Conservation and Sustainable Utilization of Plant Products by Communities in Western Kenya

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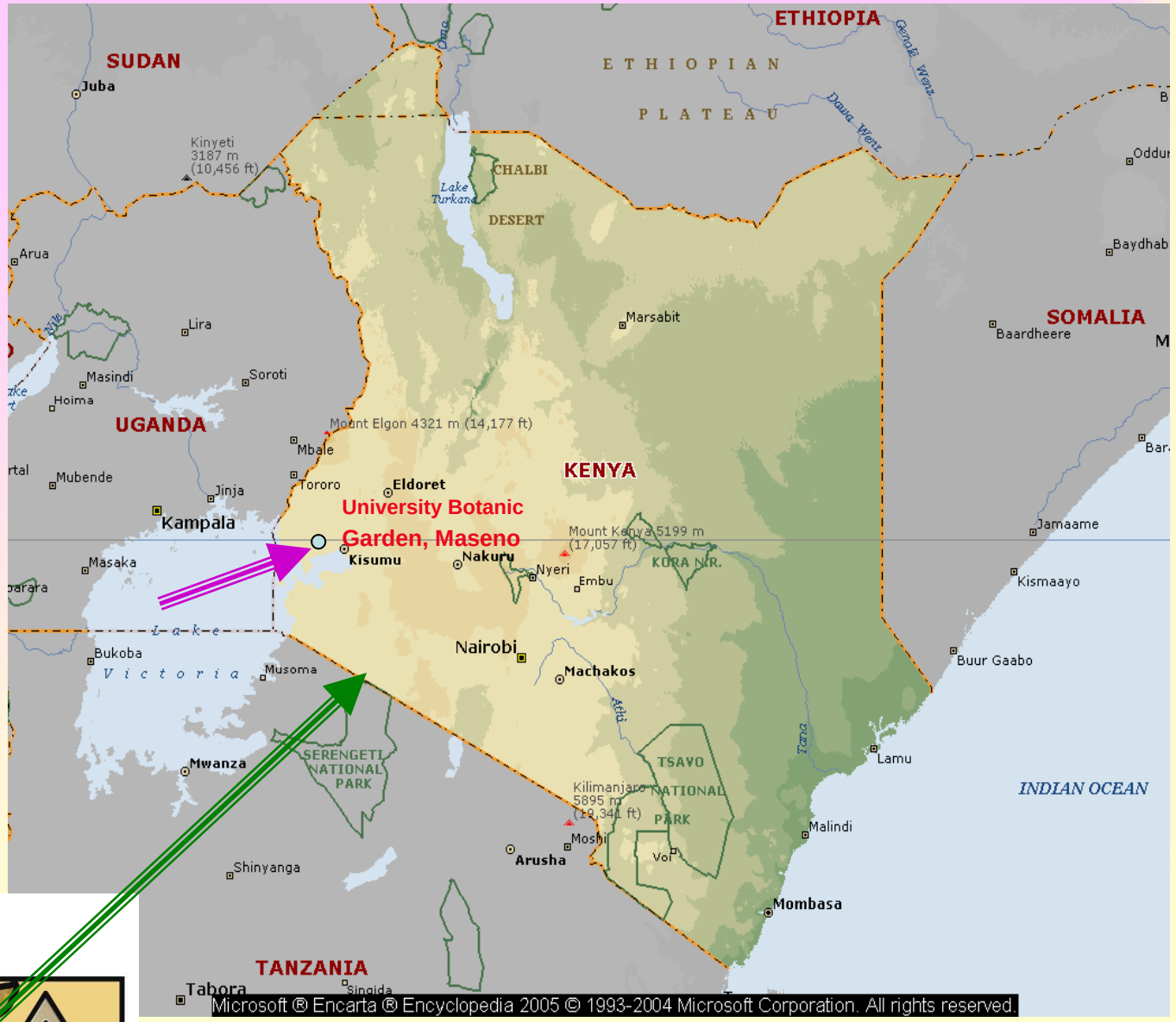
Presentation Outline

- **Location – University Botanic Garden**
- **Community participation**
- **Research structures and visits**
- **Benefits and conservation**
- **Concluding remarks**

Location Map – East Africa

Kenya is on the East Coast of Africa and the University Botanic Garden, Maseno in Western Kenya



University Botanic Garden - Location

- The University Botanic Garden, Maseno is located right on the equator in Western Kenya, 20 Km from the large fresh water mass – Lake Victoria and 30 Km from Kakamega forest – the only surviving tropical rain forest left in Kenya.

