. NO.OF PLOTHOLDERS	500	(76.%)
5. NO.OF LIVESTOCK OWENERS	409	(62.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	1	
7. POPULATION PER P.S	7000.	
8. NO.OF SECONDARY SCHOOLS	1	
9. NO.OF BUSINESS CENTRES	1	
10. NO.OF CLINICS	1	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	CHIREDZI	
12. DISTANCE TO ABOVE CENTRE	26 KM	
13. LITERACY RATE	10-20 %	

III. AGRICULTURE

1. NATURAL REGION V
2. SOIL

(1) SOIL TEXTURE	SANDY LOAM	LOAM	SANDY CLAY LOAM
(2) SOIL DEPTH	1.0M <	0.5-1.0M	
(3) SOIL PH	N.A		
(4) LAND SLOPE	FLAT	UNDULATE	

3. CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	1500	7	0.19
(2) RAPOCO	500	5	0.06
(3) MHUNGA	1500	9	0.19
(4) GROUNDNUTS **)	600	7	0.07
(5) SORGHUM	2500	11	0.31
(6) COTTON ***)	20	600	0.00
(7) SUNFLOWER	300	6	0.04

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		3750
(2) GOATS & SHEEP		862
(3) DONKEY		177
(4) LIVESTOCK UNITS	(LSU) *)	2594
(5) LSUS PER KM2	(LSU)	10.4
(6) GRAZING AREA PER LSU (HA)		6.6

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	NO

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	6	0.02	1167.
(2) WELL	NIL	-	-

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN SOURCE *)	WATER SECURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	1) 2)	FAIR	4.0
(2) LIVESTOCK	1) 2)	FAIR	4.0

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	2
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	1
4. ELECTRICITY	YES
5. POST	NIL
6. TELEPHONE	NIL

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	1
1. MASTER FARMERS	40
3. MASTER FARMERS' CLUB	7
4. WOMEN'S GROUP	7
5. YOUTH GROUP	7

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	12.2
2. GRAZING AREA (HA)	26.0
3. CROPPING AREA OF MAIZE (HA)	2.3
4. CROPPING AREA OF SORGHUM (HA)	3.8
5. NO.OF FAMILY MEMBERS	10.7
6. NO.OF CATTLE	5.7
7. LIVESTOCK UNITS (LSU)	4.0
8. INCOME PER ANNUM	ZS 100-200
9. MAIN INCOME SOURCE	LIVESTOCK

SOURCE : AGRITEX, 1986

D.C : GAZA KOMANAI C.L : MATIBI NO. 2 WARD : WARD 4 CONCERNED DAM : III-1-5

I. LAND USE

1. TOTAL AREA	26800 HA	(100.%)
2. ARABLE AREA	9000 HA	(34.%)
3. GRAZING AREA	17800 HA	(66.%)

II. SOCIAL ASPECT

1. POPULATION	6200	
2. POPULATION DENSITY	23.1 /KM2	
3. NO.OF HOUSEHOLDS	610	(100.%)
4. NO.OF PLOTHOLDERS	500	(82.%)
5. NO.OF LIVESTOCK OWENERS	381	(62.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	1	
7. POPULATION PER P.S	6200.	
8. NO.OF SECONDARY SCHOOLS	NIL	
9. NO.OF BUSINESS CENTRES	1	
10. NO.OF CLINICS	NIL	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	CHIREDZI	
12. DISTANCE TO ABOVE CENTRE	80 KM	
13. LITERACY RATE	10-20 %	

III. AGRICULTURE

1. NATURAL REGION V
2. SOIL
(1) SOIL TEXTURE SANDY LOAM SANDY CLAY LOAM
(2) SOIL DEPTH 0.5-1.0M
(3) SOIL PH N.A
(4) LAND SLOPE FLAT UNDULATE

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	1500	7	0.17
(2) RAPOCO	600	5	0.07
(3) MHUNGA	1600	9	0.18
(4) GROUNDNUTS **)	800	7	0.09
(5) SORGHUM	2500	11	0.28
(6) COTTON ***)	30	600	0.00
(7) SUNFLOWER	200	6	0.02

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		3500
(2) GOATS & SHEEP		850
(3) DONKEY		160
(4) LIVESTOCK UNITS	(LSU) *)	2424
(5) LSUS PER KM2	(LSU)	9.0
(6) GRAZING AREA PER LSU (HA)		7.3

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	NO

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	10	0.04	620.
(2) WELL	NIL	-	-

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN *) SOURCE	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	2) 3)	POOR	4.0
(2) LIVESTOCK	2) 3)	POOR	4.0

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	3
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	NIL
4. ELECTRICITY	NO
5. POST	NIL
6. TELEPHONE	NIL

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	NIL
1. MASTER FARMERS	35
3. MASTER FARMERS' CLUB	6
4. WOMEN'S GROUP	6
5. YOUTH GROUP	6

