

**I-B**

**Social Forestry**

## **B. Social Forestry**

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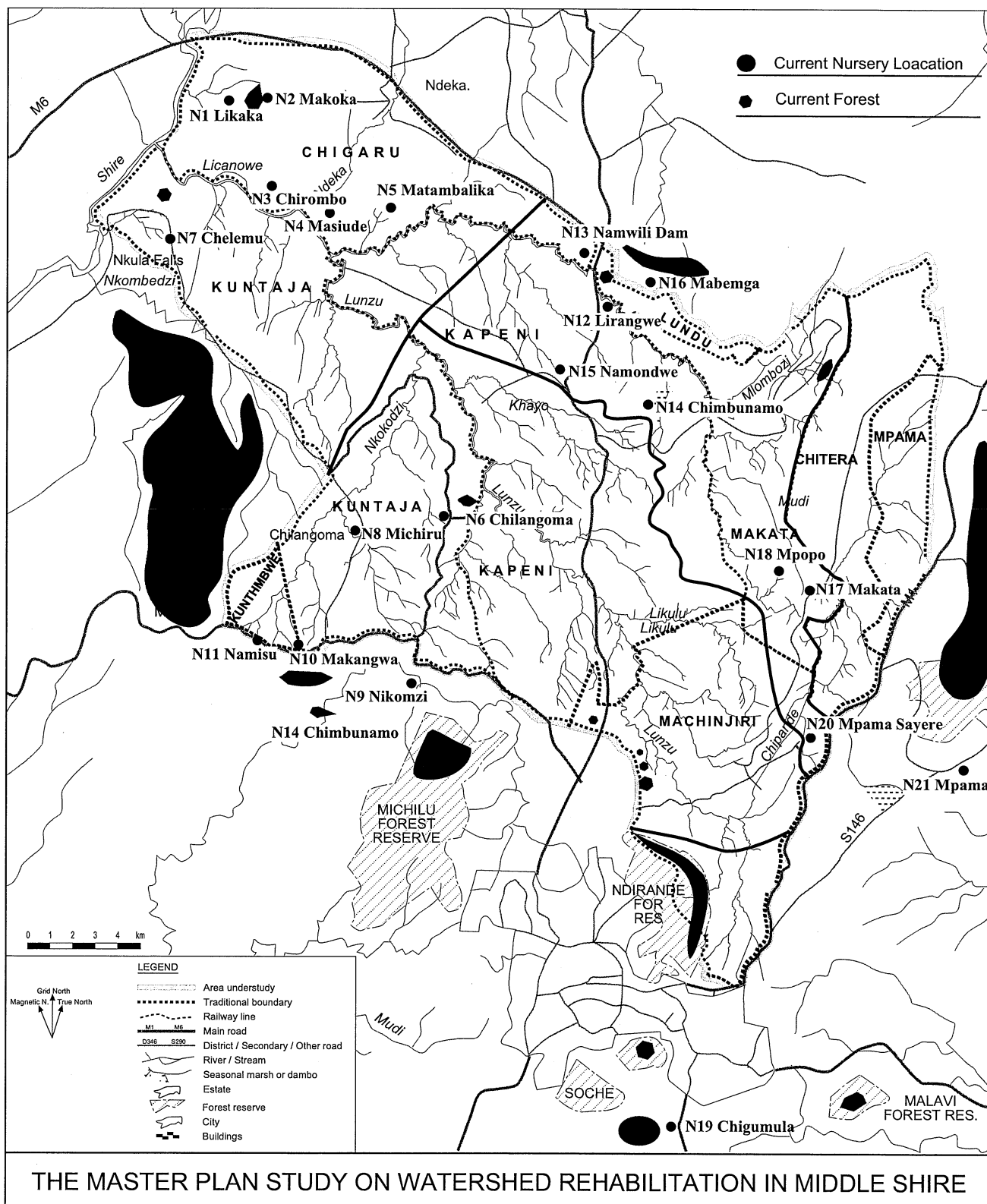
**Annex B- 1: Summary of Forest Area in the TA of the SA (Source: FD)**

