

APPENDIX

App. Table 1
Distribution of agricultural holdings according to type of activity
and scale of farming per district in western province

District	Total Agricultural Holdings		Type of Agricultural Activity							
	households	%	Crops only households	%	Livestock only households	%	Poultry only households	%	Crops and Livestock households	%
Kalabo	10,679	100.0	2,762	25.9	112	1.0	96	0.9	847	7.9
Kaoma	9,471	100.0	2,350	24.8	75	0.8	187	2.0	593	6.3
Lukulu	3,341	100.0	744	22.3	30	0.9	83	2.5	270	8.1
Mongu	8,245	100.0	2,147	26.0	137	1.7	137	1.7	615	7.5
Senanga	11,865	100.0	2,209	18.6	304	2.6	294	2.5	1,143	9.6
Sesheke	4,350	100.0	740	17.0	41	0.9	26	0.6	316	7.3
W.P. TOTAL	47,951	100.0	10,952	22.8	699	1.5	823	1.7	3,784	7.9
Zambia TOTAL	520,520	100.0	75,402	14.5	2,935	0.6	11,578	2.2	22,967	4.4

District	Total Agricultural Holdings		Type of Agricultural Activity					
	households	%	Crops and Poultry households	%	Livestock and Poultry households	%	Crops Livestocks and Poultry households	%
Kalabo	10,679	100.0	3,221	30.2	189	1.8	3,452	32.3
Kaoma	9,471	100.0	3,735	39.4	166	1.8	2,365	25.0
Lukulu	3,341	100.0	1,034	30.9	81	2.4	1,099	32.9
Mongu	8,245	100.0	2,838	34.4	204	2.5	2,165	26.3
Senanga	11,865	100.0	2,678	22.6	538	4.5	4,699	39.6
Sesheke	4,350	100.0	1,252	28.8	157	3.6	1,818	41.8
W.P. TOTAL	47,951	100.0	14,758	30.8	1,335	2.8	15,600	32.5
Zambia TOTAL	520,520	100.0	201,682	38.7	10,615	2.0	195,341	37.5

Source: Republic of Zambia "National Census of Agriculture (1990/92)" January 1994

App. Table 2 Monthly changes in maximum temperature (°C)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Avr.
Sesheke	33.1	31.0	31.7	30.8	30.3	28.1	28.6	30.5	35.2	36.6	36.3	34.3	32.2
Livingstone	32.8	35.2	34.1	31.6	30.5	28.2	28.5	30.0	34.1	35.4	35.9	33.8	32.5
Lusaka 01	27.8	29.8	28.5	28.2	26.1	24.3	25.0	28.2	31.4	32.7	31.7	27.9	28.5
Lusaka 02	29.4	30.6	30.2	29.7	27.6	25.4	25.4	27.4	31.9	33.6	33.4	29.3	29.5
Ndola	28.1	29.4	29.3	29.5	28.5	27.0	27.3	29.0	32.2	33.1	32.8	29.1	29.6

App. Table 3 Monthly changes in minimum temperature (°C)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Avr.
Sesheke	17.4	17.9	16.2	10.7	6.5	3.9	3.0	5.1	11.0	16.6	18.1	18.4	12.1
Livingstone	18.4	17.7	17.0	13.0	9.6	6.4	5.8	8.7	13.1	17.4	18.4	18.4	13.7
Lusaka 01	15.8	16.0	15.4	13.3	12.4	8.2	8.0	9.1	12.4	15.8	16.2	15.9	13.2
Lusaka 02	16.3	17.0	16.0	12.6	9.9	7.2	6.5	8.5	12.4	15.5	16.3	16.9	13.0
Ndola	17.0	16.8	15.7	13.1	10.7	6.9	7.1	9.5	12.9	15.6	16.4	17.1	13.2

App. Table 4 Monthly changes in temperature (°C) per annum

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
Sesheke	25.0	24.6	24.0	21.9	18.2	15.9	16.3	19.5	22.9	25.8	25.8	24.9	22.1
Livingstone	24.8	24.6	24.5	22.8	19.9	16.9	16.5	19.2	23.7	26.2	26.6	25.5	22.6
Lusaka 01	23.5	22.4	21.8	21.1	19.8	18.2	18.0	18.1	19.1	20.4	21.6	23.5	20.6
Lusaka 02	22.9	22.8	22.2	20.2	17.7	16.3	17.2	20.1	22.6	23.5	22.8	21.7	20.9
Ndola													

App. Table 5 Monthly changes in precipitation (mm) per annum

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Sesheke	130.1	159.6	81.0	23.1	0.1	0.0	0.0	0.0	2.9	28.1	73.4	133.0	631.3
Livingstone	158.8	135.0	87.8	24.2	0.1	0.0	0.6	0.0	1.4	21.0	55.4	149.1	633.4
Lusaka 01	227.2	178.9	84.2	45.4	1.3	0.0	0.0	0.1	0.5	14.6	53.9	198.2	804.3
Lusaka 02	240.9	180.2	80.8	29.7	1.2	0.0	0.2	0.4	1.0	13.2	56.5	192.4	796.5
Ndola	321.2	214.5	175.6	31.6	2.0	0.0	0.2	0.2	1.6	33.3	113.7	273.5	1,168.4

App. Table 6 (1) Guidelines for soil profile description

- I . General Information
 - Profile No., Location, Date, Weather, Surveyor, Land form, Elevation, Slope, Land use or Vegetation, Parent Material, Drainage, Moisture Condition, Groundwater table (m)
- II . Description of Individual Soil Horizons
 1. Horizon symbol
 2. Depth of top and bottom of horizon (cm)
 3. Boundary of horizon
 - a : abrupt, less than 2.5 cm
 - c : clear, 2.6 to 6.3 cm
 - g : gradual, 6.4 to 12.5 cm
 - d : diffuse, more than 12.6 cm
 4. Form of boundary
 - s : smooth
 - w : wavy
 - i : irregular
 - b : broken
 5. Colour
 - wet, - dry
 6. Mottling
 - abundance
 - f : few, less than 2 % of profile
 - c : common, 2 to 20 %
 - m : many, more than 20 %
 - size
 - f : fine, less than 5 mm wide
 - n : medium, 5 to 15 mm
 - c : coarse, more than 15 mm
 - contrast
 - f : faint
 - d : distinct
 - p : prominent
 - colour
 7. Texture (Sandy, Loamy, Silty, Clay)
 8. Structure
 - grade
 - l : structureless
 - w : weak
 - n : moderate
 - s : strong
 - type
 - p : prismatic
 - c : columnar
 - b : (angular) blocky
 - s : sub-angular blocky
 - p : platy
 - g : granular
 - v : non-structure
 - size
 - f : fine
 - m : medium
 - c : coarse
 9. Consistence
 - wet
 - = stickiness
 - nS : non-sticky
 - sS : slightly sticky
 - S : sticky
 - vS : very sticky
 - = plasticity
 - nP : non-plastic
 - sP : slightly plastic
 - P : plastic
 - vP : very plastic
 - moist
 - lo : loose
 - vf : very friable
 - fr : friable
 - Fi : firm
 - vF : very firm
 - eF : extremely firm
 - dry
 - lo : loose
 - S : soft
 - sh : slightly hard
 - H : hard
 - vH : very hard
 - ch : extremely hard
 10. Roots
 - abundance
 - abundant, very frequent, frequent, common, few, very few
 - size
 - coarse, medium, fine

App. Table 6 (2) Horizon symbol

Master horizons

- H : An organic horizon formed or forming from accumulations of organic material deposited on the surface, that is saturated with water for prolonged periods.
- H(P) : Peat layer
- H(M) : Muck layer
- O : An organic horizon formed . . . , that is not saturated with water for more than a few days a year.
- A : A mineral horizon formed or forming at or adjacent to the surface.
- E : Eluviation layer.
- B : A mineral horizon in which rock structure is obliterated or is but faintly evident, characterized by one or more of the following features:
- (a) an illuvial concentration of silicate clay, iron, aluminium, or humus, alone or in combinations;
 - (b) a residual concentration of sesquioxides relative to source materials;
 - (c) an alteration of material from its original condition to the extent that silicate clays are formed, oxides are liberated, or both, or granular, blocky or prismatic structure is formed.
- C : A mineral horizon (or layer) of unconsolidated material from which the solon is presumed to have formed and which does not show properties diagnostic of any other master horizons.
- R : A layer of continuous indurated rock.

Letter suffixes

The suffix letters used to qualify the master horizons are as follows:

- b. Buried or bisequal soil horizon.
- c. Accumulation in concretionary form.
- g. Mottling reflecting variations in oxidation and reduction.
- h. Accumulation of organic matter in mineral horizons.
- k. Accumulation of calcium carbonate.
- n. Strongly cemented, consolidated, indurated.
- n. Accumulation of sodium.
- p. Disturbed by ploughing.
- q. Accumulation of silica.
- r. Strong reduction.
- s. Accumulation of sesquioxides.
- t. Illuvial accumulation of clay.
- u. Unspecified.
- w. Alteration in situ as reflected by clay content, colour, structure.
- x. Occurrence of a fragipan.
- y. Accumulation of gypsum.
- z. Accumulation of salts more soluble than gypsum.

App. Table 7 (1) General site condition and profile morphology of soil survey plots

Profile No. Location	Horizon	Depth cm	Colour (Dry)	Texture	Structure	Hardness mm	pH (H ₂ O)
No. 1 MALAVWE Forest GPS UTM35 E 233057 N8078179	I A ₁ II A ₂ III B ₁ IV BC V C VI C	0-15 15-25 25-63 63-100 100-170 170~	10YR6.5/2 10YR 6/2 10YR 7/4 10YR6.5/3 10YR 7/5 10YR 7/6	S S S S S S	l. g. fn m. b. n m. b. n m. b. c m. b. c m. b. c	5 22 20 22 21 20	5.27 5.07 5.23 5.25 5.33 5.40
No. 2 NAMAKWA Danbo GPS UTM35 E 237099 N8118935	I A ₁ II A ₁₂ III E IV BC V C	0-16 16-46 46-78 78-150 150~	7.5YR4.5/3 7.5YR 4/4 7.5YR 7/2 7.5YR 8/2 7.5YR 8/2	SL S S S S	m. g. fn w. gb. fn m. b. mc m. b. mc l. p.	16 12 24 25 16	4.91 4.78 6.32 6.30 6.03
No. 3 KATEME Forest GPS UTM35 E 238513 N8118139	I A ₁ II A ₂ III BC IV BC V C	0-15 15-30 30-90 90-135 135~	7.5YR 4/1 7.5YR 5/2 7.5YR 6/4 7.5YR 5/4 7.5YR 6/6	S S S S S	l. g. fn w. b. m m. b. mc m. b. c m. b. c	2 16 23 20 23	6.55 6.47 6.50 6.40 6.24
No. 4 SAMATELA Woodland GPS UTM35 E 242550 N8105513	I A ₁ II A ₂ III B ₁ IV BC V C	0-8 8-22 22-35 35-70 70~	7.5YR 4/1 7.5YR 5/2 7.5YR 6/3 7.5YR 6/4 10YR 8/4	S S S S S	l. g. f w. gb. fn w. b. m m. b. n n. b. mc	3 12 15 21 25	6.72 5.80 6.36 6.34 6.49
No. 5 SIJULU Forest GPS UTM35 E 273249 N8119741	I A ₁ II AB III B ₂ IV BC V C VI C	0-5 5-22 22-53 53-90 90-120 120~	5YR 4/2 5YR 4/3 5YR 4/4 2.5YR4.5/3 2.5YR 5/5 2.5YR 5/8	S S S S S S	l. g. f m. b. m m. b. m n. b. m m. b. mc n. b. mc	1 16 17 20 24 25	6.34 5.35 4.67 4.30 4.19 4.23
No. 6 LUMINO Forest GPS UTM35 E 271106 N8110816	I A ₁ II A ₂ III B ₁ IV BC V BC VI C	0-10 10-20 20-40 40-80 80-130 130~	7.5YR 5/1 7.5YR 5/2 7.5YR6.5/3 7.5YR 7/4 7.5YR 7/6 7.5YR 7/8	S S S S S S	l. g. f w. b. f m. b. n m. b. n m. b. n n. b. m	1 5 11 16 17 16	5.78 5.00 5.06 5.65 5.25 5.42
No. 7 KANGUBU Plain GPS UTM35 E 271762 N8109263	I A ₁ II AB III B ₂ IV B ₃	0-5 5-15 15-35 35~	10YR 3.5/1 10YR 3/2 10YR 3.5/2 10YR 4.5/2 (Mottling 7.5YR5/6)	S SL SL SL	w. b. f s. b. m s. b. n s. b. n	6 20 29 30	7.12 7.01 6.67 6.18
No. 8 LUMBOMBA Forest GPS UTM35 E 272681 N8109778	I A ₁ II AB III B ₂ IV BC V C	0-8 8-20 20-40 40-100 100~	5YR 4/2 5YR 4/4 2.5YR 5/4 2.5YR 5/5 2.5YR 5/8	SL SL SL SL S	w. gb. f m. b. n s. b. mc s. b. mc s. b. mc	6 23 29 26 28	6.74 5.02 4.30 4.15 4.07
No. 9 KAYUMBWANA Forest GPS UTM35 E 274134 N8110274	I A ₁ II A ₂ III B ₁ IV BC V C	0-8 8-20 20-50 50-100 100~	5YR 4.5/2 5YR 5/3 2.5YR4.5/3 2.5YR5.5/6 2.5YR 6/8	SL SL SL S S	l. g. f n. b. n n. b. n n. b. n ns. b. mc	1 17 19 22 26	6.40 5.67 5.26 4.66 4.75
No. 10 KALAMA Forest GPS UTM35 E 291020 N8131863	I A ₁ II A ₂ III B ₁ IV B ₂ V BC VI C	0-8 8-20 20-50 50-95 95-140 140~	7.5YR 5/1 7.5YR5/1.5 7.5YR5.5/2 7.5YR 6/3 7.5YR 6/4 7.5YR 7/6	S S S S S S	l. g. f w. b. n n. b. n ns. b. mc ns. b. mc ns. b. mc	1 15 16 22 25 26	6.58 6.26 6.54 6.05 6.48 6.66
No. 11 KANGUBU Forest GPS UTM35 E 269127 N8107512	I A ₁ II A ₂ III B ₁ IV B ₂ V B ₃ VI BC VII C VIII C	0-8 8-18 18-50 50-98 98-105 105-130 130-180 180~	5YR 4.5/1 5YR 6/2 5YR 5/3 5YR 5/4 5YR 6/4 5YR 5.5/4 5YR 6/6 5YR 5.5/8	S S S S S S S S	l. g. f n. b. n m. b. m ns. b. m ns. b. m ms. b. mc ns. b. mc ns. b. mc	1 12 20 28 27 30 27 28	5.94 5.22 5.19 4.75 4.80 4.53 4.44 4.55
No. 12 SAMATELA Forest GPS UTM35 E 255973 N8092091	I A ₁ II A ₂ III B ₁ IV BC V C	0-6 6-18 18-55 55-115 115~	7.5YR5.5/2 7.5YR 6/2 7.5YR6.5/3 7.5YR6.5/6 5YR 6.5/8	S S S S S	l. g. f w. g. f m. b. n n. b. n ns. b. mc	1 6 22 23 25	6.57 5.16 4.66 4.51 4.49

App. Table 7 (2) General site condition and profile morphology of soil survey plots

Profile No. Location	Horizon	Depth cm	Colour (Dry)	Texture	Structure	Hardness mm	pH (H ₂ O)
No. 13 SAMATELA Woodland GPS UTM35 E 246545 N8100250	I A ₁	0-10	7.5YR4.5/1	S	l. g. f	3	5.92
	II A ₂	10-22	7.5YR6.5/3	S	w. b. f	10	5.34
	III B ₁	22-60	7.5YR 7/4	S	w. b. fn	12	5.41
	IV BC	60-100	7.5YR 7/5	S	w. b. n	13	5.40
	V C	100-140	7.5YR 7/6	S	w. b. n	11	5.71
	VI C	140~	7.5YR 8/6	S	ms. b. nc	24	5.64
No. 14 SAMATELA Forest GPS UTM35 E 252806 N8092312	I A ₁	0-6	7.5YR 6/1	S	l. g. f	1	5.60
	II A ₂	6-15	7.5YR 6/2	S	l. g. f	5	5.14
	III B ₁	15-50	7.5YR6.5/4	S	w. b. fn	12	5.18
	IV BC	50-100	7.5YR 6/4	S	n. b. fn	15	5.11
	V BC	100-165	7.5YR 7/4	S	n. b. n	23	5.66
	VI C	165~	7.5YR 8/8	S	s. b. c	27	4.92
No. 15 SISISI Forest GPS UTM35 E 244786 N8093049	I A ₁	0-6	7.5YR5.5/2	S	l. g. f	2	5.54
	II A ₂	6-18	7.5YR 6/2	S	l. b. f	6	5.30
	III B ₁	18-40	7.5YR6.5/3	S	w. b. f	8	5.00
	IV BC	40-105	7.5YR6.5/3	S	n. b. nc	20	5.80
	V C	105-150	7.5YR7/3.5	S	ms. b. nc	23	5.70
	VI C	150~	7.5YR 7/4	S	ms. b. nc	25	5.62
No. 16 KANYANGA Forest GPS UTM35 E 292820 N8157346	I A ₁	0-5	5YR5.5/2	S	l. g. f	1	5.75
	II A ₂	5-16	5YR 6/3	S	l. g. f	7	5.11
	III B	16-38	5YR 6/4	S	w. b. fn	14	5.09
	IV BC	38-60	5YR6.5/7	S	w. b. fn	10	5.35
	V BC	60-94	5YR 6/6	S	w. b. n	14	5.56
	VI C	94-150	5YR 6/7	S	wm. b. n	16	5.26
	VII C	150~	5YR 6/8	S	n. b. n	19	5.32
No. 17 NANGA Forest GPS UTM35 E 289621 N8154703	I A ₁	0-6	5YR 4/3	S	l. g. f	1	4.14
	II A ₂	6-20	5YR 5/3	S	l. b. f	5	4.33
	III B ₁	20-45	5YR6.5/5	S	w. b. fn	9	5.06
	IV BC	45-80	5YR6.5/7	S	w. b. n	12	5.33
	V BC	80-120	5YR6.5/6	S	w. b. n	16	5.32
	VI C	120-160	5YR6.5/7	S	w. b. n	17	5.25
	VII C	160~	5YR 6/8	S	w. b. n	17	5.47
No. 18 SITUMPA (N) Forest GPS UTM35 E 303340 N8136777	I A ₁	0-10	10YR5.5/1.5	S	l. g. f	0.5	5.42
	II A ₂	10-22	10YR5.5/2	S	l. b. f	7	4.94
	III B ₁	22-45	10YR6.5/2	S	w. b. f	9	5.36
	IV B ₂	45-64	10YR 7/2	S	w. b. f	10	5.33
	V BC	64-120	10YR 7/4	S	w. b. n	9	5.10
	VI C	120-170	10YR 8/4	S	m. b. nc	20	5.34
	VII C	170~	10YR 8/5	S	ms. b. nc	25	5.42
No. 19 SITUMPA (S) Forest GPS UTM35 E 307884 N8126456	I A ₁	0-8	10YR 5/2	S	l. g. f	0.5	6.08
	II A ₂	8-20	10YR 6/3	S	w. g. f	5	4.91
	III B ₁	20-40	10YR6.5/3	S	w. g. f	7	4.42
	IV B ₂	40-73	10YR 7/3	S	w. b. f	9	4.52
	V BC	73-95	10YR 7/4	S	w. b. f	11	4.66
	VI C	95-155	10YR7.5/4	S	m. b. nc	20	4.82
	VII C	155~	10YR 8/5	S	ms. b. nc	23	4.76
No. 20 NAMENA WEST Forest GPS UTM35 E 295054 N8124800	I A ₁	0-5	7.5YR5.5/3	S	l. g. f	0.5	5.35
	II A ₂	5-14	7.5YR6/2.5	S	w. g. f	6	5.34
	III B ₁	14-25	7.5YR6.5/3	S	w. b. f	10	5.12
	IV B ₂	25-50	7.5YR6.5/4	S	w. b. n	13	4.97
	V BC	50-90	7.5YR 7/4	S	wm. b. n	17	4.78
	VI C	90-150	7.5YR 7/7	S	n. b. nc	20	4.90
	VII C	150~	7.5YR7.5/7	S	m. b. nc	22	4.89
No. 21 NAMENA EAST Forest GPS UTM35 E 295887 N8127636	I A ₁	0-7	5YR 5/2	S	l. g. f	1	5.81
	II A ₂	7-18	5YR 5.5/2	S	w. g. f	6	5.77
	III AB	18-30	5YR 5.5/3	S	w. b. f	8	6.10
	IV B ₂	30-85	5YR 6/4	S	n. b. fn	20	5.62
	V BC	85-130	5YR 6.5/4	S	n. b. nc	25	5.76
	VI C	130-165	5YR 7/6	S	s. b. nc	26	5.64
	VII C	165~	5YR 6.5/7	S	s. b. c	28	5.63
No. 22 KAZU Forest GPS UTM35 E 298161 N8133003	I A ₁	0-7	7.5YR 5/2	S	l. g. f	3	5.84
	II A ₂	7-20	7.5YR5.5/3	S	w. g. f	6	6.06
	III B ₁	20-34	7.5YR 6/4	S	w. gb. f	8	6.16
	IV B ₂	34-70	7.5YR6.5/3	S	wm. b. n	17	5.82
	V BC	70-125	7.5YR 7/4	S	w. b. n	14	5.37
	VI C	125-155	7.5YR 8/5	S	n. b. n	18	5.19
	VII C	155~	7.5YR 8/6	S	n. b. n	19	5.02
No. 23 NALWAMA Forest GPS UTM35 E 307891 N8150459	I A ₁	0-8	7.5YR5.5/2	S	l. g. f	1	6.19
	II A ₂	8-15	7.5YR 6/2	S	w. g. f	2	5.57
	III B ₁	15-30	7.5YR6.5/3	S	w. b. fn	8	4.60
	IV B ₂	30-60	7.5YR 7/3	S	m. b. n	21	5.10
	V BC	60-90	7.5YR7/3.5	S	ms. b. n	23	5.31
	VI C	90-123	7.5YR 7/4	S	ms. b. nc	26	5.16
	VII C	123~	7.5YR7.5/4	S	s. b. c	28	5.47

