

# Management effectiveness assessments of Mitsamiouli-Ndroude, Coelacanth, and Shisiwani National Parks, Comoros METT report - January 2023

## Elaborate By :

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## Made Possible By :

- Marine Protected Area Agents
- Representatives of marine protected area co-management committees



## 1. Context

The Union of the Comoros and its territorial waters harbor a unique biological diversity revealed by high rates of endemism among the various fauna and flora groups that are now threatened by habitat loss or fragmentation combined with inadequate management and protection. This combination makes the Comoros a high-priority site for biodiversity conservation of global importance. The archipelago is located in one of the 25 global biodiversity hotspots recognized by *Conservation International*, and in one of the 35 critical regions identified by the World Wildlife Fund. *Birdlife International* has classified the Comoros as an endemic bird area, giving it the highest priority level: critical.

At the same time, Comoros' biodiversity has been - and continues to be - greatly affected by human activity. To protect its unique natural heritage, the Comoros government, with support from UNDP/GEF, has set up a national network of protected areas comprising marine protected areas (Mohéli National Park; Coelacanth National Park; Mitsamiouli - Ndroudé National Park; Shissiwani National Park) and terrestrial protected areas (Karthala National Park; Mont Ntringui National Park).

Considerable progress has been made: Aichi Targets achieved: 27% of terrestrial territory and 5.8% of territorial waters classified as protected areas; Legislative and institutional framework on protected areas put in place: Law on protected areas passed and Agency set up and operational; Mohéli classified as a Biosphere Reserve; Governance of protected areas shared with communities; Participatory and regular restoration and monitoring of ecosystems; Management unit in the 5 new parks operational.

Despite these advances, there are still obstacles to overcome in order to improve the efficiency of the national protected areas system.

Obstacle #1 - Insufficient systemic and institutional capacity for planning management interventions (*Lack of a sustainable funding mechanism to support the PA system; limited implementation of management and development plans; land disputes exist within protected areas*).

Barrier #2 Limited capacity (i.e. individual skills and knowledge, equipment, database) to co-manage the network and protect marine and terrestrial biodiversity.

Obstacles#3 Lack of incentives for stakeholders and local communities to conserve and sustainably manage natural resources, and insufficient capacity to develop sustainable, equitable and profitable nature-based businesses while helping to mitigate pressures on biodiversity.

Obstacle #4 Lack of sufficient knowledge sharing and integration of women and PLHIV

All marine protected areas have developed management and development plans, but currently lack effective tools for measuring their management effectiveness. The implementation of the METT as a tool for self-assessment of management effectiveness is necessary. It will enable



evaluate marine protected areas over a given period and measure their management effectiveness over time as indicated in the management and development plan. METT is designed to measure progress in management effectiveness at particular sites over time. It has a number of obvious advantages. It is a simple, flexible tool that can provide a quick overview of the effectiveness of marine protected area management, without taking up too much of the time of managers, eco-guards or others responsible for governance. METT is generally carried out in the form of a qualitative assessment, and relies heavily on the judgment and adaptability of managers.

## 2. Methodology adopted to draw up METTs for Comoros MPAs

This METT<sup>1</sup> consists of two main sections: (i) data sheets containing key information on each marine protected area and (ii) an evaluation form containing a questionnaire with four alternative answers to 30 questions, each with an associated score, a data field for notes and justification of answers, and a place to list steps to improve management if necessary.

- METT is a generic tool designed for global use and is in English. So, first of all, it was necessary to translate all the METT assessment sections so that all the stakeholders present at the assessment could understand, analyze and give the appropriate responses.
- Then, in each marine protected area, the RPOC team assisting me invited a resource person from each group representing the park co-management committee and the park management team, including the ecoguards.
- A total of 3 days of meetings were needed to go through all the questions relating to the evaluation and formulate the appropriate answers.
- When an issue was debated for notification, each party explained the reasons for notification until a common consensus was reached.
- It was agreed that each METT should be disclosed at a larger workshop, so that all stakeholders could take ownership of the METT.

<sup>1</sup> Stolton, S., Hockings, M. and Dudley, N. (2020). Management Effectiveness Tracking Tool. Reporting Progress at Protected Area Sites: Fourth Edition. Excel workbook and Guidance.



### 3. Presentation of the Comoros MPAs evaluated

#### 3.1 Coelacanth National Park

##### Coelacanth National Park at a glance...

**Location:** Ngazidja island: 11°48'00 "S, 43°14'30 "E

**Surface area:** 9276 ha

**Main habitats :**

- Coral reefs
- Sea grass beds
- Mangroves
- Beaches
- Volcanic highlands home to the coelacanth

**Key species :**

- Coelacanth
- Whales
- Dolphins

**Species to be rehabilitated :**

- Sea turtles

The Coelacanth National Park site lies to the south of the island of Ngazidja at a very low altitude; with the following geographical coordinates: Longitude 43°14'30" and 43°32'00" East and latitude 11° 48'00 "and 11° 57'00" South. Administratively, the Parc Nationale Coelacanth (PNCoe) is located in the South-West and East region of Ngazidja, in three prefectures: Hambou, Badjini Ouest and Badjini Est, and five rural communes: Hambou tsinimoipanga, Hambou Djoumoipanaga, Ngouweguoé, Ngnoumangama and Itsahidi. The park covers fifteen villages. It begins at Salimani Hambou in the south-west, 12 km from Moroni, and ends at Malé in the south-east, 45 km from Moroni, covering the following localities: Salimani, Banguoi, Singani, Hetsa, Mbambani, Dzahadjou, Itsoundzou, Mindradou, Mandzissani, Mlimani, Ifoundihé chamboini, Simamboini, Chindini, Ouroveni, Malé. The park can be reached by car or motorcycle along the RN2 Moroni - Foubouni road, or by sea (boat, speedboat, pirogue, etc.).

