



Important Plant Areas in southern Africa

Combined proceedings of workshops held in Mozambique, Namibia and South Africa

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European habitat directive

- There is no regionally threatened habitat list at present for southern Africa.
- A peer-reviewed regionally threatened habitats list should be used for identification of sites at a regional level however, this list still needs to be developed.
- For identification of sites using category C1, the same regional vegetation map as used in Criterion B can be used.
- At present, South Africa is the only SABONET country that will have a nationally threatened habitat list in the near future.
- Nationally threatened habitat lists should be developed

by experts within each country. The degree of threat to the habitat and the need for protection should be taken into account.

- For identification of sites using category C2, use the best available national vegetation map.
- Additional microhabitats/special habitats (gallery forests, quartz fields) that are not mapped on general vegetation maps may be included.
- The suggested cut-off for nationally threatened habitats is <30% of remaining habitat.
- Degradation (together with other extractive uses, for example logging) should be incorporated.

4. Mozambique IPA Workshop

The following information was summarised from the Mozambique IPA Workshop proceedings (Izidine & Cândido 2004) with input from Jonathan Timberlake and Tammy Smith.

4.1 Introduction

The Flora of Mozambique is characterised by Miombo and Mopane woodlands, grasslands, mangroves and coastal mosaics (White 1983, Wild & Barbosa 1967). About 22 vegetation types have been recorded in the country. The Miombo woodland in the north of the country is the major vegetation type, and is dominated by *Brachystegia spiciformis* associated with *Julbernardia globiflora*. Mopane woodland, in the Limpopo-Save and Alto Zambeze regions, is also extensive and is comprised of *Colophospermum mopane* associated with *Adansonia digitata*, *Azelia quanzensis* and *Sterculia rogersii*. In Mozambique, natural woodlands or forest cover 78% of the country (MICOA 2002).

Various plant diversity areas have been identified in Mozambique: the Gorongosa Mountain-Rift Valley-Complexo de Marromeu, with montane moist forest, moorland and grasslands; the inselbergs in the north of Mozambique with a dense forest and a peculiar and endemic flora; the Chimanimani Mountains with a high diversity of habitats and species, including endemic species; and the Coastal Mosaic with different vegetation types including dune forest, bush, grasslands, woodlands and mangroves. In terms of endemism, Mozambique has got two centres of endemism: the Maputaland Centre in the south of the country and the Chimanimani Centre in the centre of the country (Hatton & Munguambe 1988). Mozambique has approximately 5 694 vascular plant species, of which 177 are endemic and 300 are threatened (Izidine & Bandeira 2002).

According to Izidine & Bandeira 2002, the rate of deforestation in Mozambique could be up to 147 077 ha per year. Human activities such as exploitation of plants for fuel wood, industrial development, traditional agricultural practices, human settlements and urbanisation are the main causes. Hence it is urgent and necessary to implement conservation strate-

gies for both habitats and species.

The National Institute of Agronomical Research (INIA), supported by SABONET, organised a National IPA Workshop in Maputo from the 24–26th November 2004. A broad group of participants (Appendix E) attended the workshop including lawyers, biologists, foresters and agriculturalists. They represented a number of sectors from policy and decision-making bodies, research and academic institutions through to law enforcement. The workshop was facilitated by Samira Izidine (INIA, Mozambique IPA Coordinator), Jonathan Timberlake (Biodiversity Foundation for Africa) and Tammy Smith (South African National Biodiversity Institute).

The main objectives of the IPA workshop in Mozambique were to:

- Introduce the IPA programme to a wide range of stakeholders
- Explain and discuss the IPA criteria in a southern African context
- Identify a preliminary list of potential IPA sites in Mozambique based on the criteria
- Provide brief descriptions of each preliminary IPA
- Agree on intervention priorities at each preliminary IPA

During the opening session, César Tique, Head of the Department of Land and Water highlighted the importance of inventories and documenting plant diversity. He expressed the need to define programmes for sustainable use and conservation of plant diversity to help improve the social well-being of the nation and promote economic progress.