App. Table 7 (3) General site condition and profile morphology of soil survey plots

Profile No. Location	Horizon	Depth cm	Colour (Dry)	Texture	Structure	Hardness mn	pH (H ₂ O)
No. 24 LWANGULA Forest GPS UTM35 E 306763 N8147263	I A ₁	0-10	7.5YR 5/2	S	l. g. f	4	6.10
	II A ₂	10-18	7.5YR 5.5/2	S	w. g. f	5	5.83
	III B ₁	18-43	7.5YR 6/3	S	w. b. f	7	5.79
	IV B ₂	43-85	7.5YR 5.5/3	S	w. b. fm	8	5.04
	V BC	85-120	7.5YR 7/3	S	n. b. n	15	5.39
	VI C	120-165	7.5YR 7/4	S	ns. b. nc	23	5.35
No. 25 LONZE Forest GPS UTM35 E 299681 N8142531	I A ₁	0-10	7.5YR 5.5/2	S	l. g. f	1	5.76
	II A ₂	10-20	7.5YR 6/3	S	w. g. f	7	5.38
	III B ₁	20-40	7.5YR 6/4	S	w. b. f	12	5.23
	IV BC	40-85	7.5YR 6/5	S	n. b. n	18	4.97
	V C	85~	7.5YR 7/5	S	ns. b. nc	21	5.07
	No. 26 SIKUBINGWA Forest GPS UTM35 E 235397 N8082356	I A ₁	0-12	7.5YR 6/2	S	l. g. f	3
II A ₂		12-28	7.5YR 6/2.5	S	w. gb. f	8	4.57
III B ₁		28-54	7.5YR 7/4	S	m. b. n	20	5.24
IV BC		54-95	10YR 7/5	S	m. b. n	20	5.26
V C		95-165	10YR 8/7	S	m. b. nc	23	5.63
VI C		165~	10YR 8/6	S	m. b. nc	23	5.76
No. 27 SIMUNGOMA WEST Forest GPS UTM35 E 236568 N8081711	I A ₁	0-10	7.5YR 6/2	S	l. g. f	1	5.55
	II A ₂	10-21	7.5YR 6/2.5	S	w. g. f	5	5.47
	III B ₁	21-35	7.5YR 7/3	S	w. b. fm	15	5.11
	IV B ₂	35-60	7.5YR 7.5/4	S	n. b. fm	22	4.95
	V BC	60-90	7.5YR 7.5/5	S	n. b. n	24	5.64
	VI C	90-130	7.5YR 8/7	S	ns. b. nc	25	5.85
No. 28 KATEMAZANA Forest GPS UTM35 E 232955 N8109356	I A ₁	0-10	5YR 4.5/3	S	l. g. f	2	6.20
	II A ₂	10-22	5YR 5.5/4	S	l. g. f	8	5.72
	III B ₁	22-40	5YR 5.5/5	S	l. b. f	8	5.54
	IV B ₂	40-80	5YR 6/6	S	l. b. f	8	5.57
	V BC	80-115	5YR 6.5/8	S	w. b. n	16	5.74
	VI C	115-155	5YR 6/8	S	m. b. nc	24	5.62
No. 29 ZUNGUBO Forest GPS UTM35 E 233462 N8106659	I A ₁	0-10	5YR 5/1.5	S	l. g. f	0.5	5.56
	II A ₂	10-21	5YR 5.5/2	S	w. gb. f	6	5.88
	III B ₁	21-40	5YR 6/4	S	w. b. n	10	5.47
	IV B ₂	40-75	5YR 6.5/6	S	m. b. n	19	5.50
	V BC	75-130	5YR 6.5/7	S	ns. b. n	24	6.02
	VI C	130~	5YR 7/8	S	ns. b. nc	28	6.13
No. 30 SIMUNGOMA EAST Forest GPS UTM35 E 251591 N8079812	I A ₁	0-5	7.5YR 6/3	S	l. g. f	1	6.21
	II A ₂	5-14	7.5YR 6.5/4	S	l. b. f	7	5.41
	III B ₁	14-32	7.5YR 6.5/5	S	w. b. fm	10	5.47
	IV B ₂	32-65	7.5YR 7.5/6	S	w. b. fm	10	5.39
	V BC	65-105	7.5YR 8/7	S	m. b. n	18	4.91
	VI C	105-155	7.5YR 8/8	S	n. b. nc	23	5.20
No. 31 SIMUNGOMA EAST Forest GPS UTM35 E 249848 N8079765	I A ₁	0-5	7.5YR 5/3	S	l. g. f	0.5	5.63
	II A ₂	5-18	7.5YR 5.5/3	S	l. g. f	6	5.17
	III B ₁	18-37	7.5YR 6.5/4	S	l. b. fm	9	5.08
	IV B ₂	37-70	7.5YR 6.5/5	S	w. b. fm	11	5.10
	V BC	70-95	7.5YR 7.5/6	S	m. b. fm	16	5.19
	VI BC	95-130	7.5YR 7/7	S	m. b. fm	15	5.27
No. 32 BUHUNDA Woodland GPS UTM35 E 213040 N8077246	VII C	130-170	7.5YR 7/8	S	m. b. fm	17	5.32
	VIII C	170~	7.5YR 7.5/8	S	ns. b. nc	22	5.10
	I A ₁	0-5	7.5YR 5/3	S	l. g. f	3	6.43
	II A ₂	5-32	7.5YR 6/3	S	l. b. f	7	5.38
	III B ₁	32-55	7.5YR 7/4	S	w. b. f	8	5.34
	IV BC	55-100	7.5YR 6.5/5	S	w. b. n	8	5.55
No. 33 MONZE Forest GPS UTM35 E 217506 N8074946	V C	100-160	7.5YR 7/7	S	ns. b. nc	25	5.88
	VI C	160~	7.5YR 7/8	S	s. b. nc	27	5.90
	I A ₁	0-7	7.5YR 6/1.5	S	l. g. f	1	5.68
	II A ₂	7-16	7.5YR 6.5/2	S	w. g. f	6	5.22
	III B ₁	16-32	7.5YR 6/3.5	S	w. b. m	10	5.46
	IV BC	32-65	7.5YR 6/5	S	wn. b. m	17	6.38
No. 34 SICHINGA Forest GPS UTM35 E 212285 N8071132	V C	65-135	7.5YR 7/7	S	n. b. n	23	6.46
	VI C	135~	7.5YR 7/8	S	ns. b. nc	25	6.61
	I A ₁	0-4	5YR 5.5/3	S	l. g. f	0.5	5.98
	II A ₂	4-14	5YR 6/4	S	l. g. f	3	5.21
	III B ₁	14-28	5YR 6.5/5	S	l. gb. fm	8	5.11
	IV BC	28-85	2.5YR 6/7	S	w. b. n	10	5.07
V C	85-160	2.5YR 6.5/8	S	m. b. n	17	5.17	
	VI C	160~	2.5YR 6/8	S	m. b. nc	19	5.41

App. Table 7 (4) General site condition and profile morphology of soil survey plots

Profile No. Location	Horizon	Depth cm	Colour (Dry)	Texture	Structure	Hardness mm	pH (H ₂ O)
No. 35 KASIKI Forest GPS UTM35 E 225664 N8075805	I A ₁	0-5	7.5YR 5/2	S	l. g. f	0.5	6.40
	II A ₂	5-20	7.5YR 6/3	S	l. g. f	4	5.60
	III B ₁	20-35	7.5YR 6.5/4	S	l. b. f	7	5.45
	IV BC	35-56	7.5YR 7/6	S	lw. b. n	8	5.65
	V BC	56-90	7.5YR 7.5/6	S	w. b. n	19	5.05
	VI C	90-155	7.5YR 6.5/7	S	m. b. n	20	5.56
	VII C	155~	7.5YR 7/8	S	m. b. nc	21	5.63
No. 36 MALAVWE Forest GPS UTM35 E 236166 N8081139 (4m depth profile)	I A ₁	0-5	7.5YR 5/2	S	l. g. f	1	6.80
	II A ₂	5-17	7.5YR 5.5/3	S	l. g. f	4	6.42
	III B ₁	17-35	7.5YR 6/4	S	lw. b. fn	7	5.55
	IV B ₂	35-60	7.5YR 6/5	S	w. b. fn	10	5.52
	V BC	60-95	7.5YR 6.5/5	S	wm. b. n	12	5.83
	VI C	95-155	7.5YR 6.5/6	S	n. b. nc	13	6.00
	VII C	155-225	7.5YR 6.5/7	S	s. b. c	25	6.25
	VIII C	225-330	10YR 7/8	S	s. b. c	27	6.66
	IX C	330~	10YR 6.5/8	S	s. b. c	27	6.35
No. 37 NANYOTA Forest GPS UTM35 E 241998 N8106130	I A ₁	0-6	7.5YR 5/2	S	l. g. f	1	4.34
	II A ₂	6-15	7.5YR 5.5/2	S	l. g. f	7	4.66
	III B ₁	15-30	7.5YR 6.5/2	S	l. b. fn	9	5.18
	IV B ₂	30-55	7.5YR 6.5/3	S	w. b. fn	12	4.75
	V BC	55-100	7.5YR 7.5/4	S	m. b. n	22	5.77
	VI C	100~	7.5YR 7.5/4	S	ms. b. mc	26	5.92
No. 38 MULULWE Forest GPS UTM35 E 237002 N8112082	I A ₁	0-5	7.5YR 5.5/2	S	l. g. f	2	5.63
	II A ₂	5-13	7.5YR 6.5/2	S	l. g. f	4	6.42
	III B ₁	13-40	7.5YR 6.5/3	S	w. b. fn	6	5.53
	IV B ₂	40-77	7.5YR 6.5/4	S	w. b. fn	10	5.58
	V BC	77-122	7.5YR 7/6	S	w. b. n	22	5.00
	VI C	122-180	7.5YR 7/7	S	m. b. m	23	5.32
	VII C	180~	7.5YR 7/8	S	ms. b. mc	26	5.23

App. Table 8 (1) Information on each researched plots

Forest Name	Plot No.	Location	Area(m ²)	Tree Numbers			Total
				High	Middle	Low	
Buunda Woodland	B12	Woodland	500			15	15
Buunda Woodland	B13	Woodland	500	6	14	23	43
Kalama Forest	B14	Forest	1,000	13	49	53	115
(= No.3 Permanent plot)							
Kateme forest	B01	Forest	300	5	7	18	30
Kayumbwana forest	B04	Forest	1,000	6	18	63	87
Kayumbwana forest	B05	Forest	500	6	13	28	47
Lumino forest	B02	Forest	500	26	3	14	43
Lumino forest	B03	Forest	1,000	13	10	27	50
Malawwe botanical reserve	B15	Forest	1,000	15	5	16	36
(= No.1 Permanent plot)							
Nanga Forest	B08	Forest	1,000	29	16	30	75
(= No.2 Permanent plot)							
Samatela Woodland	B06	Woodland	800	5	6	27	38
Samatela Woodland	B07	Woodland	500	2	9	12	23
(= No.4 Permanent plot)							
Sikubingwa Forest	B10	Forest	500	15	14	7	36
Sikubingwa Forest	B11	Forest	1,000	4	29	44	77
Sub-Total (Belt transect)	10 plots	Forest		132	132	132	132
	4 plots	Woodland		13	29	77	119
	8 plots		<1,000	65	66	144	275
	6 plots		=1,000	80	127	233	440
	14 plots	Total		145	193	377	715
Buunda Woodland	T111	Woodland	500		14	22	36
Kalama Forest	T101	Forest	500	7	18	21	46
Kalama Forest	T102	Forest	500	2	38	20	60
Kalama Forest	T103	Forest	500	2	23	16	41
Kalama Forest	T104	Forest	500	2	21	21	44
Kangubu forest	T048	Forest	500	17	12	20	49
Kangubu forest	T049	Forest	500	13	8	8	29
Kangubu forest	T050	Forest	500	17	5	11	33
Kangubu forest	T051	Forest	500	9	13	6	28
Kangubu forest	T052	Forest	500	14	9	23	46
Kangubu forest	T053	Forest	500	6	12	5	23
Kanyanga Forest	T078	Forest	500	9	1	16	26
Kanyanga Forest	T079	Forest	1,000	5	5	17	27
Kasiki Forest	T105	Forest	500	4	10	11	25
Kasiki Forest	T106	Forest	500	2	11	9	22
Kasiki Forest	T107	Forest	1,000	3	5	12	20
Kasiki Forest	T108	Forest	1,000	15	15	8	38
Kasiki Forest	T109	Forest	500	10	1	3	14
Kasiki Forest	T110	Forest	500	8	5	4	17
Kateme forest	T013	Forest	500	14	22	10	46
Kateme forest	T014	Forest	500	2	9	10	21
Kateme forest	T015	Forest	500	10	12	25	47
Kateme forest	T016	Forest	500	1	15	39	55
Kateme forest	T017	Forest	500	4	21	34	59
Kateme forest	T018	Forest	500	18	15	12	45
Kateme forest	T019	Forest	500	15	24	25	64
Kateme forest	T020	Forest	500	14	13	26	53
Kayumbwana forest	T040	Forest	500	7	10	22	39
Kayumbwana forest	T041	Forest	500	11	11	24	46
Kayumbwana forest	T042	Forest	500	11	8	12	31
Kayumbwana forest	T043	Forest	500	6	11	18	35
Kayumbwana forest	T044	Forest	500	7	23	17	47
Kayumbwana forest	T045	Forest	500	1	26	49	76
Kayumbwana forest	T046	Forest	500	22	8	10	40
Kayumbwana forest	T047	Forest	500	8	15	23	46

App. Table 8 (2) Information on each researched plots

Forest Name	Plot No.	Location	Area(m ²)	Tree Numbers			Total
				High	Middle	Low	
Lumino forest	T036	Forest	500	1	14	26	41
Lumino forest	T037	Forest	500	1	24	28	53
Lumino forest	T038	Forest	500	22	16	11	49
Lumino forest	T039	Forest	500		11	45	56
Malavwe botanical reserve	T002	Forest	500	6	4		10
Malavwe botanical reserve	T003	Forest	500	11	3	5	19
Malavwe botanical reserve	T007	Forest	500	8	3		11
Malavwe botanical reserve	T008	Forest	500	11	8	1	20
Malavwe botanical reserve	T011	Forest	500	7	2		9
Malavwe forest	T004	Forest	500	5	1	5	11
Malavwe forest	T005	Forest	500	2	4		6
Malavwe forest	T006	Forest	500	2	6	5	13
Malavwe forest	T009	Forest	500	3	2	3	8
Malavwe forest	T010	Forest	500	4	3	5	12
Nanga Forest	T080	Forest	500	10	6	11	27
Nanga Forest	T081	Forest	500	11	3	8	22
Nanga Forest	T082	Forest	500	11	1	6	18
Nanga Forest	T083	Forest	500	14	3	10	27
Nanga Forest	T084	Forest	500	11	6	7	24
Nanga Forest	T112	Forest	1,000	32	4	13	49
Nanga local forest	T001	Forest	500	9	2	4	15
Nanyota forest	T021	Forest	500	6	3	11	20
Nanyota forest	T022	Forest	500	8	5	9	22
Nanyota forest	T023	Forest	500	11	4	8	23
Nanyota forest	T024	Forest	500	6	9	9	24
Samatela Forest	T063	Forest	1,000	6	3	4	13
Samatela Forest	T064	Forest	1,000	6	6	7	19
Samatela Forest	T065	Forest	1,000	6	4	7	17
Samatela Forest	T066	Forest	1,000	11	3	4	18
Samatela Forest	T067	Forest	1,000	1	8	11	20
Samatela Forest	T069	Forest	1,000	25	2	9	36
Samatela Forest	T070	Forest	1,000	2	6	5	13
Samatela Forest	T071	Forest	1,000	4	5	9	18
Sijulu forest	T025	Forest	500	10	29	32	71
Sijulu forest	T026	Forest	500	17	25	18	60
Sijulu forest	T027	Forest	500	11	11	15	37
Sijulu forest	T028	Forest	500	15	10	23	48
Sijulu forest	T029	Forest	500	1	9	20	30
Sijulu forest	T030	Forest	500	9	9	15	33
Sijulu forest	T031	Forest	500	12	7	8	27
Sijulu forest	T032	Forest	500	8	5	11	24
Sijulu forest	T033	Forest	500	6	6	53	65
Sijulu forest	T034	Forest	500	7	31	23	61
Sijulu forest	T035	Forest	500	5	8	36	49
Sikubingwa Forest	T098	Forest	500	10	1	12	23
Sikubingwa Forest	T099	Forest	500	16	16	25	57
Sikubingwa Forest	T100	Forest	500	9	3	19	31
Simungoma East	T085	Forest	500	6	9	14	29
Simungoma East	T086	Forest	1,000	7	19	4	30
Simungoma East	T087	Forest	500	14	5	5	24
Simungoma East	T088	Forest	1,000	13	24	12	49
Simungoma East	T089	Forest	500	8	8	1	17
Simungoma East	T090	Forest	500	10	4	1	15
Simungoma East	T091	Forest	500	13	4	6	23
Simungoma East	T092	Forest	1,000	16	11	12	39
Simungoma East	T093	Forest	500	9	9	4	22
Simungoma East	T094	Forest	1,000	3	8	14	25
Simungoma East	T095	Forest	500	9	8	7	24

App. Table 8 (3) Information on each researched plots

Forest Name	Plot No.	Location	Area(m ²)	Tree Numbers			Total
				High	Middle	Low	
Simungoma East	T096	Forest	500	8	7	5	20
Simungoma East	T097	Forest	500	13	4	6	23
Simungoma East Forest	T054	Forest	1,000	6	2	3	11
Simungoma East Forest	T055	Forest	1,000	5			5
Simungoma East Forest	T056	Forest	1,000	1	2		3
Simungoma East Forest	T057	Forest	1,000	2	1		3
Simungoma East Forest	T058	Forest	1,000	5			5
Simungoma East Forest	T059	Forest	1,000	3			3
Simungoma East Forest	T060	Forest	1,000	4	2		6
Simungoma East Forest	T061	Forest	1,000	6	2		8
Simungoma East Forest	T062	Forest	1,000	5			5
Simungoma west	T012	Forest	500	10	1	1	12
Sisisi Forest	T073	Forest	1,000	9	8	20	37
Sisisi Forest	T074	Forest	500	12	6	7	25
Sisisi Forest	T075	Forest	1,000	10	24	8	42
Sisisi Forest	T076	Forest	500	9	9	7	25
Sisisi Forest	T077	Forest	500	15	6	9	30
Sisisi Line	T072	Forest	1,000	3	4	18	25
Ssmatela Forest	T068	Forest	1,000	2	2	18	22
Sub-Total (circle plots)	111 plots	Forest		941	998	1,365	3,304
	1 plots	Woodland		0	14	22	36
112 plots	83 plots		500	725	837	1,172	2,734
	29 plots		1,000	216	175	215	606
	112 plots	Total		941	1,012	1,387	3,340
Total	126 plots			1,086	1,205	1,764	4,055

App. Table 9 No. 78 Circular plot (Kanyanga forest)

No.	Species	DBH	TH	CL	Cr.L	Cm	Cr _s	Cr _e	Cr _w	Remarks
1	Isunde	10.0	6.0	3.0	2.0	2.0	4.0	2.0	3.0	
2	Kangolo	6.0	5.0	2.0	2.0	2.0	2.0	1.0	3.0	
3	Mukusi	46.0	15.0	10.0	5.0	8.0	5.4	7.0	5.0	
4	Mwangula	9.0	8.0							5-1
5	Mwangula	12.0	9.0	4.0	5.0	2.5	3.0	5.0	4.5	5-2
6	Mwangula	8.0	8.0							5-3
7	Mwangula	8.0	7.0							5-4
8	Mwangula (Dead)	10.0								5-5
9	Mwangula	24.0	15.0	8.0	5.0	4.0	4.0	4.0	6.0	
10	Mukusi	40.0	16.0	10.0	6.0	4.0	5.0	5.0	8.0	
11	Mukusi	47.0	17.0	11.0	7.0	6.0	6.0	12.0	7.0	
12	Mukusi	38.0	17.0	11.0	6.0	2.0	4.0	6.0	3.0	
13	Nankala (Dead)	11.0	6.0	4.0	1.5					
14	Mukusi	39.0	15.0	9.0	4.0	2.0	8.0	7.5	6.0	
15	Mukololo	22.0	1.0	7.0	3.0	5.0			12.5	
16	Isunde	9.0	6.0	2.0	3.0	3.0	2.0	2.0	2.5	
17	Kangolo	7.0	6.0	2.0	3.0	3.0	2.0	3.0	2.0	
18	Isunde	8.0	4.0	1.0	2.0	5.5		2.0	3.0	
19	Kangolo	6.0	5.0	2.0	3.0	2.0	2.0	2.0	2.5	
20	Kangolo	11.0	5.0	3.0	2.0	5.0	2.0	2.0	2.5	
21	Kangolo	6.0	5.0	1.0	2.0	2.0	2.0	1.0	1.5	2-1
22	Kangolo	6.0	5.0	1.0	2.0					2-2
23	Mwangula	44.0	17.0	10.0	7.0	3.5	4.0	6.0	5.5	
24	Kangolo (Dead)	6.0								
25	Mwangula	32.0	14.0	8.0	4.0	4.0	8.0	4.5	6.0	2-1
26	Mwangula	32.0	14.0	8.0	4.0					2-2