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	14.8
2. GRAZING AREA (HA)	29.2
3. CROPPING AREA OF MAIZE (HA)	2.5
4. CROPPING AREA OF SORGHUM (HA)	4.1
5. NO.OF FAMILY MEMBERS	10.2
6. NO.OF CATTLE	5.7
7. LIVESTOCK UNITS (LSU)	4.0
8. INCOME PER ANNUM	ZS 100-200
9. MAIN INCOME SOURCE	LIVESTOCK

SOURCE : AGRITEX, 1986

D.C : GAZA KOMANAI C.L : MATIBI NO. 2 WARD : WARD 7 CONCERNED DAM : III-1-3

I. LAND USE

1. TOTAL AREA	19000 HA	(100.%)
2. ARABLE AREA	6000 HA	(32.%)
3. GRAZING AREA	13000 HA	(68.%)

II. SOCIAL ASPECT

1. POPULATION	6500	
2. POPULATION DENSITY	34.2 /KM2	
3. NO.OF HOUSEHOLDS	600	(100.%)
4. NO.OF PLOTHOLDERS	490	(82.%)
5. NO.OF LIVESTOCK OWENERS	375	(63.%)
6. NO.OF PRIMARY SCHOOLS (P.S)	1	
7. POPULATION PER P.S	6500.	
8. NO.OF SECONDARY SCHOOLS	NIL	
9. NO.OF BUSINESS CENTRES	1	
10. NO.OF CLINICS	NIL	
11. NEAREST TOWN/D.S.C/G.P/R.S.C	CHIREDZI	
12. DISTANCE TO ABOVE CENTRE	140 KM	
13. LITERACY RATE	10-20 %	

III. AGRICULTURE

1. NATURAL REGION V
2. SOIL
(1) SOIL TEXTURE SANDY LOAM SANDY CLAY LOAM CLAY-LOAM
(2) SOIL DEPTH 0.5-1.0M
(3) SOIL PH N.A
(4) LAND SLOPE FLAT UNDULATE

3.CROPS

CROPS	AREA (HA)	YIELD *) (BAGS/HA)	RATE OF CROPPING AREA TO ARABLE AREA
(1) MAIZE	1000	7	0.17
(2) RAPOCO	500	5	0.08
(3) MHUNGA	1000	9	0.17
(4) GROUNDNUTS **)	400	7	0.07
(5) SORGHUM	2000	11	0.33
(6) COTTON ***)	10	600	0.00
(7) SUNFLOWER	100	6	0.02

*)...1BAGS=91KG BUT 40KG FOR GROUNDNUTS, 55KG FOR SUNFLOWER
**)...UNSHELLED
***)...YIELD UNIT IS KG/HA

4. LIVESTOCK

(1) CATTLE		3000
(2) GOATS & SHEEP		880
(3) DONKEY		150
(4) LIVESTOCK UNITS	(LSU) *)	2098
(5) LSUS PER KM2	(LSU)	11.0
(6) GRAZING AREA PER LSU (HA)		6.2

*)...CATTLE=0.65LSU, GOATS&SHEEP=0.1LSU, DONKEY=0.4LSU

5. DROUGHT DAMEGE

(1) CROPS	YES
(2) LIVESTOCK	NO

IV. RURAL WATER SUPPLY

1. PRIMARY WATER SUPPLY SOURCE (PWS)

SOURCE	NO.OF PWS	NO.OF PWS PER KM2	POPULATION PER PWS
(1) BOREHOLE	6	0.03	1083.
(2) WELL	NIL	-	-

2. WATER SUPPLY SITUATIOIN

UTILIZATION	MAIN SOURCE *)	WATER SEQURITY	DISTANCE TO SOURCE (KM)
(1) DOMESTIC	2) 3)	FAIR	4.0
(2) LIVESTOCK	2) 3)	FAIR	4.0

*)...1)..RIVERS, 2)..BOREHOLES, 3)..WELLS, 4)..OTHERS

V. AGRICULTURAL FACILITIES & SOCIAL INFLASTRUCTURE

1. DIP-TANKS	2
2. CATTLE SALE PENS	NIL
3. COOPERATIVE MARKETING OUTLETS	NIL
4. ELECTRICITY	NO
5. POST	NIL
6. TELEPHONE	NIL

VI. LOCAL ORGANIZATION

1. PRIMARY CO-OPERATIVE SOCIETY	1
1. MASTER FARMERS	45
3. MASTER FARMERS' CLUB	6
4. WOMEN'S GROUP	6
5. YOUTH GROUP	6

VII. FARM ECONOMY (PER HOUSEHOLD ON AN AVERAGE)

1. ARABLE AREA (HA)	10.0
2. GRAZING AREA (HA)	21.7
3. CROPPING AREA OF MAIZE (HA)	1.7
4. CROPPING AREA OF SORGHUM (HA)	3.3
5. NO.OF FAMILY MEMBERS	10.8
6. NO.OF CATTLE	5.0
7. LIVESTOCK UNITS (LSU)	3.5
8. INCOME PER ANNUM	ZS 100-200
9. MAIN INCOME SOURCE	LIVESTOCK

SOURCE : AGRITEX, 1986