Pemba

MOZTIPA024

Country: **Mozambique**
Administrative region: **Cabo Delgado (Province)**
Central co-ordinates: **-13.10460 N, 40.54190 E**
Area: **231km²**

Qualifying IPA criteria

A(i)

IPA assessment rationale

The remnant pockets of natural coastal habitats within the Pemba Bay region and south to Mecúfi qualify as an IPA under criterion A(i). This site contains internationally important populations of 11 globally threatened plant species, five of which are assessed as Endangered and six as Vulnerable. Of these, Pemba IPA contains the total known global range of Eriolaena rulkensii (EN). As noted above, it may also contain Justicia niassensis (EN). The area is designated as an IPA in the hope that the small patches of intact coastal vegetation can be conserved and that degraded areas away from settlements can be restored such that its botanical importance can be protected and enhanced. Given the extent of fragmentation, the remaining areas of Rovuma Coastal Dry Forest are not considered to trigger criterion C(iii) at this site.

Site description

The Pemba IPA is located in Pemba, Metuge and Mecúfi Districts of Cabo Delgado Province. It comprises the coastal lowlands of Pemba Bay from Metuge southwards, parts of the Pemba Peninsula - excluding the urban and residential areas of the port city of Pemba, the capital of Cabo Delgado Province, and associated villages - and extending along the Indian Ocean coastline south towards the town of Mecúfi. The site contains a mosaic of terrestrial coastal habitats, much of which are heavily transformed but with some intact vegetation remaining. It also includes extensive mangroves in Pemba Bay. Although delimited as a single unit, with an area of ca. 231km2, only small and isolated pockets of this area are still of high botanical value. The inland boundary of this IPA is only vaguely delimited at present and may require future refinement.

Botanical significance

Although much of this IPA is heavily degraded and with large extents of the original vegetation now lost, it still contains a number of rare and threatened plant species within fragments of the original coastal vegetation of the proposed Rovuma Centre of Plant Endemism (Burrows & Timberlake 2011; Darbyshire et al. 2019a). Of primary importance, this site contains the entire known global population of Eriolaena rulkensii (EN), the only continental African member of this predominantly Asian genus. This is an attractive yellow-flowered shrub or treelet which occurs in heavy clay over coral-rag in coastal scrub and forest, sometimes at the upper margin of mangrove communities (Dorr & Wurdack 2018; Darbyshire et al. 2019b). This species occurs on the west (bay) side of the Pemba Peninsula and in remnant forest patches south of the peninsula towards Mecúfi. This latter area is also of importance for the rare endemic tree Acacia latispina (VU) which grows in open woodland on both dark clays and on gravelly and pebbly soils immediately behind coastal dunes. The habitat for the population between Pemba and Mecúfi is severely degraded due to wood-harvesting and overgrazing by cattle, although this species is able to withstand moderate habitat disturbance (Burrows et al. 2014a). Only the third known Mozambican site for the globally Endangered tree Hildegardia migeodii (EN) was discovered in 2012 on the Pemba peninsula. This IPA also holds some small populations of the Mozambican endemic tree genus Micklethwaitia carvalhoi (VU); these have been impacted by firewood cutting, but as this species does coppice well it can withstand heavy harvesting pressure (Burrows et al. 2014b). Pemba

Bay holds an important population of the mangrove parasite Viscum littorum (NT) which grows here on both Sonneratia alba and Ceriops tagal; this species is endemic to northern Mozambique. In total, 11 globally threatened species have been recorded from the Pemba IPA, although the continued viability of some of these populations requires confirmation.
The Pemba Peninsula is one of only two known localities historically for the striking herb Justicia niassensis (EN), which was recorded near the lighthouse at Maringanha Point . However, the record at this site is from 1960, hence its continued presence on the peninsula requires confirmation given that much development has taken place in the meantime; the area in which this historic collection was made is not included within the IPA boundary but it is hoped that this striking species can be found elsewhere within the IPA in future.

Habitat and geology

The area supports a mosaic of habitats with much farmland and settlement. Away from the coast, the Pemba Peninsula and continuing southwards beyond Murrébue, the land rises rapidly to a low flat ridge up to 150 m asl., comprising iron-rich sandstones of the Mikindani Formation of mid-Neogene origin (ca. 10 – 15 mya). This rock gives rise to a coarsely sandy well-drained red soil. Elsewhere in Cabo Delgado, these Mikindani sandstones hold important areas of dry forest (Timberlake et al. 2010) but this whole area now is highly transformed and with no areas of forest remaining. Wild & Barbosa (1968) indicate on their vegetation map that this may have once supported Guibourtia schliebenii thicket (their mapping unit 14) but none of this remains. Elsewhere, the IPA is dominated by more recent Quaternary deposits including littoral dunes and recent alluvial deposits. Areas of heavy clay soils are found both around Pemba Bay and on the coastal lowlands between Murrébue and Mecúfi and these support an open Acacia-dominated woodland. There are also areas of raised coral rag which support a thicket vegetation. The south side of Pemba Bay supports extensive mangrove communities which are included in the IPA.
The coastline here has a highly seasonal humid tropical climate, with the wet season from December to April, usually peaking in March and with a prolonged dry season from May to November. Annual rainfall is ca. 870 mm at Pemba.