Traditional Authority (TA)			Forest Type	Forest Potential Area	Existing Forest Area						Total Area of the Forest
Forest Name		Total			PL	FR	VF	LAP	IF		
Chigaru (Blantyre D.)											
F 1	Michiru Hill Forest	VF	200.00	26.70			26.70			200.00	
Kuntaja (Blantyre D.)											
F 2	Zigoma Plantation	LAP	18.60	18.60				18.60		18.60	
F 3	Michiru Hills (BCGP)	FD	0.00							578.66	
F 4	Michiru Timber Plantation	FD	0.00							373.70	
F 5	Forest Reserve Michiru Hill	FR	0.00							3,265.40	
F 6	Chimembe Plantation	FD	0.00							367.00	
F 7	Chilangoma Hills	VF	20.00	20.00			5.00		15.00	20.00	
Kunthembwe (Blantyre D.)											
F 8	Namisu Plantation	VF	0.00							758.00	
F 9	Namisu Plantation	LAP	0.00							77.20	
F 10	Tedzani forest reserve	FR								20,000.00	
Kapeni (Blantyre D.)											
F 11	Ngoga Hill	VF	50.00	30.00			30.00			30.00	
Lundu (Blantyre D.)											
F 12	Namatunu Forest reserve	FR	0.00							800.00	
F 13	Village Forest, Mangweru	VF	50.00	7.00			7.00			50.00	
Makata (Blantyre D.)											
F 14	Fred Hills	VF	130.00	3.00			3.00			130.00	
Machinjiri (Blantyre D.)											
F 15	Ndirande Plantation	FD	1100.00	600.00	600.00					1,710.00	
F 16	Namsengwe	LAP	28.68	28.68				28.68		28.68	
F 17	Bangwe Plantation	FD	0.00							322.30	
F 18	Machinjiri Forest Reserve	FR	0.00							77.10	
F 19	Mpingwe Hill	FD	0.00							300.00	
F 20	Chigumula Plantation Timber	FD	0.00							648.00	
F 21	Kanjedza	FD	0.00							168.00	
F 22	Namilango Hills	VF	60.00	3.00			3.00			60.00	
F 23	Chilaweni Hills	VF	40.00	0.00			-			40.00	
F 24	Namwiyo 1 & 2 Hills	LAP	35.00	35.00				35.00		35.00	
Chitera (Chiradzulu D.)											
No FR, VF, LAP, FD											
Mpama (Chiradzulu D.)											
F 25	Chiradzulu Forest Reserve	FR	0.00							12,550.00	
F 26	Plantation forest	FD	0.00							115.00	
F 27	Lisau Proposed Forest	FR	0.00							205.00	
Total			1,682.28	741.98	600.00	-	44.70	82.28	15.00	42,897.64	

**Footnotes:**

1. IF: Indigenous forest remains 15 ha in the SA at Chilangoma hill of VF
2. Potential forest included existing forest and area completed land acquisition for afforestation
3. PL is plantation in the FD
4. BCGP: Blantyre Central Government Plantation of LAP
5. Forest number shows its location on the Map at Annex Forestry 2
6. Total A shows an accumulation of forest potential area including where planned afforestation
7. Total B shows an accumulation of current forest area in the SA.

## Annex B- 2 CURRENT NURSERY LOCATION MAP with FOREST



### Annex B - 3: List of Plants in the SA

Group		Scientific name	Local name
Fodder tree group	1	<i>Piliostigma Thonningii</i> Miln.	Msekese
	2	<i>Albizzia molucana</i>	-
	3	<i>Albizzia lebbek</i>	Mtangatanga
	4	<i>Ficus sycomorus</i>	Chikujunba
	5	<i>Acacia tortilis</i>	Nchongwe
Alley cropping group	1	<i>Zizyphus mucronata</i>	Kankhande
	2	<i>Euphorbia hermentina</i> LA	Gologo
	3	<i>Erytherina indica</i> LAN	-
	4	<i>Perkinsonia aculeata</i> L. <i>Tephrosia vogelii</i>	-
	5		Mthuthu-
	6	<i>Vetiver zizanioides</i> STAPH	Thedzi
	7	<i>Sesbania sesban</i>	Tedza
	8	<i>Trema orientalis</i> BL.	Mpefu
	9	<i>Leucaena leucocephala</i>	Lukina
	10	<i>Tecoma stans</i>	-
	11	<i>Gliricidia sepium</i>	Lilac (Mexican-Lilac)
Fruit tree group including none fruits tree	1	<i>Uapaca kirkiana</i>	Masuku
	2		Nthundu
	3	<i>Flucourtia indica</i>	Nthudza
	4	<i>Paripari curatollifolia</i>	Maula
	5	-	Kasokolowe
	6	<i>Ficus capensis</i>	Nkhuyu
	7	-	Mfula
	8	<i>Strychnos</i>	Maye
	9	<i>Syzigium</i>	Katope
	10	<i>Garcinia huillensis</i>	Mpimbo
	11	<i>Vitex payos</i>	Chansei
	12	<i>Strychnos innocus</i>	Mankhakaza
	13	<i>Ximenia caffra</i>	Mpinji
	14	<i>Annona senegalensis</i>	Mposa
	15	<i>Moringa oleifera</i>	Chmbwamba
	16	<i>Bridelia micranta</i>	Mpasa
	17	<i>Adasonia digitata</i>	Mlambe
	18	<i>Buhinia tomentosa</i> L.	Mpando
	19	Citrus	
	20	<i>Psidium guajava</i> L. (Guava)	
	21	- (Peaches)	
	22	<i>Artocarpus heterophyllus</i> Lam.(Jackfruit)	
	23	- (Av. Pear)	
	24	<i>Persea americana</i> Mill. (Avocado)	
	25	- (Lemon)	
	26		

Group	Scientific name		Local name
Fuel wood group	1	<i>Eucalyptus saligna/grandis/ camadulensis</i>	Blue gam
	2	<i>Parkia filicoidea</i>	Mukundi
	3	<i>Swartsis madagascariensis</i>	Dzungu
	4	<i>Combretum apiculatum</i>	Kadale
	5	<i>Julbernardia globihlora</i>	Ntondo
	6	<i>Monotes africanus</i>	Mdzadza
	7	<i>Colophospermum mopane</i>	Tsanya
	8	<i>Lonchocarp us capassa</i>	Mswaswa
	9	<i>Cajanus cajon L</i>	Nandolo
Commercial woods	1	<i>Pseudolachnostylis maprouneifolia</i>	Nkonde
	2	<i>Hyphaene thebaica MART.</i>	Mgwaoagwaa
	3	<i>Pterocarpus angolensis</i>	Mlombwa
	4	<i>Khaya nyasica</i>	Mbawa
	5	<i>Eucalyptus spp</i>	Blue gam
	6	<i>Pinus patula</i>	Nkungoza
	7	<i>Afzelia quanzensis</i>	Mkungudza