Species	Height m	DBH cm	Crown diameter m	Number
Mukusi	15-17	38-47	7.5-16	5
Mwangula	9-17	9-44	7-10	9
Kangolo	5	6-11	3.5-6.5	7
Isunde	4-6	8-10	5-5.5	3
Nankala	6	11	3	1
Mukololo	7	22	6.5	1
Total				26

App. Table 10 No. 92 Circular plot (Simungoma west forest)

No.	Species	DBH	T.H	CL	CrL	Cra	Crs	Cre	Crw	Remarks
1	Mukusi (Dead)	18.0								
2	Mukusi	20.4	11.5	8.0	4.0	2.0	3.5	3.5	1.0	
3	Mwangula	7.4	67.0	3.0	3.0	1.0	2.0	2.0	1.0	
4	Mwangula (Dead)	7.0								
5	Mukusi	36.0	14.0	9.0	7.0	4.0	6.0	3.0	8.0	
6	Isunde (Dead)	6.4								
7	Mukusi	34.6	13.0	8.0	6.0	5.0	6.0	4.5	4.0	
8	Mukusi	29.0	13.0	8.0	5.5	5.0	2.5	4.5	2.0	
9	Mukusi	29.2	13.5	8.0	6.0	4.0	5.0	6.0	3.0	
10	Mukusi	34.2	14.0	10.0	5.0	5.0	6.0	2.0	4.0	
11	Mwangula	12.2	9.0	6.0	4.0					2-1
12	Mwangula	16.0	9.0	6.0	4.0	3.0	2.5	4.0	3.0	2-2
13	Mukusi	10.2	8.0	5.0	2.0	0.5	2.0	2.0	1.0	
14	Mukusi	24.0	11.0	6.0	5.0	2.0	3.0	4.0	4.0	
15	Mukusi	28.2	11.0	7.0	5.0		4.0		5.0	
16	Mwangula	16.0	12.0	7.0	4.0	2.0	4.0	3.0	4.0	
17	Mukusi	31.2	13.0	8.0	6.0	3.0	4.0	2.0	3.0	
18	Mukusi	29.2	14.0	9.0	6.0	1.0	3.5	4.0	3.0	
19	Mukusi	25.0	13.0	9.0	4.0	2.0	3.0	4.0	2.0	
20	Mukusi	57.0	15.0	9.0	6.0	7.0	6.0	3.0	8.0	
21	Mukusi	57.0	16.0	12.0	6.0	4.0	5.0	6.0	4.0	
22	Mukusi (Dead)	16.4								
23	Mukusi (Dead)	23.3								
24	Mwangula (Dead)	22.6								
25	Mwangula	7.8	10.0	5.0	5.0					8-1
26	Mwangula	11.2	13.0	7.0	5.0					8-2
27	Mwangula	7.4	10.0	5.0	5.0					8-3
28	Mwangula	11.0	13.0	7.0	5.0					8-4
29	Mwangula	20.0	13.0	7.0	5.0					8-5
30	Mwangula	13.4	13.0	7.0	5.0					8-6
31	Mwangula	13.6	10.0	5.0	5.0					8-7
32	Mwangula	21.0	13.0	7.0	5.0	4.0	2.0	3.0	3.0	8-8
33	Isunde	11.2	6.0	3.0	2.0	3.0	1.0	1.0		
34	Mwangula	7.4	7.0	4.0	3.5					6-1
35	Mwangula	14.6	9.0	5.0						6-2
36	Mwangula	10.2	7.0	4.0						6-3
37	Mwangula	7.8	7.0	4.0						6-4
38	Mwangula	6.4	7.0	4.0						6-5
39	Mwangula	18.0	9.0	5.0		3.0	2.0	3.0	2.0	6-6

Species	Height m	DBH cm	Crown diameter m	Number
Mukusi	8-16	10-57	2.5-11	17
Mwangula	7-13	6-22	3-6	20
Isunde	6	11	2.5	2
Total				39

App. Table 11 No. 1 Permanent plot (Malavwe Botanical Reserve) (No. 15 Belt-transect)

No.	Species	DBH	TH	C.L	Cr L	Cm	Crs	Cte	Cnv	Remarks
1	Mukusi	46.0	15.0	5.0		10.0		14.6		
2	Mukusi	28.0	15.0	7.0		10.4		16.8		
3	Mwangula	6.0	6.0	1.0		5.2		3.4		
4	Mukusi	22.0	10.0	3.0		10.0		12.8		
5	Mukusi	32.0	14.0	5.0		8.0		10.0		
6	Mukusi	52.0	15.0	4.0		14.6		17.0		
7	Mukusi	6.0	6.0	4.0		1.8		2.2		
8	Mwangula	10.0	9.0	1.0		7.0		8.0		
9	Kangolo	6.0	6.0	3.0		5.2		5.2		
10	Mukusi	35.0	14.0	5.0		11.0		10.2		
11	Mukusi	24.0	7.0	2.0		9.8		17.4		
12	Mukusi	52.0	13.0	2.0		10.0		12.4		
13	Kangolo	6.0	6.0			4.0		4.0		
14	Mwangula	8.0	8.0	3.0		4.8		6.6		2-1
141	Mwangula	8.0	8.0	4.0						2-2
15	Mukusi	42.0	15.0	5.0		9.4		10.0		
16	Mukusi	30.0	14.0	5.0		7.8		6.8		
17	Mukusi	10.0	4.0	2.0		3.2		4.0		
18	Mukusi	34.0	14.0	3.0		8.4		11.0		
19	Mukusi	20.0	11.0	4.0		7.4		9.0		
20	Mukusi	50.0	15.0	3.0		13.0		11.0		
21	Munana	12.0	7.0	4.0		4.4		4.0		
22	Mukusi	10.0	6.0	2.0		3.0		3.2		
23	Mukusi	12.0	6.0	2.0		3.2		5.0		
24	Mukololo	12.0	6.0	3.0		3.2		4.8		
25	Mwangula	14.0	8.0	5.0		6.6		6.4		4-1
251	Mwangula	12.0	8.0	5.0						4-2
252	Mwangula	10.0	8.0	5.0						4-3
253	Mwangula	10.0	8.0	5.0						4-4
26	Mukusi	30.0	15.0	6.0		13.2		11.4		
27	Mukusi	44.0	15.0	4.0		8.2		9.0		
28	Mukusi	26.0	12.0	3.0		9.0		7.6		
29	Mukusi	24.0	12.0	3.0		14.0		8.4		
30	Mukusi	40.0	14.0	4.0		12.0		12.6		
31	Mukusi	40.0	14.0	6.0		8.0		7.4		
32	Mukusi	40.0	15.0	4.0		9.2		10.6		

Species	Height m	DBH cm	Crown diameter m	Number
Mukusi	4-15	6-52	2-14	24
Mwangula	6-9	6-14	4-6.5	8
Kangolo	6	6	3.5-5	2
Mukololo	6	12	3.5	1
Munana	7	12	3.5	1
Total				36

App. Table 12 (1) No. 2 Permanent plot (Nanga forest) (No. 8 Belt-transect)

No.	Species	DBH	TH	CL	Cr.L	Crn	Crj	Cre	Crw	Remarks
1	Mukusi	58.0	18.0	9.0	8.0	4.0	7.0	10.0	8.0	
2	Mukusi	22.5	11.0	4.0	4.0	2.5	8.0	4.5	3.2	
3	Kangolo	6.5	6.0	1.0	4.0		6.0	4.6	2.0	
4	Mwangula	51.0	17.0	10.0	7.0	5.0	8.0	5.5	10.5	
5	Kangolo	7.0	6.0	2.0	3.0					2-1
6	Kangolo	9.0	6.0	2.0	3.0		8.0	2.5	3.0	2-2
7	Kangolo	6.0	5.0	2.0	2.0	0.5	4.0	3.0	3.0	2-1
8	Kangolo	6.0	5.0	2.0	2.0					2-2
9	Nzani	7.0	5.0	3.0	2.5		3.5		4.0	
10	Kangolo	10.0	6.0	2.0	2.0	2.5	5.0	3.0	3.0	
11	Kangolo	8.0	5.0	1.5	2.0		4.0	3.6	2.0	2-1
12	Kangolo	8.0	5.0	1.5	2.0					2-2
13	Mukusi	20.0	8.0	3.0	3.0		5.0		5.6	
14	Mukusi	56.0	17.0	10.0	6.0	11.0	3.0	8.0	9.0	
15	Mukusi	38.0	12.0	6.0	4.0	1.0	6.0	3.0	6.0	
16	Mwangula	14.0	9.0	5.0	3.0		6.0	2.0	8.0	
17	Mukusi	36.0	16.0	9.0	5.0		4.0	2.0	10.2	
18	Kangolo	6.5	5.0	2.0	2.0	2.0	4.0	3.0	2.6	
19	Kangolo	7.0	7.0	3.0	2.5					2-1
20	Mwangula	44.0	16.0	9.0	7.0	2.0	2.0	2.0	3.0	2-2
21	Mwangula	25.0	14.0	7.0	3.0		6.0	6.5	5.0	
22	Mukusi	18.0	13.0	7.0	4.0	2.0	1.0	2.0	6.0	
23	Mukusi	17.0	12.0	6.0	4.0	3.0	2.0	2.0	2.0	
24	Mukusi	34.0	15.0	9.0	4.0	2.0	6.0	8.0		
25	Mwangula	16.0	10.0	4.0	3.0	2.0	7.0	3.0	3.5	
26	Isunde	8.0	8.0	4.0	2.5		6.0	2.5	2.0	2-1
27	Isunde	8.0	8.0	4.0	2.5					2-2
28	Mukusi	37.0	17.0	10.0	7.0	2.0	5.0	3.0	10.0	
29	Mukusi	27.0	15.0	10.0	6.0	6.0	4.0	7.0	3.0	
30	Mwangula	10.0	9.0	4.0	3.0	1.0	4.0	0.5	4.0	
31	Mwangula	14.0	10.0	5.0	4.0	2.0	6.0	2.0	6.5	
32	Mukusi	34.0	13.0	7.0	5.0	2.0	10.0	6.5	3.0	
33	Mukusi	27.0	14.0	10.0	5.0	-5.0	14.0	3.0	4.6	
34	Mukusi	7.0	5.0	2.0	3.0	3.0	1.0	1.0	2.0	
35	Mukusi	34.0	17.0	9.0	7.0	6.0	7.0	4.0	5.6	
36	Mukusi	6.0	9.0	5.0	3.0	2.0	2.0	2.0	1.0	
37	Mukusi	29.0	16.0	8.0	6.0	4.5	2.0	5.0	3.0	
38	Mukusi	30.0	12.0	6.0	5.0	-2.0	10.0	5.0	3.5	
39	Mukusi	20.0	12.0	4.0	4.0	-2.0	10.0		4.0	
40	Mwangula	52.0	17.0	10.0	6.0	6.0	6.0	6.0	8.0	
41	Mwangula	9.0	10.0	3.0	3.0	2.5	2.5	3.5	0.5	
42	Mukusi	10.0	8.0	5.0	3.0	1.0	1.0	3.0	2.0	
43	Mukusi	6.0	7.0	3.0	3.0					2-1
44	Mukusi	8.0	7.0	3.0	3.0	2.0		5.0	2.7	2-2
45	Mukusi	8.0	7.0	4.0	3.0	2.0	2.0	2.0	2.0	
46	Mukusi	7.0	8.0	2.0	1.0	2.0	-0.5		1.5	
47	Mukusi	22.0	15.0	8.0	4.0	3.0	3.0	2.5	2.5	
48	Mukusi	10.0	9.0	4.0	3.0	1.0	3.0	1.5	3.0	
49	Mukusi	16.0	9.0	4.0	3.0	4.0	1.5	2.0	3.0	
50	Mukusi	8.0	8.0	2.0	2.0	1.0	2.0	2.0	2.0	
51	Mukusi	17.0	15.0	8.0	5.0	2.0	0.5	2.0	2.0	
52	Mukusi	32.0	16.0	7.0	5.0	3.0	10.0	3.0	6.0	
53	Mukusi	16.0	14.0	7.0	4.0	3.0		1.0	6.0	
54	Mukusi	28.0	16.0	7.0	6.0		8.0	2.0	7.0	
55	Mukusi	15.0	13.0	7.0	4.0		5.0		4.0	
56	Mukusi	23.0	15.0	8.0	4.0	2.0	4.0	3.0	2.0	
57	Mukusi	27.0	14.0	9.0	4.5	1.0	6.0	6.0	5.0	
58	Mukusi	14.0	12.0	8.0	5.0		5.0	5.0	4.0	

App. Table 12 (2) No. 2 Permanent plot (Nanga forest) (No. 8 Belt-transect)

No	Species	DBH	TH	CL	Cr.L	Crn	Crn	Cre	Crw	Remarks
59	Mukusi	26.0	14.0	7.0	4.5		7.0	6.0	4.0	
60	Mukusi	6.0	6.0	4.0	2.0	1.0	1.0	1.5	1.0	
61	Mukusi	38.0	16.0	9.0	5.0	4.0	8.5	6.0	7.0	
62	Kangolo	9.0	6.0	2.0	3.0	3.0	6.0	4.0	4.0	3-1
63	Kangolo	7.0	6.0	2.0	3.0					3-2
64	Kangolo	6.0	6.0	2.0	3.0					3-3
65	Isunde	6.5	6.0	2.0	3.0	2.0	2.0	2.0	2.5	
66	Mukusi	7.0	10.0	4.0	3.0	1.5	2.0	2.0	2.0	
67	Mukusi	12.0	10.0	7.0	2.0		5.0		2.0	
68	Kangolo	7.0	4.5	2.0	2.0	4.0	1.5	2.0	3.0	
69	Nankala	10.0	7.0	2.0	2.0		4.0	3.5	3.0	
70	Mwangula	64.0	16.0	10.0	7.0	8.0	9.0	6.5	9.0	
71	Kangolo	8.0	4.0	2.0	2.0	2.0	2.0	2.0	3.0	
72	Mukusi	8.0	7.0	4.0	2.0	2.0	2.0	2.5	2.0	
73	Mukusi	37.0	17.0	8.0	7.0	7.0	4.0	5.0	6.0	
74	Mukusi	34.0	16.0	7.0	5.0	2.0	8.0	6.5	6.0	
75	Mukusi	24.0	15.0	4.0	3.0	4.0	2.0	6.5	3.0	

Species	Height m	DBH cm	Crown diameter m	Number
Mukusi	5-18	8-58	2.5-15.5	45
Kangolo	4-7	6-10	4.5-7	15
Mwangula	9-17	9-64	5-16	10
Isunde	6-8	6-8	4.5	3
Nzani	5	7	4.5	1
Nankala	7	10	5.5	1
Total				75

App. Table 13 (1) No. 3 Permanent plot (Kalama forest) (No. 14 Belt-transect)

No.	Species	DBH	TH	CL	CrL	Crn	CrS	Cre	Crw	Remarks
1	Mukusi	12.8	11.0	5.0	4.0	1.7	0.9	3.0	2.0	
2	Mukusi	8.2	8.0	4.0	3.0	1.0	0.2	1.2	2.0	
3	Mukena	(Dead)	10.2	1.5						
4	Mukusi	6.0	7.0	3.0	3.0	0.8	1.2	0.6	0.5	
5	Mukusi	7.4	7.0							
6	Mukusi	8.4	7.0	4.0	2.5	1.5	2.0	1.0	0.9	
7	Mukena	9.5	8.0	3.0	2.0	2.0	4.0	3.0	2.4	2-1
8	Mukena	7.4	6.0	2.5	2.0					2-2
9	Muhonono	20.8	12.5	4.0	5.0	4.8	1.6	4.6	5.0	
10	Muhoto	12.0	12.0	4.0	3.5	1.5	2.3	4.3	2.0	
11	Mukusi	9.4	8.0	4.0	2.5	2.0	0.9	1.0	2.8	
12	Muhoto	9.8	8.0	3.0	3.0	0.8	0.9	1.0	2.4	
13	Mukusi	24.8	15.0	6.0	6.0	4.0	2.9	5.0	2.0	
14	Mukena	6.8	7.0	2.5	2.5	0.6	1.0		3.0	
15	Mukusi	9.5	6.5	3.5	2.5	2.5	0.9	0.4	2.0	
16	Mukusi	11.0	10.0	4.0	4.0	3.0	1.2	4.0	2.4	
17	Mukusi	10.6	9.5	5.0	3.5	3.5	1.0	4.0	2.0	
18	Mukusi	9.6	8.5	4.0	3.0	1.0	2.0	1.4	2.0	
19	Mukusi	8.0	8.0	4.0	2.0	6.9	0.9	1.0	2.8	
20	Mukusi	16.6	13.0	6.0	5.0	2.0	1.9	4.0	3.9	
21	Mukusi	10.2	9.0	5.0	3.0	1.2	3.2	3.5	2.8	
22	Mukusi	10.0	10.0	4.0	2.5	0.8	0.6	2.0	2.5	
23	Mukusi	6.4	6.0	3.0	2.0					3-1
24	Mukusi	10.0	10.0	5.0	3.0	1.6	0.5	0.8		3-2
25	Mukusi	6.0	6.0	3.0	2.0					3-3
26	Mukusi	7.2	8.0	4.0	2.5	0.9	2.0	2.4	2.3	
27	Mukusi	6.0	7.0	3.0	2.0	0.4	2.5	0.6	3.0	
28	Mukusi	6.0	6.0	3.0	3.0	1.4	1.0	2.0	1.0	
29	Muhonono	(Dead)	10.0	10.0						
30	Mukusi	16.2	10.0	4.0	3.5	1.2	4.0	2.0	1.2	
31	Mukusi	6.6	9.0	4.0	3.0	2.0	2.0	2.0	0.6	
32	Muhonono	18.0	8.0	3.0	3.0	1.0	1.9	4.0	2.0	
33	Mukusi	9.6	7.5	4.0	3.0	2.0	1.6	2.4	2.0	
34	Mukusi	11.2	11.0	5.0	3.5	3.6	0.4	3.0	1.0	
35	Mukusi	10.0	10.0	5.0	3.0	4.0	0.6	2.0	3.6	
36	Mukusi	8.8	12.0	5.0	4.0	2.0	2.0	1.6	2.0	
37	Mukusi	10.0	11.5	4.5	3.5	4.0	1.0	0.6	2.8	
38	Mukusi	23.8	13.0	6.0	5.0	3.5	3.5	3.0	4.0	
39	Muhoto	33.3	12.0	5.0	4.0	4.0	3.2	5.0	4.5	
40	Muhonono	(Dead)	18.0	7.0						
41	Mukusi	6.0	6.0	2.5	2.5	1.2	2.0	2.0	1.4	
42	Mukololo	6.0	4.0			2.0	0.6	0.5	2.0	form top 4m was broken off
43	Muhonono	(Dead)	8.6	6.5						
44	Mukusi	7.0	6.5	3.0	2.5	1.0	1.8	0.6	2.0	
45	Mukusi	(Dead)	6.0	4.5						
46	Mukusi	13.2	10.5	4.0	3.0	1.0	1.0	1.9	1.3	
47	Mukusi	7.4	6.5	4.0	2.0	1.5	3.0	2.0	0.8	
48	Mukusi	14.6	11.0	4.5	6.0	0.8	3.2	5.0	0.9	
49	Mukusi	7.0	6.5	3.0	2.5	2.0	1.2	2.0	0.8	
50	Mukusi	(Dead)	7.2	5.5						
51	Mukusi	9.8	9.0	4.0	3.0	0.3	4.0	3.0	1.0	
52	Mukusi	8.2	9.0	4.0	3.0	0.6	1.5	1.2	0.6	
53	Mukusi	6.6	6.0	2.5	2.0	1.0	1.0	0.4	0.5	
54	Mukusi	10.8	8.0	3.5	3.0	2.0	3.1	2.0	2.4	
55	Mukusi	6.4	5.5	2.0	2.0					2-1
56	Mukusi	8.0	7.0	3.0	2.5	1.7	3.0	3.0	3.2	2-2

App. Table 13 (2) No. 3 Permanent plot (Kalama forest) (No. 14 Belt-transect)

