

**DARWIN PROJECT – BUFFER ZONE**

- Four communities – Mahate, Mpunga (Moribane), Zomba, Maronga
- Identify important areas for biodiversity conservation based on Community-identified Conservation Areas
- Identify important species for conservation
- Establish forest plots
- Identify potential economic species; livelihood support

**MAHATE COMMUNITY**




- Extensive miombo woodland, but of lower conservation interest
- Elephant movements → problems with cropping
- Quartzite outcrops
- *Uapaca* fruits (mzanze)

areas proposed by project

Community proposed areas (solid red)

### MPUNGA COMMUNITY




- Extensive semi-deciduous / evergreen forest
- Swamp grassland (Rio Tave)
- Elephant movements → problems with cropping
- Bee fences
- Established ecotourism (Ndzou Camp)
- *Funtumia* for paper

Community proposed areas (solid yellow)

### ZOMBA COMMUNITY




- Semi-deciduous / evergreen forest, extension of TFCA Core Zone
- Papyrus & *Pandanus* swamp
- Riverine forest / *Pandanus*
- Papyrus for mats

Community proposed areas (solid green)

### MARONGA COMMUNITY

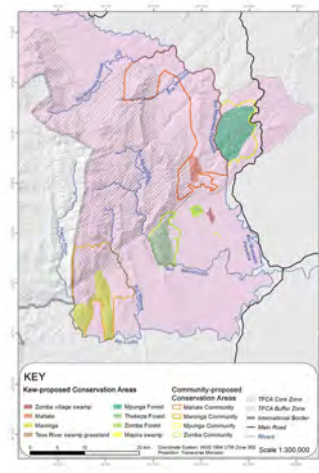
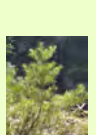


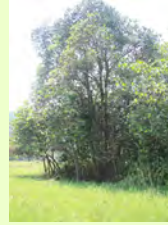
- Extensive semi-deciduous / evergreen forest; good condition
- Moist grassland
- Riverine forest
- Quartzite outcrops (Chimanimani Mtn endemics)
- Extension of TFCA Core Zone
- Restricted forest species, including some endemics

Community proposed areas (solid orange)

### TFCA BUFFER ZONE

Conservation areas proposed by project (solid areas) in TFCA Buffer Zone

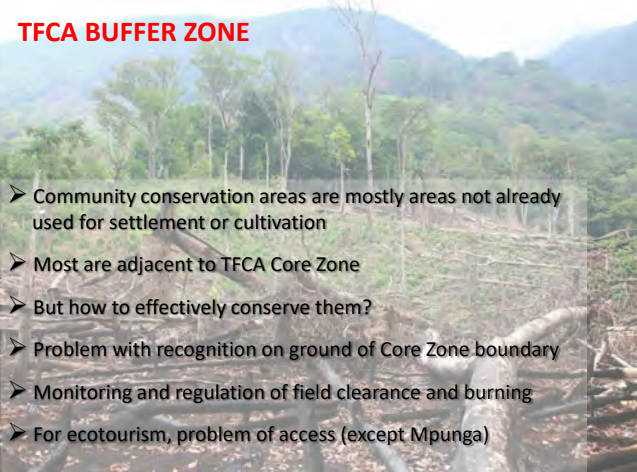






Proposed Conservation Areas – community & project

	area (km <sup>2</sup> )
<b>Mpunga</b>	
total community area	160
community-proposed conservation area	66.5
proposed forest area for conservation (project)	48.6
proposed Rio Tave area for conservation (project)	0.15
<b>Mahate</b>	
total community area	504
community-proposed conservation area (incl. TFCA Core)	187
proposed area for conservation (project)	8.16
<b>Zomba</b>	
total community area	230
community-proposed conservation area (incl. TFCA Core)	36.2 + 2.19
Thekeza forest area proposed for conservation (project)	25.1
Mapira swamp area proposed for conservation (project)	0.43
Zomba forest area proposed for conservation (project)	1.73
Zomba swamp area proposed for conservation (project)	2.18
<b>Maronga</b>	
total community area	179
community-proposed conservation area (incl. TFCA Core)	129
proposed area for conservation (project)	40.7

### TFCA BUFFER ZONE

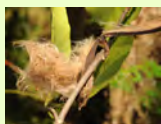
- Community conservation areas are mostly areas not already used for settlement or cultivation
- Most are adjacent to TFCA Core Zone
- But how to effectively conserve them?
- Problem with recognition on ground of Core Zone boundary
- Monitoring and regulation of field clearance and burning
- For ecotourism, problem of access (except Mpunga)





### SPECIES WITH ECONOMIC POTENTIAL

- *Uapaca kirkiana* – edible fruits
- *Cyperus papyrus* – stems for mats
- *Funtumia africana* – plumed seeds for paper
- *Coffea salvatrix* – speciality coffee
- *Khaya anthotheca* – artisanal folding chairs
- *Funtumia* / *Harungana* – kitchen utensils



### INVASIVE SPECIES

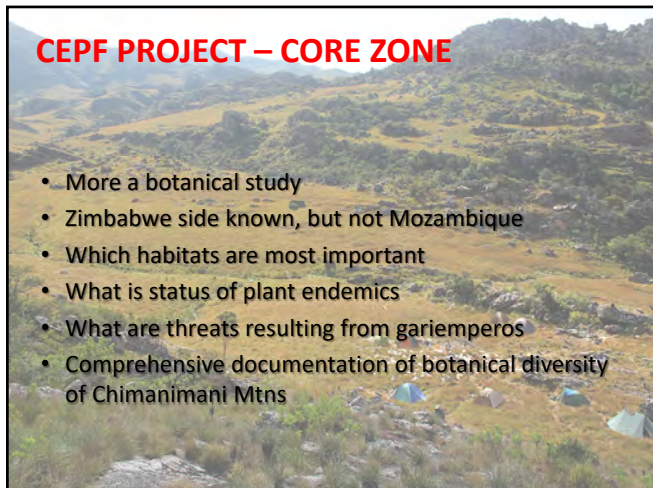
#### *Vernonanthura phosphorica*

- introduced by NGO for bee fodder
- dense stands
- suppresses forest regeneration
- readily burns
- spreads by wind
- also spreading in Core Zone at higher altitudes



### CEPF PROJECT – CORE ZONE

- More a botanical study
- Zimbabwe side known, but not Mozambique
- Which habitats are most important
- What is status of plant endemics
- What are threats resulting from gariemperos
- Comprehensive documentation of botanical diversity of Chimanimani Mtns



### ACTIVITIES

- Three expeditions to north, centre and south
- Focus above 1200 m altitude
- Involvement of Kew, IIAM, Micaia, Harare Herbarium, Meise (Belgium)
- Extensive plant collecting - 2014 & 2016
- Over 900 plant specimens collected



### MAIN FINDINGS

- New studies realise 78 endemic taxa (8.5% of flora)
- Found 9 taxa new to science
- Total flora over 950 species
- Most endemics found on quartzite, not schist soils
- Importance of "rock gardens"
- Mozambique and Zimbabwe sides very similar botanically
- Ecological processes and flora basically in good condition





### CONSERVATION

- Gariempero activity is less now than before
- Surprisingly, less impact on endemic plants than expected
- Gariemperos having a big impact on rivers and streams (hydrology, aquatic animals), but not on grasslands
- Severe loss of large mammal populations
- Threats from frequent fires
- Potential threat from alien invasive plant species
- Carried out 66 IUCN Red List assessments on plants
- 27 species threatened, 34 Least Concern