#### Annex B - 4: Summary of salient features of tree nurseries

Traditional Authority Nursery Name		Type	Capacity Units	Stock Units	Stocking %	No of Tree Variety	Sale	Own Use %	Area (m <sup>2</sup> )	Altitude (m)	Start year	
Chigaru												
N1	Likaka	VN	10,000	5,200	52	1	85	15	130	600	1996	
N2	Makoka	FD	40,000	21,000	53	2	100	0	380	600	1996	
N3	Chirombo	VN	10,000	8,000	80	1	100	0	120	560	1994	
N4	Masinde	VN	20,000	15,000	75	1	100	0	500	500	1999	
N5	Matambalika	VN	10,000	6,000	60	1	100	0	150	600	1999	
Subtotal			90,000	55,200	64							
Kuntaja												
N6	Chilangoma	VN	20,000	300	2	1	0	10	90	1,050	1984	
N7	Chelemu	VN	70,000	14,000	20	1	100	0	300	700	1998	
N8	Michiru	FD	500,000	62,000	12	2	20	80	2,500	1,000	1981	
N9	Nkomazi	VN	2,000	1,200	60	1	20	80	18	510	1985	
Subtotal			592,000	77,500	23							
Kunthembwe												
N10	Makangwa	VN	70,000	10,000	14	4	100	0	300	690	1998	
N11	Namisu	VN	75,000	30,000	40	4	100	0	486	690	1981	
Subtotal			145,000	40,000	27							
Kapeni												
N12	Lirangwe	VN	50,000	18,200	36	6	100	0	566	600	1981	
N13	Namwili Dam	VN	30,000	21,000	70	3	100	0	33	750	1980	
N14	Chimbunamo	VN	10,000	3,900	39	5	0	100	2	600	1998	
N15	Namondwe	VN	10,000	5,700	57	5	0	100	3	600	1998	
Subtotal			100,000	48,800	51							
Lundu												
N16	Mabemga	VN	15,000	10,000	67	1	85	15	200	650	1998	
Subtotal			15,000	10,000	67							
Makata												
N17	Makata	Forest	VN	5,000	3,000	60	1	80	20	150	650	1981
N18	Mpopo	VN	20,000	500	3	1	100	0	1000	600	1998	
Subtotal			25,000	3,500	31							
Machiniiri												
N19	Chigumula	FD	300,000	22,000	7	7	60	40	10,000	1,050	1958	
N20	Mapasa Sayere	VN	30,000	10,000	33	5	100	0	900	1,080	1998	
Subtotal			330,000	32,000	20							
Chitea												
Mpama												
N21	Mpama	VN	15,000	10,000	67	1						1998
Subtotal			15,000	10,000	67							
Total			1,312,000	277,000	21							17,828
Average			62,500	13,200	-							850

Foot notes:

1. VN: VNRMC is operating nursery after transferred from Forestry Department
2. FD: Forestry Department Nursery
3. Nursery location is provided by number (N1, N2 ...) on the Nursery location map at Annex Forestry 2
4. Source: Forest Department Regional Office South

## **Annex B - 5: Summary of forest field survey**

### Approach

Forestry field survey was conducted at listed forest showing on the following table (Summary of forestry field surveys in and surroundings the SA), which is including forests covering beyond the SA. Those surveys enable us to properly understand the state of forests in the SA technically and administratively.

This field survey was undertaken in three categories of forests: The Forest reserve(s) currently under Government land and still managed by the FD in accordance with the New Forest Act. The Forest reserves contain both commercial plantations with exotic species and indigenous forests. Inventory was mainly targeted to the plantations, which are meant to be sustainably utilized while indigenous vegetation is managed primarily for protection of soil and water resources, also revenues for national treasury.

The second category of forest is referred to as the Local Authority Plantations. These are forests in customary land, which were initially set up by the FD, planted with various tree species and then handed over to the Local Authority of the Blantyre City. The local authority has been managing the forests and collecting revenue from sale of forest products to finance their operations.

The third category of forest constitutes as Village Forests. There are forests on some hills on customary land for which adjacent village communities have been encouraged to plant trees either by individuals or the Government. Also the Government has in the past acquired part of customary land and planted them with trees and then handed over such trees to the local communities. Such forests are put under the care of the respective VNRMCs that are specially trained to manage forests.

In a few cases, existing individual woodlots in customary land are surveyed as a category of agroforestry separately from forestry survey<sup>2</sup>.

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<sup>2</sup> Woodlot survey result will be presented on It/R after detail analysis.