The programme (Appendix F) for the workshop consisted of three parts: presentations, discussions and site selection. Presentations included an introduction to IPAs, information on Important Bird Areas (IBAs), *ex-situ* conservation of threatened plants and protected areas in Mozambique, the Maputaland Centre of Endemism, and conservation initiatives in the FZ region. An overview of the history of the IPA criteria and criteria development in southern Africa was presented.

A plenary discussion was held to discuss the selection of IPAs in Mozambique using the three criteria including threatened species, botanical diversity and threatened habitats. This session allowed the participants to gain a better understanding of the aims of the workshop and provided more insight into site selection.

4.2 Site selection

The participants divided into two groups to begin the process of selecting IPAs in Mozambique.

For the purpose of site selection, Mozambique was divided into two regions (southern-central and central-northern) and each group selected sites within one of these regions:

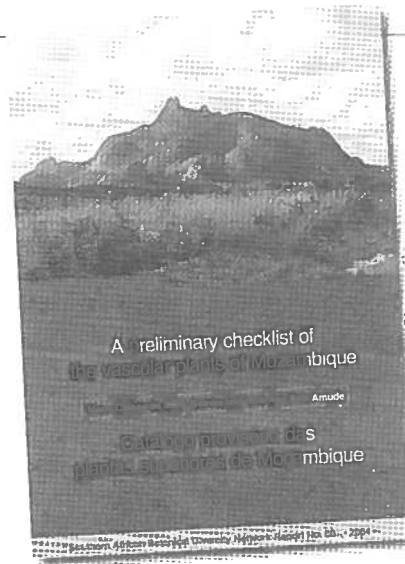
Group 1 considered southern and central Mozambique which included Manica, Sofala, Inhambane, Gaza and Maputo Provinces.

Group 2 considered central and northern Mozambique which included Niassa, Cabo-Delgado, Nampula, Zambézia and Tete Provinces.

A facilitator from each group presented the results of these sessions during a plenary session. The workshop participants discussed and considered the suggestions put forward by each group and proposed a list of 28 sites as IPAs for Mozambique.

The main information sources used during the workshop were: *Biological Diversity of Mozambique* (Hatton & Munguambe 1988), *Southern African Plant Red Data Lists* (Golding 2002), *A preliminary checklist of the vascular plants of Mozambique* (Da Silva et al. 2004), *Flora of Mozambique*, *Flora Zambeziaca*, *Flora of Tropical East Africa*, vegetation (Wild & Barbosa 1967, White 1983), soil maps and the PRECIS database. It was agreed that the national habitat classification system for Mozambique (Wild & Barbosa 1967) needed to be updated.

Unfortunately, some of the information required to determine IPAs using the southern African criteria is not readily available in Mozambique. Expert knowledge and opinions were therefore used to select IPAs, however, where possible defensible information was provided to substantiate the selection of these sites.



4.3 Preliminary IPAs for Mozambique

Based on the southern African criteria and expert knowledge, preliminary sites were identified during the workshop. Each group indicated which criteria (A, B or C) could help justify selection of the sites. A priority score was also provided for each site (1: high priority, 2: medium priority or 3: low priority). The groups indicated an action for each site, either 'intervention' or 'studies'. 'Intervention' indicates that the group was satisfied with the site being given IPA status, while 'studies' indicate that there was a level of uncertainty and further work needs to be done at the site before it can be considered an IPA. For the central and northern parts of the country Group 2 provided, where possible, an indication of the number of endemic and threatened species in each province.

The facilitator of each group presented the lists of suggested IPAs (Tables 2 & 3) and during a plenary discussion session the participants of the workshop selected 28 preliminary sites as IPAs. Group 1 originally selected 21 sites of which 18 were proposed as IPAs. Eleven of the 22 sites selected by Group 2 were proposed as IPAs. Due to the lack of botanical, taxonomic and ecological information, the remaining sites were not selected. Additional work including floristic inventories and species assessments will need to be done at these sites to provide baseline information.