No.	Species	DBH	T.H	C.L	Cr.L	Cm	Cr1	Cr2	Crw	Remarks
57	Mukusi	25.5	13.0	6.0	5.5	-2.0	7.0	5.0	1.0	
58	Mukusi	28.0	14.0	7.5	5.5	0.5	3.0	3.0	3.6	
59	Muhonono	27.0	12.0	3.0	5.5	2.0	7.0	8.0	-1.5	
60	Muhonono	(Dead)	30.0	1.5						
61	Mukusi	33.2	14.5	7.0	6.0	2.5	3.0	4.0	6.0	
62	Mukusi	22.0	13.0	5.5	5.0	2.5		4.0	5.0	
63	Sibobo	7.8	3.0	1.0	1.5	0.6	0.6	0.6	1.2	
64	Mukusi	7.4	6.0	2.5	2.5	1.0	1.4	2.6	2.8	
65	Mukusi	6.0	5.0	2.5	2.0	2.0	2.0	1.6	2.0	
66	Mukusi	15.0	10.0	5.0	3.5	2.5	1.0	1.0	2.0	
67	Mukusi	24.4	12.0	6.0	4.0	1.0	3.0	5.5	6.0	
68	Mukusi	19.4	11.0	6.0	4.0	0.5	6.0	3.0	1.9	
69	Mukusi	12.4	8.5	4.0	3.0	2.5	2.0	1.4	2.6	
70	Mukusi	6.2	6.0	2.5	2.0	2.0		2.0	3.0	
71	Muhonono	(Dead)	37.5	6.0						
72	Mukusi	15.0	9.0	4.0	3.5	1.2	1.0	2.9	4.0	
73	Mukusi	29.2	13.0	6.0	5.0	2.0	3.0	5.0	2.0	
74	Mukusi	24.6	14.0	7.0	5.0	4.0	3.1	2.0	4.0	
75	Mukusi	9.8	9.0	4.0	3.0	3.0		2.0	5.0	
76	Mukusi	13.8	10.0	4.5	3.5	1.9	1.0	2.0	2.0	
77	Mukusi	15.8	12.0	6.0	4.0	2.0		2.0	1.5	
78	Mukusi	7.0	6.0	2.5	2.0		2.6	3.0	0.6	
79	Mukusi	20.4	12.0	5.0	4.0	3.2	3.0	4.0	2.4	
80	Mukusi	16.0	9.5	4.0	3.5	4.0	2.3	2.5	3.0	
81	Mukusi	16.2	9.0	5.0	3.5	2.5	2.4	3.0	2.6	2-1
82	Mukusi	9.4	7.0	3.0	2.5					2-2
83	Musilu	12.8	11.5	4.0	3.0	2.0	4.0	6.0	3.0	2-1
84	Musilu	10.0	10.0	4.0	3.0					2-2
85	Mukusi	7.6	5.0	1.5	2.0	1.0	0.9	0.6	2.0	
86	Mukusi	12.4	9.0	5.0	3.0	1.0	1.6	6.0	-1.5	
87	Mukusi	9.8	9.0	4.0	3.0	0.9	1.2	0.5	2.0	
88	Mukusi	15.2	11.5	5.5	4.0	4.0	2.5	3.5	0.5	
89	Mukusi	9.4	7.0	3.0	2.0	2.5	0.8	0.5	2.5	
90	Mukusi	22.0	10.0	6.0	4.0	2.0	3.0	4.5	3.0	
91	Mukusi	6.4	7.0	3.0	2.5	1.0	0.9	1.6	1.0	
92	Mukusi	12.8	11.5	6.0	4.0	2.0	0.4	2.0	1.0	
93	Mukusi	8.8	7.0	2.5	2.5	3.4	0.5	1.0	1.9	
94	Muhonono	18.0	9.0	5.0	3.0	1.0	1.1	3.0	2.5	
95	Mukusi	6.0	6.0	3.0	2.0	1.2	1.2	0.8	1.0	
96	Mukusi	20.0	12.0	5.0	5.0	2.0	3.0	4.0	2.9	
97	Mukusi	12.4	9.0	4.0	2.5	1.5	1.2	2.2	2.0	
98	Mukusi	(Dead)	8.0	3.5						
99	Mukusi	24.0	12.0	6.0	4.5	2.0	2.6	6.0	2.0	
100	Sibobo	11.2	5.0	1.5	2.0	2.5	2.0	2.6	2.2	
101	Mukusi	14.8	11.0	3.5	2.5	0.4	0.8	1.0	0.6	
102	Mukusi	19.4	13.0	5.0	6.0	1.5	1.5	2.0	3.0	
103	Mukusi	22.4	15.0	6.0	7.0	2.0	2.0	3.0	3.0	
104	Isunde	6.0	4.0	1.5	2.0	2.0	1.5	1.0	1.6	
105	Mukusi	9.0	8.0	4.0	2.5	4.0	2.0	0.9	1.0	
106	Mukusi	7.0	6.0	2.5	2.5	1.5	1.0	1.5	1.5	
107	Mukusi	(Dead)	8.0	8.5						
108	Mukusi	15.4	10.0	5.0	3.0	1.2	2.5	2.0	3.0	
109	Mukusi	7.1	7.0	3.0	2.5	0.9	0.6	3.0	0.5	
110	Mukusi	22.6	13.0	4.0	5.0	2.0	0.9	3.0	4.0	
111	Mukusi	21.6	12.0	5.0	5.0	3.0	1.0	3.0	2.0	
112	Mukusi	8.0	7.0	4.0	2.0	0.9	3.0	3.0	0.5	

App. Table 13 (3) No. 3 Permanent plot (Kalama forest) (No. 14 Belt-transect)

No.	Species	DBH	T.H	C.L	Cr.L	Crw	CrS	Cre	Crw	Remarks
113	Mukusi	22.2	12.0	6.0	4.0	1.0	2.0	4.0	0.6	
114	Mukusi	6.0	4.0	2.0	1.0	1.0	1.0	1.0	1.0	
115	Mukololo	15.0	10.0	4.0	4.0	2.0	2.0	3.0	3.4	

Species	Height m	DBH cm	Crown diameter m	Number
Mukusi	5-15	6-33	1.5-8	92
Muhonono	7-12	9-38	3.5-7.5	9
Mukena	6-8	7-10	4-5.5	4
Muhoto	8-12	10-33	2-8	3
Mukololo	4-10	6-15	3-5	2
Sibobo	3-5	8-11	1.5-4.5	2
Musilu	10-11	10-13	7.5	2
Isunde	4	6	3.5	1
Total				115

App. Table 14 No. 4 Permanent plot (Samatela woodland) (No. 7 Belt-transect)

No.	Species	DBH	TH	CL	CrL	Crn	CrS	Cre	Crw	Remarks
1	Mukusi	47.5	13.0	7.0	5.0	5.5	3.5	2.0	3.0	
2	Mukenge	8.0	5.0	2.0	3.0	2.0	2.5	2.0	2.0	
3	Mulya	8.0	4.0	1.0	2.0	1.0	1.5	0.5	2.5	
4	Mukusi	23.0	12.0	4.0	6.0	3.0	4.5	4.0	4.0	4-1
5	Mukusi	20.0	12.0	4.0	6.0					4-2
6	Mukusi	14.0	10.0	3.0	4.0					4-3
7	Mukusi	10.5	5.0	2.0	3.0					4-4
8	Mububu	7.0	5.0	2.0	2.0	1.5	1.0	2.0	1.5	
9	Mukwa	20.5	10.0	4.0	4.0	2.0	6.0		4.0	
10	Mukwa	7.0	5.0	3.0	2.0	0.5	2.0		2.0	
11	Mukwa	20.0	10.0	4.0	3.0	2.3	1.5		4.0	
12	Mukwa	43.0	13.0	6.0	5.0	6.5	7.0	6.5	6.0	
13	Muhamani	18.0	9.5	4.0	3.0	4.5		3.0	1.5	
14	Mulya	21.0	8.0	3.0	3.0	0.5	6.0	4.0	1.0	
15	Mupumangoma	6.0	6.0	3.0	2.5					3-1
16	Mupumangoma	7.0	7.0	3.0	2.5	2.5	1.5	2.0	2.0	3-2
17	Mupumangoma	7.0	7.0	3.0	2.5					3-3
18	Mukwa	28.0	11.0	5.0	5.0	2.5	3.5	2.5	4.0	
19	Mukwa	25.0	10.0	6.0	3.5	3.5	2.5	2.5	3.0	
20	Mukwa	8.0	6.0	2.0	2.0	0.5	0.5	0.5	0.5	
21	Mukwa	13.5	10.0	5.0	3.0	2.5	2.0	2.0	1.0	
22	Mukwa	16.0	5.0	3.0	2.5					2-1
23	Mukwa	21.0	6.0	3.0	3.0	3.0	6.0	6.0	4.0	2-2

Species	Height m	DBH cm	Crown diameter m	Number
Mukusi	5-13	10-47	7.5	5
Mukwa	5-13	7-43	1.5-1.3	10
Mupumangoma	6-7	6-7	4	3
Mulya	4-8	8-21	3-6.5	2
Mukenge	5	8	4.5	1
Mububu	5	7	2.5	1
Muhamani	9	18	4.5	1
Total				23

App. Table 15 Number of trees according to species

Lozi name	Botanical name	UG	TC	Mutemwa	Alive trees	Dead trees	Total
Isunde	<i>Baphia massalensis ssp. obovata</i>	O	S	++	252	13	265
Kabumbumutemwa							
Katemabakulu	<i>Boscia albitrunca M. angolensis</i>	O	T	+	14	1	15
Kangolo	<i>Combretum celastoides</i>		T	++	173	37	210
Kapapati	<i>Cassia abbreviata</i>				2		2
Mpolota	<i>Kigelia africana</i>					1	1
Mubako	<i>Erythrophloeum africanum</i>	V	T		11	1	12
Mubilo	<i>Canthium burtil</i>		S		2	1	3
Mububu	<i>Combretum hereroense</i>		S		84	9	93
Mubwabiwa	<i>Commiphora africana</i>		T		8		8
Muchinga	<i>Popovata obovata</i>	O	S	+	4		4
Mufula	<i>Combretum molle</i>		T		5		5
Muhamani	<i>Dialium englerianum</i>				5		5
Muhonono	<i>Terminalia sericea stuhlmanii</i>	GP	T		45	35	80
Muhoto	<i>Acacia giraffae</i>	GP	T		29	12	41
Mujongolo	<i>Diospyros batocana</i>	SP	T		2		2
Mukena	<i>Croton grotissimus / pseudopulchellus</i>	SF/SP	T	+	26	4	30
Mukenge	<i>Combretum zeyheri</i>		T		2		2
Muketu	<i>Steganoaemia araliacea</i>		T		2		2
Mukololo	<i>Lonchocarpus copassa nelsii</i>	GP	T	++	138	5	143
Mukona	<i>Acacia nilotica</i>	O	T	+	1	1	2
Mukotokoto	<i>Acacia erubescens galpinii etc</i>	GP	T		2		2
Mukumati	<i>Rhus tenuervis</i>		S	+	1		1
Mukupukupu	<i>Markhamia obtusifolia</i>	O	T	+	1		1
Mukusi	<i>Baikiaea plurijuga</i>	V	T		1,763	128	1,891
Mukusikanda							
Mupumangoma	<i>Albizia versicolor</i>	V	T		4		4
Mukwa	<i>Pterocarpus angolensis</i>	V	T		13	1	14
Mulalabainga	<i>Combretum elaeagnoides</i>		T	+	38	7	45
Mulombelombe	<i>Strychnos potatorum</i>		T	+	86		86
Mulula	<i>Sclerocarya caffra</i>	GP/SF/SP			3		3
Mululu	<i>Entandrophragma **</i>	V	T			1	1
Mulya	<i>Diplorhynchus condylocarpon</i>	O	T		14		14
Mulyanzove	<i>Dalbergia martinii</i>		S	++	14	3	17
Nankala							
Munana	<i>Acacia ataxacantha</i>	O	S/C	+	65	29	94
Mungomba	<i>Ximelia americana</i>		T	+	3		3
Mungongo	<i>Ricinodendron rautanenii</i>	SF/SP	T		13		13
Mupanda	<i>Lonchocarpus copassa</i>	GP	T		1		1
Mupondopondo	<i>Bauhinia spp.</i>	O	S	+	3		3
Mupumena	<i>Entandrophragma caudatum</i>	V	T		3		3
Muselesele							
Musheleshele	<i>Dichrostachys cinerea</i>		S	+	28	4	32
Musheshe					8	2	10
Musitu	<i>Cyathea dregel</i>				5	2	7
Mutuya	<i>Brachystegia spiciformis</i>	GP	T		8		8
Muwawa	<i>Strychnos pungens</i>				1		1
Muzauli	<i>Guidouritia coleosperma</i>	V	T		34	1	35
Mwalachi	<i>Markhamia acuminata</i>	O	T	+	26	3	29
Mwangula	<i>Pterocarpus antunesii</i>	SP/GP	T		730	57	787
Nwani	<i>Fagara trijuga</i>	GP	T	+	6		6
Nzani	<i>Citropisis dawsona</i>		S	+	4		4
Sibobo	<i>Cyelantheropsis parviflora</i>		C	+	10		10
Tundwanga					1		1
Ukaue				+	1		1
Total					3,694	361	4,055
56 species	53 species						

*UG
V: Valuable Timber / GP: General Purpose Timber
SF: Soft Timber / SP: Special Woods / O: Others
by SDFMB App. 16 key to Utilization guide

*TC: Symbols from "A CHECK LIST OF PLANTS NAME IN LOZI LANGUAGES"
C: Climbers / S: Shrubs / SL: Succulents / T: Tree
* Mutemwa: ++: typical Mutemwa species
/+: slightly typical Mutemwa species

App. Table 16

Number of trees according to species, stratum, and dead/live (plot in forest)

Tree name	Dead High	Dead Middle	Dead Low	Dead Total
Unknowns			3	3
Isunde			13	13
Kabumbumtemwa			1	1
Kangolo			37	37
Mpolota			1	1
Mubilo			1	1
Mububu			8	8
Muhonono	1	11	23	35
Muhoto	2	1	9	12
Mukena			4	4
Mukololo			1	4
Mukona			1	1
Mukusi	2	12	114	128
Mulalabainga			7	7
Muhulu			1	1
Mulyanzove			3	3
Munana			7	7
Muselesele			3	3
Musheleshele			1	1
Musilu			2	2
Mwafachi			3	3
Mwangula	1	6	50	57
Nankala			22	22
Dead Tree Total	6	31	318	355
23 species				

Tree name	Alive High	Alive Middle	Alive Low	Alive Total
Isunde		8	242	250
Kabumbumtemwa		1	11	12
Kangolo	1	9	163	173
Katemabakulu			2	2
Mubako		1	1	2
Mubilo			2	2
Mububu	2	15	53	70
Mubwabwa		2	6	8
Muchinga			4	4
Mufula		1	1	2
Muhonono	18	21	6	45
Muhoto	16	11	2	29
Mukena	2	10	14	26
Muketu	1		1	2
Mukololo	16	43	74	133
Mukona		1		1
Mukotokoto	2			2
Mukumati			1	1
Mukupukupu			1	1
Mukusi	801	623	318	1,742
Mukusikanda			1	1
Mukwa		1		1
Mulalabainga		1	37	38
Mulombelombe	7	53	26	86
Mulula	1	1		2
Mulya			1	1
Mulyanzove			14	14
Munana		8	16	24
Mungomba			3	3
Mungongo	4			4
Mupanda		1		1
Mupondopondo			3	3
Mupumena	2		1	3
Muselesele			16	16
Musheleshele			12	12
Musilu		4	1	5
Muzauli	2	5		7
Mwafachi		3	23	26
Mwangula	192	302	236	730
Nankala		5	36	41
Nwani			6	6
Nzani			4	4
Sibobo		1	9	10
Alive Tree Total	1,067	1,131	1,347	3,545
43 species				

App. Table 18 (1) Standing tree volume table for Mukusi

$$v = f \pi (D/200)^2 H$$

$$= \pi (D/200)^2 H \cdot [0.53 + 0.1 \sin(66(D-9)^{0.37} - 90)]$$

v : Stem Volume of Forest Tree (Mukusi) (m³)
 H : Height of Tree (m), D : DBH (cm)

DBH f	HEIGHT OF TREE (m)																		
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
5 0.430	.003	.004	.005	.006															
6 .430	.005	.006	.007	.009	.010														
7 .430	.007	.008	.010	.012	.013	.015													
8 .430		.011	.013	.015	.017	.019	.022	.024											
9 .430		.014	.016	.019	.022	.025	.027	.030	.033										
10 .489		.019	.023	.027	.031	.035	.038	.042	.046	.050									
11 0.522		.025	.030	.035	.040	.045	.050	.055	.060	.064	.069								
12 .546		.037	.043	.049	.056	.062	.068	.074	.080	.086	.093								
13 .565		.045	.052	.060	.067	.075	.082	.090	.097	.105	.112	.120							
14 .580		.061	.062	.071	.080	.089	.098	.107	.116	.125	.134	.143							
15 .591		.063	.073	.084	.091	.104	.115	.125	.136	.146	.157	.167	.178						
16 .601		.073	.085	.097	.109	.121	.133	.145	.157	.169	.181	.193	.205						
17 .609		.083	.097	.111	.124	.138	.152	.166	.180	.194	.207	.221	.235						
18 .616		.094	.110	.125	.141	.157	.172	.188	.201	.219	.235	.251	.266	.282					
19 .619		.105	.123	.140	.158	.176	.193	.211	.228	.246	.263	.281	.298	.315					
20 .624		.118	.137	.157	.176	.196	.216	.235	.254	.274	.291	.314	.333	.353					
						10						15							
21 0.627			.152	.174	.195	.217	.239	.261	.282	.304	.326	.347	.369	.391	.413				
22 .629			.167	.191	.215	.239	.263	.287	.311	.335	.359	.383	.406	.430	.454				
23 .630			.183	.209	.236	.262	.288	.314	.340	.366	.393	.419	.445	.471	.497				
24 .630			.200	.228	.257	.285	.314	.342	.371	.399	.428	.456	.485	.513	.542				
25 .630			.216	.247	.278	.309	.340	.371	.402	.433	.464	.495	.526	.557	.588				
26 .529			.234	.267	.301	.334	.367	.401	.434	.468	.501	.534	.568	.601	.635				
27 .628			.252	.288	.324	.360	.396	.431	.467	.503	.539	.575	.611	.647	.683				
28 .626			.270	.308	.347	.385	.424	.463	.501	.540	.578	.617	.655	.694	.732				
29 .624			.289	.330	.371	.412	.453	.495	.536	.577	.618	.659	.701	.742	.783				
30 .622			.308	.352	.396	.440	.484	.528	.571	.616	.659	.703	.747	.791	.835				

App. Table 18 (2) Standing tree volume table for Mukusi

	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
31	0.619	.374	.420	.467	.514	.561	.607	.654	.701	.748	.794	.841	.888	.934		
32	.616	.396	.446	.496	.545	.594	.644	.694	.743	.793	.842	.892	.941	.991		
33	.613	.419	.472	.524	.577	.629	.682	.734	.786	.839	.891	.944	.996	1.049		
34	.610	.443	.498	.554	.609	.665	.720	.775	.831	.886	.942	.997	1.052	1.108		
35	.607	.467	.526	.584	.642	.701	.759	.818	.876	.934	.993	1.051	1.110	1.168		
36	.603	.491	.552	.614	.675	.737	.798	.859	.921	.982	1.043	1.105	1.166	1.228		
37	.599	.515	.580	.644	.708	.773	.837	.902	.966	1.030	1.095	1.159	1.224	1.288		
38	.595	.540	.607	.675	.742	.810	.877	.945	1.012	1.080	1.147	1.215	1.282	1.350		
39	.592	.566	.636	.707	.778	.849	.919	.990	1.061	1.132	1.202	1.273	1.344	1.414		
40	.587	.590	.664	.738	.811	.885	.959	1.032	1.106	1.180	1.254	1.328	1.402	1.475		
			10					15					20			
41	0.584	.694	.771	.848	.925	1.002	1.079	1.157	1.234	1.311	1.388	1.465	1.542	1.619		
42	.579	.722	.802	.882	.963	1.043	1.123	1.203	1.283	1.364	1.444	1.524	1.604	1.685		
43	.575	.752	.835	.919	1.002	1.086	1.169	1.253	1.336	1.420	1.503	1.587	1.670	1.754		
44	.571	.781	.868	.955	1.042	1.129	1.216	1.302	1.389	1.476	1.563	1.650	1.736	1.823		
45	.567	.811	.902	.992	1.082	1.172	1.262	1.353	1.443	1.533	1.623	1.713	1.804	1.894		
46	.562	.841	.934	1.027	1.121	1.214	1.308	1.401	1.494	1.588	1.681	1.775	1.868	1.961		
47	.558	.871	.968	1.065	1.162	1.259	1.355	1.452	1.549	1.646	1.743	1.839	1.936	2.033		
48	.554	.902	1.002	1.103	1.203	1.303	1.403	1.504	1.604	1.704	1.804	1.905	2.005	2.105		
49	.550	.933	1.037	1.141	1.245	1.348	1.452	1.556	1.659	1.763	1.867	1.971	2.074	2.178		
50	.546	.965	1.072	1.179	1.286	1.394	1.501	1.608	1.715	1.823	1.930	2.037	2.144	2.251		
			10					15					20			
51	0.542	1.107	1.218	1.329	1.439	1.550	1.661	1.772	1.882	1.993	2.104	2.214	2.325	2.436		
52	.538	1.143	1.257	1.371	1.485	1.600	1.714	1.828	1.942	2.057	2.171	2.285	2.399	2.514		
53	.531	1.178	1.296	1.414	1.532	1.649	1.767	1.885	2.003	2.121	2.238	2.356	2.474	2.592		
54	.530	1.214	1.335	1.457	1.578	1.699	1.821	1.942	2.063	2.183	2.305	2.428	2.549	2.670		
55	.526	1.250	1.275	1.500	1.625	1.750	1.875	1.999	2.124	2.249	2.374	2.499	2.624	2.749		
56	.522	1.286	1.414	1.543	1.671	1.800	1.929	2.057	2.186	2.314	2.443	2.571	2.700	2.829		
57	.518	1.322	1.454	1.586	1.718	1.851	1.983	2.115	2.247	2.379	2.511	2.644	2.776	2.908		
58	.515	1.361	1.497	1.633	1.769	1.905	2.041	2.177	2.313	2.449	2.585	2.721	2.857	2.993		
59	.512	1.400	1.540	1.680	1.820	1.960	2.100	2.240	2.380	2.520	2.660	2.800	2.940	3.080		
60	.508	1.436	1.380	1.724	1.867	2.011	2.155	2.298	2.442	2.585	2.729	2.873	3.016	3.160		
61	0.505	1.476	1.623	1.771	1.919	2.066	2.213	2.361	2.509	2.656	2.804	2.952	3.099	3.247	3.395	
62	.501	1.513	1.663	1.815	1.966	2.118	2.269	2.420	2.571	2.722	2.874	3.025	3.176	3.328	3.480	
63	.498	1.552	1.708	1.863	2.018	2.173	2.329	2.484	2.639	2.794	2.950	3.105	3.260	3.415	3.570	
64	.495	1.592	1.752	1.911	2.070	2.229	2.389	2.548	2.707	2.866	3.026	3.185	3.344	3.503	3.662	
65	.491	1.629	1.792	1.955	2.118	2.281	2.444	2.607	2.770	2.933	3.096	3.259	3.422	3.584	3.747	
66	.488	1.670	1.836	2.003	2.170	2.337	2.504	2.671	2.838	3.005	3.172	3.339	3.506	3.673	3.841	
67	.485	1.709	1.881	2.061	2.222	2.394	2.565	2.736	2.906	3.078	3.249	3.420	3.591	3.762	3.931	
68	.482	1.750	1.926	2.101	2.276	2.451	2.626	2.801	2.976	3.150	3.326	3.501	3.676	3.851	4.025	
69	.479	1.791	1.970	2.149	2.328	2.508	2.687	2.866	3.045	3.224	3.403	3.582	3.761	3.940	4.119	
70	.477	1.836	2.019	2.203	2.386	2.570	2.754	2.937	3.121	3.304	3.488	3.671	3.855	4.039	4.223	

