

# **Annex**

**Annex 1: All Information Collected from Each Nursery**

**Annex 2: Map of Location for Each Nursery**

**Annex 3: Sketch of Nursery Facilities Improved in 1997/1998**

**※ Attached Material: Photographs for Each Nursery**

<b>1 Nursery Number</b>		<b>1</b>
<b>2 Location</b>		
a	Wareda Name	Kolla Tembien
b	Town Name	Getsiky Meleslay
c	Nursery Name	Getsiky Meleslay
d	Latitude	13° 41' 02"
e	Longitude	39° 00' 21"
f	Altitude (m)	1920
g	Distance from Wareda Town (Access Time)	28km (50 minutes)
h	Access Road	All Season
<b>3 Establishment</b>		
a	Agent (REST or Government)	REST
b	Year (in European Calendar)	1993 October
<b>4 Area</b>		
a	Total Area (m <sup>2</sup> )	6800
b	Productive Area (m <sup>2</sup> )	957
c	Seedling Beds (Tree)	72
d	Seedling Beds (Grass)	15
e	Extension Area (m <sup>2</sup> )	/
<b>5 Staff</b>		
a	Foremen & Forewoman	Ato. Tekley Mekonen
b	Technicians	3
c	Casual Labor	18
d	Total Payment for Labor / Day	Wheat 3 kg
<b>6 Water</b>		
a	Source (Stream, Spring, Well, Others)	Stream
b	Distance (from Nursery) (m)	464
c	Seasonal or All Season	All Season
d	Quality	Soft
<b>7 Seedlings</b>		
a	Total Seedling Production	240417 (95/96)    270000 (96/97 plan)
b	Seedling for Individuals	60104
c	Seedlings for Catchments Area	180313
d	Total Numbers of Villagers received Seedlings	16000 people / 4 Tabiya
e	Seedlings for Others	/

8 Office & Equipment	
a	Cost Expenditure for Equipment and Materials /
b	Office (If Yes, Size) Yes (Diameter=4 m)
c	Store (If Yes, Size) -do-
d	Watering Can 9
e	Pruning Scissors 10
f	Wheel Barrow 3
g	Measuring Tape 3
h	Net for Soil /
I	Shovel 13
j	Others (If any)
	Rakes 2
	Sickle 2
	Table 1
	Chair 1

9 Problems	
a	Termite Yes (25% damaged)
b	Water No
c	Tools Lack of Wheel Barrow
d	Worker No
e	Shade No
f	Soil Transportation / Lack of vehicle
g	Cow Dung Transportation / Lack of vehicle
h	Labor No
i	Others Rats eat Seedlings

<b>10 Tube</b>		
a	Size (Diameter) (cm)	7~8
b	Size (Height) (cm)	15~18
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass
b	Height (cm)	50~80
c	Shade %	/
<b>12 Hardening Off</b>		
a	Duration	2 weeks~1 month
b	Method	Twice/day →once/3days
c	Method of Hardening Off	
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	4
b	Surrounding Soil	3
c	Compost	2
d	Cow Dung	2
e	Sand	2
f	Others (If any)	
<b>14 Root Pruning</b>		
a	Timing	May
b	Frequency	Depends on the Condition
<b>15 Watering</b>		
a	Duration	September ~ July
b	How often	10 watering can / beds×2/day
c	Morning or Evening or Both	Both
d	Seedling Beds / man day	/

<b>1</b>	<b>Nursery Number</b>	<b>2</b>
<b>2</b>	<b>Location</b>	
a	Wareda Name	Kolla Tembien
b	Town Name	Adialha
c	Nursery Name	Adialha
d	Latitude	13° 44' 09"
e	Longitude	39° 05' 17"
f	Altitude (m)	1740
g	Distance from Wareda Town (Access Time)	33km (60 minutes)
h	Access Road	All Season
<b>3</b>	<b>Establishment</b>	
a	Agent (REST or Government)	BoANR → REST
b	Year (in European Calendar)	1985 December
<b>4</b>	<b>Area</b>	
a	Total Area (m <sup>2</sup> )	2500
b	Productive Area (m <sup>2</sup> )	590
c	Seedling Beds (Tree)	48
d	Seedling Beds (Grass)	11
e	Extension Area (m <sup>2</sup> )	/
<b>5</b>	<b>Staff</b>	
a	Foremen & Forewoman	Ato. Mazkab G/Yesus
b	Technicians	3
c	Casual Labor	5
d	Total Payment for Labor / Day	Wheat 3 kg & Oil 0.12 l
<b>6</b>	<b>Water</b>	
a	Source (Stream, Spring, Well, Others)	Stream
b	Distance (from Nursery) (m)	2000
c	Seasonal or All Season	All Season
d	Quality	Soft & good
<b>7</b>	<b>Seedlings</b>	
a	Total Seedling Production	286000(95/96) 200000 (96/97 plan)
b	Seedling for Individuals	37065
c	Seedlings for Catchments Area	214500
d	Total Numbers of Villagers received Seedlings	2471 people
e	Seedlings for Others	4849 (Agroforestry) 2430 (Government)

8 Office & Equipment		
a	Cost Expenditure for Equipment and Materials	/
b	Office (If Yes, Size)	Yes (9×4.4m)
c	Store (If Yes, Size)	-do-
d	Watering Can	10 (Plastic)
e	Pruning Scissors	10
f	Wheel Barrow	1
g	Measuring Tape	1
h	Net for Soil	/
I	Shovel	15
j	Others (If any)	
	Crow Bar	2
	Saw	1
	Seedling Box	7
	Calculator	1
	Table	1
	Chair	1

9 Problems		
a	Termite	Yes (preventing by using Chemicals)
b	Water	Logging
c	Tools	Lack of Seedling box, scissors,
d	Worker	No
e	Shade	No
f	Soil	No
g	Cow Dung	No
h	Labor	No
i	Others	Seed provision is not stable

<b>10 Tube</b>		
a	Size (Diameter) (cm)	8
b	Size (Height) (cm)	15
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass & Bamboo
b	Height (cm)	30
c	Shade %	70
<b>12 Hardening Off</b>		
a	Duration	2 weeks ~ 1 month
b	Method	Stop watering
c	Method of Hardening Off	
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	4
b	Surrounding Soil	3
c	Compost	
d	Cow Dung	2
e	Sand	1
f	Others (If any)	
<b>14 Root Pruning</b>		
a	Timing	April ~ May
b	Frequency	once or twice / seedling
<b>15 Watering</b>		
a	Duration	October ~ June
b	How often	10 watering can / beds × 2/day
c	Morning or Evening or Both	Both
d	Seedling Beds / man day	50 l / bed

<b>1</b>	<b>Nursery Number</b>	<b>3</b>
<b>2</b>	<b>Location</b>	
a	Wareda Name	Kaiye Tehli
b	Town Name	Galapada
c	Nursery Name	Galapada
d	Latitude	13° 47' 33"
e	Longitude	39° 09' 43"
f	Altitude (m)	1500
g	Distance from Wareda Town (Access Time)	42km (90 minutes)
h	Access Road	Seasonal
<b>3</b>	<b>Establishment</b>	
a	Agent (REST or Government)	REST
b	Year (in European Calendar)	1996
<b>4</b>	<b>Area</b>	
a	Total Area (m <sup>2</sup> )	1683
b	Productive Area (m <sup>2</sup> )	400
c	Seedling Beds (Tree)	40
d	Seedling Beds (Grass)	/
e	Extension Area (m <sup>2</sup> )	70
<b>5</b>	<b>Staff</b>	
a	Foremen & Forewoman	Ato. Asmelash Teklay
b	Technicians	2
c	Casual Labor	9 ~ 20 (depends on the work plan)
d	Total Payment for Labor / Day	Wheat 3 kg & Oil 0.12 l
<b>6</b>	<b>Water</b>	
a	Source (Stream, Spring, Well, Others)	Stream
b	Distance (from Nursery) (m)	50
c	Seasonal or All Season	All Season
d	Quality	good
<b>7</b>	<b>Seedlings</b>	
a	Total Seedling Production	136000(95/96)    130000 (96/97 plan)
b	Seedling for Individuals	27200
c	Seedlings for Catchments Area	10200
d	Total Numbers of Villagers received Seedlings	/
e	Seedlings for Others	6800

8 Office & Equipment		
a	Cost Expenditure for Equipment and Materials	/
b	Office (If Yes, Size)	Yes (9.4×4.15m)
c	Store (If Yes, Size)	-do-
d	Watering Can	10
e	Pruning Scissors	5
f	Wheel Barrow	1
g	Measuring Tape	1
h	Net for Soil	3
i	Shovel	7
j	Others (If any)	
	Rakes	5
	Ax	8
	Pick ax	8
	Saw	1
	Sickle	3

9 Problems		
a	Termite	No
b	Water	No
c	Tools	Lack of Office Equipment
d	Worker	Lack of workers for water logging
e	Shade	No
f	Soil	No
g	Cow Dung	No
h	Labor	No
i	Others	Access road will be dangerous when the rainy season

