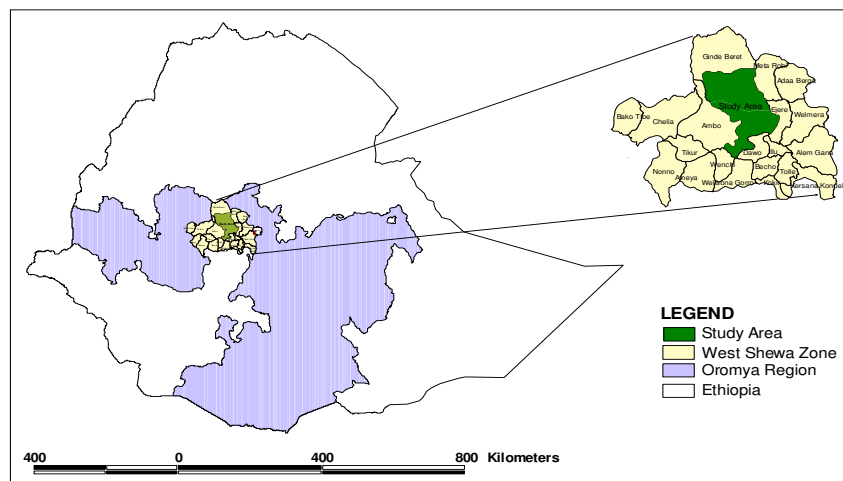


XII. Appendices

Appendix 1. Location map of the study area.



Appendix 2. Some physical and chemical properties of the soil in the study area.

Depth (cm)	pH (H ₂ O)	OC (mg g ⁻¹)	Tot. N (mg g ⁻¹)	Av. P (mg g ⁻¹)	Sand (%)	Silt (%)	Clay (%)
0-18	6.28	48.280	4.796	0.083	12	47	41
18-60	6.19	15.290	1.316	0.018	11	37	52
60-125	5.66	4.356	0.459	0.021	4	34	62
125-160	5.97	2.027	0.198	0.022	28	33	39

Tot. N - total N, OC - organic C, Av. P - available P

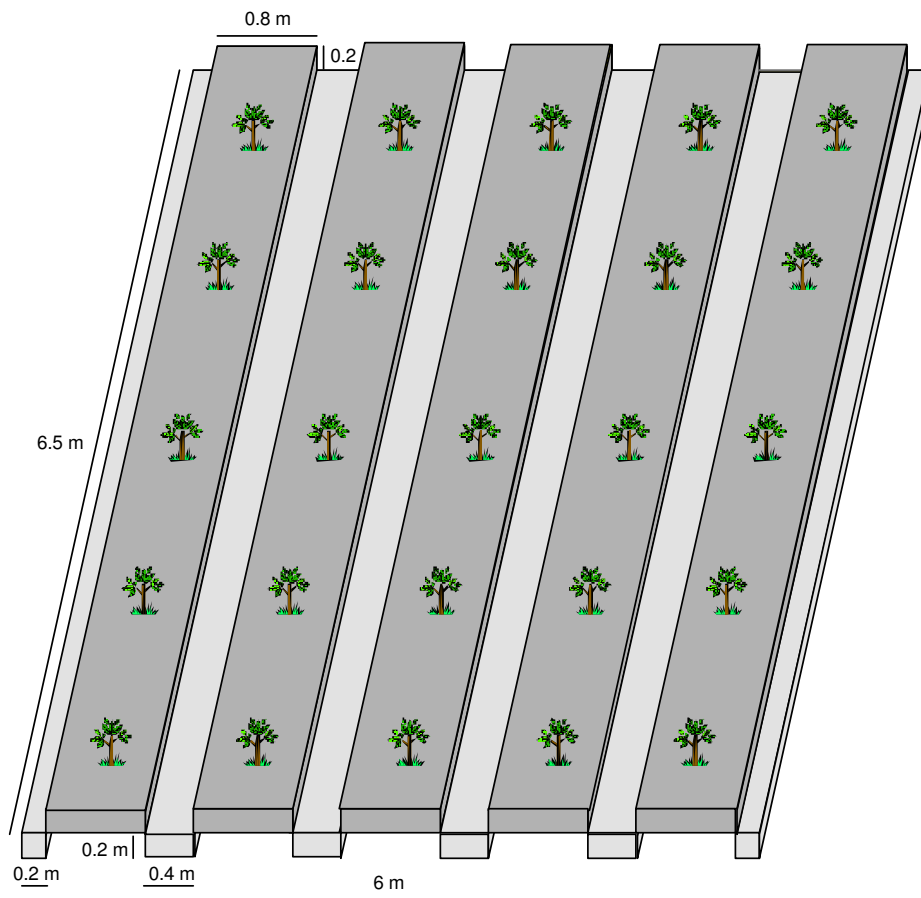
Appendix 3. Description of tree and shrub species included in foliage, flower bud and stem sampling.

Species	Family name	Altitude of sampling site (masl)	Estimated age (year)	Propagation	Height (m)
<i>Hagenia abyssinica</i>	Rosaceae	2960-3015	5-8	Seed	4.0-4.6
<i>Dombeya torrida</i>	Sterculiaceae	2895-3010	6-8	Seed	4.3-5.0
<i>Buddleja polystachya</i>	Loganiaceae	2895-3020	5-9	Seed, cutting	3.1-4.6
<i>Chamaecytisus palmensis</i>	Fabaceae	2900-3000	4-5	Seed	4.5-4.9
<i>Senecio gigas</i>	Asteraceae	2970-3020	5-8	cutting	2.7-3.5

Appendix 4. Chemical and physical properties of the top soil layers at Ginchi research sub-center, central highlands of Ethiopia.

Soil properties								
Soil depth (cm)	pH (H ₂ O)	OC (%)	TN (%)	P (mg kg ⁻¹)	Ca (cmol kg ⁻¹)	Mg (cmol kg ⁻¹)	K (cmol kg ⁻¹)	Clay (%)
0-15	5.99	22.6	1.1	6.2	37.5	10.5	1.54	76
15-30	6.20	20.1	1.0	6.5	39.69	13.08	1.62	75

Appendix 5. Sketch of a plot with five broad bed and furrow (BBF).



Appendix 6. Chemical and physical properties of the top soil layers at Holetta.

Soil depth (cm)	Soil properties							Clay (%)
	pH (H ₂ O)	OC (%)	TN (%)	P (mg kg ⁻¹)	Ca (cmol kg ⁻¹)	Mg (cmol kg ⁻¹)	K (cmol kg ⁻¹)	
0-15	5.20	2.18	0.17	4.51	7.30	2.65	1.40	80
15-30	5.36	1.87	0.17	3.49	4.50	2.61	1.30	78

Appendix 7. Scientific and family names, and seed sources of seven tree species.

Scientific name	Family	Common name	Seed sources
<i>Acacia decurrens</i> Willd	Fabaceae	Green wattle	FRC
<i>Chamaecytisus palmensis</i> (Christ) Bisby & K. Nicholls - accession 15076	Fabaceae	Tagasaste	ILRI
<i>Chamaecytisus proliferus</i> (L.f.) Link	Fabaceae	Escabon	FRC
<i>Eucalyptus globulus</i> Labill	Myrtaceae	Tasmanian	FRC
<i>Eucalyptus camaldulensis</i> Dehnhardt	Myrtaceae	River Redgum	FRC
<i>Grevillea robusta</i> A. Cunningham ex R. Br.	Proteaceae	Silkoak	FRC
<i>Hagenia abyssinica</i> (Bruce) J.F. Gmel.	Rocaceae	African Redwood	FRC