App. Table 18 (3) Standing tree volume table for Mukusi

DBH	f	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
71	0.474	1.877	2.064	2.252	2.440	2.627	2.815	3.003	3.190	3.378	3.566	3.753	3.941	4.129	4.316	4.504	
72	.472	1.922	2.114	2.306	2.498	2.690	2.883	3.075	3.267	3.459	3.651	3.843	4.036	4.228	4.420	4.612	
73	.469	1.963	2.159	2.356	2.552	2.748	2.941	3.141	3.337	3.533	3.730	3.926	4.122	4.318	4.515	4.711	
74	.467	2.008	2.209	2.410	2.611	2.812	3.013	3.214	3.414	3.615	3.816	4.017	4.218	4.419	4.620	4.820	
75	.464	2.050	2.255	2.460	2.665	2.870	3.075	3.280	3.485	3.690	3.895	4.100	4.305	4.510	4.715	4.920	
76	.462	2.096	2.305	2.515	2.725	2.934	3.141	3.353	3.563	3.773	3.982	4.192	4.401	4.611	4.820	5.030	
77	.460	2.142	2.356	2.570	2.785	2.999	3.213	3.427	3.641	3.856	4.070	4.284	4.498	4.713	4.927	5.141	
78	.458	2.189	2.407	2.626	2.845	3.061	3.283	3.502	3.720	3.939	4.158	4.377	4.596	4.815	5.034	5.252	
79	.456	2.235	2.459	2.682	2.905	3.129	3.353	3.576	3.800	4.023	4.247	4.470	4.694	4.917	5.141	5.364	
80	.454	2.282	2.510	2.739	2.967	3.195	3.423	3.651	3.880	4.108	4.336	4.564	4.792	5.021	5.249	5.477	
81	.452	2.329	2.562	2.795	3.028	3.261	3.491	3.727	3.960	4.193	4.425	4.658	4.891	5.124	5.357	5.590	5.823
82	.448	2.366	2.602	2.839	3.076	3.312	3.549	3.785	4.022	4.259	4.496	4.732	4.968	5.205	5.442	5.678	5.915
83	.449	2.429	2.672	2.915	3.158	3.401	3.641	3.888	4.130	4.373	4.616	4.859	5.102	5.345	5.588	5.831	6.074
84	.447	2.477	2.725	2.973	3.220	3.468	3.716	3.963	4.211	4.459	4.707	4.951	5.202	5.450	5.698	5.945	6.193
85	.445	2.525	2.777	3.030	3.283	3.535	3.788	4.040	4.293	4.545	4.798	5.050	5.303	5.555	5.808	6.060	6.313
86	.444	2.579	2.837	3.095	3.353	3.611	3.869	4.127	4.381	4.633	4.890	5.158	5.416	5.671	5.932	6.190	6.448
87	.443	2.634	2.897	3.160	3.421	3.687	3.950	4.214	4.477	4.740	5.001	5.267	5.530	5.793	6.057	6.320	6.581
88	.441	2.682	2.950	3.219	3.487	3.755	4.023	4.292	4.560	4.828	5.096	5.364	5.633	5.901	6.169	6.437	6.706
89	.440	2.737	3.011	3.285	3.558	3.832	4.106	4.380	4.653	4.927	5.201	5.475	5.748	6.022	6.296	6.570	6.843
90	.439	2.793	3.072	3.351	3.631	3.910	4.189	4.468	4.748	5.027	5.306	5.586	5.865	6.144	6.423	6.703	6.982
		10				15				20							
91	0.438	2.819	3.131	3.418	3.704	3.988	4.274	4.558	4.843	5.128	5.413	5.698	5.983	6.268	6.553	6.838	7.123
92	.437	2.905	3.196	3.486	3.777	4.067	4.358	4.648	4.939	5.229	5.520	5.810	6.101	6.391	6.682	6.972	7.263
93	.436	2.962	3.258	3.554	3.850	4.146	4.443	4.739	5.035	5.331	5.627	5.923	6.220	6.516	6.812	7.108	7.404
94	.435	3.019	3.321	3.622	3.924	4.226	4.528	4.830	5.132	5.434	5.736	6.038	6.339	6.641	6.943	7.245	7.547
95	.434	3.076	3.381	3.692	3.999	4.307	4.614	4.922	5.230	5.537	5.845	6.153	6.460	6.768	7.075	7.383	7.691
96	.434	3.141	3.456	3.770	4.081	4.398	4.713	5.026	5.340	5.655	5.969	6.283	6.597	6.911	7.225	7.539	7.853
97	.433	3.200	3.520	3.840	4.160	4.480	4.800	5.120	5.440	5.760	6.080	6.400	6.720	7.040	7.360	7.680	8.000
98	.433	3.266	3.593	3.919	4.246	4.573	4.899	5.225	5.552	5.879	6.206	6.532	6.859	7.185	7.512	7.839	8.165
99	.432	3.325	3.658	3.990	4.323	4.656	4.988	5.321	5.653	5.986	6.318	6.651	6.983	7.316	7.648	7.981	8.314
100	.431	3.385	3.721	4.062	4.401	4.739	5.078	5.416	5.755	6.093	6.432	6.770	7.109	7.447	7.786	8.124	8.463
						15				20							
102	.431	3.522	3.874	4.226	4.578	4.930	5.283	5.635	5.987	6.339	6.691	7.041	7.396	7.748	8.100	8.452	8.805
101	.430	3.653	4.018	4.383	4.749	5.111	5.479	5.841	6.210	6.575	6.940	7.306	7.671	8.036	8.401	8.767	9.132
106	.430	3.795	4.171	4.551	4.933	5.312	5.692	6.071	6.451	6.830	7.210	7.589	7.969	8.348	8.728	9.107	9.487
108	.430	3.939	4.333	4.727	5.121	5.515	5.909	6.303	6.697	7.091	7.481	7.878	8.272	8.666	9.060	9.451	9.848
110	.430	4.086	4.495	4.901	5.312	5.721	6.130	6.538	6.947	7.356	7.761	8.173	8.581	8.990	9.399	9.807	10.216
112	.430	4.237	4.660	5.081	5.507	5.931	6.355	6.778	7.202	7.625	8.049	8.473	8.896	9.320	9.741	10.167	10.591
114	.430	4.389	4.828	5.267	5.706	6.145	6.584	7.022	7.461	7.900	8.339	8.778	9.217	9.655	10.095	10.531	10.973
116	.430	4.541	4.999	5.453	5.908	6.362	6.817	7.271	7.725	8.180	8.634	9.089	9.543	9.998	10.452	10.907	11.361
118	.430	4.702	5.173	5.643	6.113	6.583	7.051	7.524	7.991	8.461	8.935	9.405	9.875	10.345	10.816	11.286	11.756
120	.430	4.863	5.350	5.836	6.322	6.808	7.295	7.781	8.267	8.751	9.240	9.726	10.213	10.699	11.185	11.672	12.158

App. Table 19 (1) Standing tree volume table for Mukwa

$$v = f \times (D/200)^2 H$$

$$f = 0.55 + 0.1 \sin \{ 14.4 (D-10)^{0.7-90} \}$$

v : Stem Volume of Forest Tree (Mkwa) (m³) (except bark)

H : Height of Tree (m), D : DBH (cm)

DBH cm	f	Height of Tree (m)																	
		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
5	0.450	.004	.005	.006	.007	.008	.009												
6	.450	.005	.008	.009	.010	.011	.013												
7	.450	.009	.010	.012	.014	.016	.017	.019											
8	.450	.011	.014	.016	.018	.020	.023	.025											
9	.450	.014	.017	.020	.023	.026	.029	.031	.034										
10	.450	.018	.022	.025	.028	.032	.035	.039	.042										
11	.453	.022	.026	.030	.034	.039	.043	.047	.052	.056									
12	.458	.026	.031	.036	.041	.047	.052	.057	.062	.067									
13	.467	.031	.037	.043	.049	.055	.062	.068	.074	.080	.086								
14	.471	.036	.044	.051	.058	.065	.073	.080	.087	.094	.102								
15	.479	.042	.051	.059	.068	.076	.085	.093	.102	.110	.119	.127							
16	.486	.050	.060	.068	.078	.088	.098	.107	.117	.127	.137	.147							
17	.494	.067	.078	.090	.101	.112	.123	.135	.146	.157	.168	.179							
18	.503	.077	.090	.102	.115	.128	.141	.154	.166	.179	.192	.205							
19	.511	.087	.101	.116	.130	.145	.159	.174	.188	.203	.217	.232	.246						
20	.519	.098	.114	.130	.147	.163	.179	.196	.212	.228	.245	.261	.277						
21	.528	.110	.128	.146	.165	.183	.201	.219	.238	.256	.274	.293	.311	.329					
22	.536	.122	.143	.163	.183	.204	.224	.245	.266	.285	.306	.326	.346	.367					
23	.544	.136	.158	.181	.203	.226	.249	.271	.294	.316	.339	.362	.384	.407	.429				
24	.552	.150	.175	.200	.225	.250	.275	.300	.325	.350	.375	.400	.425	.449	.474				
25	.560	.165	.192	.220	.247	.275	.302	.330	.357	.385	.412	.440	.467	.495	.522	.550			
26	.568	.181	.211	.241	.271	.302	.332	.362	.392	.422	.452	.483	.513	.543	.573	.603			
27	.575	.198	.230	.263	.296	.329	.362	.395	.428	.461	.494	.527	.560	.593	.626	.658			
28	.582	.216	.251	.287	.323	.358	.394	.430	.465	.502	.538	.573	.609	.645	.681	.717			
29	.589	.235	.272	.311	.350	.389	.428	.467	.506	.545	.584	.622	.661	.700	.739	.778			
30	.596	.255	.295	.337	.379	.421	.463	.506	.548	.590	.632	.674	.716	.758	.800	.843			

App. Table 19 (2) Standing tree volume table for Mukwa

	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
31	.602	.363	.409	.451	.500	.515	.591	.636	.682	.727	.772	.818	.863	.909	.951		
32	.608	.391	.410	.489	.538	.587	.636	.685	.733	.782	.831	.880	.929	.978	1.027		
33	.613	.419	.472	.524	.577	.629	.682	.734	.786	.839	.891	.944	.996	1.049	1.101		
34	.618	.419	.595	.561	.617	.673	.729	.785	.842	.898	.954	1.010	1.066	1.122	1.178		
35	.623	.480	.539	.599	.659	.719	.779	.839	.899	.959	1.019	1.079	1.139	1.199	1.259		
36	.628	.511	.575	.639	.703	.767	.831	.895	.959	1.023	1.087	1.151	1.215	1.278	1.342	1.406	
37	.632	.511	.612	.690	.747	.815	.883	.951	1.019	1.087	1.155	1.223	1.291	1.359	1.427	1.495	
38	.635	.576	.618	.720	.792	.864	.936	1.008	1.080	1.152	1.224	1.296	1.368	1.440	1.512	1.584	
39	.638	.610	.686	.762	.838	.915	.991	1.067	1.143	1.219	1.296	1.372	1.448	1.524	1.601	1.677	
40	.641	.644	.725	.806	.886	.967	1.047	1.128	1.208	1.289	1.369	1.450	1.530	1.611	1.692	1.772	
41	.639	.680	.765	.850	.935	1.020	1.105	1.190	1.275	1.360	1.445	1.530	1.616	1.700	1.785	1.871	1.956
42	.642	.716	.805	.895	.981	1.074	1.163	1.253	1.342	1.432	1.521	1.611	1.700	1.790	1.879	1.969	2.058
43	.645	.752	.846	.940	1.034	1.127	1.221	1.315	1.409	1.503	1.597	1.691	1.785	1.879	1.973	2.067	2.161
44	.648	.788	.887	.985	1.081	1.182	1.281	1.379	1.478	1.576	1.675	1.774	1.872	1.971	2.069	2.168	2.266
45	.649	.826	.929	1.032	1.135	1.239	1.342	1.445	1.548	1.652	1.755	1.858	1.961	2.064	2.168	2.271	2.374
46	.650	.864	.972	1.080	1.188	1.296	1.404	1.512	1.620	1.728	1.836	1.944	2.052	2.160	2.268	2.377	2.485
47	.650	.902	1.015	1.128	1.240	1.353	1.465	1.579	1.692	1.804	1.917	2.030	2.143	2.255	2.368	2.481	2.594
48	.650	.941	1.059	1.176	1.291	1.411	1.529	1.647	1.764	1.882	2.000	2.117	2.235	2.352	2.470	2.588	2.705
49	.649	.979	1.101	1.224	1.346	1.469	1.591	1.713	1.836	1.958	2.081	2.203	2.325	2.448	2.570	2.692	2.815
50	.648	1.018	1.145	1.272	1.400	1.527	1.654	1.781	1.909	2.036	2.163	2.290	2.417	2.545	2.672	2.799	2.926
			10					15					20				
51	.647		1.190	1.322	1.454	1.586	1.718	1.850	1.983	2.115	2.247	2.379	2.511	2.643	2.776	2.908	3.040
52	.645		1.235	1.372	1.509	1.646	1.783	1.921	2.058	2.195	2.332	2.469	2.607	2.744	2.881	3.018	3.155
53	.643		1.279	1.423	1.563	1.706	1.847	1.989	2.131	2.273	2.415	2.557	2.699	2.842	2.984	3.126	3.268
54	.641		1.323	1.470	1.617	1.761	1.911	2.058	2.205	2.353	2.500	2.647	2.794	2.941	3.089	3.236	3.382
55	.639		1.366	1.518	1.670	1.822	1.974	2.125	2.277	2.429	2.581	2.733	2.884	3.036	3.188	3.340	3.492
56	.636		1.412	1.569	1.726	1.883	2.040	2.197	2.353	2.510	2.667	2.824	2.981	3.138	3.295	3.452	3.609
57	.631		1.456	1.618	1.780	1.941	2.103	2.265	2.427	2.589	2.750	2.912	3.074	3.236	3.397	3.559	3.721
58	.631		1.500	1.667	1.834	2.001	2.167	2.334	2.501	2.667	2.834	3.001	3.168	3.334	3.501	3.668	3.834
59	.628		1.543	1.714	1.886	2.067	2.228	2.400	2.571	2.743	2.914	3.086	3.257	3.428	3.600	3.771	3.943
60	.624		1.588	1.761	1.941	2.117	2.294	2.470	2.646	2.823	2.999	3.176	3.352	3.529	3.705	3.882	4.058
61	.620		1.631	1.812	1.993	2.174	2.356	2.537	2.718	2.899	3.080	3.261	3.443	3.624	3.805	3.986	4.167
62	.616		1.674	1.860	2.046	2.232	2.418	2.604	2.790	2.976	3.162	3.348	3.534	3.719	3.905	4.091	4.277
63	.612		1.717	1.908	2.099	2.289	2.480	2.671	2.862	3.052	3.243	3.434	3.625	3.816	4.006	4.197	4.388
64	.618		1.757	1.953	2.148	2.343	2.539	2.734	2.929	3.124	3.320	3.515	3.710	3.905	4.101	4.296	4.491
65	.603		1.801	2.001	2.201	2.401	2.601	2.801	3.001	3.202	3.402	3.602	3.802	4.002	4.202	4.402	4.602
66	.598		1.841	2.046	2.250	2.455	2.660	2.864	3.069	3.273	3.478	3.683	3.887	4.092	4.296	4.501	4.706
67	.591		1.885	2.094	2.304	2.513	2.723	2.932	3.141	3.351	3.560	3.770	3.979	4.188	4.398	4.607	4.817
68	.589		1.925	2.139	2.353	2.567	2.781	2.995	3.209	3.422	3.636	3.850	4.064	4.278	4.492	4.706	4.920
69	.581		1.965	2.184	2.402	2.620	2.839	3.057	3.276	3.494	3.712	3.931	4.149	4.367	4.586	4.804	5.023
70	.579		2.006	2.228	2.451	2.674	2.897	3.120	3.342	3.565	3.788	4.011	4.234	4.457	4.679	4.902	5.125

App. Table 19 (3) Standing tree volume table for Mukwa

	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
71	.574	2.273	2.500	2.727	2.954	3.182	3.409	3.636	3.863	4.091	4.318	4.545	4.772	5.000	5.227	5.454
72	.569	2.317	2.548	2.780	3.012	3.243	3.475	3.707	3.938	4.170	4.402	4.633	4.865	5.097	5.328	5.560
73	.564	2.361	2.597	2.833	3.069	3.305	3.541	3.777	4.013	4.249	4.485	4.721	4.957	5.193	5.429	5.665
74	.569	2.404	2.645	2.885	3.125	3.366	3.606	3.847	4.087	4.328	4.568	4.808	5.049	5.289	5.530	5.770
75	.554	2.447	2.692	2.937	3.182	3.426	3.671	3.916	4.161	4.405	4.650	4.895	5.140	5.381	5.629	5.874
76	.549	2.491	2.740	2.989	3.238	3.487	3.736	3.985	4.234	4.483	4.732	4.981	5.230	5.479	5.728	5.977
77	.544	2.533	2.787	3.040	3.293	3.546	3.800	4.053	4.306	4.560	4.813	5.066	5.320	5.573	5.826	6.080
78	.539	2.576	2.833	3.091	3.348	3.606	3.863	4.121	4.378	4.636	4.891	5.151	5.409	5.666	5.924	6.181
79	.534	2.617	2.879	3.141	3.403	3.664	3.926	4.188	4.450	4.711	4.973	5.235	5.497	5.758	6.020	6.282
80	.530	2.661	2.930	3.197	3.463	3.730	3.996	4.263	4.529	4.795	5.062	5.328	5.595	5.861	6.127	6.391
82	.520	2.746	3.021	3.295	3.570	3.845	4.119	4.394	4.668	4.943	5.218	5.492	5.767	6.041	6.316	6.591
84	.511	2.832	3.115	3.398	3.681	3.965	4.248	4.531	4.814	5.097	5.381	5.664	5.947	6.230	6.513	6.796
85	.502	2.916	3.208	3.499	3.791	4.082	4.374	4.666	4.957	5.249	5.540	5.832	6.124	6.415	6.707	6.998
88	.491	3.005	3.305	3.605	3.906	4.206	4.507	4.807	5.108	5.408	5.709	6.009	6.310	6.610	6.911	7.211
90	.486	3.098	3.408	3.718	4.028	4.337	4.647	4.957	5.267	5.577	5.887	6.196	6.506	6.816	7.126	7.436
92	.480	3.191	3.510	3.829	4.148	4.467	4.786	5.105	5.424	5.744	6.063	6.382	6.701	7.020	7.339	7.658
94	.474	3.283	3.611	3.939	4.267	4.596	4.924	5.252	5.580	5.909	6.237	6.565	6.893	7.222	7.550	7.878
96	.468	3.357	3.726	4.065	4.404	4.742	5.081	5.420	5.759	6.097	6.436	6.776	7.114	7.452	7.791	8.130
98	.463	3.492	3.842	4.191	4.540	4.889	5.239	5.588	5.937	6.286	6.636	6.985	7.334	7.683	8.033	8.382
100	.459	3.605	3.965	4.326	4.685	5.047	5.407	5.768	6.128	6.489	6.849	7.210	7.570	7.931	8.291	8.652
102	.456	3.718	4.090	4.462	4.833	5.205	5.577	5.949	6.320	6.692	7.064	7.436	7.808	8.179	8.551	8.923
104	.453	3.849	4.233	4.618	5.003	5.387	5.772	6.157	6.542	6.927	7.312	7.696	8.081	8.466	8.851	9.236
106	.451	3.950	4.378	4.776	5.174	5.572	5.970	6.368	6.766	7.164	7.562	7.960	8.358	8.756	9.154	9.552
108	.450	4.122	4.535	4.947	5.359	5.771	6.181	6.596	7.008	7.420	7.833	8.245	8.657	9.069	9.482	9.894
110	.450	4.276	4.704	5.132	5.559	5.987	6.415	6.842	7.270	7.698	8.125	8.553	8.981	9.408	9.836	10.264
112	.450	4.443	4.888	5.332	5.776	6.221	6.665	7.109	7.554	7.998	8.442	8.887	9.331	9.775	10.220	10.664
114	.450	4.614	5.075	5.536	5.998	6.459	6.920	7.382	7.843	8.304	8.766	9.227	9.689	10.150	10.611	11.073
116	.450	4.796	5.278	5.768	6.237	6.717	7.197	7.677	8.157	8.636	9.116	9.596	10.076	10.556	11.035	11.515
118	.450	4.998	5.497	5.997	6.497	6.997	7.497	7.996	8.496	8.996	9.496	9.995	10.495	10.995	11.495	11.994
120	.450	5.211	5.735	6.267	6.778	7.299	7.821	8.342	8.863	9.385	9.906	10.428	10.949	11.470	11.992	12.513

App. Table 20 General condition of each survey village

Village name	Location of each village	Village population			
		Total	Male	Female	Children
KATONGO	18 Km east from SESHEKE	N.A	N.A	N.A	N.A
NAMEI	30 Km east from SESHEKE	169	56	45	68
KOBIA	5 Km north-east from MASESE F.S.	1,450	250	500	700
MAHARE	15 km north from MULOBEZI	170	48	60	62

Village name	Number of households	Sub-chief name	Number of animals				Shifting cultivation
			Cattle	Goats	Poultry	Dogs	
KATONGO	N.A	KATUNDU	50	0	35	10	×
NAMEI	50	KATUNDU	40	0	750	N.A	×
KOBIA	300	LUKUKU	200	0	N.A	N.A	×
MAHARE	38	MUPENGU	200	100	20	40	×

Note: "No" indicates no answer from the village.