### Summary of forest fields survey in and surroundings the SA

1	2	3	4	5	6	7	8	9	10	11	12
Forest Name	TA	Type	Area ha	Plant year	Stocking Sph	Girth (Dbh) Cm	Hight m	Growth m3/ha/yr	Ann Yield m3/yr	Rotat. vol m3	Stand vol. m3
TA Machinji											
Chigumula		FD	560	1975	250	113	27.0	25.00	14,000	350,000	249788
Mulenga Hills		VF	24	1983	1,322	10	8.0	2.00	48	384	101
Namwiyo 1&2		LAP	35	1983	1,534	14	7.0	2.00	70	560	293
Chilaweni Hills		VF	40		No Plant					0	
Namilango Hills		VF	60	1991	400	3	6.0	5.00	300	2,400	5
Mpingwe		LAP	300		No Plant				0	0	
Bangwe		FD	285	1981	1,200	28	18.0	10.00	2,850	22,800	19213
TA Kapeni											
Nansangwe		LAP	27	1979	960	5	18.0	2.33	62.91	503	38
Mangweru		VF	24	1987	732	10	10.5	3.00	72	576	73
TA Mpama											
Chiradzulu		FD	115	1984	1,111	7	17.5	4.00	460	3,680	376
Kunthembe											
Namisu		LAP	77	1980	955	13	6.0	3.75	288.75	2,310	274
Namisu		BCFP	846	1987	955	18	8.0	3.75	3172.5	25,380	8337
Average					1,019	12	11	4.00	732	5,327	3190
Weighted Ave					803	14	9	4.00	1961	15691	6877

#### Footnotes:

1. For Chigumula forest rotation is 25 years, thinning has taken place, tree form factor is 0.65 while in other forests it is 0.5
2. Column no 5: Indicates the first date of plantation establishment. Most of planting was completed within 4 years.
3. Column no. 6: The number of stems per ha was obtained from density count using circular plots
4. Column no 7: Actually girth rather than diameter was measured and this can be converted into diameter by dividing the number by 3.14 or the number can be entered in equation directly. The equation used for computing volume was:  $G^2 \times 2 \times h \times f / (40,000\pi)$  (where G is girth, h height) using girth directly or when converted into diameter, equation used is  $\pi \times D^2 \times 2 \times h \times f / (40,000)$  where D is diameter, h is height, f is form factor of 0.5.
5. Column no 9: Reported harvesting was used and showed low yields due to lack of management
6. Column no 10: Annual yields are growth per ha multiplied by the hectare of forest
7. Column no 11: Rotation volume is that volume which is harvested after a rotation of 8 years (5 to 9) years were mentioned as possible.
8. Column no 12: A current volume which would be realized if the plantation were to be Clearfield at the time of inspection and is based on actual tree sizes and stocking.

# Annex B - 6: Fuelwood Demand Survey based on woodlot survey in the SA

(Item-list of woodlots survey)