The Park is essentially marine and coastal, and initially covered 7,572 ha of marine space along the southwest coast of Ngazidja. It has been extended (compared with 2012 forecasts) as far as Malé (east of Chindini) to include the biologically valuable coral ecosystem between Chindini and Malé. This area is also home to a large number of cetaceans (whales and dolphins). The corresponding coastal zone, located between the RN2 road and the ocean, is included in the park, over a width of 200 m so as to contain all the beaches and mangroves. The worldwide importance of this site is mainly due to the underwater volcanic caves located close to the coast, which are home to the famous Coelacanth, a living fossil threatened with extinction and of scientific interest in the world of marine life.

The site is also home to a large coral reef in good condition in the southern zone (Chindini). The interest of this site is also linked to the presence of a large coral reef in good condition in the southern zone (Chindini). In Dolphin Bay, the most frequently observed species is the spinner dolphin (*Stenella longirostris*),





bottlenose dolphin (*Tursiops truncatus*) and spotted dolphin (*Stenella attenuata*) and humpback whales (*Megaptera novaeangliae*). Available data indicate the presence of at least 12 species of whales in Comorian waters, including Humpback whales (*Megaptera novaeangliae*), Mesoplodons (*Mesoplodon* sp.), Killer whales (*Orcinus orca*), Southern right whales (*Eubalaena australis*) and Bryde's whales (*Balaenoptera edeni*). The dwarf killer whale (*Feresa attenuata*) has been observed in large groups of up to 500 individuals, albeit increasingly rarely.

The coastal zone and its resources have long been protected by the initiatives of an association that brings together representatives of 12 villages in the Coelacanth zone, the Association pour la Préservation du Gombessa (APG), created in 1995 and whose activities have continued to this day mainly thanks to the voluntary participation of highly motivated association members, two of whom have now become agents of the Comoros National Parks. APG aims to protect the coelacanth, whose main threat is long-line fishing, by educating fishermen, promoting alternative economic activities and improving fishing and processing facilities. A Centre d'information, d'éducation, de valorisation et de conservation du Coelacanth et de son environnement marin aux Comores (Maison du Coelacanth) has been set up to collect, process and disseminate data and information on the coelacanth and its environment. Its role is also to educate, promote ecotourism centered on the Coelacanth, promote environmentally-friendly fishing practices and enable participatory conservation of natural resources. The center is now home to the Coelacanth National Park.

Conservation targets	Viability rank
Coral reefs	Yellow
Sea turtles	Red
Sea grass beds	Green
Mangroves	Yellow
Coelacanth	Green
Cetaceans (whales and dolphins)	Green

This biodiversity faces various threats that can jeopardize the park's viability: (i) poaching; (ii) trampling; (iii) destructive forms of fishing; (iv) harvesting; (v) household waste; (vi) terrigenous inputs; (vii) the effects of climate change and natural disasters.

The park is managed at various levels: the fifteen (15) villages through their village committees, the park co-management committee, the park management and the PNC agency. The park co-management committee, made up of delegates from each village, is the guarantor of the interests of the villages.

In addition, each village community has signed a co-management framework agreement with the DGEF. In addition, through the park's activities, each village community has signed a co-management framework agreement with the DGEF, setting out the functions of each village in the park's management, as well as their respective rights and duties. The park team currently comprises







by: a curator, a community mobilizer and 10 eco-guards, as well as a speedboat driver and a janitor. The park has equipment such as computers, cameras, GPS, binoculars, motorboats, etc. available for park management, as well as a well-equipped building in Itsoundzou.

### 3.2 Mitsamiouli-Ndroudé National Park

#### Mitsamiouli-Ndroudé National Park in a nutshell...

**Location:** Ngazidja island, 11°25'7.37 "S, 43°24'59.96 "E

**Surface area:** 2,314 ha

**Main habitats :**

- Coral reefs
- Sea grass beds
- Mangroves
- Beaches
- Natural monuments

**Flagship and emblematic species :**

- Whales
- Dolphins
- Sea turtles
- Reef fish

The Mitsamiouli-Ndroudé National Park is located in the north of Ngazidja, covers a total area of 2,314 ha, and encompasses nine (09) villages: Ndzaouze; Fassi; Mitsamiouli, Memboimboini, Ouemani, Ouellah, Bangoi Kouni, Ivoini, and Hantsindzi. A community of 3,0285 inhabitants lives in the park. The park's administrative office is in Ndroudé. The aim of the park is to conserve marine and coastal biodiversity and develop ecotourism by promoting good governance of natural resources. A management unit comprising a curator, a community mobilization specialist and eco-guards is operational. Depending on the resources available, the park also plans to recruit additional human resources, such as a marine biodiversity monitoring officer, a communications officer and an ecotourism development officer.

