

**WELCOME TO TIVA**

*Pilot Forest  
and  
Nursery*



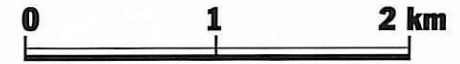
***SOFEM***

**Social Forestry Extension Model Development Project**

Kenya Forestry Research Institute  
Japan International Cooperation Agency  
Forest Department



# PILOT FOREST and NURSERY LAYOUT



## Pruning Trial

- 1/2 height,
- 2/3 height, control

## Coppicing Trial

- 10, 40, 70, 100,
- 150cm cutting height



**Tower**  
• De... plantation



## Seed stand

- 33 species



## Spacing Trial

- 1.0x1.0m
- 2.0x2.0m
- 3.5x3.5m
- 4.0x4.0m
- 5.0x5.0m



**DEMO II**

KITUI



## Tiva Nursery

- Provide seedlings
- Seed collection and storage
- Fruits orchard for seeds and scions
- Germination and vegetative propagation trial



## Water Catchment Trial

- W-shape type
- V-shape type
- Turkana type

Kwavonza Hill

MACHAKOS

Tiva River

## New Yahata Trial

- New weeding trial
- Sun heat shield trial



## ***Background and objective of the pilot forest and nursery***

Tiva pilot forest and nursery were established in 1986. The land was leased to KEFRI for 99 years by Kitui County Council as dry land forestry research station. The objective of the pilot forest section is to develop planting and tending technologies that are applicable by farmers using their own resources and to extend such technologies in semi-arid area. The nursery section is mandated to develop nursery establishment technologies and to provide enough number of quality seedlings not only to the pilot forest section but also to farmers around the target area.

### ***Outline***

- Location: Kwavonza village, Yatta Division
- Altitude: 1,100m
- Average annual rainfall between 1988 and 1999: 731mm
- Area: 2500ha

The land was used mainly for grazing and fuel wood collection by the neighboring community before the pilot forest was established.

### ***Activities in the pilot forest and nursery***

The activities being undertaken by the pilot forest and nursery are as follows.

#### **1. Pilot forest**

##### **i) Intensive tree management**

- Water catchment (W-shape, V-shape, Turkana)
- Mulching (Murrum, Sand, Control)
- Weeding (Complete weeding, Slashing)
- Measurement of water regime of tree  
(Soil moisture, Sun heat shield effect,  
Water stress evapotranspiration)

##### **ii) Planting techniques**

- Spacing  
(1.0x1.0m, 2.0x2.0m, 3.5x3.5m, 4.0x4.0m,  
5.0x5.0m)
- Pruning (1/2 height, 2/3 height, control)
- Thinning (0%, 48-52%, 60-76%)
- Coppicing (stem cutting at: 10cm, 40cm, 70cm,  
100cm, 150cm height)



## 2. Nursery

### i) Seed collection and treatment

- Seed collection around Kitui area
- Management of seed stand
- Germination trial

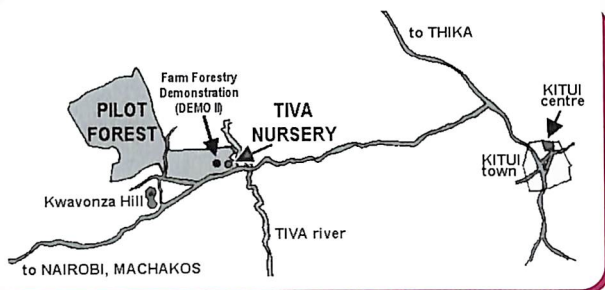
(especially for *Melia volkensii* and *Terminalia brownii*)

### ii) Cutting and grafting

- Rooting of cuttings using mist box
- Management of fruit orchard for scions

### iii) Seedling production and distribution

- Provision of seedlings for the project's activities
- Distribution of seedlings to farmers



### **KEFRI KITUI CENTRE**

P.O.BOX 892, KITUI, KENYA

TEL:+254-141-22807/22471/22626

FAX:+254-141-22807

E-MAIL:miyagi@form-net.com

<http://www.jicakenya.org/SOFEM/Index.htm>

### **KENYA FORESTRY RESEARCH INSTITUTE**

P.O.BOX 20412, NAIROBI, KENYA

TEL:+254-154-32009/32170/32891

FAX:+254-154-32009

E-MAIL:kefri@arcc.or.ke

### **FOREST DEPARTMENT**

P.O.BOX 30513, NAIROBI, KENYA

TEL: +254-2-764288/764195/764723