Fareners' name & No.	TA	No of trees No.	Volume m3	Annual Supply 1 m3/yr	Annual Supply 2 m3/yr	Supply / HH m3/hse	SHA m3/ha/yr	DPF m3	D/S m3	D/SH %
1 Mathiya	KAP	20	1.329	0.221	0.494	0.165	0.247	7.5	-7.0	-93
2 F.Farao	KAP	17	0.501	0.083	0.186	0.186	0.064	2.5	-2.3	-93
3 Sungani	KAP	11	0.271	0.045	0.101	0.101	0.050	2.5	-2.4	-96
4 E.Mikundi	KAP	32	2.170	0.362	0.807	0.807	0.807	2.5	-1.7	-68
5 P.Andreya	KAP	9	1.562	0.260	0.581	0.581	0.194	2.5	-1.9	-77
6 S.Sambuzi	KAP	80	0.452	0.075	0.168	0.168	0.039	2.5	-2.3	-93
<b>Average for Kapeni</b>		<b>28</b>	<b>1.048</b>	<b>0.175</b>	<b>0.389</b>	<b>0.334</b>	<b>0.233</b>	<b>3.3</b>	<b>-2.9</b>	<b>-87</b>
7 M. Chpalawi	MKT	69	4.331	0.722	1.610	0.402	0.233	10.0	-8.4	-84
8 L.Nepyala	MKT	24	1.325	0.221	0.492	0.492	0.615	2.5	-2.0	-80
9 M.Chimega	MKT	164	1.819	0.303	0.676	0.676	1.127	2.5	-1.8	-73
10 N.Kasiya	MKT	132	5.923	0.987	2.201	2.201	4.403	2.5	-0.3	-12
<b>Average for Makata</b>		<b>97</b>	<b>3.350</b>	<b>0.558</b>	<b>1.245</b>	<b>0.943</b>	<b>1.595</b>	<b>4.4</b>	<b>-3.1</b>	<b>-62</b>
									0.0	
11 M. Makanda	KTB	4	1.027	0.171	0.382	0.382	0.273	2.5	-2.1	-85
12 A.Sola	KTB	404	5.302	0.884	1.971	1.971	0.985	2.5	-0.5	-21
13 B.Bazulo	KTB	16	2.135	0.356	0.794	0.794	1.058	2.5	-1.7	-68
14 W.Jamali	KTB	16	1.028	0.171	0.382	0.191	2.388	5.0	-4.6	-92
<b>Average for Kuntembwe</b>		<b>110</b>	<b>2.373</b>	<b>0.396</b>	<b>0.882</b>	<b>0.834</b>	<b>1.176</b>	<b>3.1</b>	<b>-2.2</b>	<b>-67</b>
15 F.Tathera	LUD	188	7.439	1.240	2.765	2.765	0.813	2.5	0.3	11
16 J.Kachingwe	LUD	370	26.037	4.339	9.677	9.677	9.677	2.5	7.2	287
17 D.Bisalani	LUD	20	1.437	0.240	0.534	0.267	0.628	5.0	-4.5	-89
18 Tiesi	LUD	29	1.283	0.214	0.477	0.159	0.310	7.5	-7.0	-94
<b>Average for Lundu</b>		<b>152</b>	<b>9.049</b>	<b>1.508</b>	<b>3.363</b>	<b>3.217</b>	<b>2.857</b>	<b>4.4</b>	<b>-1.0</b>	<b>29</b>
19 Chinseu	CHR	111	4.485	0.747	1.667	1.667	0.678	2.5	-0.8	-33
20 D.Kaufa	CHR	12	0.113	0.019	0.042	0.042	0.021	2.5	-2.5	-98
21 F.Mpero	CHR	3	4.015	0.669	1.492	1.492	3.731	2.5	-1.0	-40
22 W.Chiluwe	CHR	22	0.457	0.076	0.170	0.042	0.357	10.0	-9.8	-98
<b>Average for Chiradzulu</b>		<b>37</b>	<b>2.267</b>	<b>0.378</b>	<b>0.843</b>	<b>0.811</b>	<b>1.197</b>	<b>4.4</b>	<b>-3.5</b>	<b>-68</b>
23 A.Khaleni	KJA	36	1.758	0.293	0.653	0.653	0.131	2.5	-1.8	-74
24 J.Likaka	KJA	486	18.620	3.103	6.920	6.920	4.325	2.5	4.4	177
25 Solomoni	KJA	266	4.021	0.670	1.495	1.495	0.755	2.5	-1.0	-40
26 M.Motamba	KJA	10	0.662	0.110	0.246	0.246	0.273	2.5	-2.3	-90
27 Maluwa	KJA	10	0.183	0.030	0.068	0.017	0.004	10.0	-9.9	-99
28 Kholowa	KJA	9	0.339	0.056	0.126	0.126	0.252	2.5	-2.4	-95
<b>Average for Kuntaja</b>		<b>136</b>	<b>4.264</b>	<b>0.711</b>	<b>1.585</b>	<b>1.576</b>	<b>0.957</b>	<b>3.8</b>	<b>-2.2</b>	<b>-37</b>

Fareners' name & No.	TA	No of trees No.	Volume m3	Annual Supply 1 m3/yr	Annual Supply 2 m3/yr	Supply / HH m3/hse	SHA m3/ha/yr	DPF m3	D/S m3	D/SH %
29 Bwanali	MCR	111	7.725	1.288	2.871	2.871	0.522	2.5	0.4	15
30 Njati	MCR	3	0.059	0.010	0.022	0.022	0.013	2.5	-2.5	-99
31 B.Mazanjo	MCR	27	5.886	0.981	2.188	0.729	0.695	7.5	-5.3	-71
32 V.Phiri	MCR	46	2.054	0.342	0.763	0.127	0.954	15.0	-14.2	-95
<b>Average for Machinjiri</b>		<b>47</b>	<b>3.931</b>	<b>0.655</b>	<b>1.461</b>	<b>0.937</b>	<b>0.546</b>	<b>6.9</b>	<b>-5.4</b>	<b>-63</b>
33 Chimpeni	MPM	78	7.633	1.272	2.837	0.709	1.891	10.0	-7.2	-72
34 Mbalati	MPM	130	0.702	0.117	0.261	0.087	0.043	7.5	-7.2	-97
35 Poya	MPM	527	4.841	0.807	1.799	1.799	0.120	2.5	-0.7	-28
36 S.Makande	MPM	316	5.947	0.991	2.210	1.105	0.553	5.0	-2.8	-56
<b>Average for Mpama</b>		<b>263</b>	<b>4.781</b>	<b>0.797</b>	<b>1.777</b>	<b>0.925</b>	<b>0.652</b>	<b>6.3</b>	<b>-4.5</b>	<b>-63</b>
									0.0	
37 M.Duwa	CTR	12	0.092	0.015	0.034	0.017	0.023	5.0	-5.0	-99
38 S.Ndalama	CTR	211	3.211	0.535	1.193	0.597	0.398	5.0	-3.8	-76
39 R.Chimenya	CTR	44	4.058	0.676	1.508	0.503	0.151	7.5	-6.0	-80
40 Chandema	CTR	2	1.251	0.208	0.465	0.232	0.930	5.0	-4.5	-91
41 Matambo	CTR	12	1.409	0.235	0.524	0.175	0.175	7.5	-7.0	-93
42 Sitima	CTR	17	0.920	0.153	0.342	0.085	0.049	10.0	-9.7	-97
<b>Average for Chitera</b>		<b>50</b>	<b>1.824</b>	<b>0.304</b>	<b>0.678</b>	<b>0.268</b>	<b>0.287</b>	<b>6.7</b>	<b>-6.0</b>	<b>-89</b>
<b>Average of whole TA</b>		<b>102.17</b>	<b>3.65</b>	<b>0.61</b>	<b>1.36</b>	<b>1.09</b>	<b>1.06</b>	<b>4.79</b>	<b>-3.43</b>	<b>-56.24</b>