The main habitats of PNMN are the coral reefs, home to 127 outer

slope belonging to 73 genera and 30 families represented by 8 species, the most are *Thalassia hemprichii*, *Thalassodendron ciliatum* and *Halophila ovalis*; the mangroves are into two sites, Saada and the Salt Lake site and composed of two species, *Soneratia alba* and *Rhizophora mucronata*. 40 white-sand beaches The ecological and ecotourism value of the park is coveted by tourism operators. The Park is also home to spectacular natural edifices, including the salt lake and the tail of Three (03) of the Park's waters can be observed offshore.



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whales in two genera: Megaptera and Mesoplodon, ten species of dolphin in eight genera: Stenella, Peponocephala, Tursiops, Lagenodelphis, Grampus, Globicephala, Physeter and Kogia. In addition to the turtle island, the area also boasts some very interesting tourist attractions. Buildings constructed with the support of the Small Grant Programme (SGP) are used as lodges.

Conservation targets	Viability rank
Coral reefs	Red
Sea turtle	Red
Mangroves	Green
Humpback whales and dolphins	Green
Sea grass beds	Green
Beaches	Yellow
Natural monuments	Green

The Dragon's Tail at Ivouani (Goulaïvoini) is a remarkable natural basalt phenomenon, giving the rocks the appearance of a gigantic reptile tail. Lac salé is an ancient volcanic crater whose volcanic vents allow seawater to penetrate the ancient cone and form this saltwater lake. The historic site of Trou du Prophète, where a namesake of the Prophet is said to have landed and where an old steam engine still lies in the lagoon. The site of the Galawa luxury hotel, with its heavenly beaches and a mercenary ship sunk at a depth of 33 meters, much to the delight of scuba divers, forms a site of great biological, historical and cultural richness. Threats deemed severe in the park include habitat alteration, storms and flooding, solid waste, destructive fishing, massacre and resource harvesting.

Very Good	Good	Medium	Low
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Sharks are rated as medium threats in the park.

Villages through their village committees, the park co-management committee, the park management and the PNC agency. The park co-management committee is made up of delegates from each village, who act as guarantors of the communities' interests in the park and ensure that human activities in the park respect and contribute to the conservation of biological diversity. In addition, through the park's activities, each village community has signed a co-management framework agreement with the DGEF, setting out the functions of each village in the park's management, as well as its rights and duties.

At present, the park team is made up of a curator, a community mobilizer, 07 eco-guardians and a janitor.

The park has equipment such as computers, cameras, GPS, binoculars, etc. available for park management, as well as a well-equipped building in Ndroudé. With the support of partners (SWIOFISH and the Direction de la pêche), a management program (biological rest) for the park's reefs has been set up in certain areas of the park. The process has been appreciated by the communities, and the rest of the park's villages are keen to incorporate it into their areas. Apart from monitoring

The park also carries out large-scale operations in collaboration with the Comorian coastguard and the Comorian fishing surveillance center.

Ecotourism activities have recently been developed. The park has provided a promoter from the Trou de Prophete village with equipment to accompany biodiversity tours (motorboat, palm and mask). The European Union helped the community of Meboimboini (Trou de prophète) build 10 ecotourism bungalows. The park's women fishermen's association received funding from the Small Grant program to help them process fish products. This project has enabled them to acquire equipment and materials for preserving (three solar-powered freezers) and processing fishery products (a fish smoker and a fish dryer) and for production (two motorized fishing launches, 1 motorized pickup truck). In January 2021, the park received funding from the Swiss Embassy to set up a tree nursery for the women of the village of Ndroudé to improve their agricultural yields. In 2020, the park signed a partnership with ULANGA Ngazidja, to reinforce surveillance in the park by recruiting night ecoguards. The partnership signed with the NGO Maeecha enables environmental education sessions to be conducted every year through the Eco-school program.

### ***3.3 Shisiwani National Park***




**Shisiwani National Park in  
in short...**

**Location:** Ndzuani Island: 86°55'97  
"S, 41°24'07 "E

**Surface area:** 6497 ha

**Main habitats :**

- Coral reefs
- Sea grass beds
- Mangroves
- Beaches
- Ilot de la

**Selle Flagship and  
emblematic**
**species :**

- Whales
- Dolphins
- Sea turtles
- Reef fish

**Main threats :**

- Sand sampling
- Poaching
- Trampling
- Destructive fishing
- Household waste
- Terrigenous inputs

Shisiwani National Park is located at the extreme west of Ndzuani Island, at a very low altitude with the following geographical coordinates: longitude 44°12'00" and 44°20'00" E and latitude 12° 09'30 "and 12° 15'30" S. It covers a total area of 6497 ha, mainly in the marine environment and the parts of the administrative territory of the island of Ndzuani included in the terroirs of the villages Vassi, Shitsangasheli, Hasimpao, Marahare, Mromhouli, Boungweni, Sima, Kavani, Milembeni, Mirongani, Bimbini and Mjamaoué. Its aim is to ensure biodiversity conservation by setting up of a sustainable management system while improving the socio-economic conditions of local communities.