- The region is inhabited by the Luo and Luhya communities whose life rotates more on agriculture and fisheries.

- The local communities have wealth of indigenous knowledge on the ethnobotany of the region and through their taboo system have succeeded in protecting some of the rare plant species.

Conservation challenges

- Biological conservation is a complex undertaking especially in the developing countries where large populace still relies on the forest products for their livelihoods.

- Majority of these people live below the poverty line of less than 1-US dollar per day, hence benefit sharing from conservation strategy should be encouraged.

Community seed collection

- The scientists working at the garden have successfully developed a collaboration system with the communities where they bring into the garden seeds or seedlings of rare plant species of high value for *ex situ* conservation.

- The garden on the other hand is advocating the principles of conservation for efficient utilization by the community at their home gardens.

Arrangement and Visits

- The collections are conserved based on scientific thematic arrangement at the garden.
- The conservation ideas are shared with the school children and students from primary to tertiary education levels.
- The children or students take the message and learnt principles to their families hence improving our conservation strategies among the communities for sustainability.

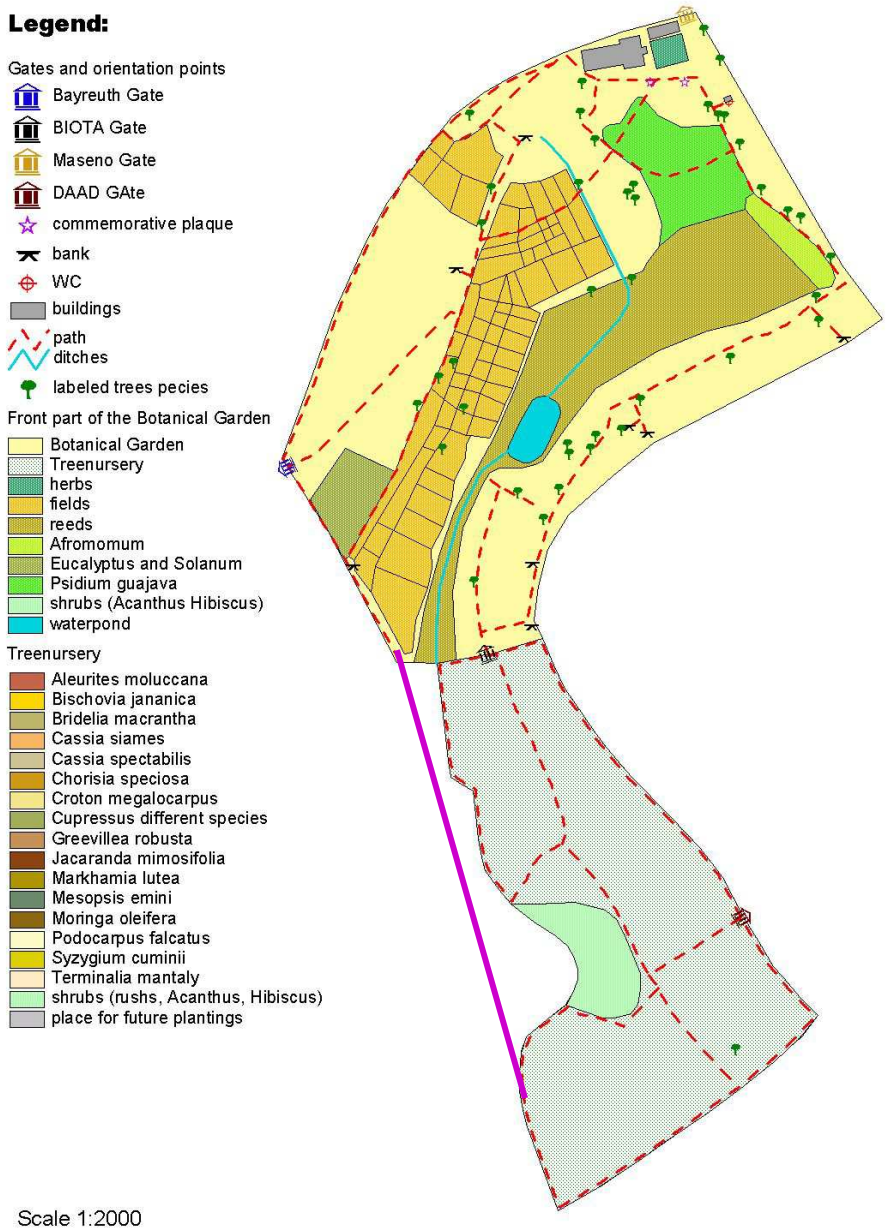
Community Herbal Health Care

- Ethnobotanical interviews revealed the communities belief in the potential of the herbal remedies in disease control.