Foot notes:

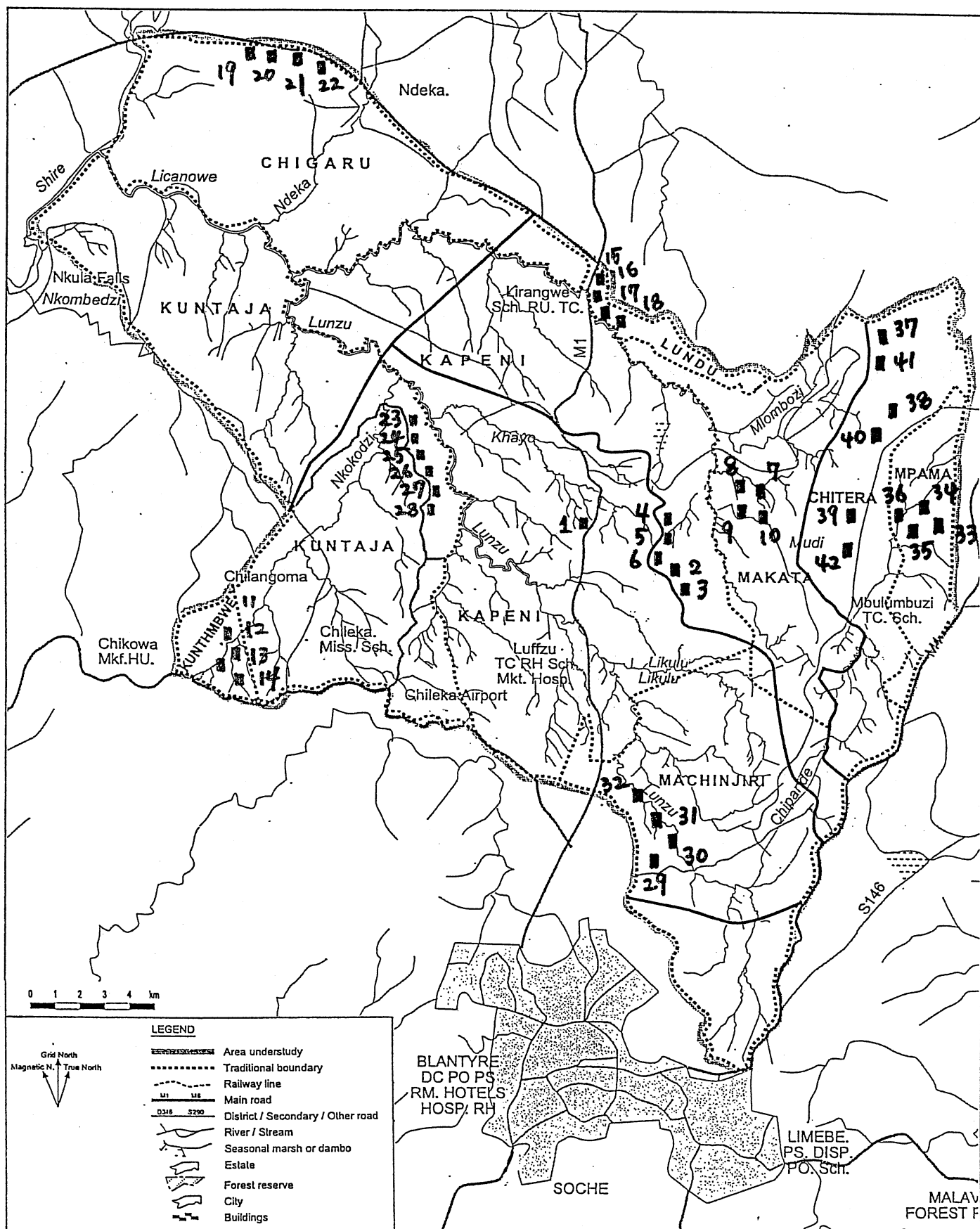
1. No: Sample No 1 to 42
2. TRN: Number of trees for the respective farmer or the sample
3. ASP 1: Annual supply obtained by dividing the measured volume by rotation harvesting age of 6 years.
4. ASP2: Annual wood supply plus agricultural waste of 123% of wood supply (ASP1)
5. SPH: Supply per household within the farmstead
6. DPF: Demand per Farmstead to maintain a fair living standard. Divided by households in farmstead for demand per hse.
7. D/S: Observed deficit or surplus per person
8. D/SH: Deficit or surplus expressed as a percentage of DPF
9. SHA: Annual yield per ha of cultivated area
10. NB: FAO study in SADC countries indicated that in dry savanna, rural wood contributed 22% of total wood supply while agricultural residue contributed about 27 % . In short residue share was 123% of the rural wood.