The park is home to a rich biodiversity of both species and ecosystems. Ecosystems include mangroves, the coastal reef and coral complex including the lagoon, beaches once used by turtles as nesting sites, seagrass beds and the agroforestry terrestrial coastal strip. The mangrove is a fragmented strip of mangroves stretching 7 km along the southwest coast, covering an area of 25 ha. The coastal reef and coral complex that lines the entire south coast of the peninsula includes an enclosed lagoon and covers more than half of Shisiwani National Park. Coral colonies are dominated by *Favia* and *Favites* (massive type), *Acropora* (branched type), *Turbinaria* and *Montipora* (foliate type) and *Platygyra* and *Leptoria* (meandering type). The seagrass beds are well-developed and provide habitat and feeding grounds for many species.

The effects of change site was once frequented by the endangered Green Turtle (*Chelonia mydas*), the critically endangered Leatherback Turtle (*Dermochelys coriacea*) and the vulnerable Dugong (*Dugong dugon*), extinct in Shisiwani National Park. Recent studies have confirmed the presence and richness of these coral and fish species (Wickel 2016).

Although relatively protected by environmental awareness and the conservation efforts of local populations, this site is nevertheless exposed to numerous threats to biodiversity and the environment in general: i) coastal and marine pollution from waste dumping and terrigenous inputs produced by terrestrial erosion aggravated by deforestation, leading to the degradation of coral reefs and seagrass beds and the loss of associated biological diversity, ii) artisanal fishing using destructive methods, such as the use of Tephrosia, small-mesh nets, foot fishing on the reef bed and dynamite, iii) the depletion of turtle populations that used to lay their eggs in Bimbini due to



poaching and the disappearance of spawning beaches, iv) beach regression caused by the extraction of beach sand and pebbles and the acceleration of coastal erosion, and v) the cutting of mangrove wood for construction or fuel.

The park is managed by the twelve (12) villages through their village committees, the park co-management committee, the park management and the PNC agency. The park co-management committee, made up of delegates from each village, is the guarantor of the communities' interests in the park, and ensures that human activities in the park respect and contribute to the conservation of biological diversity. In addition, through the park's activities, each village community has signed a co-management framework agreement with the DGEF, setting out the functions of each village in the park's management, as well as their respective rights and duties. At present, the park team consists of a Conservateur, a Community mobilizer, 07 ecoguards and a speedboat driver. The park has equipment such as computers, cameras, GPS, binoculars and a motorboat available for park management, as well as a well-equipped building in Bimbini.

Conservation Targets	Viability rank
Coral reefs	Yellow
Sea turtle	Red
Mangrove	Green
Seagrass	Green
Beaches	Red
Ilot de la Selle	Red

In 2020, the park mobilized funding from the WIO-SAP program "Implementation of the Strategic Action Programme for the protection of the Western Indian Ocean from land-based resources and activities" to restore 2 ha of mangroves, 5 ha of seagrass beds and reforest 2,500 plants on the Selle islet.



IN PARTNERSHIP WITH:





#### 4. METT evaluation results

##### 4.1 METT Coelacanth National Park

The METT assessment carried out at Coelacanth National Park produced the following key results: The assessment was carried out by 13 resource persons representing all the park's stakeholders. The park is 9276 Ha in size, and has the values of ecological process, use of biodiversity for recreational purposes, development of ecotourism and sustainable use of resources; in addition, the values of the ecosystem services provided by the park are fishing, ecotourism and firewood.

### 7. Condition of values

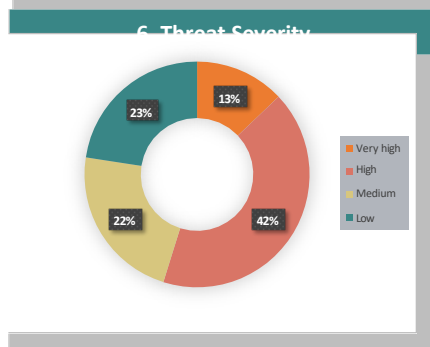
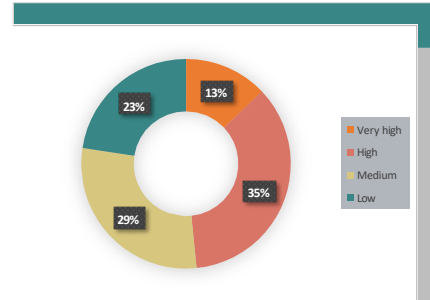
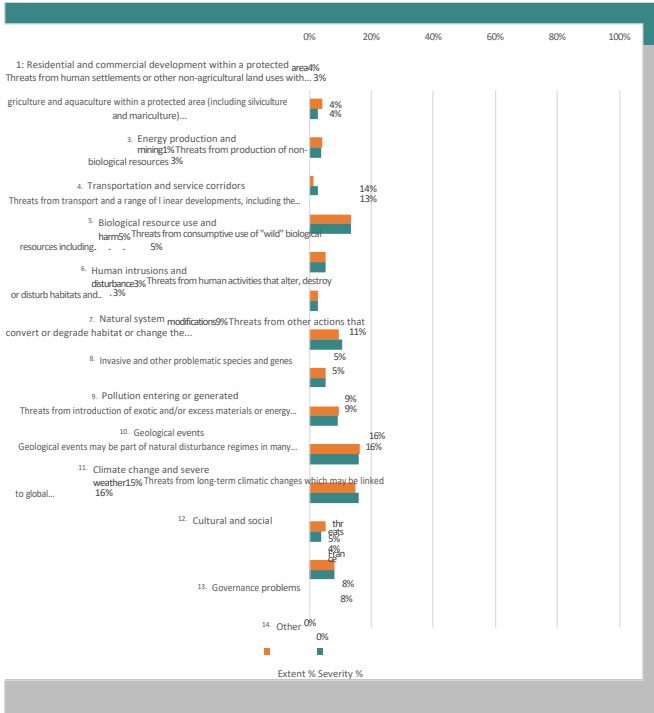
Main value	Condition	Trend
Ecological process	Fair	Stable
Recreational use	Good	Stable
Tourism or recreational use of the area	Fair	Stable
Sustainable use of resources	Poor	Stable
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The park's main objectives are: (i) the conservation of coelacanth heritage, and (ii) the development of ecotourism.

