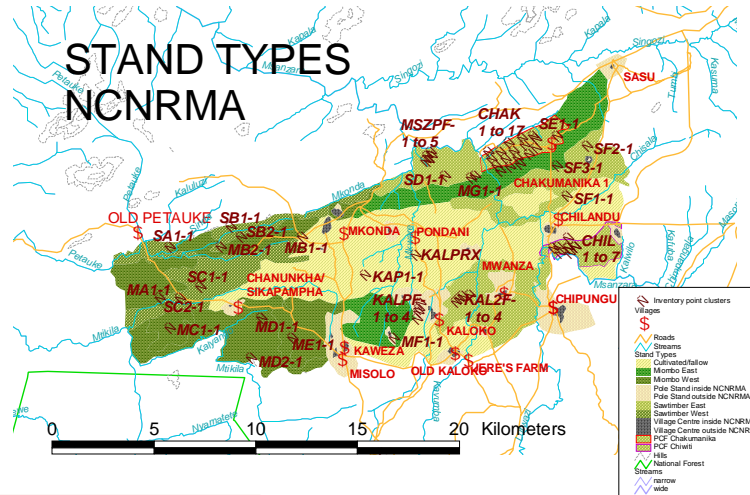


# CLUSA Natural Resource Management Programme Provincial Forestry Action Programme



## MAPPING AND INVENTORY RESULTS FOR NYAMPHANDE NATURAL RESOURCE MGMT AREA (Petauke District, Eastern, Zambia)

DIRECTLY ADDRESSING ISSUES OF MANAGEMENT AND SUSTAINABLE  
HARVEST OF MIOMBO TIMBER / NONTIMBER FOREST PRODUCTS

DATA COLLECTION: 2003-2004

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# NYAMPHANDE COMMUNITY NATURAL RESOURCE MIOMBO MANAGEMENT AREA - 20,000 ha

## INVENTORY RESULTS FROM DATA COLLECTED IN 2003-2004

### SUMMARY (1): DESCRIPTION OF INVENTORY

**Type of inventory:** For larger-diameter forest land: Stratified random plot placement combined with 4-plot clusters in more remote areas.

For smaller-stemmed fallow areas: Fixed rectangles of 50m x 10m (= .05ha) were sited in specific areas near villages. Data were processed in ForestCalc in Eastern Province

**Total number and type of plots:** 113 plot centers for measuring 2-factor prism/variable radius plots (larger trees) and 3-meter-radius regeneration/sunde counts; 28 small-stemmed fallow plots of 0.05ha.

**Basis for delimitation of stands:** Year 2000 SPOT panchromatic image from Satellite Applications Center, South Africa; scale 1:25,000; resolution 10 meters; georeferenced to Zambia 1970s 1:50,000 topographic sheets.

#### Stands delimited from imagery:

- Chakumanika PCF (437 ha) - *Pterocarpus angolensis* dominant; 44 spp.
- Chilandu PCF (349 ha) – Miombo and sawtimber up to 50cm; 32 spp.
- “Open Sawtimber” (total 3,770 ha) – large crowns visible on image are today mostly *Acacia*, but regeneration in sawtimber is better than “Open Miombo” and there are more and larger stems per hectare. Locals call this forest type “mputu”; also called “munga”. By far, this stand type had the greatest proportion of plots suitable for agriculture, according to village informants. 67 spp.
- “Open Miombo” (total 4,810 ha) – Drier, shallower soils with smaller stems and most of the sunde, *Brachystegia*, and *Julbernardia*. Locals call this forest type “msenga”. This stand type was least suitable for agriculture, according to village informants. Most diverse: 71 spp.
- 10-yr-old (5,800 ha+) and 20-year-old (3,030 ha+) - Fallow sites (“Visala”) mixed with cultivated land (total 8,830 ha+) – some plots were measured by variable radius, and others by rectangular shape. As expected, lowest diversity but greatest number of stems/ha.

## SUMMARY (2): TOTALS ON 20,000 HA

### SAWTIMBER:

**Sawn volume:** 788,000 planks or 11,000 cubic meters of first and second-quality wood in 2- to 3-meter lengths

**Saw trees:**

SPECIES	DIAM CLASS	TOTAL	SPECIES	DIAM CLASS	TOTAL
PREFERRED:	35 to 65 cm	41,418	LESSER-KWOWN:	35 to 65 cm	45,283
	25 cm	40,112		25 cm	71,360

PREFERRED = mukwa, Pericopsis, Afzelia, phingo

LESSER-KNOWN = Brachystegia spiciformis, Khaya, Kirkia, Sclerocarya, Terminalia sericea

### SELECTED NON-TIMBER PRODUCTS

**CHARCOAL:** 2,700,000 50-kg bags

**BARK HIVES:** 408,500 hives worth an estimated ZK 817 million to producers

**BARKROPE:** 1.3 million bundles worth an estimated ZK 675 million to producers

**COFFINS CARVED FROM BRANCHES:** 113,800 units worth ZK 568 million

**FORKED POLES:** 2,500,000 units worth ZK 2.5 Billion to producers

**COOKING STICKS:** 381,000 worth ZK 572 million to producers

**FIREWOOD:** 10,300,000 headloads worth ZK 15.5 Billion if all sold

**BIOMASS:** (WOODY parts only)

CURRENT DRY WEIGHT	CURRENT GREEN WEIGHT	TOTAL CARBON STOCK
1.6 million tonnes	3.2 million tonnes	800,000 tonnes

(For trading carbon credits at the rate of \$20 per tonne, an accounting of effects of management activities would have to be devised.)

**TOTAL WOODY SPECIES RECORDED:** 101

## **SUMMARY (3): RECOMMENDED ACTIVITIES BASED ON INVENTORY RESULTS**

### **Ideas for sensitization topics**

- Present the inventory results back to the communities and the Council
- Don't depend on current harvest rates of commercial sawtimber to be sustainable
- Promote other species as equally valuable
- "Waste no trees" message continues
- Pay attention to regeneration of each user group's product
- Relate diversity and abundance of wildlife to diversity and abundance of tree species/habitat
- Encourage establishment of bigger "permanent community forests"
- **Solicit input from communities on how to achieve all the above**

### **Ideas for activities based on economic and sustainability aspects**

- Set up a Biodiversity Reserve under UNEP/IUCN
- Study more on wildlife species in the area and how game regeneration can be assured under a GMA-type programme
- Set up Village Harvest Committees who will maximize economic benefit during field clearing
- Trade some carbon credits (requires detailing management plan actions and their effects on biomass)
- Open marketing centers for forest products, including lesser-known timber species
- Do more training on better techniques
- Sensitize on certification for eventual certification-seeking project
- **Solicit input from communities on how to achieve all the above**