<b>10 Tube</b>		
a	Size (Diameter) (cm)	5, 6, 7
b	Size (Height) (cm)	15
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass
b	Height (cm)	33
c	Shade %	50
<b>12 Hardening Off</b>		
a	Duration	2 months
b	Method	Stop watering
c	Method of Hardening Off	
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	3
b	Surrounding Soil	2
c	Compost	2
d	Cow Dung	/
e	Sand	1
f	Others (If any)	/
<b>14 Root Pruning</b>		
a	Timing	May ~ June
b	Frequency	depends on the condition
<b>15 Watering</b>		
a	Duration	October ~ June
b	How often	Twice / day
c	Morning or Evening or Both	Both
d	Seedling Beds / man day	depends on the condition

<b>1</b>	<b>Nursery Number</b>	<b>4</b>
<b>2</b>	<b>Location</b>	
a	Wareda Name	Kolla Tembien
b	Town Name	Gororo
c	Nursery Name	Gororo
d	Latitude	13° 41' 10"
e	Longitude	38° 48' 40"
f	Altitude (m)	1670
g	Distance from Wareda Town (Access Time)	37km (90 minutes)
h	Access Road	Seasonal
<b>3</b>	<b>Establishment</b>	
a	Agent (REST or Government)	BoANR (with REST's assistance)
b	Year (in European Calendar)	1994 December
<b>4</b>	<b>Area</b>	
a	Total Area (m <sup>2</sup> )	2035
b	Productive Area (m <sup>2</sup> )	570
c	Seedling Beds (Tree)	57
d	Seedling Beds (Grass)	/
e	Extension Area (m <sup>2</sup> )	/
<b>5</b>	<b>Staff</b>	
a	Foremen & Forewoman	Ato. G/Kirstos Assefa
b	Technicians	2
c	Casual Labor	18
d	Total Payment for Labor / Day	Wheat 3 kg & Oil 0.12 l
<b>6</b>	<b>Water</b>	
a	Source (Stream, Spring, Well, Others)	Spring
b	Distance (from Nursery) (m)	in the nursery
c	Seasonal or All Season	All Season
d	Quality	hard
<b>7</b>	<b>Seedlings</b>	
a	Total Seedling Production	204080 (95/96)    211413 (96/97 plan)
b	Seedling for Individuals	71255
c	Seedlings for Catchments Area	190247
d	Total Numbers of Villagers received Seedlings	1425
e	Seedlings for Others	3563

8 Office & Equipment			
a	Cost Expenditure for Equipment and Materials		/
b	Office (If Yes, Size)		Yes (5.2 × 4m)
c	Store (If Yes, Size)		Yes (4.3 × 3.8m)
d	Watering Can		5
e	Pruning Scissors		6
f	Wheel Barrow		/
g	Measuring Tape		1
h	Net for Soil		3
i	Shovel		/
j	Others (If any)		
	Nail Hammer	4	File 2
	Ax	1	hatchet 1
	Hoe	17	Nail Puller 2
	Grasp Hoe	11	Spade 10
	Crow bar	2	
	Saw	1	
	Bucket	2	
	Seedling Box	3	

9 Problems	
a	Termite No
b	Water Crack of water Reservoir
c	Tools Lack of Wheel Barrow, Seedling Box
d	Worker No
e	Shade No
f	Soil No
g	Cow Dung No
h	Labor No
i	Others

<b>10 Tube</b>		
a	Size (Diameter) (cm)	5
b	Size (Height) (cm)	15
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass
b	Height (cm)	50
c	Shade %	75
<b>12 Hardening Off</b>		
a	Duration	1 months
b	Method	Stop watering
c	Method of Hardening Off	
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	5
b	Surrounding Soil	1
c	Compost	/
d	Cow Dung	3
e	Sand	1
f	Others (If any)	/
<b>14 Root Pruning</b>		
a	Timing	May
b	Frequency	Once
<b>15 Watering</b>		
a	Duration	October ~ June
b	How often	Twice / day
c	Morning or Evening or Both	Both
d	Seedling Beds / man day	6 watering can / bed

<b>1 Nursery Number</b>		<b>5</b>
<b>2 Location</b>		
a	Wareda Name	Kolla Tembien
b	Town Name	Timketkezze
c	Nursery Name	Timketkezze
d	Latitude	13° 38' 08"
e	Longitude	38° 47' 13"
f	Altitude (m)	1780
g	Distance from Wareda Town (Access Time)	5km (25 minutes)
h	Access Road	All Season
<b>3 Establishment</b>		
a	Agent (REST or Government)	REST
b	Year (in European Calendar)	1993 December
<b>4 Area</b>		
a	Total Area (m <sup>2</sup> )	9999
b	Productive Area (m <sup>2</sup> )	811
c	Seedling Beds (Tree)	58
d	Seedling Beds (Grass)	/
e	Extension Area (m <sup>2</sup> )	/
<b>5 Staff</b>		
a	Foremen & Forewoman	Ato. Gebrekirtos Assefa
b	Technicians	2
c	Casual Labor	18
d	Total Payment for Labor / Day	Wheat 3 kg & Oil 0.12 l
<b>6 Water</b>		
a	Source (Stream, Spring, Well, Others)	Spring
b	Distance (from Nursery) (m)	in the nursery
c	Seasonal or All Season	All Season
d	Quality	hard
<b>7 Seedlings</b>		
a	Total Seedling Production	258291 (95/96)    242030 (96/97 plan)
b	Seedling for Individuals	/
c	Seedlings for Catchments Area	/
d	Total Numbers of Villagers received Seedlings	/
e	Seedlings for Others	/

8 Office & Equipment				
a	Cost Expenditure for Equipment and Materials		/	
b	Office (If Yes, Size)		Yes (5×4.2m)	
c	Store (If Yes, Size)		Yes (Diameter=4m)	
d	Watering Can		10	
e	Pruning Scissors		10	
f	Wheel Barrow		/	
g	Measuring Tape		2	
h	Net for Soil		/	
I	Shovel		10	
j	Others (If any)			
	Rakes	11	Hatchet	1
	Hammer	4		
	Ax	2		
	Pick Ax	17		
	Crow Bar	2		
	Saw	2		
	File	2		
	Lien Level	1		

9 Problems		
a	Termite	Yes (15% damaged)
b	Water	Transportation is hard
c	Tools	
d	Worker	No
e	Shade	No
f	Soil	No
g	Cow Dung	Transportation from Abi Adi
h	Labor	No
i	Others	Access road is rough and dangerous

<b>10 Tube</b>		
a	Size (Diameter) (cm)	5
b	Size (Height) (cm)	15
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass
b	Height (cm)	20
c	Shade %	50
<b>12 Hardening Off</b>		
a	Duration	1 months before plantation
b	Method	Stop watering (May ~ June)
c	Method of Hardening Off	
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	5
b	Surrounding Soil	1
c	Compost	/
d	Cow Dung	3
e	Sand	1
f	Others (If any)	/
<b>14 Root Pruning</b>		
a	Timing	May
b	Frequency	Once
<b>15 Watering</b>		
a	Duration	October ~ June
b	How often	Twice / day
c	Morning or Evening or Both	Both
d	Seedling Beds / man day	10 watering can / bed * day

<b>1</b>	<b>Nursery Number</b>	<b>6</b>
<b>2</b>	<b>Location</b>	
a	Wareda Name	Kolla Tembien
b	Town Name	Abi Adi
c	Nursery Name	Begasheka
d	Latitude	13° 37' 48"
e	Longitude	38° 55' 47"
f	Altitude (m)	1810
g	Distance from Wareda Town (Access Time)	9km (16 minutes)
h	Access Road	All Season
<b>3</b>	<b>Establishment</b>	
a	Agent (REST or Government)	REST
b	Year (in European Calendar)	1985 January
<b>4</b>	<b>Area</b>	
a	Total Area (m <sup>2</sup> )	5395
b	Productive Area (m <sup>2</sup> )	1142
c	Seedling Beds (Tree)	58
d	Seedling Beds (Grass)	/
e	Extension Area (m <sup>2</sup> )	/
<b>5</b>	<b>Staff</b>	
a	Foremen & Forewoman	Ato. G/Hailu Kiros
b	Technicians	2
c	Casual Labor	10 ~ 22
d	Total Payment for Labor / Day	Wheat 3 kg & Oil 0.12 l
<b>6</b>	<b>Water</b>	
a	Source (Stream, Spring, Well, Others)	Spring
b	Distance (from Nursery) (m)	27
c	Seasonal or All Season	All Season
d	Quality	Dirty with Algae
<b>7</b>	<b>Seedlings</b>	
a	Total Seedling Production	157612 (95/96)    189413 (96/97 plan)
b	Seedling for Individuals	/
c	Seedlings for Catchments Area	/
d	Total Numbers of Villagers received Seedlings	/
e	Seedlings for Others	/