11. Supplies in general in percentages were:

12. Source category %:

Natural woodlands: 32%	Agricultural residues 27%
Rural wood: 22%	Tree fallow: 12%
Industrial residues: 4%	Tree plantations: 3%
Total supply 100 %	

# Annex B-7: Forest and Woodlot field survey point



# Annex Forestry- 8: Tree Seed Demand and Supply 1999 of the FRIM

	Species	Demand	Supply	Shortfall
1	<i>Acacia nilotica</i>	1.125	1.125	0
2	<i>Acacia polyacantha</i>	60.699	60.699	0
3	<i>Afzelia quanzensis</i>	1504.785	1504.785	0
4	<i>Albizia lebbeck</i>	139.91	139.91	0
5	<i>Anona senegalensis</i>	3	0	3
6	<i>Ateleia herbert-smithii</i>	25	25	0
7	<i>Azadirachta indica</i>	81.5	61.5	20
8	<i>Azanza garkeana</i>	1.4	1.4	0
9	<i>Bauhinia petersiana</i>	1	1	0
10	<i>Bauhinia thonningii</i>	4.1	4.1	0
11	<i>Brachystegia spiciformis</i>	8.04	8.04	0
12	<i>Burtt-davya nyasica</i>	3.939	3.939	0
13	<i>Cedrela toona</i>	1.42	1.42	0
14	<i>Colophospermum mopane</i>	7.63	7.63	0
15	<i>Combretum imberbe</i>	5	0	5
16	<i>Cuppressus lusitanica</i>	5.805	5.805	0
17	<i>Dalbergia melanoxylon</i>	0.35	0.35	0
18	<i>Delonix regia</i>	19.15	19.15	0
19	<i>Eucalyptus camaldulensis</i>	24.942	24.942	0
20	<i>Eucalyptus cloeziana</i>	0.63	0.63	0
21	<i>Eucalyptus grandis</i>	9.071	9.071	0
22	<i>Eucalyptus maidenii</i>	0.25	0.25	0
23	<i>Eucalyptus microcorys</i>	0.52	0.52	0
24	<i>Eucalyptus saligna</i>	0.21	0.21	0
25	<i>Eucalyptus tereticornis</i>	4.975	4.905	0.07
26	<i>Eucalyptus urophylla</i>	2.85	2.85	0
27	<i>Faidherbia albida</i>	315.371	315.371	0
28	<i>Flaucortia indica</i>	8.5	1	7.5
29	<i>Gliricidia sepium</i>	470.943	460.943	10
30	<i>Gmelina arborea</i>	16.92	16.92	0
31	<i>Jacaranda mimosaeifolia</i>	0.65	0.65	0
32	<i>Khaya anthotheca</i>	234.932	234.932	0
33	<i>Leucaena leucocephala</i>	46.445	46.445	0
34	<i>Lonchocarpus capassa</i>	0.43	0.43	0
35	<i>Melea azedarach</i>	45.1	45.1	0
36	<i>Milicia excelsa</i>	3.45	3.45	0
37	<i>Moringa oleifera</i>	24.826	24.826	0
38	<i>Pericopsis angolensis</i>	5.6	1.5	4.1
39	<i>Pinus kesiya</i>	2.87	2.87	0
40	<i>Pinus oocarpa</i>	2.91	2.91	0

	<b>Species</b>	<b>Demand</b>	<b>Supply</b>	<b>Shortfall</b>
41	<i>Pinus patula</i>	19.948	19.948	0
42	<i>Pinus tecunumanii</i>	0.125	0.125	0
43	<i>Pterocarpus angolensis</i>	10.36	8.36	2
44	<i>Pyracantha coccinea</i>	1.285	1.285	0
45	<i>Senna siamea</i>	138.386	137.386	1
46	<i>Senna spectabilis</i>	76.186	76.186	0
47	<i>Sesbania sesban</i>	48.574	48.574	0
48	<i>Syzgium cordatum</i>	19	19	0
49	<i>Tecoma stans</i>	0.5	0.5	0
50	<i>Tephrosia vogelii</i>	511	511	0
51	<i>Terminalia ivorensis</i>	2	2	0
52	<i>Terminalia sericea</i>	6.9	6.9	0
53	<i>Uapaca kirkiana</i>	1	1	0
54	<i>Zizyphus mauritiana</i>	6	6	0
55	<i>Zizyphus mucronata</i>	1	1	0
<b>Total</b>		<b>3938.512</b>	<b>3885.842</b>	<b>52.67</b>