- Scientific identification of possible active compounds in the herbal extracts from highly harvested families is on-going.
- Continued research on herbal medicine is necessary to remove the myths from practice and curative evidence and to interface herbal and conventional medicine.

University Botanic Garden Maseno

The garden's area is 9 hectares, part of it has been thematically planted with both indigenous and exotic species.

Maseno University - Botanical Garden




Prunus africana section


Bambara groundnuts


Pollinators garden


Indigenous Vegetables

Garden research and teaching infra-structure

Community groups on training of Medicinal Plants and indigenous vegetables production

High School students on learning visit to the garden

Ex situ conservation of threatened plants from Kakamega forest

Garden staff on research plot maintenance


Biota team on review
of the garden


Friends of the environment
excursion to the garden 2004


Staff and Visiting Researchers


CBO on learning tour

Horticultural crop research

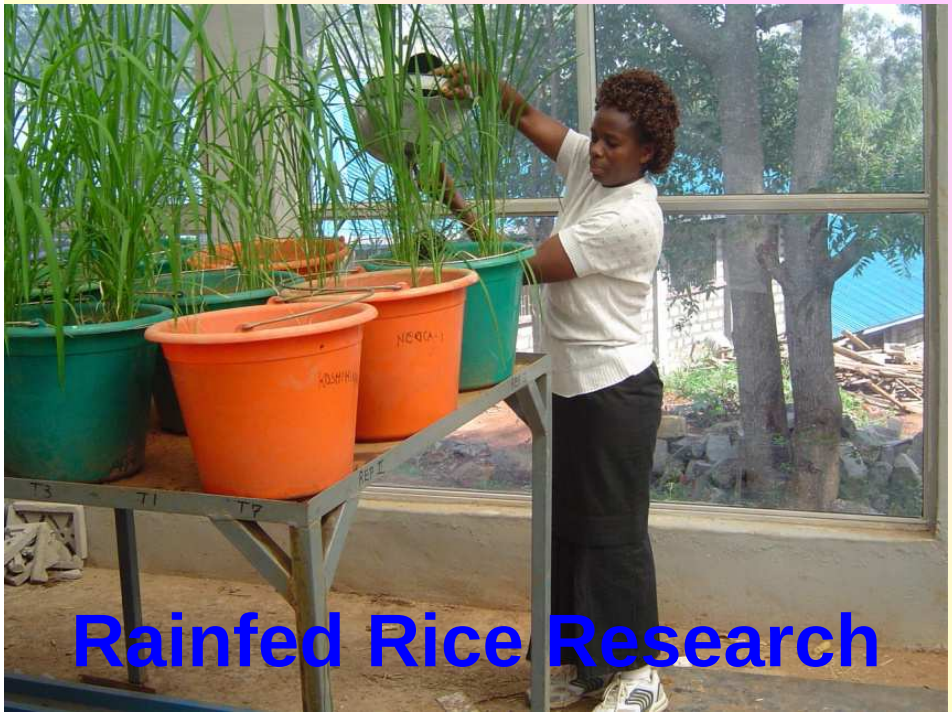
Indigenous vegetables

Processing of *Solanum scabrum* seeds by community farmers

Horticultural crop research for high yielding bananas


Research students at carbon dioxide sequestration field station, Ruma


Community use of grassland for stock grazing


Rainfed Rice Research


Slow establishment of some local plants such as *Croton macrostachyus*

Resting and picnic site

Ornamental plants' nursery

Young *Bischovia javanica* plants along the walk trails

Fast growing *Eucalyptus spp. and research fields for crops.*

Researchers evaluating plots of rainfed NERICA rice on adaptability trials in the garden

BIOTA

MASENO UNIVERSITY
FOUNTAIN OF EXCELLENCE


Podocarpus spp.