8 Office & Equipment				
a	Cost Expenditure for Equipment and Materials		/	
b	Office (If Yes, Size)		Yes (3 × 3m)	
c	Store (If Yes, Size)		Yes (3.85 × 3m)	
d	Watering Can		24	
e	Pruning Scissors		2	
f	Wheel Barrow		1	
g	Measuring Tape		1	
h	Net for Soil		6	
i	Shovel		15	
j	Others (If any)			
	Rakes	22	Bucket	2
	Hammer	2	File	1
	Small Hammer	4	Sickle	5
	Ax	3	Line Level	2
	Pick Ax	27	Plastic String	2
	Grasp Hoe	22	Nail Puller	2
	Crow Bar	2	Table	1
	Saw	1	Chair	1

9 Problems		
a	Termite	No
b	Water	Transportation is hard
c	Tools	Need 6 Wheel Barrows
d	Worker	No
e	Shade	No
f	Soil	No
g	Cow Dung	No
h	Labor	No
i	Others	

<b>10 Tube</b>		
a	Size (Diameter) (cm)	4, 5
b	Size (Height) (cm)	17
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass
b	Height (cm)	25
c	Shade %	30
<b>12 Hardening Off</b>		
a	Duration	1 months before plantation
b	Method	Stop watering (May ~ June)
c	Method of Hardening Off	
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	4
b	Surrounding Soil	1
c	Compost	/
d	Cow Dung	1
e	Sand	1
f	Others (If any)	/
<b>14 Root Pruning</b>		
a	Timing	May
b	Frequency	Once
<b>15 Watering</b>		
a	Duration	October ~ June
b	How often	Twice / day
c	Morning or Evening or Both	Both
d	Seedling Beds / man day	10 watering can / bed

<b>1 Nursery Number</b>		7	
<b>2 Location</b>			
a	Wareda Name	Kolla Tembien	
b	Town Name	Abi Adi	
c	Nursery Name	Abi Adi (Mai Lenin)	
d	Latitude	13° 37' 12"	
e	Longitude	39° 00' 12"	
f	Altitude (m)	1805	
g	Distance from Wareda Town (Access Time)	1.5m (15 minutes)	
h	Access Road	Seasonal	
<b>3 Establishment</b>			
a	Agent (REST or Government)	BoANR	
b	Year (in European Calendar)	1961 December	
<b>4 Area</b>			
a	Total Area (m <sup>2</sup> )	2190	
b	Productive Area (m <sup>2</sup> )	1158	
c	Seedling Beds (Tree)	50	
d	Seedling Beds (Grass)	/	
e	Extension Area (m <sup>2</sup> )	/	
<b>5 Staff</b>			
a	Foremen & Forewoman	Ato. Gebremedhin Berhe	
b	Technicians	2	
c	Casual Labor	10	
d	Total Payment for Labor / Day	Wheat 3 kg & Oil 0.12 l	
<b>6 Water</b>			
a	Source (Stream, Spring, Well, Others)	River by the Nursery	
b	Distance (from Nursery) (m)	47	
c	Seasonal or All Season	All Season	
d	Quality	Good	
<b>7 Seedlings</b>			
a	Total Seedling Production	165000 (95/96)	192376 (96/97 plan)
b	Seedling for Individuals	25% of the Seedlings	
c	Seedlings for Catchments Area	70% of the Seedlings	
d	Total Numbers of Villagers received Seedlings	/	
e	Seedlings for Others	5% of the seedlings (for Catchments Area)	

8 Office & Equipment			
a	Cost Expenditure for Equipment and Materials		/
b	Office (If Yes, Size)		Yes (8 × 4.3m)
c	Store (If Yes, Size)		-do-
d	Watering Can		5
e	Pruning Scissors		2
f	Wheel Barrow		2
g	Measuring Tape		2
h	Net for Soil		3
I	Shovel		12
j	Others (If any)		
	Pick Ax	14	Table 1
	Grasp Hoe	4	Chair 1
	3-finger Hoe	1	
	Crow Bar	3	
	Bucket	1	
	Seedling Box	2	
	File	1	
	Sickle	4	

9 Problems		
a	Termite	Yes (not so serious)
b	Water	No
c	Tools	Most of them are out of order
d	Worker	Lack of Manpower
e	Shade	No
f	Soil	No
g	Cow Dung	No
h	Labor	Operation System is not completed
i	Others	Some caterpillar & worm eat seedlings
		Payment is always delayed

<b>10 Tube</b>		
a	Size (Diameter) (cm)	5, 8, 10
b	Size (Height) (cm)	16 ~ 17
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass
b	Height (cm)	20 ~ 40
c	Shade %	/
<b>12 Hardening Off</b>		
a	Duration	5 cm growth ~ Plantation
b	Method	No Shade in morning & evening
c	Method of Hardening Off	3→2 watering can / bed
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	3
b	Surrounding Soil	/
c	Compost	/
d	Cow Dung	2
e	Sand	1
f	Others (If any)	/
<b>14 Root Pruning</b>		
a	Timing	2 weeks before plantation
b	Frequency	Once
<b>15 Watering</b>		
a	Duration	March ~ June
b	How often	Twice / day
c	Morning or Evening or Both	Both
d	Seedling Beds / man day	4~5 watering can / bed * day

<b>1</b>	<b>Nursery Number</b>	<b>8</b>
<b>2</b>	<b>Location</b>	
a	Wareda Name	Kolla Tembien
b	Town Name	Agibe
c	Nursery Name	Agibe
d	Latitude	13° 31' 55"
e	Longitude	39° 03' 06"
f	Altitude (m)	1580
g	Distance from Wareda Town (Access Time)	10 (10 minutes' driving)
h	Access Road	All Season
<b>3</b>	<b>Establishment</b>	
a	Agent (REST or Government)	REST
b	Year (in European Calendar)	1993 December
<b>4</b>	<b>Area</b>	
a	Total Area (m <sup>2</sup> )	16305
b	Productive Area (m <sup>2</sup> )	1032
c	Seedling Beds (Tree)	42
d	Seedling Beds (Grass)	/
e	Extension Area (m <sup>2</sup> )	/
<b>5</b>	<b>Staff</b>	
a	Foremen & Forewoman	Ato. Swatu
b	Technicians	2
c	Casual Labor	10
d	Total Payment for Labor / Day	Wheat 3 kg & Oil 0.12 l
<b>6</b>	<b>Water</b>	
a	Source (Stream, Spring, Well, Others)	Stream
b	Distance (from Nursery) (m)	3000
c	Seasonal or All Season	All Season
d	Quality	Soft
<b>7</b>	<b>Seedlings</b>	
a	Total Seedling Production	100000 (95/96)    153030 (96/97 plan)
b	Seedling for Individuals	/
c	Seedlings for Catchments Area	/
d	Total Numbers of Villagers received Seedlings	/
e	Seedlings for Others	/

8 Office & Equipment						
a	Cost Expenditure for Equipment and Materials					/
b	Office (If Yes, Size)					Yes (8 × 4.4m)
c	Store (If Yes, Size)					-do-
d	Watering Can					10
e	Pruning Scissors					5
f	Wheel Barrow					2
g	Measuring Tape					1
h	Net for Soil					1
i	Shovel					10
j	Others (If any)					
	Rakes	14	Crow Bar	4	Digging Hoe	1
	Nail Hammer	2	Bucket	2	Bow saw	2
	Small Hammer	1	File	2	Table	1
	Sledgehammer	2	Sickle	4	chair	1
	Ax	1	Slasher	1		
	Pick Ax	16	Hatchet	2		
	Grasp Hoe	9	Plastic String	1		
	3-finger Hoe	4	Nail Puller	2		

9 Problems		
a	Termite	No
b	Water	No
c	Tools	No
d	Worker	No
e	Shade	No
f	Soil	No
g	Cow Dung	No
h	Labor	No
i	Others	Some animals eat seedlings
		Insects come from nearby catchments area

<b>10 Tube</b>		
a	Size (Diameter) (cm)	5, 7,
b	Size (Height) (cm)	10
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass
b	Height (cm)	10
c	Shade %	/
<b>12 Hardening Off</b>		
a	Duration	2 month before Plantation
b	Method	Reducing water according to
c	Method of Hardening Off	Condition
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	2
b	Surrounding Soil	/
c	Compost	/
d	Cow Dung	1
e	Sand	1
f	Others (If any)	/
<b>14 Root Pruning</b>		
a	Timing	June
b	Frequency	Once
<b>15 Watering</b>		
a	Duration	Feb ~ May
b	How often	Twice / day
c	Morning or Evening or Both	Both
d	Seedling Beds / man day	10 watering can / bed * day