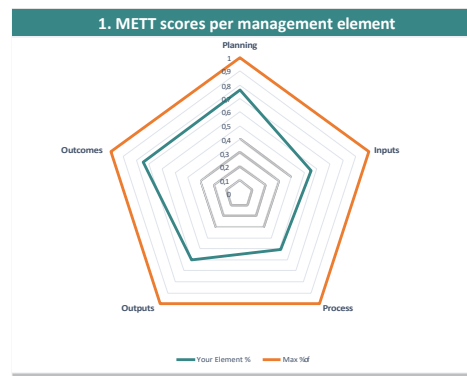
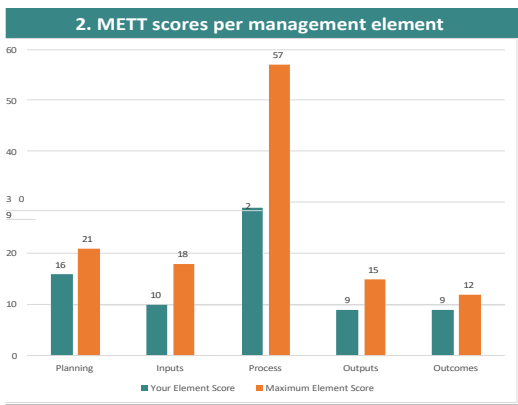




The park has several threats, 43% of which are very high, 13% high, 22% medium and 23% low.



The evaluation by park management elements yielded the following results:





### 3. METT scores per management element (per cent)

Element	Your Element Score	Maximum Element Score	Your Element %	Max % of
Planning	16	21	76,19%	100,00%
Inputs	10	18	55,56%	100,00%
Process	29	57	50,88%	100,00%
Outputs	9	15	60,00%	100,00%
Outcomes	9	12	75,00%	100,00%
<b>Total</b>	<b>73</b>	<b>123</b>	<b>59,35%</b>	<b>100,00%</b>

The METT assessment gave a score of 73/123, representing 59.35% of overall scores. This shows that the park's management efficiency is on average normal, but needs to be strengthened, especially with regard to input elements linked to knowledge of the protected area and budget security. Similarly, the park needs to focus on process elements linked to the management team's working conditions, scientific research, management orientation in line with climate change, ecosystem services provided by the park, and financial contributions to the park, especially ecotourism and taxes.

### State of the park's species and ecosystems

Coelacanth National Park boasts the following species: marine turtles; dugongs; dolphins; whales; coelacanths. An assessment of their health status yielded the following results:

#### 8. Status and trend in key indicator species

Species	Range	Population size	Pop process	Habitat area
marine turtles	Stable	Decreasing	Declining	
Dugongs	Decreasing	Decreasing		
Dolphins	Increasing			
Whales	Stable			
Coelac				

The park's main ecosystems are coral reefs, seagrass beds, mangroves and beaches. An assessment of their state of health yielded the following results:



## 9. Status and trend in habitats

Key habitats	Range	Area of habitat	Structure and function	Extent of threats
Coral reefs	Stable	Stable	Improving	Stable
Sea grass beds	Stable	Stable	Improving	Stable
Mangroves	Stable	Decreasing	Stable	Stable
Beaches	Stable	Stable	Stable	Decreasing

### Conclusion

In order to improve the park's management efficiency over the coming years, the evaluation team has formulated the following recommendations and actions:

- raising local communities' awareness of the regulatory measures set out in the law and decree
- Raise stakeholders' awareness of the park's objectives and the activities included in the PAG
- Raising law enforcement awareness of the park's legal measures
- raise awareness among all stakeholders adjacent to the park of effective biodiversity management measures
- Produce a leaflet showing the zoning of the park and the related biodiversity by zone
- Install park boundary buoys
- Mobilize stable funding and partnerships to ensure effective management of the park
- Hold ongoing meetings with communities and the co-management committee to ensure good community governance
- Draw up the park's annual work plan and budget
- Carry out a scientific study to assess the park's species and ecosystems
- Advocacy with the government to ensure that additional human resources are taken on;
- Capacity building for park staff, including online training provided by the PAPACO MOOC
- Mobilize funding and participate in discussions to set up a stable and sustainable funding mechanism
- Mobilizing additional financing for local development
- Provide financial management training for the park team to enable them to manage the park independently in the future.
- increase fleet monitoring resources; install the IT equipment needed for efficient fleet management
- Swearing in park staff
- Draw up an annual monitoring plan with objectives and targets;





- Safety training for park staff;
- Draw up an annual research plan
- Set up a system for retrieving data collected in the park by other partners
- Draw up and implement an ecological monitoring plan
- Draw up and implement an annual plan to manage and combat climate change
- Develop a policy and institutional framework and action plan geared towards carbon storage
- Educating communities about the importance of ecosystem services
- Train school teachers in environmental education; plan regular school outings to the park's ecologically interesting areas.
- Negotiate long-term partnerships with neighboring protected areas
- Develop win-win partnership agreements between the park and the Comoros Tourist Board
- Carry out a feasibility study on the introduction of fees and taxes in the protected area, and implement it.
- Training the co-management committee in effective protected area management
- Implement income-generating activities to benefit local communities
- Reinforcing ecosystem restoration actions and setting up no-take zones
- Regular monitoring of the park
- Conduct a biodiversity connectivity assessment study for the park
- Training fishermen in sustainable fishing methods
- Draw up and implement an annual monitoring plan
- Draw up a status report on the park's cultural values, and incorporate their protection into the park management plan.
- Draw up a management program for the park's cultural sites
- Developing a program to restore conservation targets
- Continue to implement a park habitat restoration program in collaboration with local communities and NGOs

#### 4.2 METT Mitsamiouli-Ndroudé National Park

The METT assessment carried out at Mitsamiouli-Ndroudé National Park produced the following key results: The assessment was carried out by 12 resource persons representing all the park's stakeholders. The park is 2314 Ha in size, and has the following values: ecological processes, use of biodiversity for recreational purposes, development of ecotourism, sustainable use of resources and geological and morphological features; in addition, the values of the ecosystem services provided by the park are: fishing, ecotourism, traditional agriculture and aquaculture, and culture.

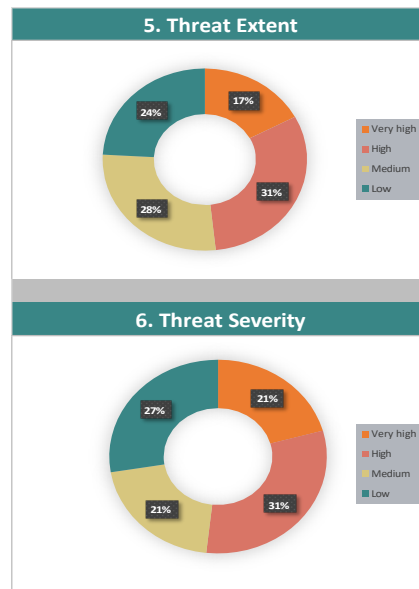
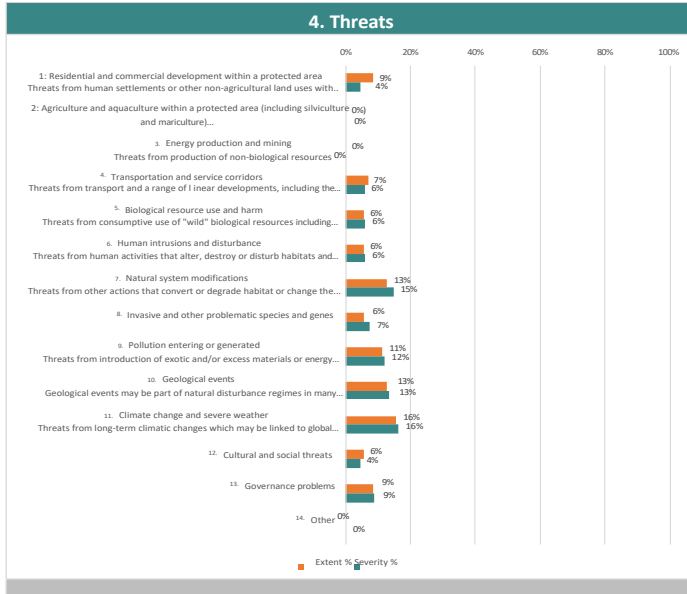


## 7. Condition of values

Main value	Condition	Trend
Ecological process	Good	Stable
Recreational use	Good	Improving
Tourism or recreational use of the area	Good	Improving
Sustainable use of resources	Fair	Deteriorating
Geological and geomorphological features	Good	Don't know