The preliminary sites listed in Table 4 are an initial attempt at identifying IPAs in Mozambique and provide a good starting point for further work and identification of sites.



Group discussions at the Mozambique workshop. (Photos: T.J. Smith)

Table 2. Proposed IPAs in 5 provinces in central and southern Mozambique

Selected sites	Criteria	Action	Priority
1. Licuáti	A, B, C	Intervention	1
2. Maputo Special Elephant Reserve	A, B, C	Intervention	1
3. Zitundo	B, C	Studies	2
4. Lebombo/Goba Mountains	A, B, C	Intervention	2
5. Bobole	A	Intervention	1
6. Chirindzene Forest	A?, B, C	Studies/Intervention	2/3
7. Mavue?	A, C	Studies	3
8. Pafuri	A, B, C	Studies	3
9. Alto Changane (Area to be more precisely designated)	C: unique vegetation type	Studies	1
10. Inharrime	C: unique vegetation type (Miombo with <i>Milicia excelsa</i>)	Studies	3
11. Ponta São Sebastião	B, C	Intervention	3
12. Mabote	C: unique vegetation type (<i>Androstachys johnsonii</i>), special soils	Intervention	3
14. Govuro-Rio Save	C: unique vegetation type	Intervention	1
15. Cheringoma Forest	B, C	Studies	3
16. Marromeu Wetlands	B, C	Intervention	2
17. Serra de Gorongosa	A, B, C	Intervention	2
18. Chimanimani Mountains	A, B, C	Intervention	1
19. Moribane forest	B, C	Intervention	1
20. Serra Choa	B, C	Intervention	1
21. Garuso Forest	A, C	Intervention	1

1: high priority
2: medium priority
3: low priority

Table 3. Proposed IPAs in 5 provinces in central and northern Mozambique.

Province	Provisional site	Criteria	Action	Threatened Species	Endemic Species	Priority
Cabo Delgado	Quirimbas Park: Island and Inland Forests	B, C: island vegetation, high diversity, several vegetation types	Intervention			1
	Mueda Plateau	A: high number of endemic species, protection of species at national and international level, 800 vascular plant species	Studies	14	+35	1
Niassa	Serra Mecula and around Lugenda River	A, B, C: first record of some species, high diversity, rare vegetation types	Studies			1
	Chipange Tcheto	A, B: high diversity, species with high commercial value	Studies	18	+37	1
	Lúrio River/Nipepe	A, B: Panga-Panga, Threatened species, high diversity	Studies			1
Zambézia	Chiúta Lake	A, B: threatened species, high diversity	Studies			1
	Gilé Forest Reserve	A, B: threatened species, high diversity				1
	Dere Forest Reserve	A, B: threatened species (<i>Pterocarpus angolensis</i>)				1
	Mount Milange/Chiperome	B: high diversity	Studies			1
	Secondary Islands and conservation areas	A, B, C: different vegetation, new record for endemic species, high diversity	Studies	43	+79	1
	Maganja da Costa (Lake)	B, C: high diversity, unique vegetation type (Sand forest)	Studies			2
	Gurué-Mount Namule	C: unique forest (Gully Forest)	Studies			2
Nampula	Chinde-Zambeze Delta/Cúacuá River	A, C: endemic species, unique vegetation type (mangroves and swamp forest)	Studies			2
	Primary Islands	A, B, C: endemic species, high diversity, different vegetation types	Studies			1
	Mecuburi Forest Reserve	B: high diversity		32	+56	2
	Matibane forest Reserve	B, C: high diversity, <i>Mecrusse</i> occurrence	Studies			2
	Tete	Tchuma Tchato (Ruangua River)	B, C: high diversity, specific habitat	Studies		
	Zimoza Initiative ACTF?	B: high diversity	Studies			3
	Mopane zone	A, C: threatened species, unique vegetation	Studies			3

Capacity

- Raise national capacity to conduct floristic inventories, plant identification, ecological studies, mapping, databasing and other relevant areas for continuous update and implementation of IPAs.
- Prioritise the proposed sites based on data and botanical knowledge of the sites.