1	Nursery Number	9	
2	Location		
a	Wareda Name	Tenqua Aberegelle	
b	Town Name	Yechila	
c	Nursery Name	Mesgi	
d	Latitude	13° 20' 56"	
e	Longitude	38° 58' 21"	
f	Altitude (m)	1460	
g	Distance from Wareda Town (Access Time)	10km (30 ms' driving)	
h	Access Road	Seasonal	
3	Establishment		
a	Agent (REST or Government)	REST	
b	Year (in European Calendar)	1993 December	
4	Area		
a	Total Area (m <sup>2</sup> )	10000	
b	Productive Area (m <sup>2</sup> )	630	
c	Seedling Beds (Tree)	33	
d	Seedling Beds (Grass)	30	
e	Extension Area (m <sup>2</sup> )	7	
5	Staff		
a	Foremen & Forewoman	Ato. Girmay Mehari	
b	Technicians	2	
c	Casual Labor	14	
d	Total Payment for Labor / Day	Wheat 3 kg & Oil 0.12 l	
6	Water		
a	Source (Stream, Spring, Well, Others)	Stream	
b	Distance (from Nursery) (m)		
c	Seasonal or All Season	All Season	
d	Quality	Soft	
7	Seedlings		
a	Total Seedling Production	170000 (95/96)	125000 (96/97 plan)
b	Seedling for Individuals	/	
c	Seedlings for Catchments Area	/	
d	Total Numbers of Villagers received Seedlings	/	
e	Seedlings for Others	/	

8 Office & Equipment				
a	Cost Expenditure for Equipment and Materials		/	
b	Office (If Yes, Size)		Yes (4 × 5m)	
c	Store (If Yes, Size)		Yes (Diameter = 3m)	
d	Watering Can		10	
e	Pruning Scissors		3	
f	Wheel Barrow		2	
g	Measuring Tape		1	
h	Net for Soil		/	
i	Shovel		15	
j	Others (If any)		/	
	Rakes	3	Slasher	2
	Hammer	1	Sieve	2
	Pick Ax	4	Digging Hoe	3
	Grasp Hoe	5	Bow Saw	2
	3-finger Hoe	3	Table	1
	Crow Bar	2	Chair	1
	File	1		
	Sickle	4		

9 Problems		
a	Termite	Yes (10% damaged)
b	Water	Transportation / Lack of Manpower
c	Tools	No
d	Worker	No
e	Shade	Lack of String
f	Soil	Sandy
g	Cow Dung	No
h	Labor	No
i	Others	No Fencing
		Rats eat seedlings

<b>10 Tube</b>		
a	Size (Diameter) (cm)	5
b	Size (Height) (cm)	15~18
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass
b	Height (cm)	20~50
c	Shade %	40~50
<b>12 Hardening Off</b>		
a	Duration	June
b	Method	Stop watering for 1 week
c	Method of Hardening Off	No shading
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	3
b	Surrounding Soil	/
c	Compost	/
d	Cow Dung	1
e	Sand	/
f	Others (If any)	/
<b>14 Root Pruning</b>		
a	Timing	Before & during Plantation
b	Frequency	Twice
<b>15 Watering</b>		
a	Duration	March ~ June
b	How often	Twice / Day
c	Morning or Evening or Both	Both
d	Seedling Beds / man day	10 watering can / bed

<b>1</b>	<b>Nursery Number</b>	<b>10</b>
<b>2</b>	<b>Location</b>	
a	Wareda Name	Tenqua Aberegelle
b	Town Name	Yechila
c	Nursery Name	Sheegaloo
d	Latitude	13° 18' 26"
e	Longitude	39° 02' 05"
f	Altitude (m)	1605
g	Distance from Wareda Town (Access Time)	10km (20 ms' driving )
h	Access Road	All Season
<b>3</b>	<b>Establishment</b>	
a	Agent (REST or Government)	REST
b	Year (in European Calendar)	1993 December
<b>4</b>	<b>Area</b>	
a	Total Area (m <sup>2</sup> )	12672
b	Productive Area (m <sup>2</sup> )	400
c	Seedling Beds (Tree)	40
d	Seedling Beds (Grass)	/
e	Extension Area (m <sup>2</sup> )	/
<b>5</b>	<b>Staff</b>	
a	Foremen & Forewoman	Ato. Berhanu Hadera
b	Technicians	2
c	Casual Labor	5 ~ 10
d	Total Payment for Labor / Day	Wheat 3 kg & Oil 0.12 l
<b>6</b>	<b>Water</b>	
a	Source (Stream, Spring, Well, Others)	Stream
b	Distance (from Nursery) (m)	194
c	Seasonal or All Season	All Season
d	Quality	Soft
<b>7</b>	<b>Seedlings</b>	
a	Total Seedling Production	155000 (95/96)    150000 (96/97 plan)
b	Seedling for Individuals	30000 (96/97 plan)
c	Seedlings for Catchments Area	7500 (96/97 plan)
d	Total Numbers of Villagers received Seedlings	105000 (96/97 plan)
e	Seedlings for Others	7500 (96/97 plan) for Offices

8 Office & Equipment				
a	Cost Expenditure for Equipment and Materials		/	
b	Office (If Yes, Size)		Yes (4 × 5m)	
c	Store (If Yes, Size)		-do-	
d	Watering Can		24	
e	Pruning Scissors		11	
f	Wheel Barrow		2	
g	Measuring Tape		2	
h	Net for Soil		/	
i	Shovel		12	
j	Others (If any)			
	Rakes	9	Calculator	1
	Nail Hammer	2	Table	1
	Ax	1	Chair	1
	Pick Ax	5		
	Grasp Hoc	21		
	Crow Bar	2		
	Saw	2		
	Sickle	6		

9 Problems		
a	Termite	Yes (15% damaged)
b	Water	No
c	Tools	No
d	Worker	No
e	Shade	No
f	Soil	No
g	Cow Dung	No
h	Labor	No
i	Others	Rats eat seedlings
		Payment is not done timely

<b>10 Tube</b>		
a	Size (Diameter) (cm)	8
b	Size (Height) (cm)	15~18
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass
b	Height (cm)	20
c	Shade %	30
<b>12 Hardening Off</b>		
a	Duration	May~June
b	Method	No shade in the last week before plantation
c	Method of Hardening Off	No water in the last 2 weeks
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	2
b	Surrounding Soil	
c	Compost	1
d	Cow Dung	
e	Sand	1
f	Others (If any)	1
<b>14 Root Pruning</b>		
a	Timing	Twice (June & July)
b	Frequency	Twice (When coming out & before plantation)
<b>15 Watering</b>		
a	Duration	4 months (March ~ June)
b	How often	Twice / Day
c	Morning or Evening or Both	Both
d	Seedling Beds / man day	10 watering can / bed

<b>1 Nursery Number</b>		<b>11</b>	
<b>2 Location</b>			
a	Wareda Name	Tenqua Aberegelle	
b	Town Name	Yechila	
c	Nursery Name	Gigika	
d	Latitude	13° 31' 52"	
e	Longitude	38° 50' 14"	
f	Altitude (m)	1640	
g	Distance from Wareda Town (Access Time)	52	
h	Access Road	All Season	
<b>3 Establishment</b>			
a	Agent (REST or Government)	REST	
b	Year (in European Calendar)	1996	
<b>4 Area</b>			
a	Total Area (m <sup>2</sup> )	2500	
b	Productive Area (m <sup>2</sup> )	241	
c	Seedling Beds (Tree)	23	
d	Seedling Beds (Grass)	/	
e	Extension Area (m <sup>2</sup> )	/	
<b>5 Staff</b>			
a	Foremen & Forewoman	Ato. Hagos Zegeye	
b	Technicians	2	
c	Casual Labor	10	
d	Total Payment for Labor / Day	Wheat 3 kg & Oil 0.12 l	
<b>6 Water</b>			
a	Source (Stream, Spring, Well, Others)	Stream	
b	Distance (from Nursery) (m)	68 / 49 (2 lines)	
c	Seasonal or All Season	All Season	
d	Quality	Soft	
<b>7 Seedlings</b>			
a	Total Seedling Production	70150 (95/96)	61000 (96/97 plan)
b	Seedling for Individuals	/	
c	Seedlings for Catchments Area	/	
d	Total Numbers of Villagers received Seedlings	/	
e	Seedlings for Others	/	

8 Office & Equipment		
a	Cost Expenditure for Equipment and Materials	/
b	Office (If Yes, Size)	Yes (5×5m)
c	Store (If Yes, Size)	No
d	Watering Can	8
e	Pruning Scissors	5
f	Wheel Barrow	/
g	Measuring Tape	1
h	Net for Soil	1
I	Shovel	10
j	Others (If any)	
	Pick Ax	8
	Crow Bar	1

9 Problems		
a	Termite	No
b	Water	Poor Water Reservoir
c	Tools	Need Wheel Barrow, Hammer , Office Equip.
d	Worker	No
e	Shade	No
f	Soil	Transportation (Lack of Manpower)
g	Cow Dung	-do-
h	Labor	No
i	Others	