Conservation issues

This IPA is currently unprotected. Threats are considerable and varied, and large areas have already been heavily degraded or transformed. The Pemba Peninsula is impacted by continuing expansion of Pemba city and port. The population of this city is now over 200,000 and has more than doubled in 20 years. Further increases in population, at least in the short term, have resulted from displacement of populations from the north due to the recent violent insurgency. Away from urban areas, the major impact is from agricultural activity with extensive areas given over to growing crops and, particularly in areas of clay soils, high grazing pressure. Woody vegetation is also severely impacted by harvesting for charcoal and construction. The vegetation of the coastal fringe is being impacted by beach tourism; this is particularly prevalent at present on the Pemba Peninsula but it is also a threat to the less built-up coastline south of Murrubue towards Mecúfi (Darbyshire et al. 2019b). Regular flights now arrive into Pemba from Maputo and from South Africa, catering to wealthy tourists. Security issues associated with the insurgency to the north are impacting tourism in the short-term but this is likely to be only a temporary hiatus.
There is an urgent need to delimit and protect the remaining areas of natural vegetation and the surviving populations of the conservation-priority species within this IPA. One possible channel of support may be through Lúrio University which has a campus in Pemba with an active interest in biodiversity and conservation.
The Pemba IPA would qualify as an Alliance for Zero Extinction (AZE) site on the basis of Eriolaena rulkensii. It is not currently included within Mozambique's Key Biodiversity Areas (KBA) network.

Site assessor(s)

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IPA criterion A species

SPECIES	QUALIFYING SUB-CRITERION	≥ 1% OF GLOBAL POPULATION	≥ 5% OF NATIONAL POPULATION	1 OF 5 BEST SITES NATIONALLY	ENTIRE GLOBAL POPULATION	SOCIO-ECONOMICALLY IMPORTANT	ABUNDANCE AT SITE
Eriolaena rulkensii Dorr	A(i)	✓	✓	✓	✓	–	Occasional
Vitex mossambicensis Gürke	A(i)	–	✓	✓	–	–	Unknown
Vitex carvalhi Gürke	A(i)	–	✓	✓	–	–	Unknown
Micklethwaitia carvalhoi (Harms) G.P.Lewis & Schrire	A(i)	✓	✓	✓	–	✓	Occasional
Acacia latispina J.E.Burrows & S.M.Burrows	A(i)	✓	✓	✓	–	–	Occasional
Afrocanthium vollesenii (Bridson) Lantz	A(i)	✓	✓	✓	–	–	Unknown
Pavetta mocambicensis Bremek.	A(i)	✓	✓	✓	–	–	Unknown
Tarenna pembensis J.E.Burrows	A(i)	✓	✓	✓	–	–	Scarce
Justicia niassensis Vollesen	A(i)	–	–	–	–	–	Unknown
Combretum caudatisepalum Exell & J.G.García	A(i)	✓	✓	✓	–	–	Unknown
Hildegardia migeodii (Exell) Kosterm.	A(i)	✓	✓	✓	–	–	Unknown
Oncella curviramea (Engl.) Danser	A(i)	–	✓	✓	–	–	Unknown

IPA criterion C qualifying habitats

HABITAT	QUALIFYING SUB-CRITERION	≥ 5% OF NATIONAL RESOURCE	≥ 10% OF NATIONAL RESOURCE	1 OF 5 BEST SITES NATIONALLY	AREAL COVERAGE AT SITE
Rovuma Coastal Dry Forest	C(iii)	–	–	–	

General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Forest - Subtropical/Tropical Dry Forest	–	Minor
Shrubland - Subtropical/Tropical Moist Shrubland	–	Major
Savanna - Moist Savanna	–	Major
Marine Intertidal - Mangrove Submerged Roots	–	Major
Artificial - Terrestrial - Arable Land	–	Major
Artificial - Terrestrial - Urban Areas	–	Major

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Agriculture (arable)	–	Major
Tourism / Recreation	–	Major
Industrial development	–	Major
Residential / urban development	–	Major

Threats

THREAT	SEVERITY	TIMING
Residential & commercial development - Housing & urban areas	High	Ongoing - increasing
Residential & commercial development - Tourism & recreation areas	Medium	Ongoing - increasing
Agriculture & aquaculture - Annual & perennial non-timber crops - Small-holder farming	High	Ongoing - increasing
Residential & commercial development - Commercial & industrial areas	Medium	Ongoing - trend unknown

Management type

MANAGEMENT TYPE	DESCRIPTION	YEAR STARTED	YEAR FINISHED
No management plan in place		–	–

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