App. Table 21 General condition of each survey peasant farm

Village name	Household	Age of husband		Age of wife		Number of children		Planted area (ha)	Number of animals				Agriculture production					Number of farming implements			
		1	2	1	2	Total	Male		Female	Cattle	Goats	Poultry	Dogs	Maize	Millet	Sorghum	Others	Plow	Hoes	Arps	Others
KATONGO	A	59	54	11	8	3	3.6	20	0	10	2	90	0	90	0	90	2	4	3	0	
	B	34	26	6	-	-	2	10	0	10	2	75	0	65	0	65	1	2	2	0	
	C	64	48	7	6	1	1	3	0	5	1	50	2	25	0	25	1	2	2	0	
	D	53	53	4	3	1	2	2	2	0	25	2	0	0	0	0	1	3	4	0	
	E	31	25	6	6	0	1.6	5	0	10	1	90	0	25	0	25	0	2	1	0	
NAMEI	F	63	52	8	3	5	4	4	0	15	2	90	25	90	0	90	1	2	2	0	
	G	48	37	6	4	2	2	4	0	0	0	25	0	0	0	2	4	6	0		
	H	28	26	3	2	1	6	9	0	7	1	90	0	25	0	25	1	4	3	0	
	I	71	67	7	3	4	1	5	0	6	2	90	25	90	25	90	1	3	2	0	
	J	57	53	3	3	0	0.5	11	0	0	0	0	50	0	0	0	1	3	2	0	
KOBIA	K	38	34	4	2	2	2	10	0	7	0	90	0	0	0	1	4	2	1		
	L	65	56	6	2	4	2	2	0	3	2	135	25	25	0	1	6	4	0		
	M	45	39	2	2	0	2	0	0	0	1	0	25	25	25	0	0	5	1		
	N	53	43	8	4	4	1.6	0	0	5	1	90	0	25	0	25	0	5	2	1	
	O	32	25	2	0	2	1.5	0	0	5	1	90	0	0	0	0	0	3	2	1	
MAHARE	P	75	62	5	2	3	10	2	1	0	1	0	0	0	0	1	2	2	0		
	Q	63	63	5	5	0	1.5	0	0	0	2	0	0	0	0	1	2	2	0		
	R	28	28	4	3	1	2	5	1	4	3	720	0	90	0	1	4	5	0		
	S	26	22	1	1	0	1.3	1	2	0	2	160	0	90	0	0	0	2	2	0	
	T	63	51	8	1	7	1	0	10	4	4	1080	0	0	0	1	2	1	0		
average			5.3	3	2	2.4	4.7	0.7	5.8	1.5	150.8	5.1	33.3	5.8	0.9	3.3	2.7	0.2			

Note: Age of wives "1" means first wife, "2" means second wife.

App. Table 22 Chemical properties in soil of burned areas and non-burned areas

Survey plot	Burned forest condition	Colorimetric analysis(mg/100g)					Quantitative analysis	
		NO ₃ -N	NO ₂ -N	P ₂ O ₅	K ₂ O	pH	C(%)	N(%)
Malawwe	35 • Non burned area • Mukusi natural stand • Open Nanlunlu grass	1	1	5	35	4.16	0.93	0.07
	36 • Fire hole in 1982	1	1	5	35	4.3	0.57	0.05
	37 • Burned area • Coppicing by young growth • Isunde and Panda • No grass	1	1	5	20	4.35	0.58	0.03
Malawwe	39 • Burned area in 1982 • Isunde bush	1	1	5	20	5.05	0.59	0.04
	40 • Burned area • Thicket Nanlunlu	1	1	5	20	5.36	0.66	0.04
	41 • Non-burned area • Mukusi natural forest	1	1	5	20	4.54	0.85	0.05
Sichinga	43 • Burned area in 1987 • No grass	1	1	10	20	5.3	0.51	0.04
	44 • Non-burned area • Edge of Mukusi natural forest	1	1	5	35	4.3	0.87	0.06
	45 • Burned area • Isunde and Mwalachi Open Bush • Rare grass	1	1	5	35	5.38	0.64	0.05
Mongu	C2 • Soil piled up by road (sub soil when road was constructed in the 1970's)	1	1	5	10	3.65	0.55	0.02
	C3	1	1	5	10	4.01	0.72	0.03

Notes: Standard of soil humus content (Carbon content)

Classification	Lacking	Not lacking	Rich	Very rich
Carbon content(%)	0-3	3-6	6-12	More than 12

App. Table 23 (1) Forest fires (Provided by Forest Department)

Serial No.	Year	Month	Location	Area	Cause	Remark on Damage
1	1975	August	Samatela	-	Honey collection	-
2	1975	September	Nangombe	-	Unknown	Slight damage
3	1975	September	Samatela	-	Honey collection	Superficial damage
4	1975	October	Situmpa	-	Honey collection	-
5	1975	October	Situmpa	-	Honey collection	4% of Standing trees
6	1975	October	Samatela	-	Honey collection	-
7	1975	October	Nangombe	-	Herdsman	45% of Standing trees
8	1976	September	Nalwama	-	Unknown	Superficial damage
9	1976	September	Nalwama	-	Unknown	Superficial damage
10	1977	September	Monze	-	Villagers	45% of Standing trees
11	1977	September	Lwangula	-	Honey hunters	Superficial damage
12	1977	September	Lwangula	-	Unknown	Superficial damage
13	1977	August	Lumino	-	Unknown	Superficial damage
14	1977	November	Malavwe	-	Unknown	Superficial damage
15	1977	October	Nangombe	-	Unknown	Firehole
16	1977	October	Malavwe	2,100	Villager/Garden	Firehole 55%
17	1977	November	Nalwama	-	Unknown	Superficial damage
18	1978	October	Kanyanga	-	Unknown	Superficial damage
19	1978	September	Samatela	12	Honey hunter	Superficial damage
20	1978	October	kanyanga	500	Honey hunter	Superficial damage
21	1978	September	Sichinga	2	Army(Soldiers)	Superficial damage
22	1978	August	Sisisi	-	Honey hunter	Superficial damage
23	1979	August	Sisisi	-	Honey hunter	Superficial damage
24	1979	August	Sichinga	-	Unknown	Superficial damage
25	1979	September	Samatela	68	Honey hunter	Superficial damage
26	1979	September	Kasiki	1,120	Villager/Garden	Superficial damage
27	1979	October	Sichinga	5	Honey hunter	Severe damage
28	1980	August	Monze	-	Unknown	Severe damage
29	1980	August	Sichinga	-	Unknown	damage
30	1980	August	Sichinga	100	Unknown	Extensive damage
31	1980	September	Monze	-	Unknown	Severe damage
32	1980	September	Sichinga	-	Unknown	Severe damage
33	1980	October	Samatela	4	Unknown	Slight damage
34	1980	September	Nanga	-	Unknown	Superficial damage
35	1980	September	Situmpa	-	Unknown	Superficial damage
36	1980	October	Kampanga	-	Unknown	Severe damage
37	1980	October	Sijulu	-	Garden	Slight damage
38	1980	October	Lwangula	-	Unknown	Superficial damage
39	1981	August	Malavwe	60	Unknown	Severe damage
40	1981	August	Sichinga	20	Unknown	Superficial damage
41	1981	August	Monze	10	Garden	Severe damage
42	1981	September	Simungoma	0.25	Garden	Superficial damage
43	1981	September	Luangula	-	Unknown	Superficial damage
44	1981	September	Nalwama	-	Garden/Village	Severe damage
45	1981	November	Zungubo	35	Garden/Village	Severe damage
46	1981	November	Kanyanga	-	Unknown	Superficial damage
47	1981	September	Sijulu	-	Arson	Superficial damage
48	1982	August	Malavwe	-	Honey hunters	Severe damage

App. Table 23 (2) Forest fires (Provided by Forest Department)

Serial No.	Year	Month	Location	Area	Cause	Remark on Damage
49	1982	August	Monze	-	Game hunters	Severe damage
50	1982	August	Malawwe	20	Arson	75% of Severe damage
51	1982	August	Simungoma E	1.5	Unknown	Superficial damage
52	1982	September	Nalwama	-	Unknown	Superficial damage
53	1982	August	Lonze	-	Honey hunters	Superficial damage
54	1982	September	Sisisi	20.75	Unknown	Severe damage
55	1982	September	Simungoma W	-	Unknown	Superficial damage
56	1983	May	Samatela(plots)	-	Unknown	Very severe damage
57	1983	May	Simungoma W	20	Garden/Village	Severe damage
58	1983	August	Sichinga	1,000	Unknown	Superficial damage
59	1983	August	Monze	-	Unknown	Severe damage
60	1983	August	Monze	1,000	Unknown	Severe damage
61	1983	September	Sichinga	-	F/Collectors	Superficial damage
62	1983	August	Situmpa	-	Unknown	Superficial damage
63	1983	September	Namena/Kazu	-	Unknown	Superficial damage
64	1984	September	Situmpa	-	Unknown	Superficial damage
65	1984	September	Sichinga	-	Honey hunters	Superficial damage
66	1984	September	Sisisi	-	Honey hunters	Serious damage
67	1985	August	Simungoma E	5	Unknown	Superficial damage
68	1985	September	Situmpa	60	Unknown	Superficial damage
69	1988	August	Kazu	-	Hunters	Superficial damage

		Main occurrence			
May	2	Sichinga	10	Honey hunter	16
August	22	Samatela	7	Garden/Vil.	9
September	28	Monze	7	Hunter	2
October	13	Situmpa	6	Arson	2
November	4	Nalwama	5	Herdsman	1
		Malawwe	5	Collector &	2
		Simungoma	5	Unknown	37
Total	69	Total		Total	69

(Front)

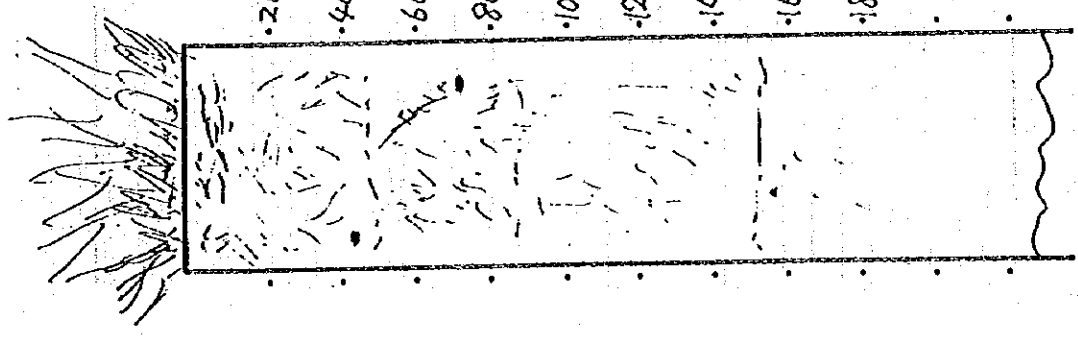
Soil Profile

Profile No.	Location	Date	Weather	Surveyor				
Lithology		Elevation	Slope	Land use or Vegetation				
Parent Material		Drainage	Moisture Conditions					
			Groundwater table (ft)					
			I	II	III	IV	V	VI
1. Horizon symbol								
2. Depth of top and bottom of horizon								
3. Boundary of horizon								
4. Form of boundary								
5. Colour								
6. Mottling								
7. Texture								
8. Structure								
9. Consistence								
10. Other (Moisture, Consistence, pore space, Effluence, pH, Roots, Humus, etc., etc., Hardness, etc., etc.)								

(Back)

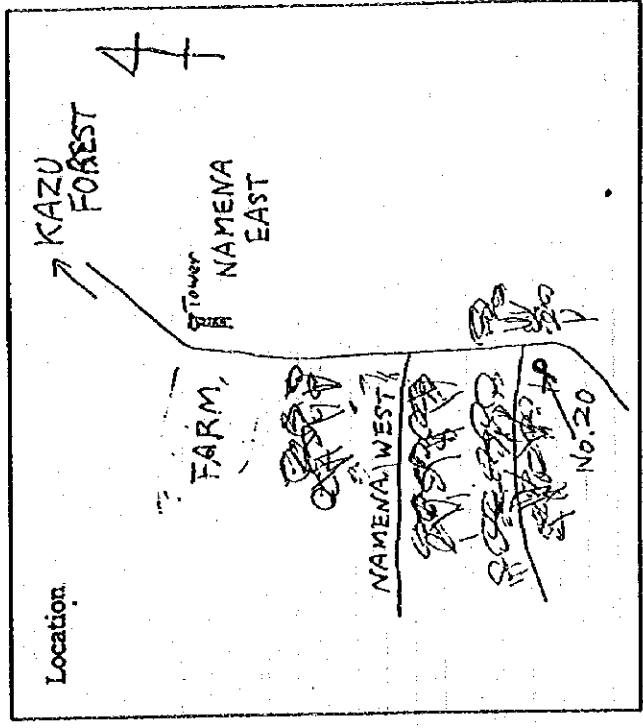
Location

App. Figure 1 Soil profile chart (sample)



Dominant *MUKUSI*
 (*Banksia plurijuga*)
 MWANGULA
 Dominant (*Pterocarpus antunesii*)
 MUKOLOLO
 (*Lonchocarpus capassa*)
 NANKALA
 (*Acacia ataxacantha*)
 MULIANZOVE
 (*Dalbergia martinii*)

GPS UTM35
 (E) 295054
 (N) K8124800
 ALT 970m
 PPOP 3.9
 004

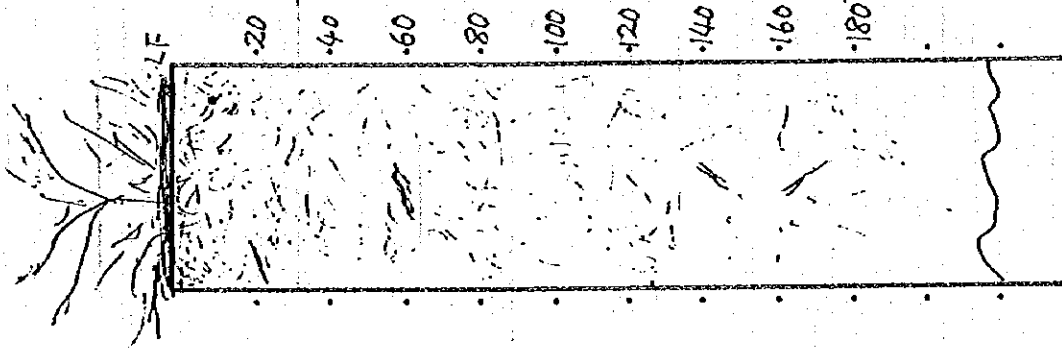


App. Figure 2 (1b) Soil profile chart (example)

Soil Profile A_{Ro}(R) Reddish Ferralitic Arenosols

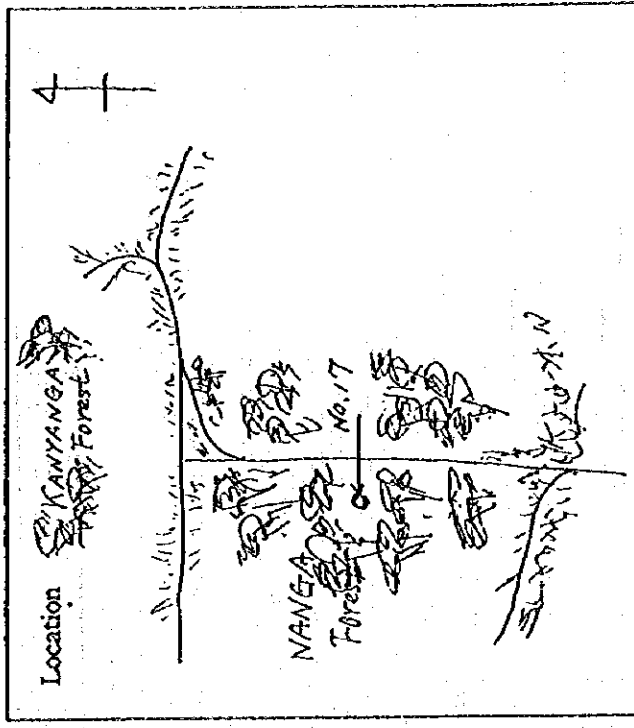
Profile No. 17	Location NANGA FOREST	Date 8, Feb. '95	Weather ☉	Surveyor H. TAKATOH D. TOMBO		
Land form Hill land (Plateau)	Elevation 1040 m	Slope < 1° East	Land use or Vegetation Forest			
Parent Material Kalahari Sand	Drainage Good	Moisture Condition Dry	Groundwater table (m) —			
1. Horizon symbol	I A ₁	II A ₂	III B ₁	IV BC	V C	
2. Depth of top and bottom of horizon	0 - 6	6 - 20	20 - 45	45 - 80	80 - 120	120 - 160
3. Boundary of horizon	a c (R) d	a c (R) d	a c (R) d	a c (R) d	a c (R) d	a c (R) d
4. Form of boundary	s w i b s	w i b s	w i b s	w i b s	w i b s	w i b s
5. Colour	SYR 4/3	SYR 4/3	SYR 6.5/5	SYR 6.5/3	SYR 6.5/6	SYR 6.5/7
6. Mottling	f c m	f c m	f c m	f c m	f c m	f c m
7. Texture	(S) L S C	(S) L S C	(S) L S C	(S) L S C	(S) L S C	(S) L S C
8. Structure	(1) w m s	(1) w m s	(1) w m s	(1) w m s	(1) w m s	(1) w m s
9. Consistence	ns s s vs	ns s s vs	ns s s vs	ns s s vs	ns s s vs	ns s s vs
10. Others (Cations, Concentration, pores, pans, Efflorescence, pH, Roots, Humus Dip, Ben. Hardness (mm), etc)	Little Humus Root V fr. H = 1 mm pH 4.14	Root V fr. H = 5 mm pH 4.33	Root V fr. H = 9 mm pH 5.06	Root fr. H = 12 mm pH 5.33	Root fr. H = 16 mm pH 5.32	Root fr. H = 17 mm pH 5.25

App. Figure 2 (2a) Soil profile chart (example)



MUKUSI
 Dominant (*Barkkeea plurijuga*)
 MANGGULA
 (*Pterocarpus antunesii*)
 KANGOLO
 (*Combretum celastoides*)

GPS UTM 35
 (E) 289621
 (N) 8154703
 ALT 1050m
 PDOP 4.0



App. Figure 2 (2b) Soil profile chart (example)