<b>10 Tube</b>		
a	Size (Diameter) (cm)	5~10
b	Size (Height) (cm)	18
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass
b	Height (cm)	20 ~ 60
c	Shade %	50
<b>12 Hardening Off</b>		
a	Duration	May~June
b	Method	Twice/day →once/3days
c	Method of Hardening Off	Stop shading
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	3
b	Surrounding Soil	/
c	Compost	/
d	Cow Dung	1
e	Sand	2
f	Others (If any)	
<b>14 Root Pruning</b>		
a	Timing	End of May & before Planting
b	Frequency	Once
<b>15 Watering</b>		
a	Duration	March ~ June
b	How often	Twice / Day
c	Morning or Evening or Both	Both
d	Seedling Beds / man day	10 watering can / bed

<b>1</b>	<b>Nursery Number</b>	<b>12</b>
<b>2</b>	<b>Location</b>	
a	Wareda Name	Doga Tembien
b	Town Name	Maishih
c	Nursery Name	Maishih
d	Latitude	13° 35' 26"
e	Longitude	39° 09' 16"
f	Altitude (m)	2290
g	Distance from Wareda Town (Access Time)	40km (60 ms' driving & 30 ms' waling)
h	Access Road	All Season
<b>3</b>	<b>Establishment</b>	
a	Agent (REST or Government)	REST
b	Year (in European Calendar)	1996 November
<b>4</b>	<b>Area</b>	
a	Total Area (m <sup>2</sup> )	4095
b	Productive Area (m <sup>2</sup> )	1375
c	Seedling Beds (Tree)	45
d	Seedling Beds (Grass)	/
e	Extension Area (m <sup>2</sup> )	1750
<b>5</b>	<b>Staff</b>	
a	Foremèn & Forewoman	Ato. G/medin Hailu
b	Technicians	3
c	Casual Labor	11
d	Total Payment for Labor / Day	Wheat 3 kg & Oil 0.12 l
<b>6</b>	<b>Water</b>	
a	Source (Stream, Spring, Well, Others)	Stream
b	Distance (from Nursery) (m)	
c	Seasonal or All Season	All Season
d	Quality	Good
<b>7</b>	<b>Seedlings</b>	
a	Total Seedling Production	195085 (95/96)      200000 (96/97 plan)
b	Seedling for Individuals	/
c	Seedlings for Catchments Area	/
d	Total Numbers of Villagers received Seedlings	/
e	Seedlings for Others	/

8 Office & Equipment		
a	Cost Expenditure for Equipment and Materials	/
b	Office (If Yes, Size)	No
c	Store (If Yes, Size)	No
d	Watering Can	9
e	Pruning Scissors	3
f	Wheel Barrow	3
g	Measuring Tape	2
h	Net for Soil	2
i	Shovel	8
j	Others (If any)	
	Ax	15
	Grasp Hoe	3
	Crow Bar	4
	Bucket	2
	Seedling Box	3
	Canvas Sheet	1

9 Problems		
a	Termite	Yes (40% damaged)
b	Water	No (Reservoir is suitable)
c	Tools	Lack of All Kinds of Tools
d	Worker	No
e	Shade	Lack of String
f	Soil	Transportation / Lack of Manpower
g	Cow Dung	Transportation / Lack of Manpower
h	Labor	need 5 ~ 6 laborers
i	Others	No Fencing

<b>10 Tube</b>		
a	Size (Diameter) (cm)	5~8
b	Size (Height) (cm)	8~15
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass
b	Height (cm)	Depends on the Condition
c	Shade %	80
<b>12 Hardening Off</b>		
a	Duration	May~June
b	Method	Twice/day →once/3days
c	Method of Hardening Off	
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	4
b	Surrounding Soil	2
c	Compost	/
d	Cow Dung	2
e	Sand	1
f	Others (If any)	
<b>14 Root Pruning</b>		
a	Timing	Depends on the Condition
b	Frequency	Depends on the Condition
<b>15 Watering</b>		
a	Duration	September ~ July
b	How often	Twice / Day
c	Morning or Evening or Both	Both
d	Seedling Beds / man day	12 watering can / bed

<b>1</b>	<b>Nursery Number</b>	<b>13</b>
<b>2</b>	<b>Location</b>	
a	Wareda Name	Doga Tembien
b	Town Name	Hagre Selam
c	Nursery Name	Maizahla
d	Latitude	13° 37' 43"
e	Longitude	39° 10' 10"
f	Altitude (m)	2585
g	Distance from Wareda Town (Access Time)	3.5km (10 minutes' driving)
h	Access Road	All Season
<b>3</b>	<b>Establishment</b>	
a	Agent (REST or Government)	REST
b	Year (in European Calendar)	1982 November
<b>4</b>	<b>Area</b>	
a	Total Area (m <sup>2</sup> )	1000
b	Productive Area (m <sup>2</sup> )	858
c	Seedling Beds (Tree)	74
d	Seedling Beds (Grass)	/
e	Extension Area (m <sup>2</sup> )	/
<b>5</b>	<b>Staff</b>	
a	Foremen & Forewoman	Ato. Hailay Tsegay
b	Technicians	3
c	Casual Labor	21 (Jan) ~ 32 (Nov)
d	Total Payment for Labor / Day	Wheat 3 kg & Oil 0.12 l
<b>6</b>	<b>Water</b>	
a	Source (Stream, Spring, Well, Others)	Spring
b	Distance (from Nursery) (m)	66
c	Seasonal or All Season	All Season
d	Quality	Soft
<b>7</b>	<b>Seedlings</b>	
a	Total Seedling Production	354766 (95/96)    280000 (96/97 plan)
b	Seedling for Individuals	237693
c	Seedlings for Catchments Area	117080
d	Total Numbers of Villagers received Seedlings	/
e	Seedlings for Others	/

8 Office & Equipment				
a	Cost Expenditure for Equipment and Materials		/	
b	Office (If Yes, Size)		Yes (Diameter=4.5m)	
c	Store (If Yes, Size)		-do-	
d	Watering Can		6	
e	Pruning Scissors		2	
f	Wheel Barrow		3	
g	Measuring Tape		1	
h	Net for Soil		2	
I	Shovel		5	
j	Others (If any)			
	Rakes	2	Saw	1
	Hammer	1	Seedling Box	4
	Nail Hammer	1	Sickle	2
	Ax	3	Canvas Sheet	1
	Pick Ax	17	Calculator	1
	Cutting Ax	1	Plastic String	1
	Grasp Hoe	4		
	3-finger Hoe	2		

9 Problems		
a	Termite	Yes (Medium level)
b	Water	Yes (Broken water Supply System)
c	Tools	Lack of Cutter, Canvas Sheet, Hammer
d	Worker	No
e	Shade	No
f	Soil	No
g	Cow Dung	Transportation / Cost
h	Labor	Lack of manpower for Transportation
i	Others	No Storage to keep equipment
		Payment for workers is low

<b>10 Tube</b>		
a	Size (Diameter) (cm)	6~8
b	Size (Height) (cm)	12~15
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass
b	Height (cm)	15 ~50
c	Shade %	/
<b>12 Hardening Off</b>		
a	Duration	May~June
b	Method	Twice/day → Once/3days
c	Method of Hardening Off	
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	4
b	Surrounding Soil	3
c	Compost	/
d	Cow Dung	2
e	Sand	1
f	Others (If any)	
<b>14 Root Pruning</b>		
a	Timing	Depends on the Condition
b	Frequency	Depends on the Condition
<b>15 Watering</b>		
a	Duration	September ~ June
b	How often	Twice / Day → Once / Day
c	Morning or Evening or Both	Both → Morning only
d	Seedling Beds / man day	6 watering can / bed

<b>1</b>	<b>Nursery Number</b>	<b>14</b>
<b>2</b>	<b>Location</b>	
a	Wareda Name	Doga Tembien
b	Town Name	Hagre Selam
c	Nursery Name	Maiwoinii
d	Latitude	13° 35' 17"
e	Longitude	39° 06' 29"
f	Altitude (m)	2215
g	Distance from Wareda Town (Access Time)	30km (80 minutes)
h	Access Road	Seasonal
<b>3</b>	<b>Establishment</b>	
a	Agent (REST or Government)	REST
b	Year (in European Calendar)	1993 September
<b>4</b>	<b>Area</b>	
a	Total Area (m <sup>2</sup> )	3205
b	Productive Area (m <sup>2</sup> )	520
c	Seedling Beds (Tree)	52
d	Seedling Beds (Grass)	/
e	Extension Area (m <sup>2</sup> )	/
<b>5</b>	<b>Staff</b>	
a	Foremen & Forewoman	Ato. Mebrahtu Hailu
b	Technicians	2
c	Casual Labor	13~36 (Depends on the Condition)
d	Total Payment for Labor / Day	Wheat 3 kg
<b>6</b>	<b>Water</b>	
a	Source (Stream, Spring, Well, Others)	Spring
b	Distance (from Nursery) (m)	Far
c	Seasonal or All Season	All Season
d	Quality	Good
<b>7</b>	<b>Seedlings</b>	
a	Total Seedling Production	188940 (95/96)    200000 (96/97 plan)
b	Seedling for Individuals	/
c	Seedlings for Catchments Area	/
d	Total Numbers of Villagers received Seedlings	/
e	Seedlings for Others	/