Implementation

- Gain recognition of IPAs under existing protected area mechanisms.
- Ensure that IPAs have appropriate management plans and that these plans are being followed.
- Promote the sustainable use of plant resources and undertake immediate conservation action.
- Create synergy between protected areas, authorities and other relevant institutions with indigenous and local peoples' involvement.
- Improve capacity with respect to enforcement and monitoring.

4.5 The way forward

The Mozambique IPA workshop provided a good starting point for the continued identification of IPAs in Mozambique. It introduced the concept of IPAs and initiated the process of

site selection. The following list of initial recommendations was suggested at the workshop.

- Compile checklists of all plant species that occur in each IPA.
- Map proposed sites on an existing map of Mozambique (1:250 000).
- Check all plant conservation literature concerning Mozambique.
- Consider *in-situ* conservation, not *ex-situ*.
- Gather information about endemic and threatened species from the PRECIS Database at LMA Herbarium.
- Produce a plant species distribution list for Mozambique.
- Contact Kew Herbarium to get more information about endemic species of Mozambique.
- Provide justification as to why an area was selected as an IPA.
- Prevent duplication of sites either in Mozambique or in other countries.
- Prioritise the sites selected as IPAs for further intervention and action.
- Find out where the existing protected areas and forest reserves are. Are the existing areas managed? What management or legislation can be used? Determine the existing extension services, controls, policing and legislation pertaining to plants.

5. Namibian IPA Workshop

The following information was summarised from the Namibian IPA Workshop proceedings (Hofmeyr 2004) with input from Gillian Maggs-Kölling, Sonja Loots and Tammy Smith.

5.1 Introduction

The flora of Namibia consists of dry woodland in the north-east, which becomes drier towards the south and the coast, through to bushland, wooded grassland and desert (Stuart & Adams 1990). Namibia has 4 030 plant species, 602 of which are endemic (Craven 1999) and 23 of which are threatened (Loots 2005). There are two centres of plant diversity and endemism including the Gariiep Centre and the Kaokoveld Centre (Van Wyk & Smith 2001).

The National IPA Workshop for Namibia was organised by the National Botanical Research Institute (NBRI) on the 1st and 2nd of December 2004 in Windhoek. The participants (Appendix G) included botanists from the NBRI and academic institutions, ecologists, independent consultants, and representatives of three directorates in the Ministry of Environment and Tourism (MET).

The programme (Appendix H) for the workshop began with presentations on the IPA concept and the criteria discussed. Overviews and presentations were given on various aspects of plant diversity and conservation in Namibia including red data listing, vegetation data, the herbarium specimen data-

base, the Namibian Tree Atlas Project, centres of endemism and diversity, and the protected areas system. These presentations provided an indication of the information available in Namibia for the selection of IPAs. Additional presentations looked at management and financing options for IPAs and plant resource management in relation to local communities.

Namibia has a large amount of botanical data available and therefore selecting sites using the criteria should be easier than in many of the other SABONET countries. This workshop provided an opportunity for an initial attempt at selecting a provisional list of IPAs for Namibia and in many cases relied on expert knowledge to select this list. However, it was recognised that the validity of these sites would need to be confirmed using the available data.

5.2 Site selection process

The participants divided into three break-away groups. Each group considered a different broadly defined region of the country: the northwest, the south and the northeast. The participants joined a group based on their interest and knowledge of a particular region. The provisional list of sites selected is shown in Figure 1.

Group 1: North-east Namibia

Group 1 selected the following sites as potential IPAs in