Soil Profile ARh Haplic Arenosols

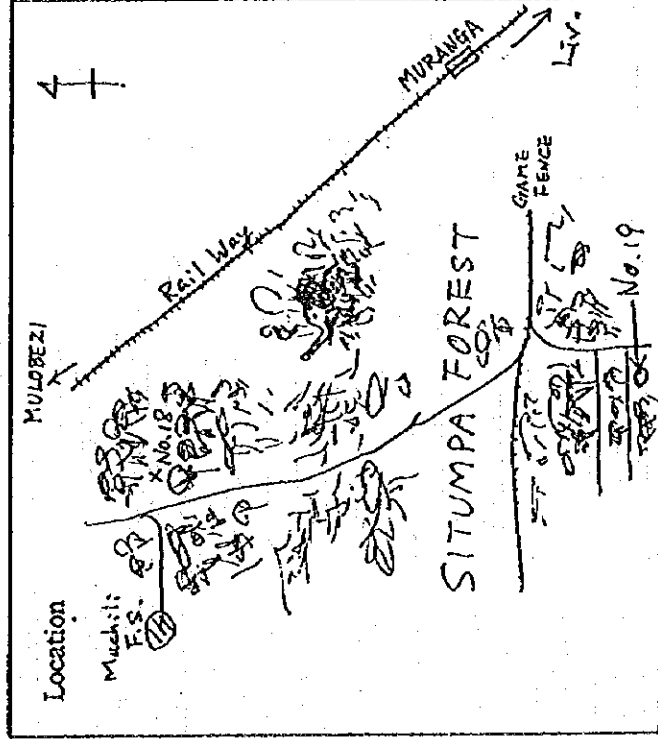
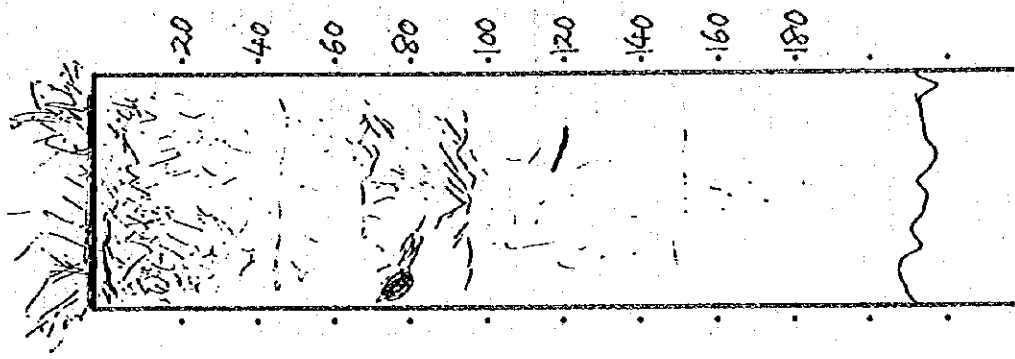
Profile No. 19	Location SITUMPA FOREST	Date 8, Feb. '95	Weather ☉	Surveyor H. TAKATOH D. TOMBO	Land use or Vegetation Forest
Land form Hill land (Plateau)		Elevation 970m	Slope Flat	Groundwater table (m) —	
Parent Material Kalahari Sand		Drainage good		Moisture Condition Dry	
1. Horizon symbol	I A ₁	II Az	III B ₁	IV B ₂	V BC
2. Depth of top and bottom of horizon	0 - 8	8 - 20	20 - 40	40 - 73	73 - 95
3. Boundary of horizon	a c (R) d	a c (R) d	a c (R) d	a c (R) d	a c (R) d
4. Form of boundary	s (W) i b	s (W) i b	s (W) i b	s (W) i b	s (W) i b
5. Colour	10YR 5/2	10YR 6/3	10YR 6.5/3	10YR 7/3	10YR 7.5/4
6. Mottling	f c m	f c m	f c m	f c m	f c m
7. Texture	(S) L Si C	(S) L Si C	(S) L Si C	(S) L Si C	(S) L Si C
8. Structure	(1) w m s	(1) w m s	(1) w m s	(1) w m s	(1) w m s
9. Consistence	n s s s v s	n s s s v s	n s s s v s	n s s s v s	n s s s v s
10. Others (Cation, Cationization, pores para, Efflorescence, pH, Rood, Humus Dip, Den, Hardness (mm), etc)	Root Vfr H = 0.5 mm pH 6.08	Root Vfr H = 5 mm pH 4.91	Root Vfr H = 7 mm pH 4.42	Root fr H = 9 mm pH 4.52	Root C Large MURUSIBot H = 11 mm pH 4.66

App. Figure 2 (3a) Soil profile chart (example)

MUKUSI
 Dominant (*Baikiaea plurijuga*)
 MWANGULA
 Dominant (*Pterocarpus antunesii*)

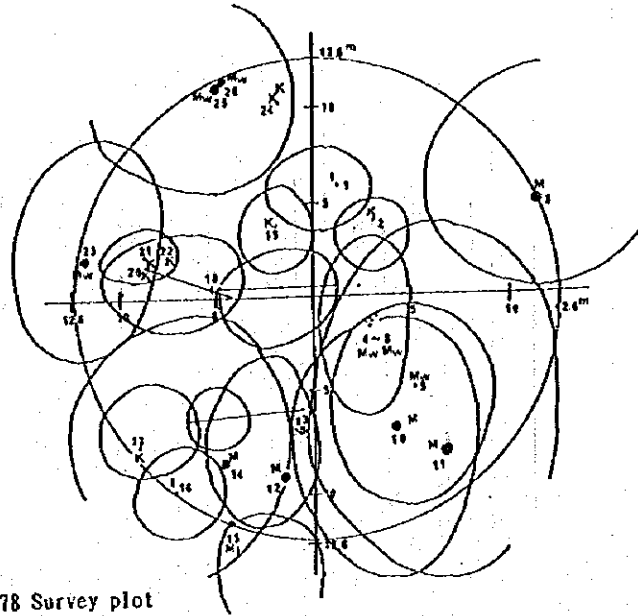
KANGOLO
 (*Combretum celastroides*)
 MULALABAINGA
 (*Combretum laeagnoides*)
 MUCHINGA
 (*Popowaiia obovata*)

GPS UTM 35
 307884 (E)
 K8126456 (N)
 ALT 970 m
 004 PDOP 4.3



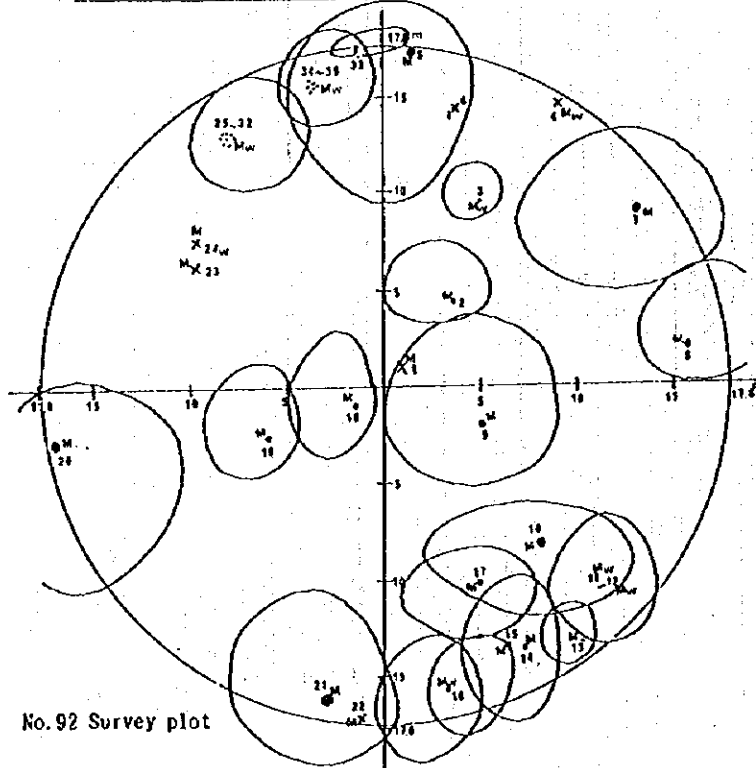
App. Figure 2 (3b) Soil profile chart (example)

Plot No. : 78 Date : Feb. 7 '95
 Location : Kanyanga forest



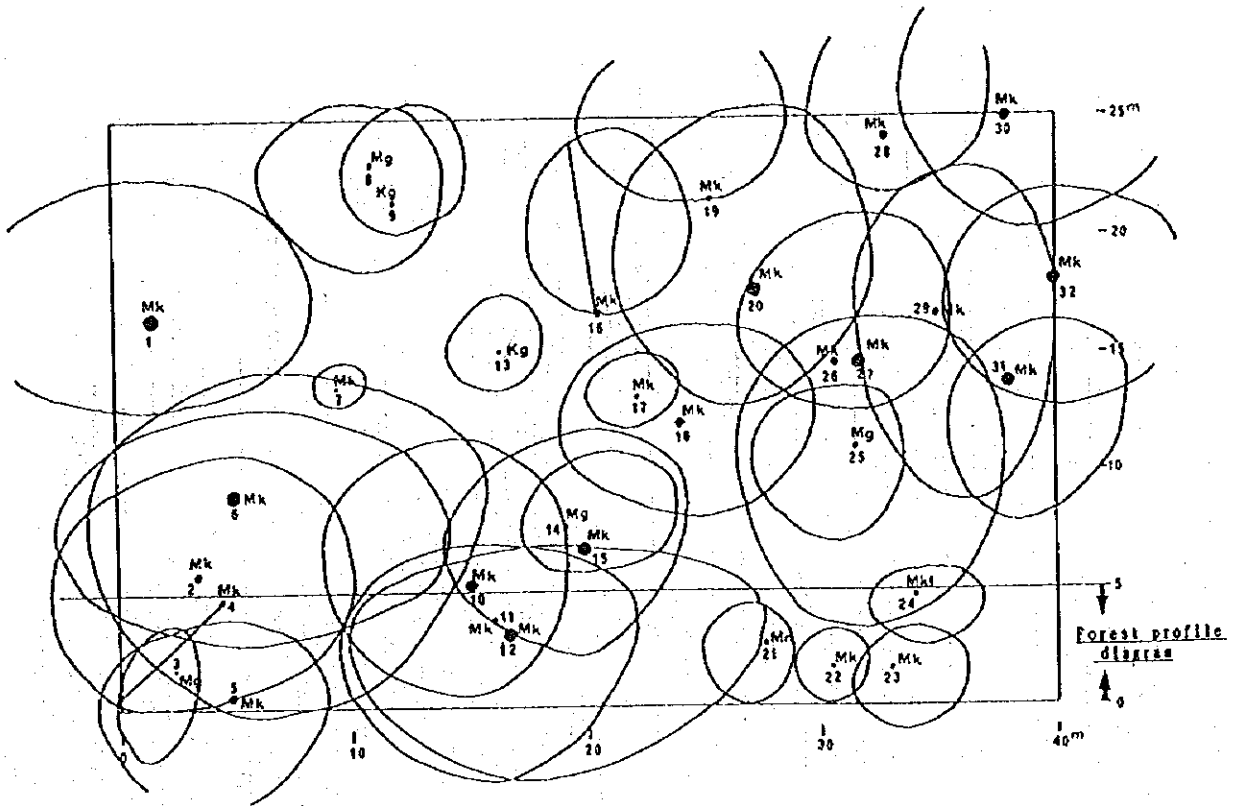
No. 78 Survey plot

Plot No. : 92 Date : Feb. 13 '95
 Location : Simungoma west forest

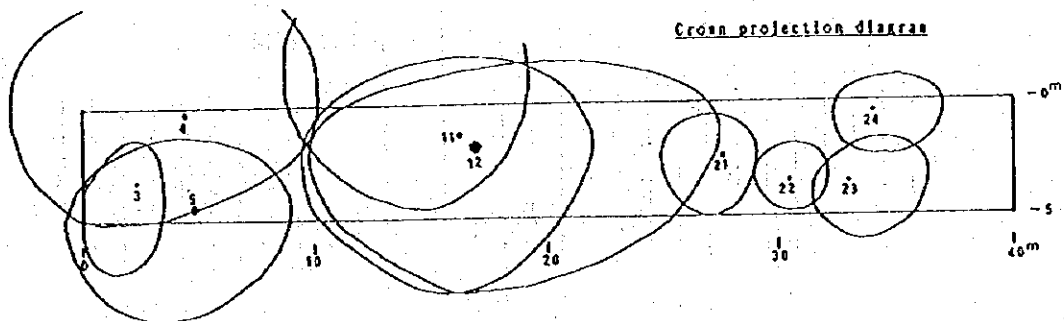
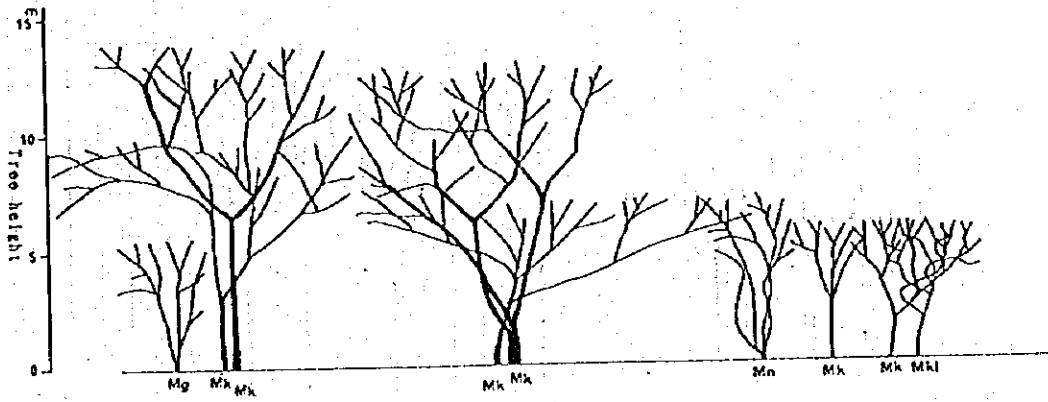


No. 92 Survey plot

App. Figure 3 Example of circular plot survey



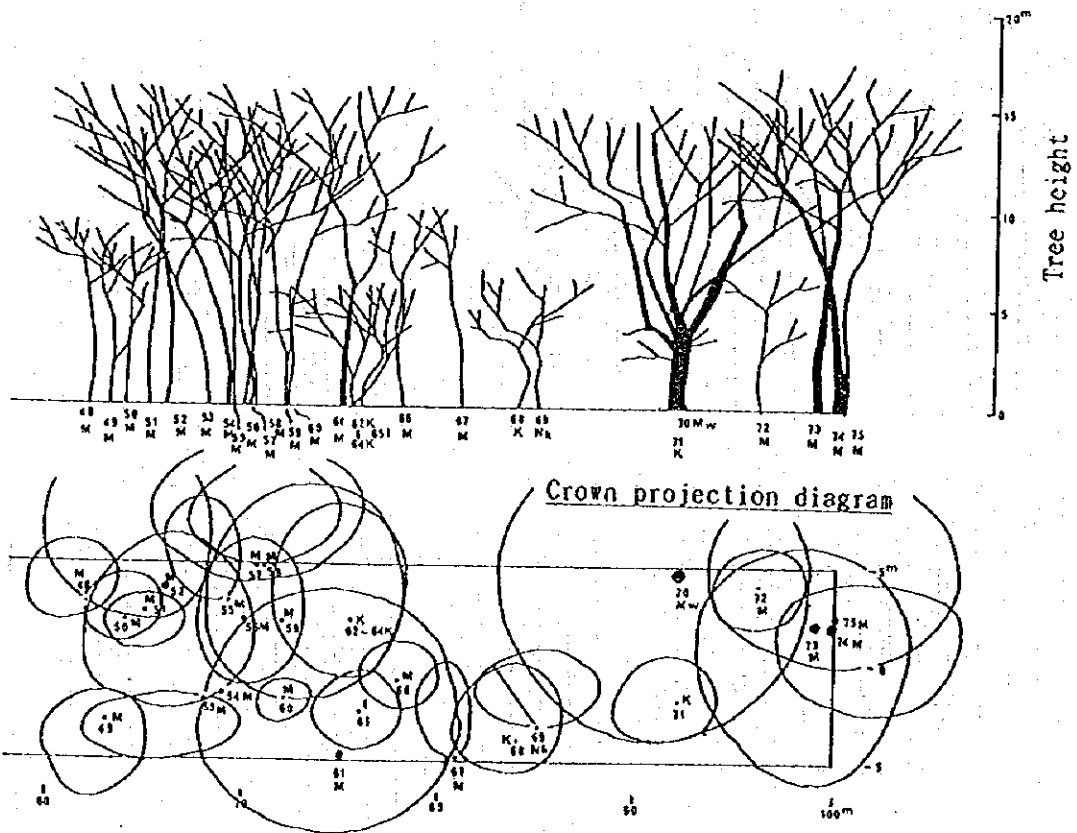
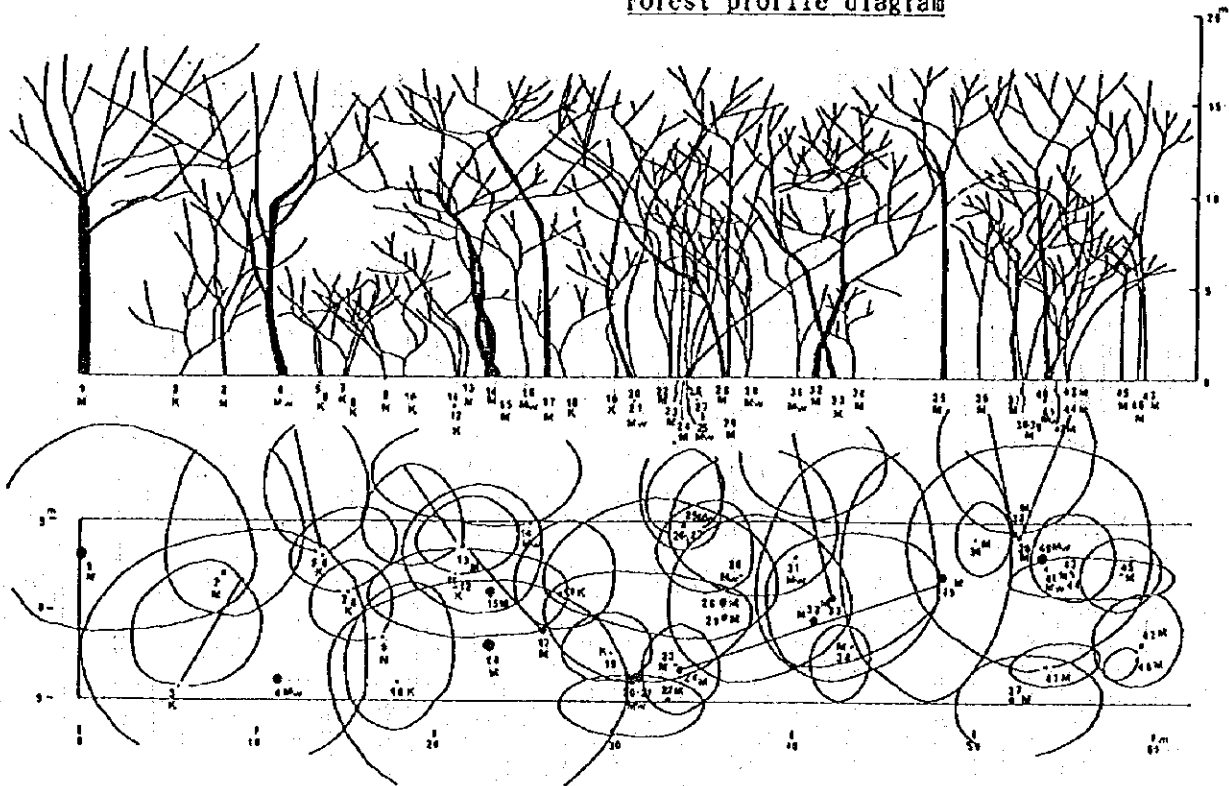
Forest profile diagram



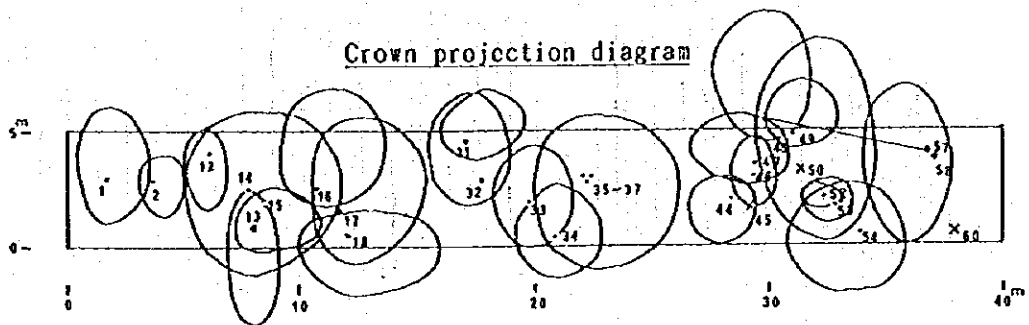
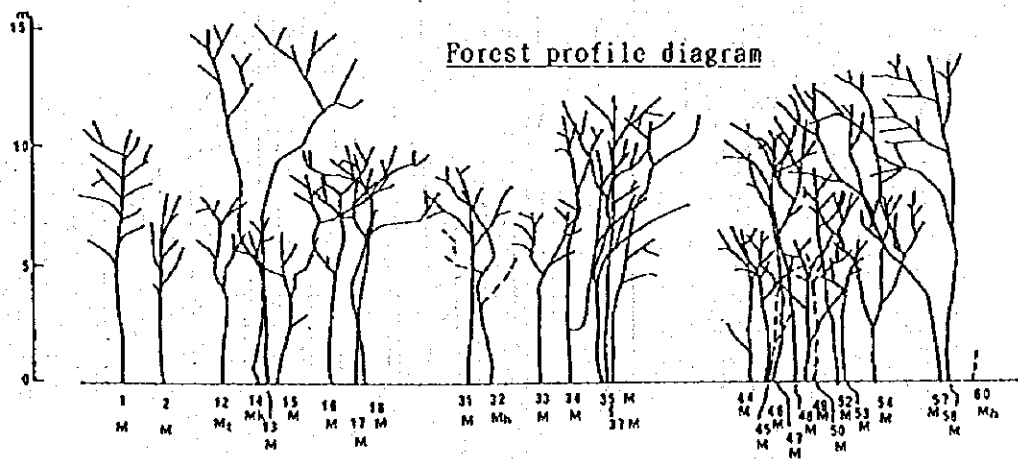
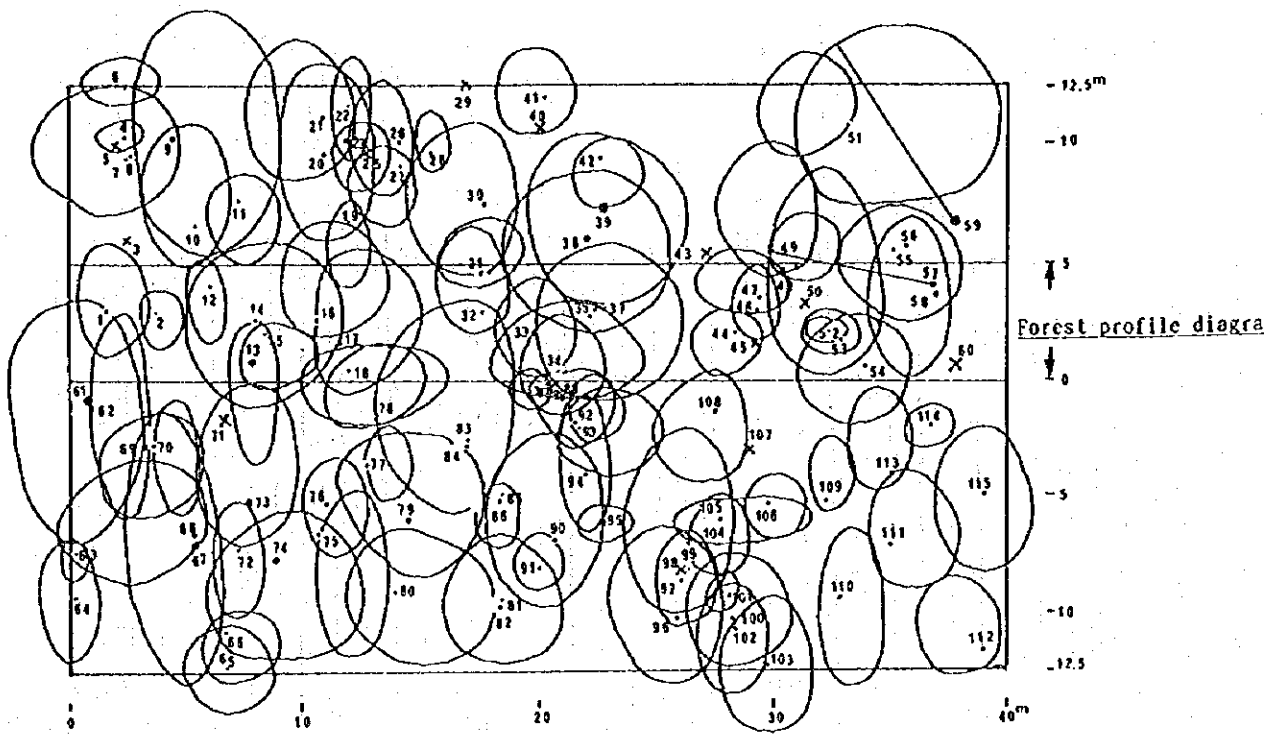
Crown projection diagram