8 Office & Equipment			
a	Cost Expenditure for Equipment and Materials		/
b	Office (If Yes, Size)		No
c	Store (If Yes, Size)		No
d	Watering Can		7
e	Pruning Scissors		7
f	Wheel Barrow		1
g	Measuring Tape		2
h	Net for Soil		1
i	Shovel		5
j	Others (If any)		
	Hedge Scissors	1	Line Level
	Rakes	4	Canvas Sheet
	Hammer	1	Plastic String
	Pick Ax	15	
	Grasp Hoe	3	
	Crow Bar	4	
	Bucket	2	
	Seedling Box	1	

9 Problems		
a	Termite	No
b	Water	Poor Water Reservoir
c	Tools	Lack of Cutter, Sickle, Ax, Wheel barrow
d	Worker	No
e	Shade	Lack of Material (Bamboo)
f	Soil	No
g	Cow Dung	Cost
h	Labor	Lack of Manpower
i	Others	No Office & Storage
		No Access road
		Need Smaller Tubes for Soil Saving
		Rats eat seedlings

<b>10 Tube</b>		
a	Size (Diameter) (cm)	5~8
b	Size (Height) (cm)	9~14
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass
b	Height (cm)	15 ~70
c	Shade %	60
<b>12 Hardening Off</b>		
a	Duration	May~June
b	Method	Stop Watering / No Shade
c	Method of Hardening Off	
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	2
b	Surrounding Soil	2
c	Compost	/
d	Cow Dung	1
e	Sand	1
f	Others (If any)	
<b>14 Root Pruning</b>		
a	Timing	May
b	Frequency	Once or Twice
<b>15 Watering</b>		
a	Duration	September ~ June
b	How often	Twice / Day
c	Morning or Evening or Both	Both
d	Seedling Beds / man day	9 ~ 12 watering can / bed

<b>1</b>	<b>Nursery Number</b>	<b>15</b>	
<b>2</b>	<b>Location</b>		
a	Wareda Name	Doga Tembien	
b	Town Name	Hagre Selam	
c	Nursery Name	Ruawoinii	
d	Latitude	13° 42' 09"	
e	Longitude	39° 12' 53"	
f	Altitude (m)	2210	
g	Distance from Wareda Town (Access Time)	13 km (30 minutes by car)	
h	Access Road	Seasonal	
<b>3</b>	<b>Establishment</b>		
a	Agent (REST or Government)	REST	
b	Year (in European Calendar)	1993 September	
<b>4</b>	<b>Area</b>		
a	Total Area (m <sup>2</sup> )	10000	
b	Productive Area (m <sup>2</sup> )	2304	
c	Seedling Beds (Tree)	66	
d	Seedling Beds (Grass)	/	
e	Extension Area (m <sup>2</sup> )	/	
<b>5</b>	<b>Staff</b>		
a	Foremen & Forewoman	Ato. Dimhsu Tilahun	
b	Technicians	3	
c	Casual Labor	30	
d	Total Payment for Labor / Day	Wheat 3 kg & Oil 0.12 l	
<b>6</b>	<b>Water</b>		
a	Source (Stream, Spring, Well, Others)	Stream	
b	Distance (from Nursery) (m)	64	
c	Seasonal or All Season	All Season	
d	Quality	Soft	
<b>7</b>	<b>Seedlings</b>		
a	Total Seedling Production	218590 (95/96)	260000 (96/97 plan)
b	Seedling for Individuals	58247	
c	Seedlings for Catchments Area	200452	
d	Total Numbers of Villagers received Seedlings	1903	
e	Seedlings for Others	/	

8 Office & Equipment	
a	Cost Expenditure for Equipment and Materials /
b	Office (If Yes, Size) Yes (8.55 × 5.15 m)
c	Store (If Yes, Size) -do-
d	Watering Can 7
e	Pruning Scissors 6
f	Wheel Barrow 2
g	Measuring Tape 1
h	Net for Soil /
I	Shovel 8
j	Others (If any)
	Hedge Scissors 1 Plastic String 1
	Rakes 6 Table 1
	Ax 3 Chair 1
	Grasp Hoe 3 Chair 2
	Crow Bar 3 Shelf 1
	Bucket 11
	Sickle 3
	Canvas Sheet 1

9 Problems	
a	Termite Yes (not so serious)
b	Water Poor Water Reservoir
c	Tools Lack of Hammer
d	Worker No
e	Shade Yes (Hard to provide grasses / Expensive)
f	Soil Transportation
g	Cow Dung Transportation / Cost
h	Labor Lack of Manpower
i	Others Rats eat seedlings

<b>10 Tube</b>		
a	Size (Diameter) (cm)	6~8
b	Size (Height) (cm)	10~12, 13
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass
b	Height (cm)	10 ~45
c	Shade %	40
<b>12 Hardening Off</b>		
a	Duration	1 Month (June)
b	Method	Decreasing water
c	Method of Hardening Off	Putting off shades in evening
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	2
b	Surrounding Soil	3
c	Compost	/
d	Cow Dung	1
e	Sand	0.25
f	Others (If any)	
<b>14 Root Pruning</b>		
a	Timing	May
b	Frequency	Usually Twice
<b>15 Watering</b>		
a	Duration	September ~ June
b	How often	Twice / Day
c	Morning or Evening or Both	Both
d	Seedling Beds / man day	10 watering can / bed

<b>1 Nursery Number</b>		16
<b>2 Location</b>		
a	Wareda Name	Doga Tembien
b	Town Name	Hagre Selam
c	Nursery Name	Gereb giga
d	Latitude	13° 36' 08"
e	Longitude	39° 22' 39"
f	Altitude (m)	1560
g	Distance from Wareda Town (Access Time)	30 km (30 minutes by car)
h	Access Road	All Season
<b>3 Establishment</b>		
a	Agent (REST or Government)	BoANR & GTZ →REST (1996)
b	Year (in European Calendar)	1994 January
<b>4 Area</b>		
a	Total Area (m <sup>2</sup> )	3340
b	Productive Area (m <sup>2</sup> )	840
c	Seedling Beds (Tree)	65
d	Seedling Beds (Grass)	7
e	Extension Area (m <sup>2</sup> )	/
<b>5 Staff</b>		
a	Foremen & Forewoman	Ato. Geregziher Mebraten
b	Technicians	2
c	Casual Labor	21 ~ 32
d	Total Payment for Labor / Day	Wheat 3 kg & Oil 0.12 l
<b>6 Water</b>		
a	Source (Stream, Spring, Well, Others)	River
b	Distance (from Nursery) (m)	Beside the Nursery
c	Seasonal or All Season	All Season
d	Quality	Good (Bad when the Flood)
<b>7 Seedlings</b>		
a	Total Seedling Production	122000 (95/96) 270000 (96/97 plan)
b	Seedling for Individuals	76860
c	Seedlings for Catchments Area	45140
d	Total Numbers of Villagers received Seedlings	/
e	Seedlings for Others	/

8 Office & Equipment						
a	Cost Expenditure for Equipment and Materials				/	
b	Office (If Yes. Size)				Yes (7×4.5 m)	
c	Store (If Yes. Size)				-do-	
d	Watering Can				18	
e	Pruning Scissors				/	
f	Wheel Barrow				4	
g	Measuring Tape				1	
h	Net for Soil				/	
i	Shovel				7	
j	Others (If any)					
	Hedge Scissors	1	Crow Bar	1	Shelf	1
	Rakes	3	Saw	1		
	Hammer	2	Bucket	5		
	Small Hammer	1	File	1		
	Pick Ax	3	Sickle	2		
	Cutting Ax	1	Small Weighing Scale	1		
	Grasp Hoe	2	Table	1		
	3-finger Hoe	3	Chair	2		

