The increasing demand for timber and wood products in the domestic and international markets can be tapped through involvement of the private sector in commercial tree growing. At the same time, fast growing tree species today provide value for investment with considerable value increase over time. The following information provides management approaches and uses for on-farm tree species.

### POPULAR COMMERCIAL TREE SPECIES IN KENYA

#### MANAGEMENT OF THE SPECIES

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### 1. CYPRESS

*Cypress (C. lusitanica Mill)*

**Family:** Cupressaceae

**Common names (English):** cypress, Kenya cypress, (Swahili): msanduku, (Trade name): cypress

#### Botanic description, Ecology and distribution

*Cupressus lusitanica* is an evergreen tree, 35 m high, with a dense, conical crown and about 70 cm in diameter. Bark on trunk is reddish-brown, exfoliating in long, narrow strips, eventually becoming roughened by the development of many short cracks. Seeds are brown, with resin glands, up to 4 mm long, with a narrow wing.

*C. lusitanica* was introduced to Kenya in 1910 and has since become an important industrial and plantation crop. It is found in seasonally moist to permanently moist climates, with annual precipitation typically between 1000 and 1500 mm and a dry season lasting not more than 2-3 months. It also occurs in very moist climates with annual precipitation up to 4000 mm. It is not generally damaged by occasional snow or brief periods of frost, but there are significant differences in this among provenances.

#### Functional uses

**Products**

- **Fuel:** C. lusitanica is a good source of firewood.
- **Timber:** The white wood saws cleanly and has straight fine grain; it is a source of construction wood and pulp wood and is used for furniture, poles and posts.

**Shade or shelter:** Its general tolerance to strong winds has encouraged its use in protective planting. The abundance of highly branched twigs absorbs wind energy amazingly well. In areas with hot, dry winds the tree protects crops and animals’ herds.

**Services**

- **Erosion control:** Since it is salt tolerant and grows in sand, C. lusitanica is used to control erosion along coastlines, estuaries, riverbanks and waterways.

**Tannin or dyestuff:** The bark contains 6-18% tannin and has been used extensively in Madagascar for tanning purposes. It penetrates the hide quickly and furnishes swollen, pliant, soft leather of pale reddish-brown color.

**Medicine:** Root extracts are used for medical treatment of dysentery, diarrhoea and stomach-ache.

The production of this fact sheet on popular farm forestry tree species is sponsored by the National Tree Planting Campaign (NTPC) Programme. The NTPC is a Government of Kenya funded programme to accelerate tree growing towards attainment of 10% tree cover by the year 2022.
2. PINUS PATULA

Pinus patula - (Cham)
Family: Pinaceae
Common names (English): patula pine, (Swahili): msindanos

Botanic description, Ecology and distribution

Cupressus lusitanica is an evergreen tree, 35 m high, with a dense, conical crown and about 70 cm in diameter. Bark on trunk is reddish-brown, exfoliating in long, narrow strips, eventually becoming roughened by the development of many short cracks. Seeds are brown, with resin glands, up to 4 mm long, with a narrow wing. C. lusitanica was introduced to Kenya in 1910 and has since become an important industrial and plantation crop. It is found in seasonally moist to permanently moist climates, with annual precipitation typically between 1000 and 1500 mm and a dry season lasting not more than 2-3 months. It also occurs in very moist climates with annual precipitation up to 4000 mm. It is not generally damaged by occasional snow or brief periods of frost, but there are significant differences in this among provenances.

Functional uses

Products
Fuel: P. patula produces excellent fuel wood.
Fibre: The species is used in the commercial manufacture of pulp.

Timber: The wood is suitable for particle board manufacture and gives a board of good strength, does not appreciably retard the setting of cement and can be used satisfactorily for making wood-wool slabs and boards.

3. EUCALYPTUS

Management of Eucalyptus

The yield of Eucalyptus trees and its environmental impact is greatly influenced by the types of management that are put in place. The management objective determines the processes of propagation, species planted and silvicultural regimes.

Areas where Eucalyptus should NOT be planted:

i. Hard pans
ii. Wetlands and marshy areas
iii. Riparian areas
iv. Along rivers (reserve 30 meters as stipulated in the Survey Act Cap 299 of the Laws of Kenya. Check Agriculture and Water Act. In addition allow for an extra 20 meters to ensure that the trees do not adversely interfere with the water source.)
v. Areas around lakes, ponds, swamps, estuary and any other body of standing water.
vi. Irrigated farm lands.

vii. Areas with less than 400 mm of rainfall

NOTE:
In farms next to water sources, planting should be minimized by inter-planting with indigenous tree species or in mosaic plantations between indigenous trees with the latter occupying a greater percentage or strip planting of Eucalyptus with natural vegetation.

Areas suitable for Eucalyptus planting are:

i. Degraded areas through soil erosion and loss of soil fertility

Gum or resin: When tapped, P. patula yields an oleoresin, which is distilled to give turpentine, and resin which is used in, for example, paint and batik industries.

Medicine: Pine-leaf oil is sometimes used for medicinal baths, and the seeds may be consumed locally.

3. MELIA VOLKENSII

Botanic Description

Melia Volkensii is a deciduous, open crowned and laxly branched. Mature trees range between 6 and 20m tall. The bark is grey, fairly smooth, furrowing with age. Leaves are light, bright green, bipinnate with (sub)opposite leaflets, 3-7 per pinna, up to 35cm long, and are densely hairy when young. The leaflets are oval to lanceolate, tapering to the apex. The margins are entire or serrated, becoming almost glabrous when mature.

Biology

M. volkensii has been reported to start flowering as early as 2-3 years. It sheds its leaves twice a year, flushing new leaves towards the end of the dry season. Flowers and fruits are also produced twice a year, with fruits becoming ripe at the end of the dry season as leaves emerge.

Ecology

M. volkensii is common in association with acacia-commiphora vegetation. It is emergent in acacia-commiphora deciduous bushland, sometimes fringing seasonal watercourses or appearing on rock outcrops.

Biophysical limits

Altitude: 350-1680 m, mean annual rainfall: 300-800mm

Services

Soil improver: A few farmers have suggested that the heavy leaf fall of M. volkensii during the later stages of crop development may increase crop yields.

Intercropping

Most farmers in Kenya believe that M. volkensii is compatible with all crops grown. This, however, is dependent upon good silvicultural practice in reducing the shade effect of canopies, which would otherwise adversely affect light-demanding crops such as sorghum and millet. Due to its deep rooting nature, its interference with ox-plough cultivation is minimal.