### Annex B - 9 Distribution of Tree Species in the SA

Predominant Specie	Botanical Family name	type of distribution	estimated density	distributed area (ha)*	usage in daily life
<i>Eucalyptus camadulensis</i>	Myrtaceae	afforested &	800 ~2,500	13 ,700	fuelwood &
<i>d i t t o</i>	ditto	scattered	st / ha		pole wood
<i>Adansonia digitata</i>	Bombacaceae	scattered	sparce	3 ,100	edible
<i>Mangifera indica</i>	Anacardiaceae	scattered	sparce	2 ,400	edible
<i>Steculia quinquerobera</i>	Steculiaceae	scattered	sparce	2 ,000	rope, mat
<i>Cassia singueana</i>	Leguminosae	scattered	medium	1 ,800	fuelwood
<i>Brachystegia floribunda</i>	Leguminosae	miombo wl.	medium	1 ,200	charcoal
<i>Brachystegia boehmii</i>	Leguminosae	miombo wl.	medium	1 ,100	rope fibre
<i>Toona ciliata</i>	Meliaceae	scattered	sparce	900	furniture
<i>Bauhinia petersiana</i>	Leguminosae	brush	1,200 st/ha	800	fuelwood
<i>Colophospermum mopane</i>	Leguminosae	miombo wl.	sparce	700	pole wood
<i>Piliostigma thonningii</i>	Leguminosae	brush	900 st/ha	600	edible fruit
<i>Gmelina arborea</i>	Verbenaceae	scattered	medium	600	fuelwood
<i>Acacia polyacantha</i>	Leguminosae	brush	600 st/ha	400	fuelwood
<i>Terminalia sericea</i>	Combretaceae	brush	sparce	400	axe~handle
<i>Ficus natalensis</i>	Moraceae	isolated stand	sparce	200	shade tree
<i>Ficus natalensis</i>	Moraceae	isolated stand	sparce	200	shade tree
<i>Psidium guajava</i>	Myrtaceae	scattered	sparce	100	edible fruit
<i>Kigelia africana</i>	Bignoniaceae	scattered	sparce	100	mortar
<i>Parkia filicoides</i>	Leguminosae	scattered	sparce	100	firewood

Note : the area of current, overrapped distribution Observed Standard of Scattered Stands shown below:

Botanical Name	maximum	height of	radius of	canopy coverage (%) by tree stands / ha						
	height, m	10-year st.	canopy, m	10	20	30	40	50	60	70
<i>Vernonia amygdalina</i>	6	4	2.3	0.7%	1.4%	2.2%	2.9%	3.6%	4.3%	5.1%
<i>Steganostaenia araliacea</i>	7	5	2.3	0.7%	1.4%	2.2%	2.9%	3.6%	4.3%	5.1%
<i>Strychnos spinosa</i>	7	5	2.5	0.8%	1.6%	2.4%	3.1%	3.9%	4.7%	5.5%
<i>Lonchocarpus capassa</i>	8	5	2.0	0.6%	1.3%	1.9%	2.5%	3.1%	3.8%	4.4%
<i>Dalbergia melanoxylon</i>	10	5	3.0	0.9%	1.9%	2.8%	3.8%	4.7%	5.7%	6.6%
<i>Peltophorum africana</i>	10	7	3.9	1.2%	2.4%	3.7%	4.9%	6.1%	7.3%	8.6%
<i>Piliostigma thonningii</i>	10	7	4.0	1.3%	2.5%	3.8%	5.0%	6.3%	7.5%	8.8%
<i>Diplorhynchus condilocarpon</i>	12	8	3.5	1.1%	2.2%	3.3%	4.4%	5.5%	6.6%	7.7%
<i>Combretum collinum</i>	12	8	4.0	1.3%	2.5%	3.8%	5.0%	6.3%	7.5%	8.8%
<i>Schrebera trichoclada</i>	15	9	3.7	1.2%	2.3%	3.5%	4.6%	5.8%	7.0%	8.1%
<i>Steculia quinquerobera</i>	15	9	4.1	1.3%	2.6%	3.9%	5.1%	6.4%	7.7%	9.0%
<i>Toona ciliata</i>	15	9	4.1	1.3%	2.6%	3.9%	5.1%	6.4%	7.7%	9.0%
<i>Boscia salicifolia</i>	15	10	3.8	1.2%	2.4%	3.6%	4.8%	6.0%	7.2%	8.4%
<i>Pseudolachnostylis maprouneifolia</i>	15	10	2.7	0.8%	1.7%	2.5%	3.4%	4.2%	5.1%	5.9%
<i>Brachystegia spiciformis</i>	15	10	2.7	0.8%	1.7%	2.5%	3.4%	4.2%	5.1%	5.9%
<i>Terminalia sericea</i>	15	10	4.2	1.3%	2.6%	4.0%	5.3%	6.6%	7.9%	9.2%
<i>Parinari cullatellifolia</i>	15	10	4.8	1.5%	3.0%	4.5%	6.0%	7.5%	9.0%	10.6%
<i>Erythrina abyssinica</i>	15	10	4.9	1.5%	3.1%	4.6%	6.2%	7.7%	9.2%	10.8%
<i>Sclerocarya caffra</i>	15	10	5.5	1.7%	3.5%	5.2%	6.9%	8.6%	10.4%	12.1%
<i>Pterocarpus rotundifolius</i>	16	9	4.5	1.4%	2.8%	4.2%	5.7%	7.1%	8.5%	9.9%
<i>Acacia polyacantha</i>	18	12	6.0	1.9%	3.8%	5.7%	7.5%	9.4%	11.3%	13.2%
<i>Ficus natalensis</i>	20	13	6.5	2.0%	4.1%	6.1%	8.2%	10.2%	12.2%	14.3%
<i>Diospiros mespiliformis</i>	25	12	5.4	1.7%	3.4%	5.1%	6.8%	8.5%	10.2%	11.9%
<i>Adansonia digitata</i>	25	15	6.6	2.1%	4.1%	6.2%	8.3%	10.4%	12.4%	14.5%
<i>Khaya anthoteka (nyasica)</i>	50	13	6.2	1.9%	3.9%	5.8%	7.8%	9.7%	11.7%	13.6%