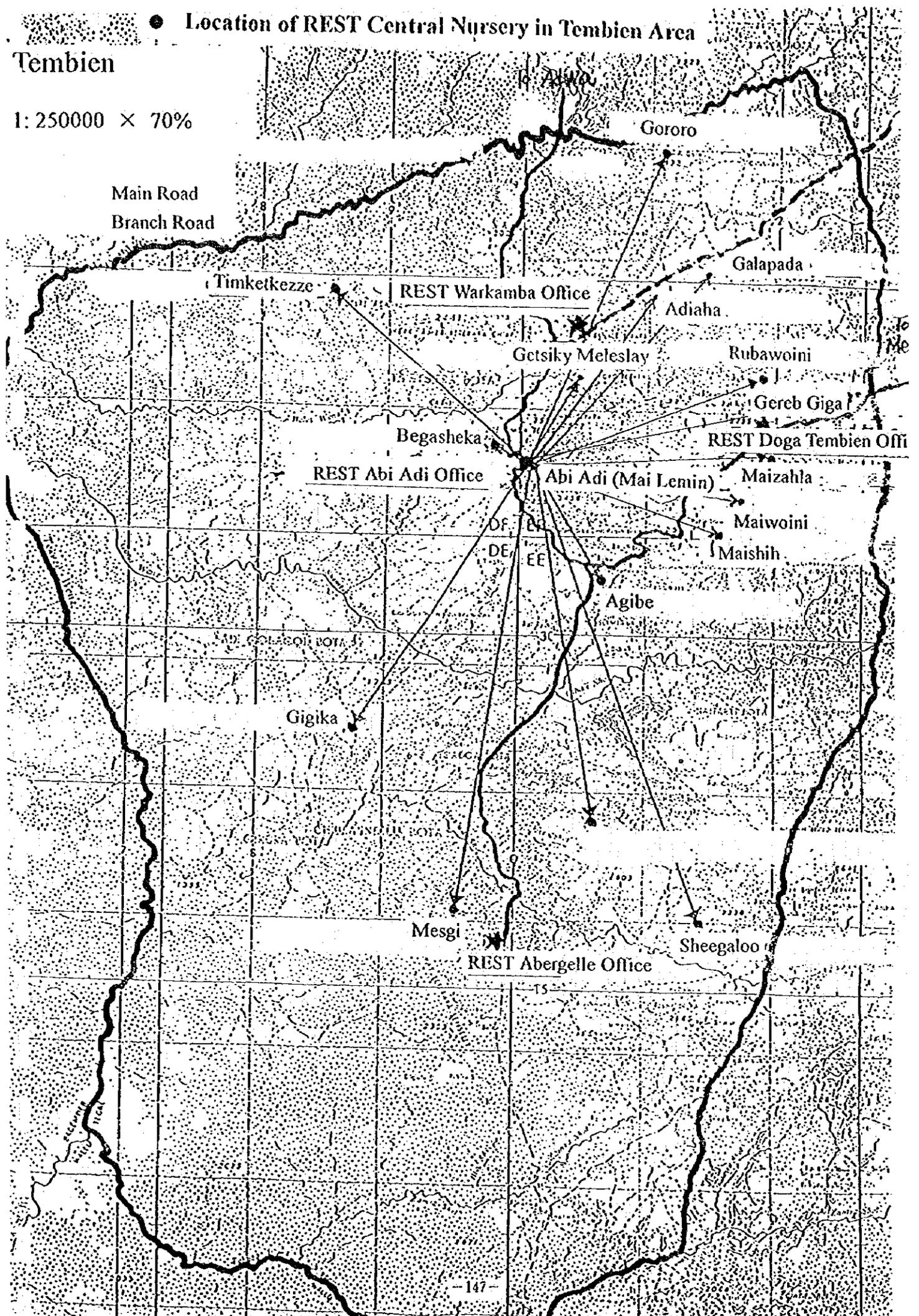
9 Problems		
a	Termite	Yes (serious)
b	Water	Solar Power doesn't work on cloudy day
c	Tools	Lack of Pick, Ax, Shovel & Watering can
d	Worker	Need 1 Additional Technician
e	Shade	No
f	Soil	No
g	Cow Dung	Transportation / Cost
h	Labor	Lack of Manpower
i	Others	Need Additional Storage
		River water damages seedlings with sand
		Need a Generator for Water Pump
		Some insects eat seedlings

<b>10 Tube</b>		
a	Size (Diameter) (cm)	5~8
b	Size (Height) (cm)	9~14
c	Color	White
<b>11 Shade</b>		
a	Material	Local Grass
b	Height (cm)	50
c	Shade %	/
<b>12 Hardening Off</b>		
a	Duration	1 Month (June)
b	Method	Twice/day → Once/3days
c	Method of Hardening Off	Shading only Night Time
<b>13 Soil Mixture Ratio</b>		
a	Forest Soil	5
b	Surrounding Soil	3
c	Compost	/
d	Cow Dung	1
e	Sand	1
f	Others (If any)	
<b>14 Root Pruning</b>		
a	Timing	Anytime (Usually May)
b	Frequency	Once or Twice
<b>15 Watering</b>		
a	Duration	September ~ June
b	How often	Twice / Day
c	Morning or Evening or Both	Both
d	Seedling Beds / man day	15 watering can / bed

● Location of REST Central Nursery in Tembien Area

Tembien

1:250000 × 70%



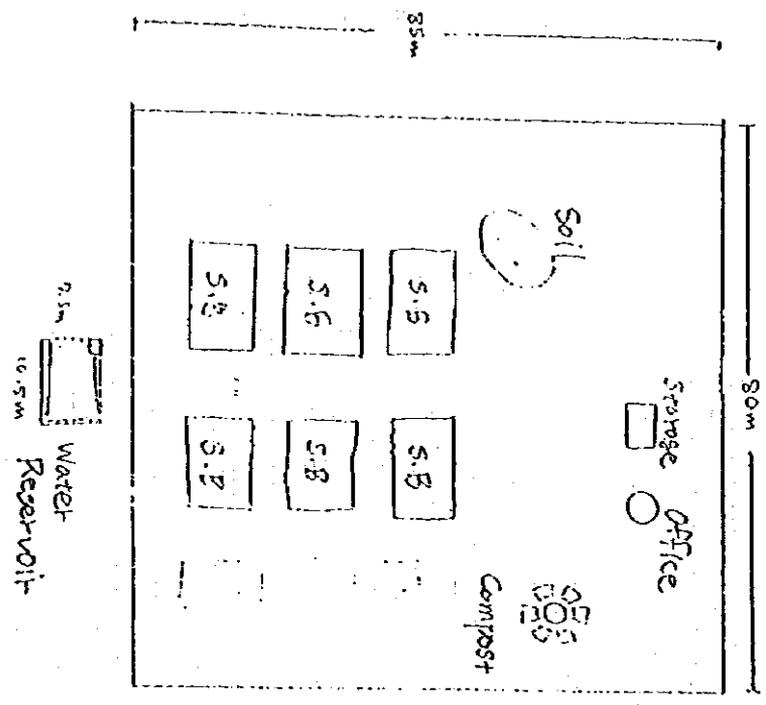
**Geski Meleslay Nursery**

Seedling production of 1996 : 300015

Total Area : 6800 m<sup>2</sup>

Water Resource : River

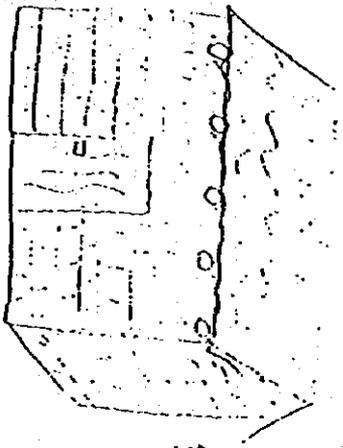
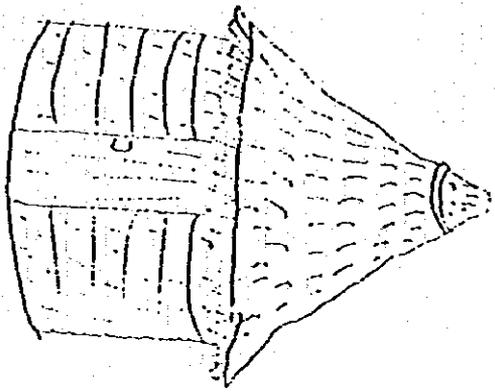
S.B.: Seedling Bed.