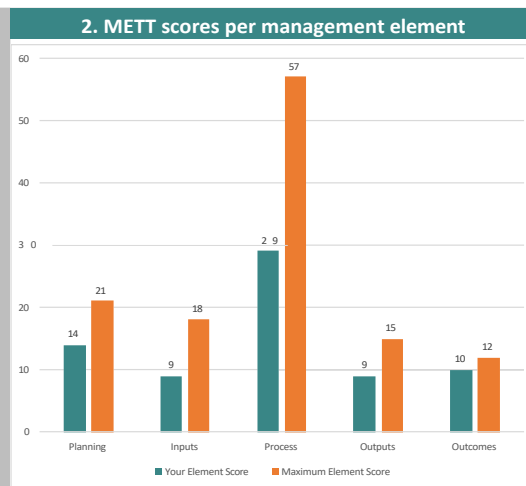
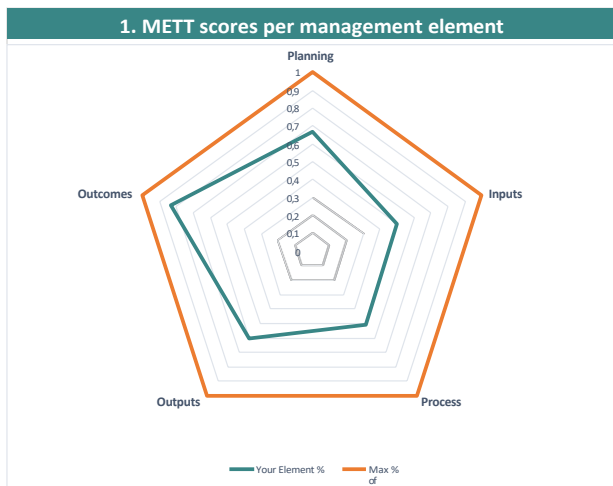
The park's main objectives are: (i) the conservation of marine and coastal biodiversity, and (ii) the development of ecotourism.

The park has several threats, of which 31% are very high, 21% are high, 21% are medium and 27% are low.



gave the following results:

Evaluation by park management element has



## 3. METT scores per management element (per cent)

Element	Your Element Score	Maximum Element Score	Your Element %	Max % of
Planning	14	21	66,67%	100,00%





Inputs	9	18	50,00%	100,00%
Process	29	57	50,88%	100,00%
Outputs	9	15	60,00%	100,00%
Outcomes	10	12	83,33%	100,00%
<b>Total</b>	<b>71</b>	<b>123</b>	<b>57,72%</b>	<b>100,00%</b>

The METT assessment gave a score of 71/123, representing 57.72% of overall scores. This shows that the park's management efficiency is on average normal, but needs to be strengthened, especially with regard to input elements linked to knowledge of the protected area and budget security. Similarly, the park needs to focus on process elements linked to the management team's working conditions, scientific research, management orientation in line with climate change, ecosystem services provided by the park, and financial contributions to the park, especially ecotourism and taxes.

### State of the park's species and ecosystems

The Mitsamiouli-Ndroudé national park is home to the following species: marine turtles; dugongs; dolphins; whales. An assessment of their state of health yielded the following results:

The park's main ecosystems are coral reefs, seagrass beds, mangroves and beaches. An assessment of their state of health yielded the following results:

## 9. Status and trend in habitats

Key habitats	Range	Area of habitat	Structure and function	Extent of threats
Coral reefs	Stable	Stable	Improving	Stable
Sea grass beds	Stable	Stable	Improving	Stable



Mangroves	Stable	Stable	Stable	Stable
Beaches	Stable	Stable	Stable	Decreasing

## Conclusion

In order to improve the park's management efficiency over the coming years, the evaluation team has formulated the following recommendations and actions:

- Preparing tools for raising awareness of the law and decree, and raising the awareness of all stakeholders
- Evaluate park management efficiency on a regular basis, and revise the PAG.
- Draw up and implement a monitoring plan
- raise awareness among all stakeholders adjacent to the park of effective biodiversity management measures
- Start of process to increase park perimeter in collaboration with RPOC
- Install park boundary buoys
- Mobilize stable funding and partnerships to ensure effective management of the park
- Regular meetings with park stakeholders to assess implementation of the PAG
- Prepare the park's PTA and budget at the beginning of each year
- Implement ecological monitoring protocols and an annual monitoring plan for conservation targets; set up a database on the park's biodiversity and integrate innovation into biodiversity management.
- Advocacy with the government to ensure that additional human resources are taken on;
- Strengthen park staff capacities
- Mobilize additional funding and participate in discussions to set up a stable, sustainable financing mechanism
- Recruit an administrative and financial assistant for the park, even as a trainee
- increase surveillance resources and equipment for better park management
- Swearing in park staff
- Draw up an annual monitoring plan with objectives and targets;
- Safety training for park staff;
- Draw up an annual research plan
- Draw up and implement an annual monitoring plan
- Draw up and implement an ecological monitoring plan
- Draw up and implement an annual climate change management plan
- Develop a policy and institutional framework and action plan geared towards carbon storage
- Educate communities about the importance of ecosystem services;