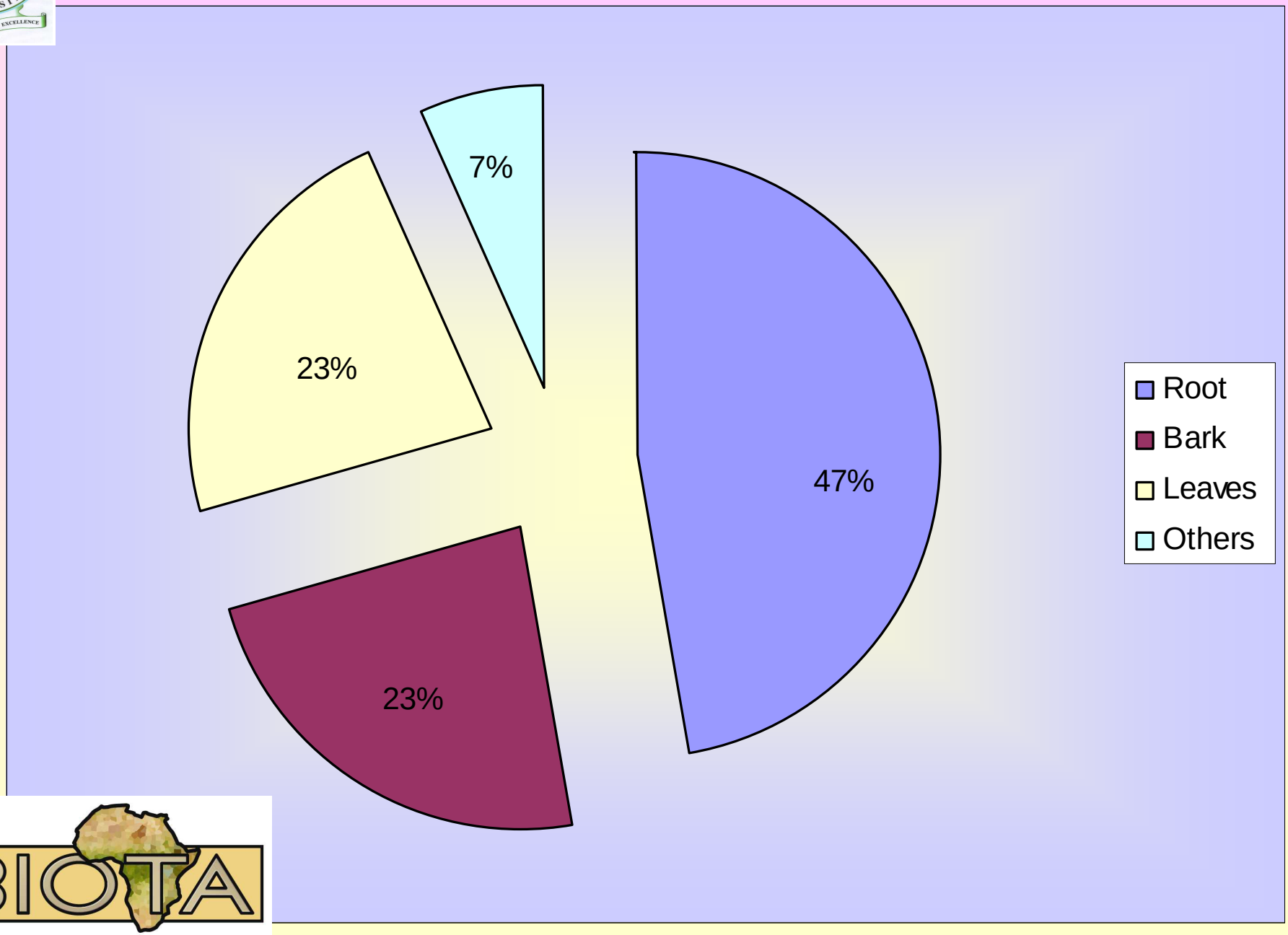

Debarking


Zanthoxylum gillettii stem

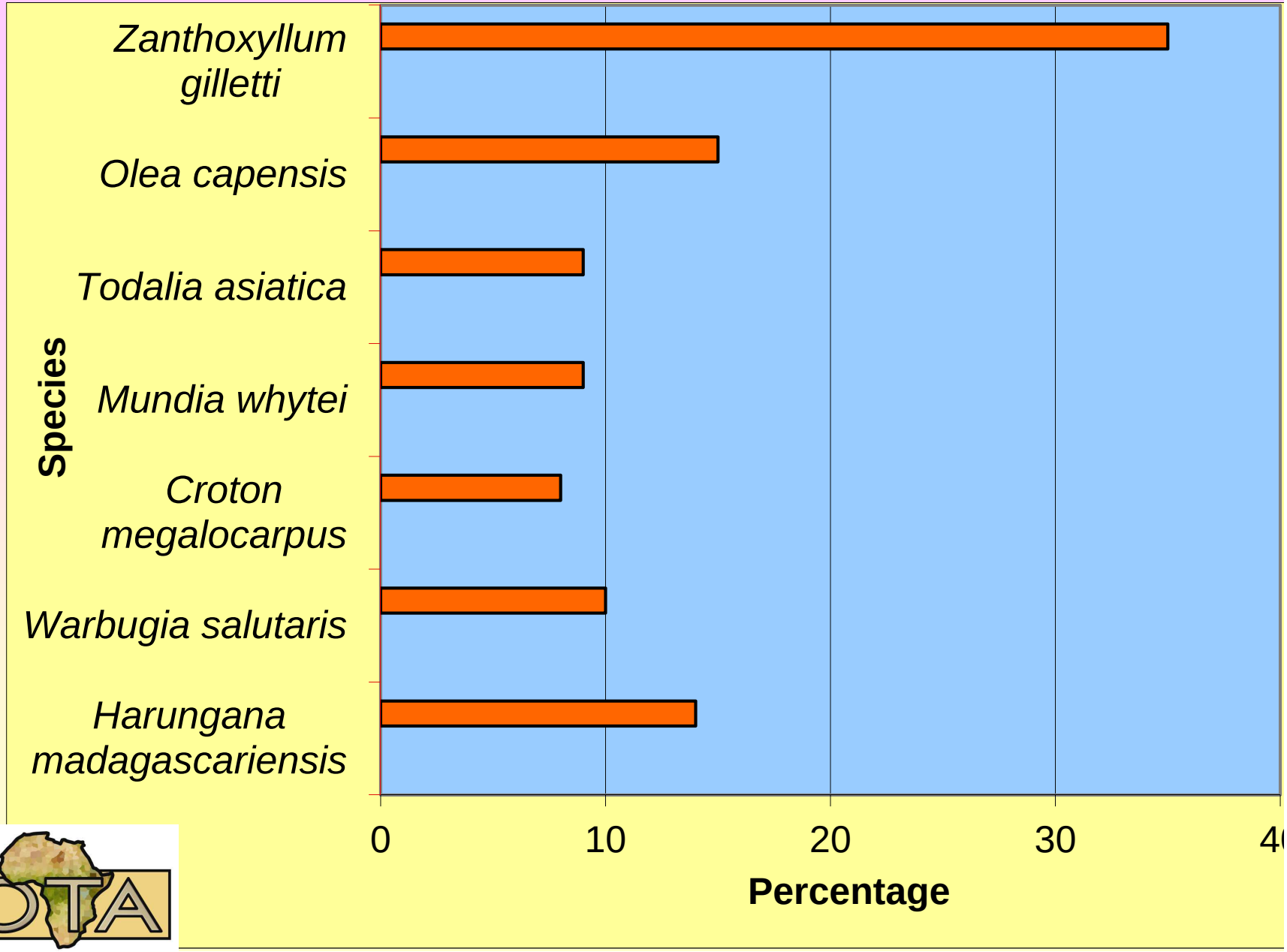

Research student root cuttings for propagation

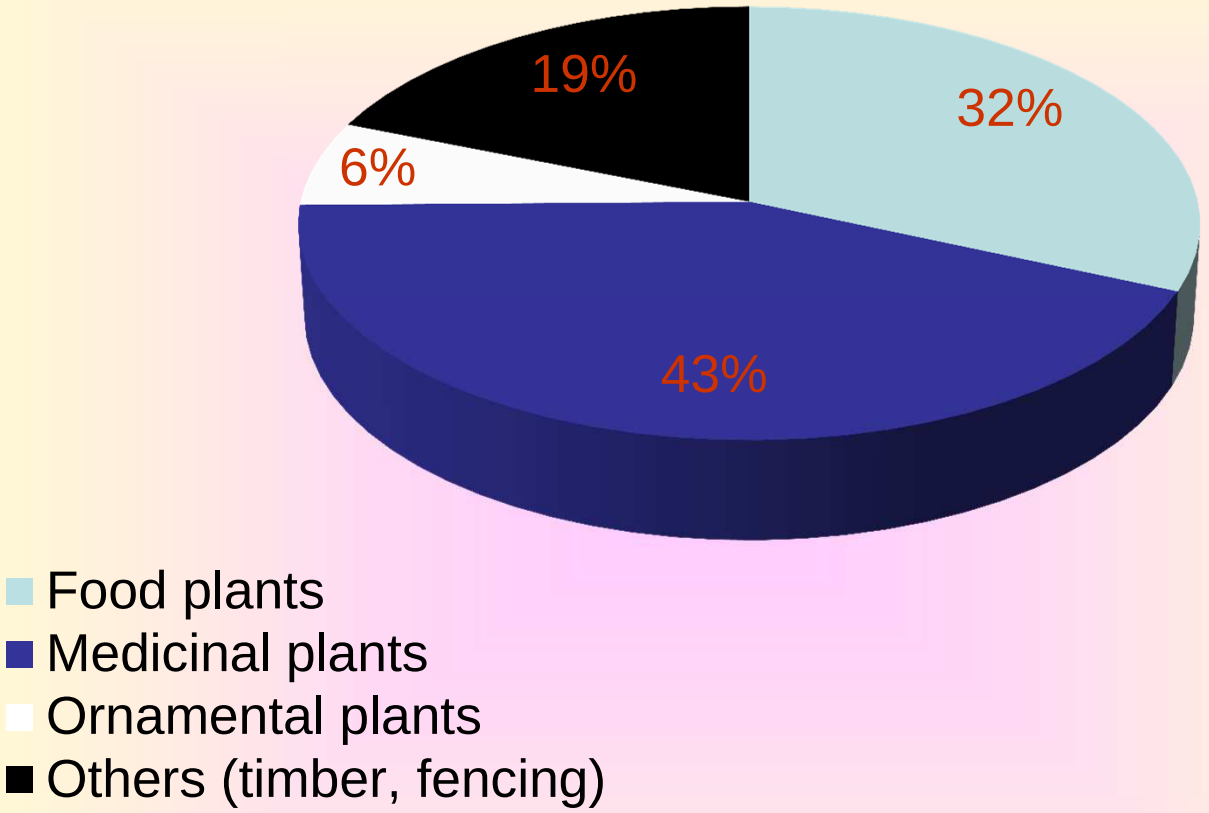

Crinum macowanii

Parts of Plant Used

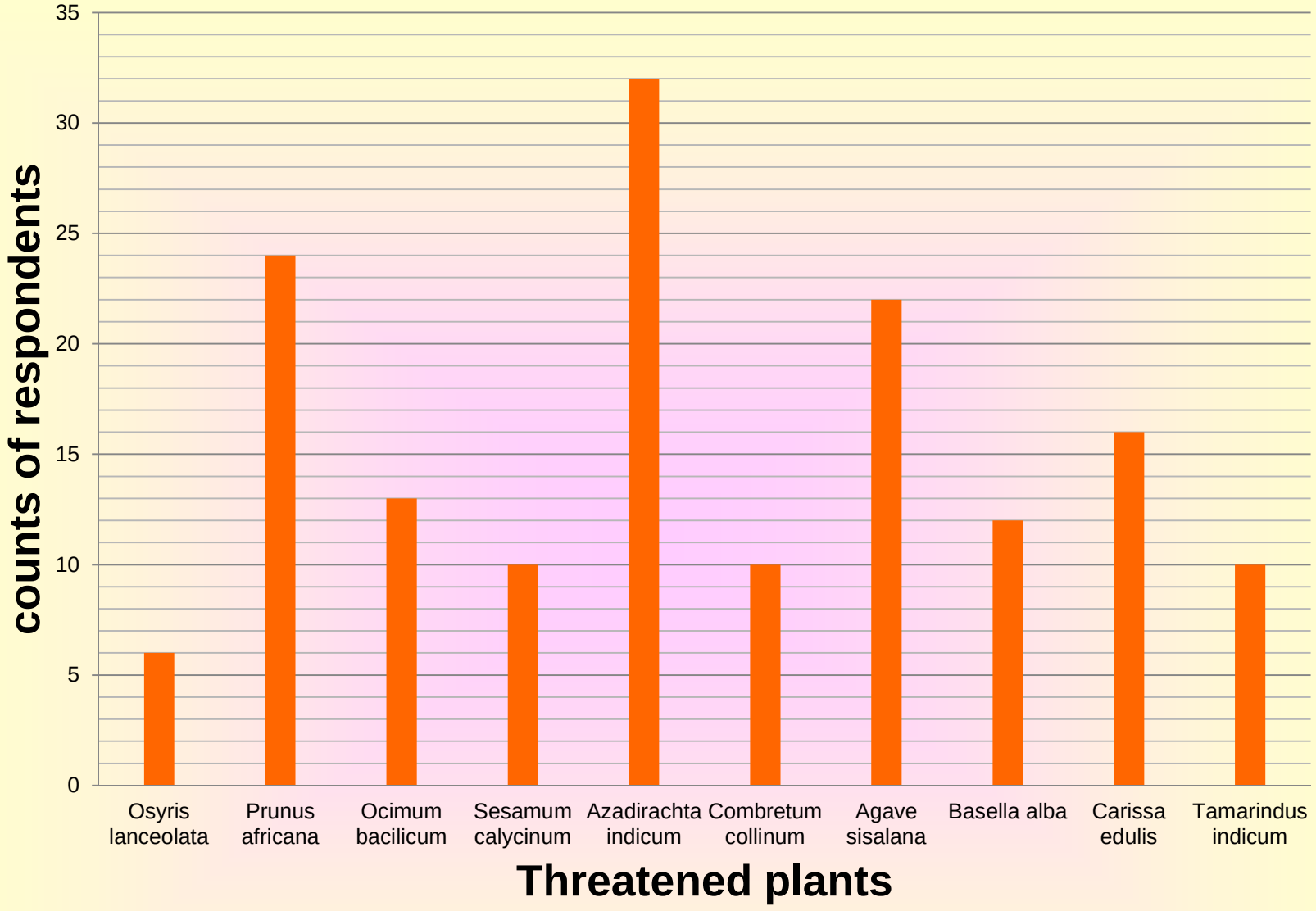


Usage of selected species





Categories of threatened plant species



The most threatened species (respondent perception) around the UBGM.

Benefits and policy

- The primary objective of our activities is to reverse the lose of plant species through communities engagement and policing for we believe they are better placed to protect their environment.

- We are also advocating benefits sharing from forest products and recognition of the use of herbal medicine for healthcare without considering the practice as repugnant.

Ex situ conservation

- The introduction of *ex situ* conservation of plants of high value in the garden has changed the landscape and created aesthetic environment for recreation by students and local community.

- We believe that through this collaborative approach the garden will be able to achieve its role in the global strategies for plant conservation and the post millennium development goals.

Research activities

- The overall mission of the garden is to support study, Education and research activities at the university and contribute to the overall improvement of the university-community collaboration.

- Nurture the spirit of conservation and strive to improve the life and culture through conservation and utilization power, link the plants life with society and expand the circle of nature through conservation.

Conclusions

- The development of Botanic Garden at Maseno University has created a centerpiece contribution in East Africa on research infrastructure development and enhancement of higher education.

- The biodiversity of the tropics is diminishing at a faster rate but we believe in conservation and that together we will succeed in our research and development endeavors and contribute to the sustainable beauty of our institutions and the World for the future generation.

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  - For Invaluable Financial Support Invitation
- AUDIENCE
  - for Attention and Interaction

THANK YOU FOR LISTENING

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