- ◆ Points to be Improved
  1. Provision of Shelf
  2. Construction of Fence

Office

- Diameter is 3.6m.
- Stone-built with straw roof and tin door.
- Office has one desk, one chair, one shelf and one blackboard.
- Dark inside



Storage

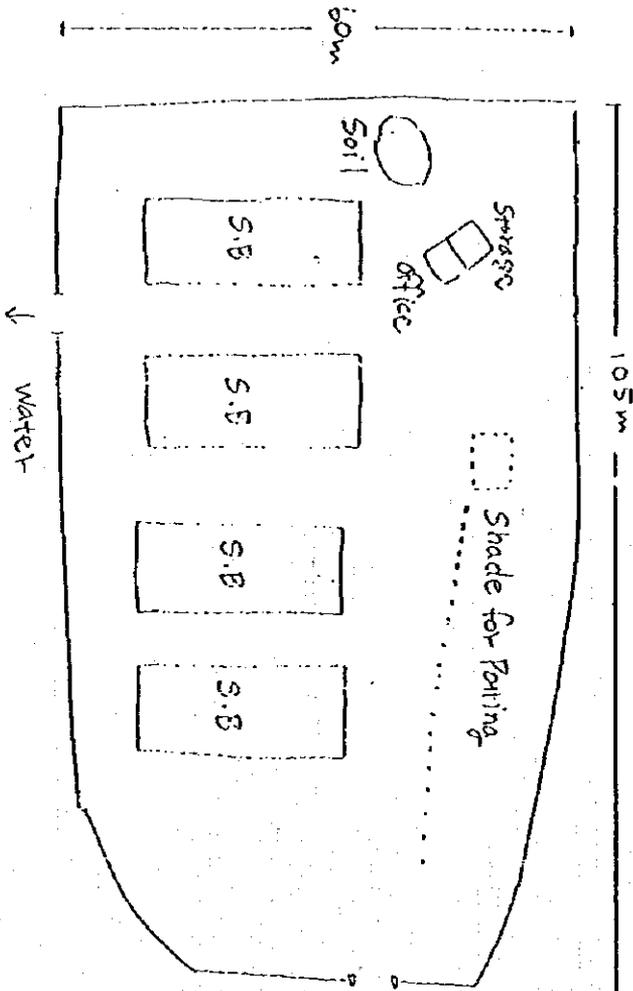
- 5 X 4.6 m
- Stone-built with tin roof and door
- Equipment is not kept well
- Dark inside

**Begashkeka Nursery**

Seedling production of 1996 : 157621

Total Area : 5395 m<sup>2</sup>

Water Resource : Spring



S.B. : Seedling Bed

- ◆ Points to be Improved
  1. Provision of Shelf
  2. Construction of Fence

**Office & Storage**

- Office has one desk and one chair
- Stone-built with tin roof, door and dirt floor
- Equipment is not stored well.
- Dark inside



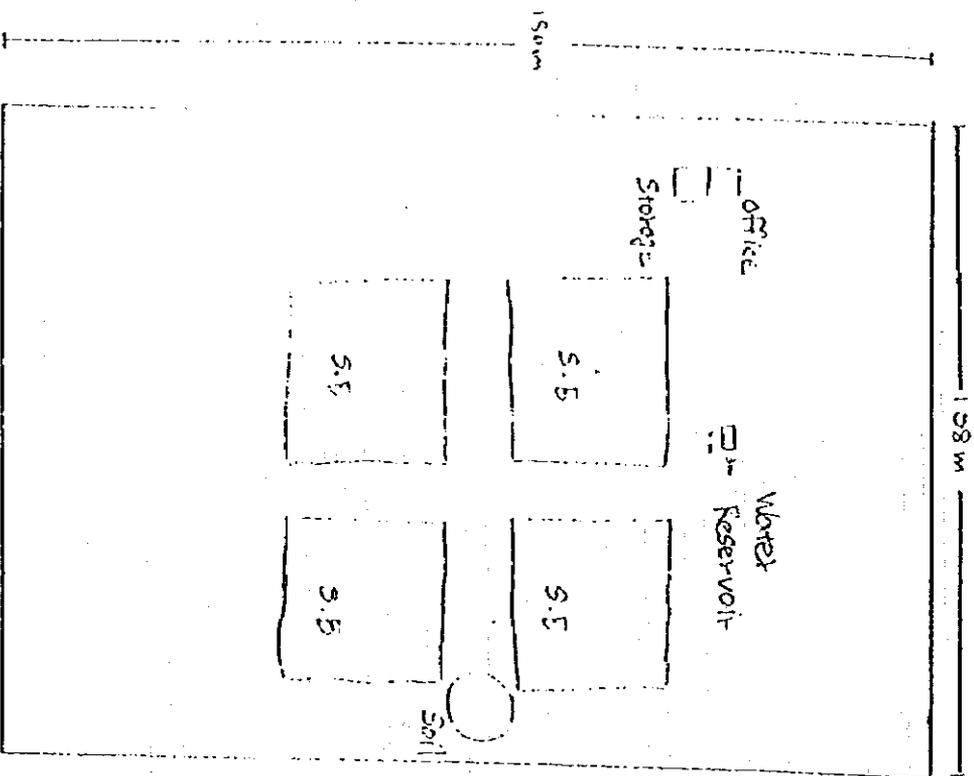
**Agibe Nursery**

Seedling production of 1996 : 150000

Total Area : 16300 m<sup>2</sup>

Water Resource : River

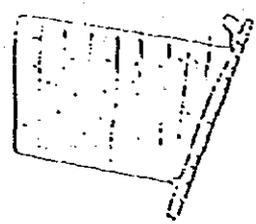
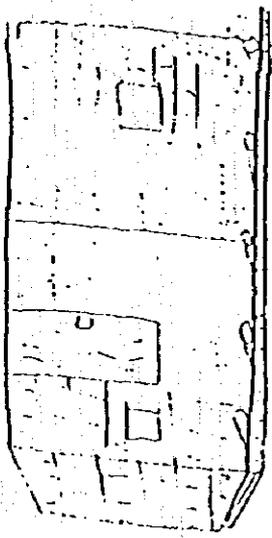
**S.E. Seedling Bed**



- ◆ Points to be Improved
  1. Provision of Shelf
  2. Maintenance of Water Reservoir
  3. Construction of Fence

**Office & Storage**

- It has two rooms. The left side is storage and the right side is office.
- Stone-built with tin roof, door and dirt floor
- Equipment is not stored well.
- Dark inside



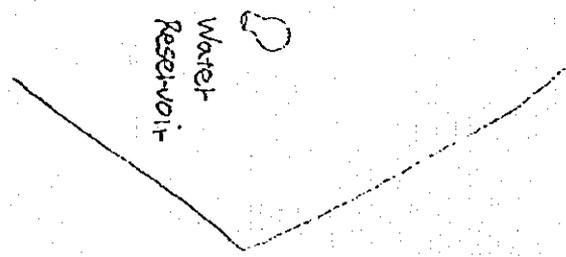
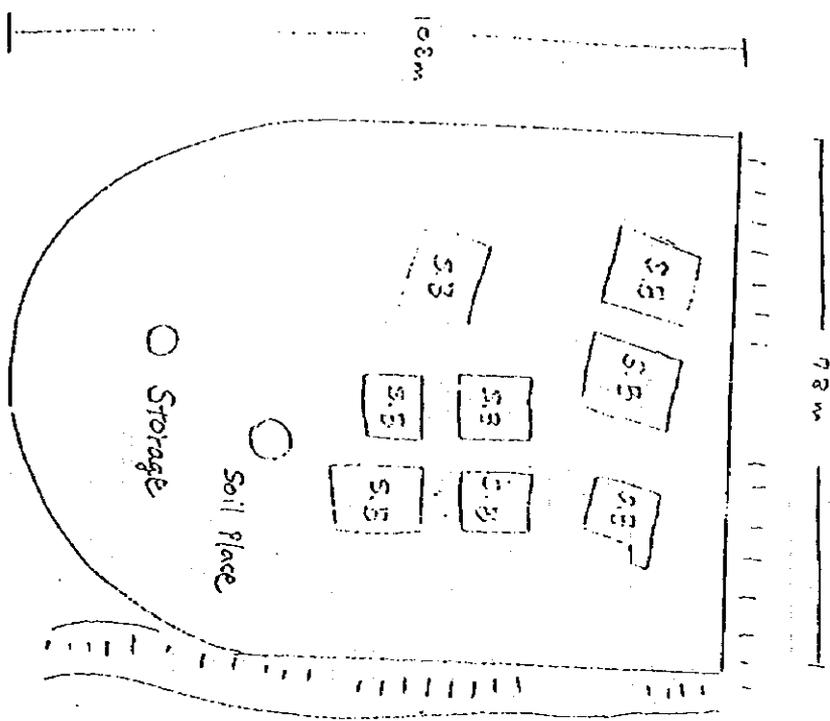
**Mai Zahla Nursery**

Seedling production of 1996 : 354766

Total Area : 8500 m<sup>2</sup>

Water Resource : Spring

S.E. - Seeding End

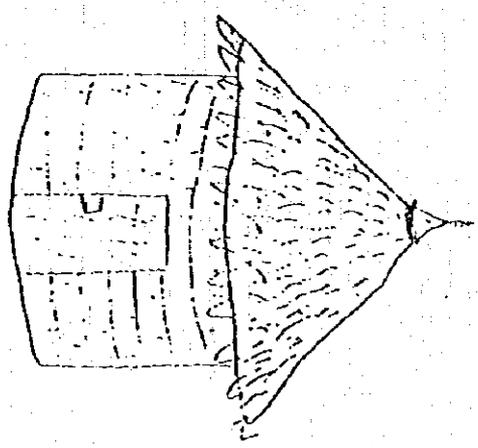


◆ Points to be Improved

1. Provision of Shelf
2. Maintenance of Water Reservoir and Pipeline
3. Construction of Fence

Office & Storage

- Diameter is 4.5 m
- Stone-built with straw roof and tin door
- Equipment is not stored well
- Dark inside











JICA