App. Figure 4
No. 1 Permanent plot (Malawwe Botanical Reserve) (No. 15 Beit-transect)

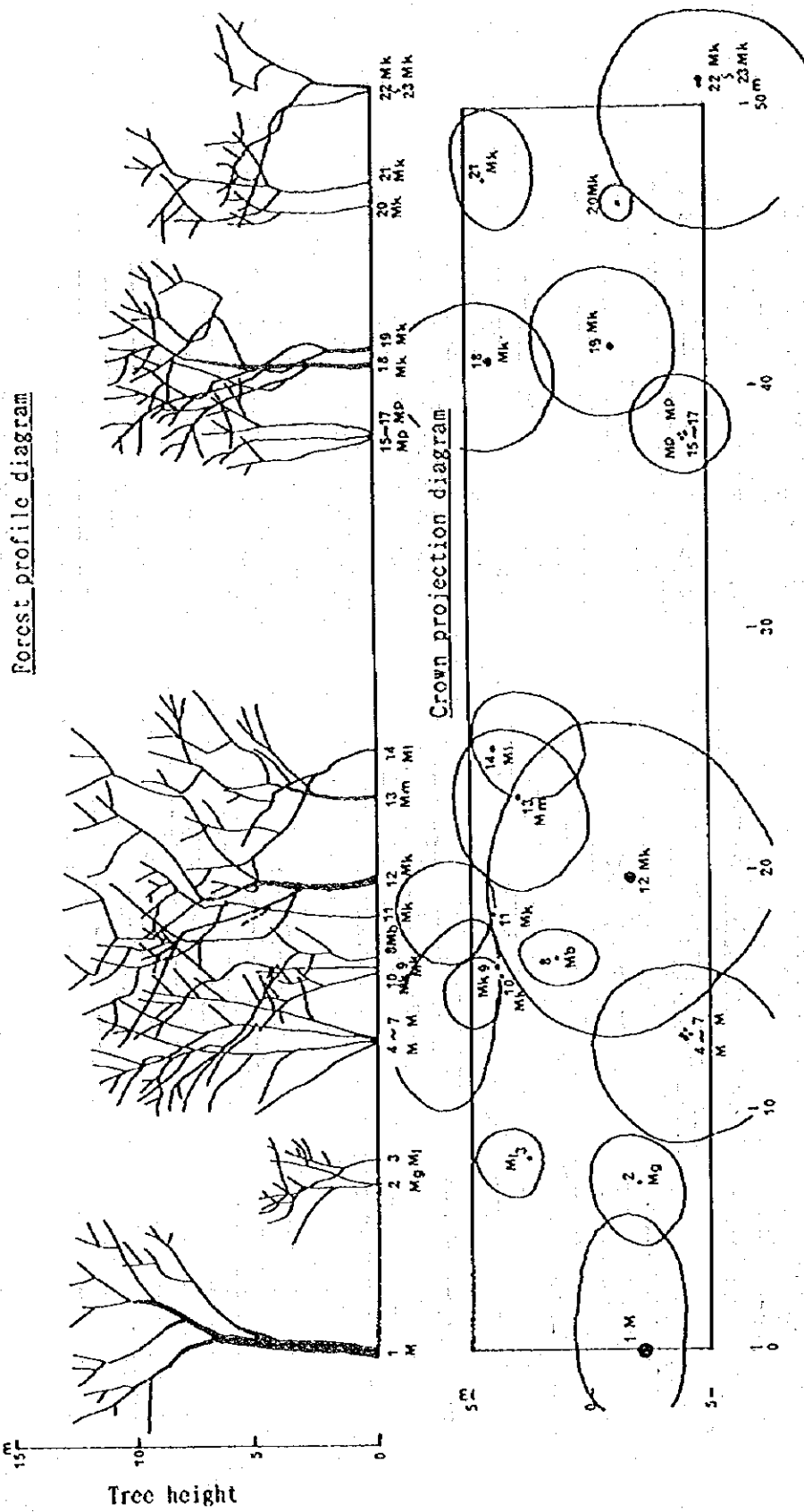
Forest profile diagram



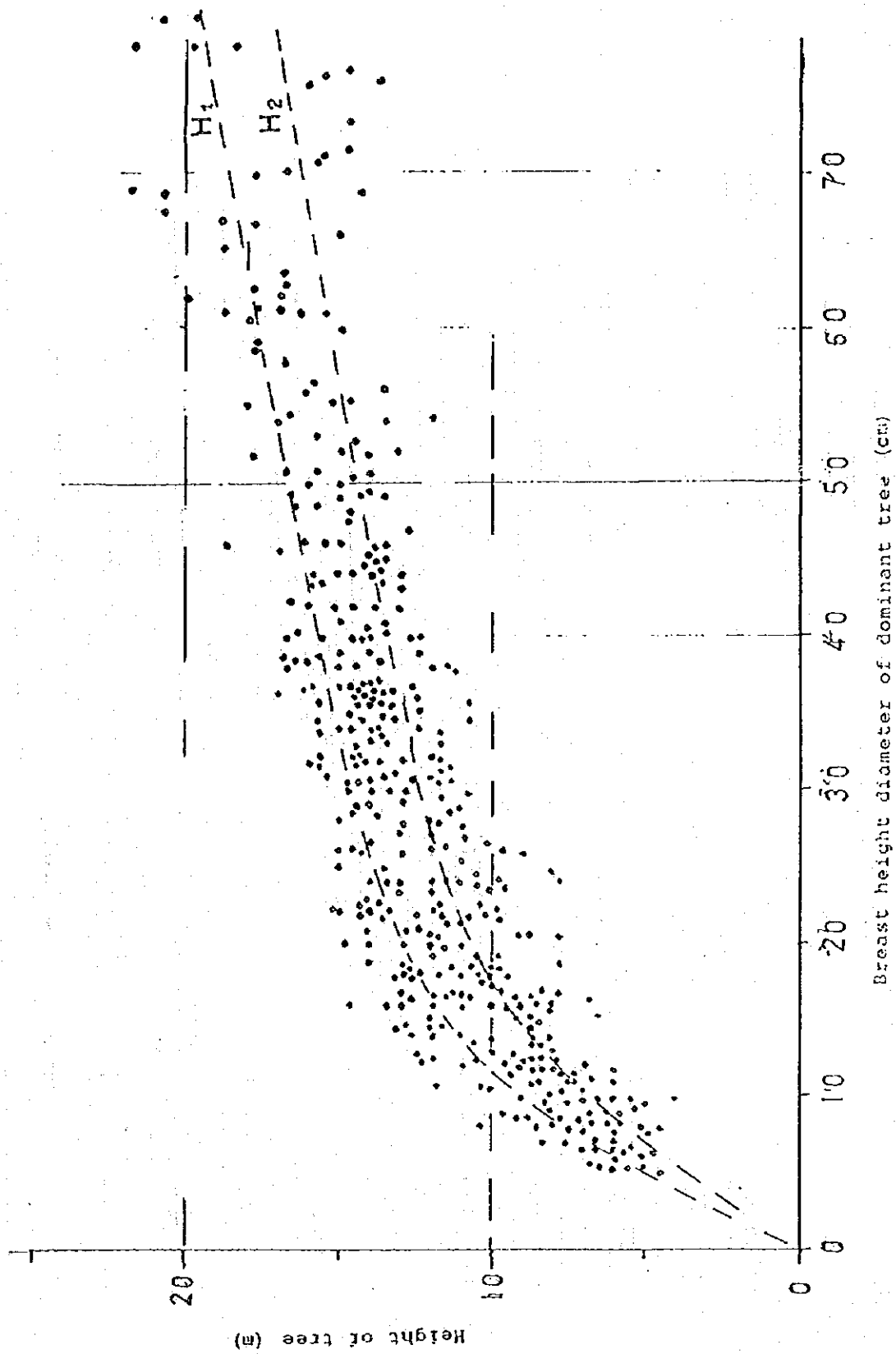
App. Figure 5 No. 2 Permanent plot (Nanga forest) (No. 8 Belt-transect)



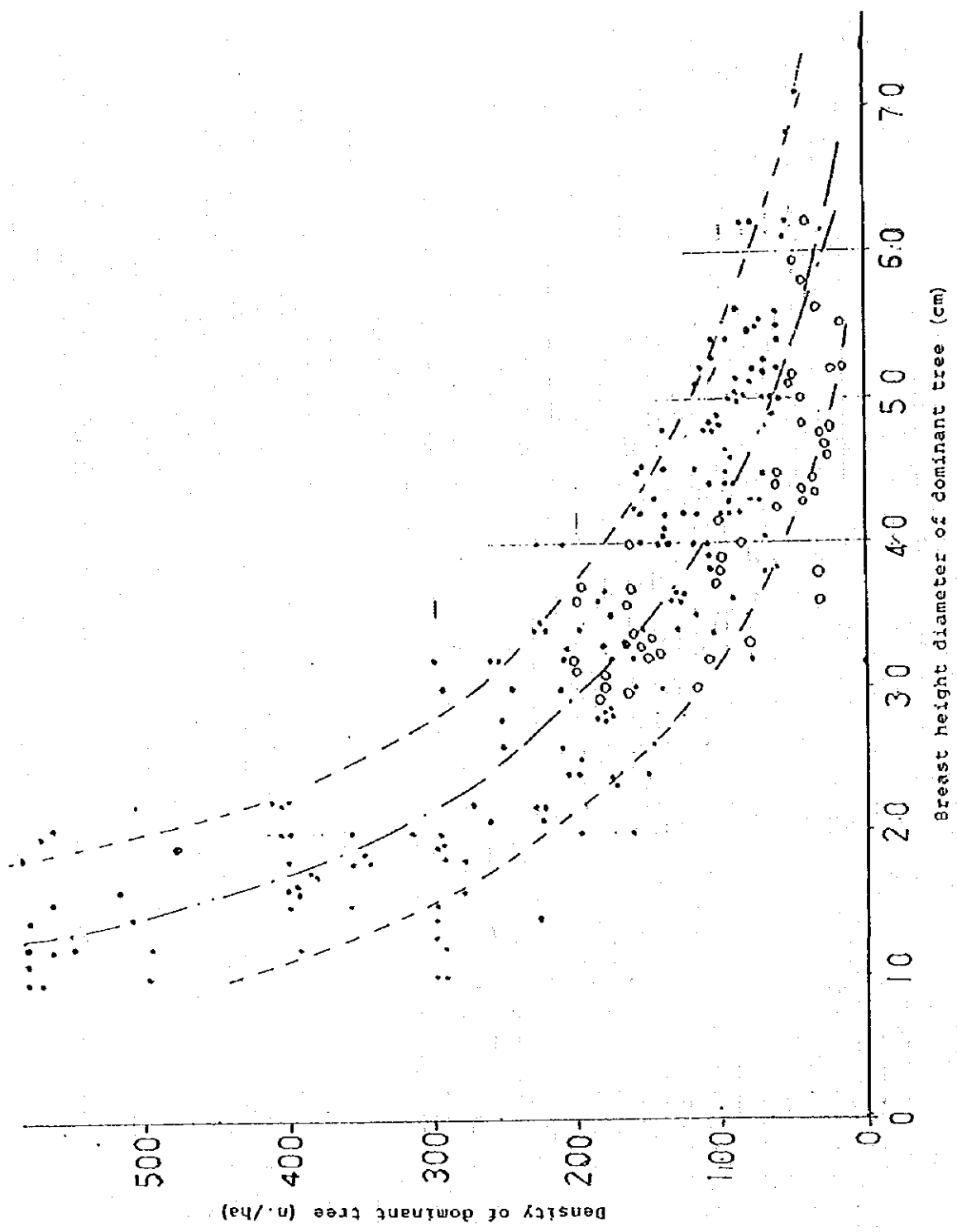
App. Figure 6 No. 3 Permanent plot (Kalama forest) (No. 14 Belt-transect)



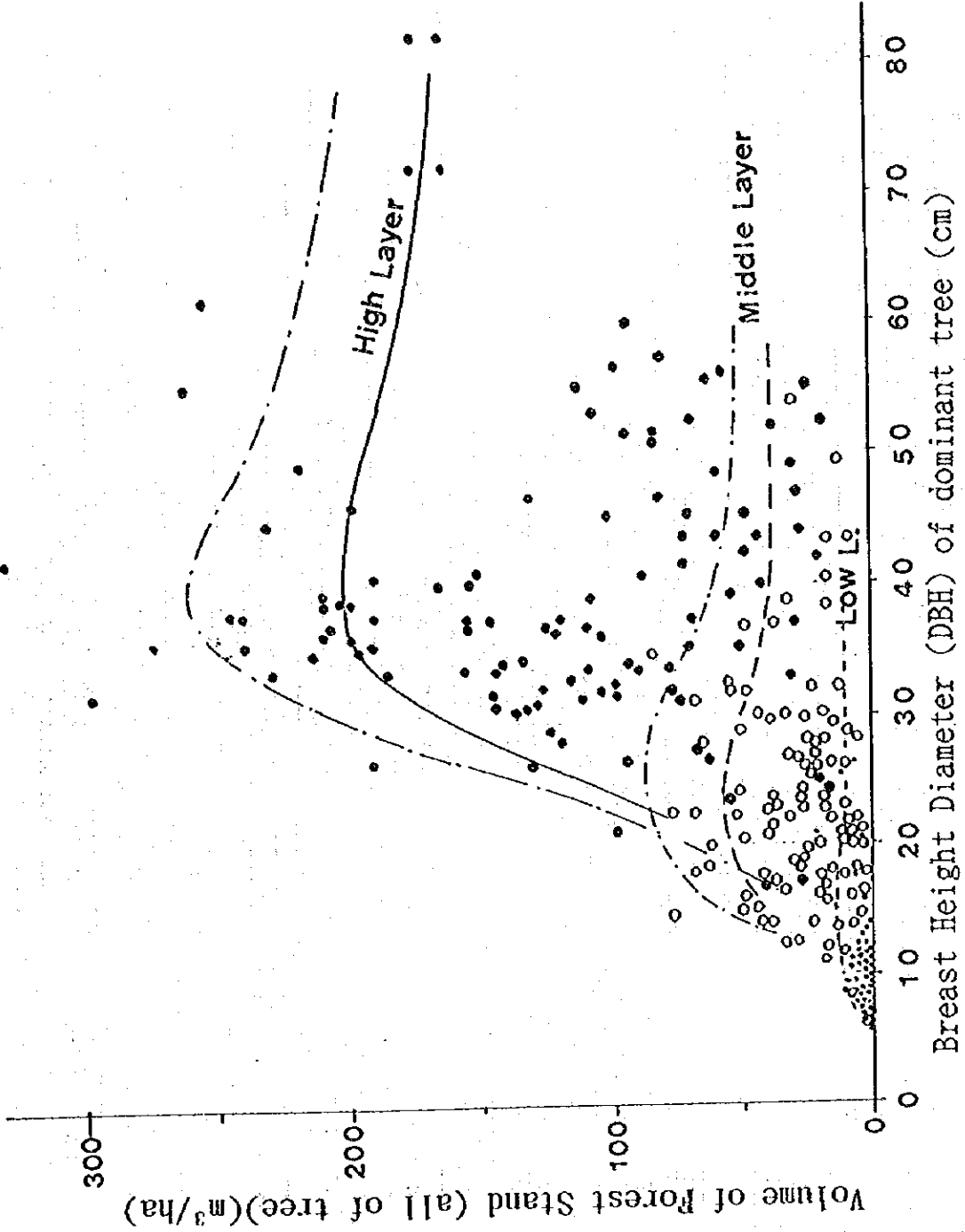
App. Figure 7 No. 4 Permanent plot (Samatela woodland) (No. 7 Belt-transect)



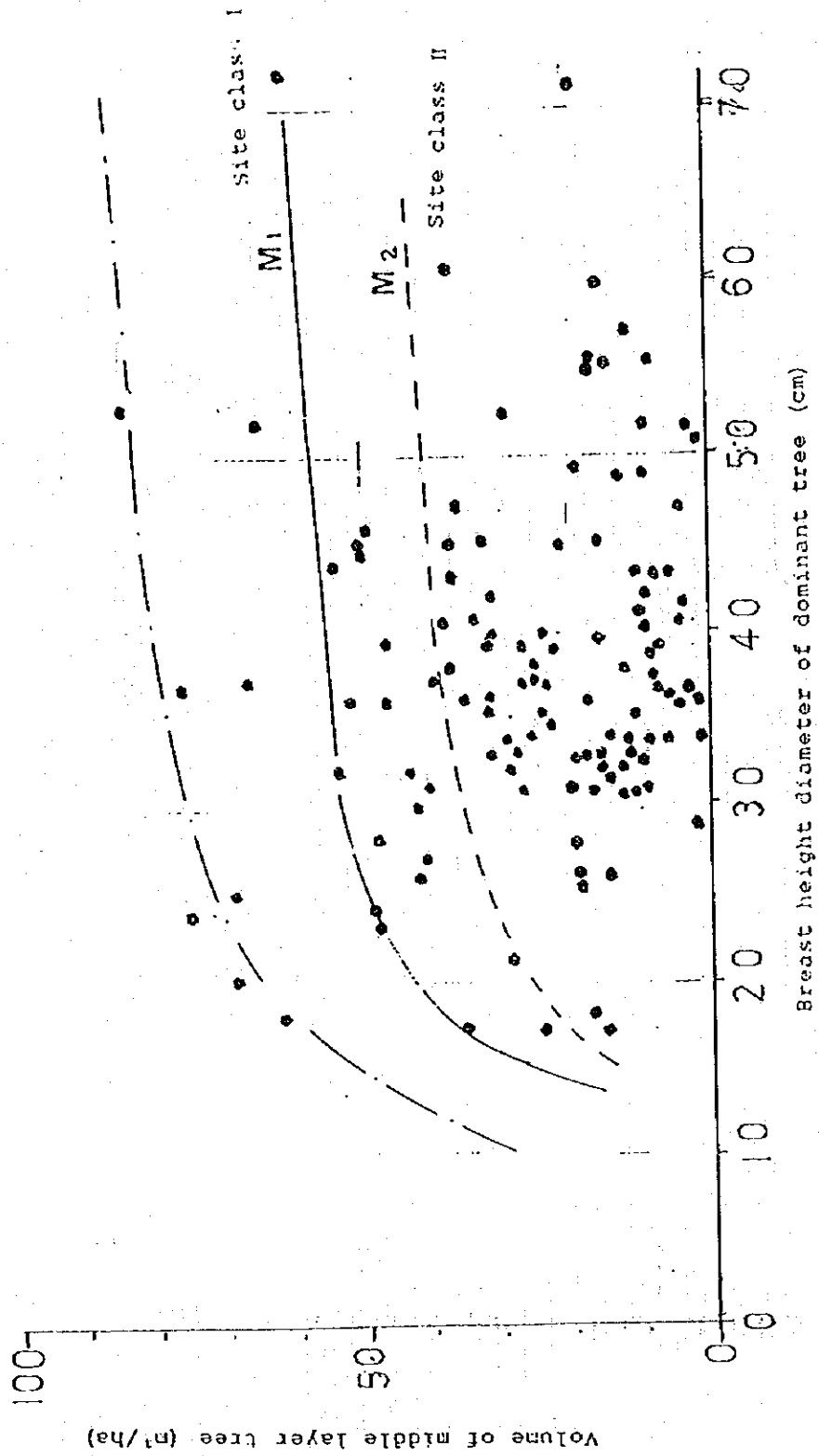
App. Figure 8 Relation between the diameter at breast height and the tree height (dominant trees)



App. Figure 9 Relation between the diameter at breast height and stand density



App. Figure 10 Relation between the diameter at breast height and forest stand volume by layer (high, middle and lower layers)



App. Figure 11 Relation between the diameter at breast height (dominant tree) and the forest stand volume of the middle layer tree