- Train school teachers in environmental education; plan regular school outings to the park's ecologically interesting areas.
- Negotiate collaboration agreements with neighboring states sharing the same resource
- Develop win-win partnership agreements between the park and the Comoros Tourist Board
- Carry out a feasibility study on the introduction of fees and taxes in the protected area, and implement it.
- Improve visitor services and develop brochures showing possible routes and costs
- Training the co-management committee in effective protected area management
- Plan ecosystem restoration in collaboration with communities
- Reinforce actions to set up no-take and rest areas for octopus and demersal fish
- Draw up and implement a threat reduction plan for the park
- Conduct a biodiversity connectivity assessment study for the park
- implement a household waste management policy; implement a n ecosystem restoration plan
- Draw up and implement an annual monitoring plan
- Draw up a status report on the park's cultural values, and incorporate their protection into the park management plan.
- Draw up a management program for the park's cultural sites
- Draw up and implement a restoration program for conservation targets
- Continue to implement a park habitat restoration program in collaboration with local communities and NGOs

#### 4.3 METT Shisiwani National Park

The METT assessment carried out at Shisiwani National Park yielded the following key results: The assessment was carried out by 18 resource persons representing all the park's stakeholders The park is 6497 Ha in size, and has the values of ecological processes, recreational use of biodiversity, ecotourism development, sustainable use of resources and geological and morphological; in addition, the values of the ecosystem services provided by the park are: fisheries, ecotourism, traditional agriculture and aquaculture, and disaster risk management.

## 7. Condition of values

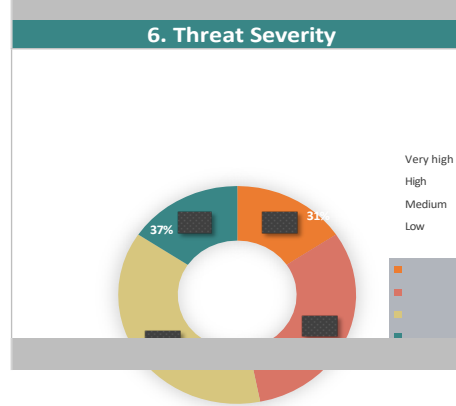
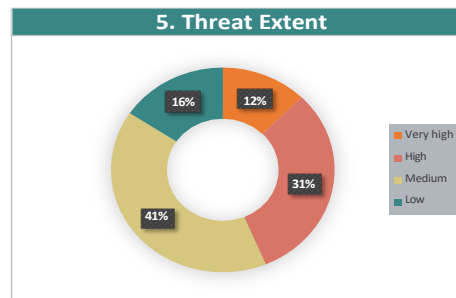
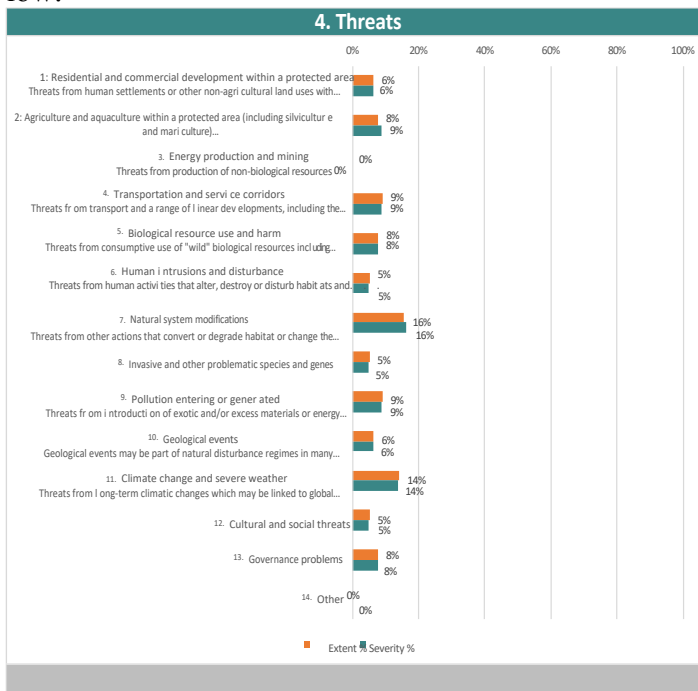




Main value	Condition	Trend
Ecological process	Good	Stable
Recreational use	Good	Stable
Tourism or recreational use of the area	Good	Stable
Sustainable use of resources	Fair	Deteriorating

The park's main objectives are: (i) to conserve biodiversity by implementing a sustainable management system, and (ii) to improve the socio-economic conditions of local communities.

The park has several threats, of which 31% are very high, 16% are high, 37% are medium and 16% are low.



Evaluation by elements of management park yielded the following results here below :



### 3. METT scores per management element (per cent)

Element	Your Element Score	Maximum Element Score	Your Element %	Max % of
Planning	14	21	66,67%	100,00%
Inputs	11	18	61,11%	100,00%
Process	29	57	50,88%	100,00%
Outputs	9	15	60,00%	100,00%
Outcomes	10	12	83,33%	100,00%
<b>Total</b>	<b>73</b>	<b>123</b>	<b>59,35%</b>	<b>100,00%</b>

The METT evaluation gave a score of 73/123, representing 59.35% of overall scores. This shows that the park's management efficiency is on average normal, but needs to be strengthened, especially with regard to input elements linked to knowledge of the protected area and budget security. Similarly, the park needs to focus on process elements linked to the management team's working conditions, scientific research, management orientation in line with climate change, ecosystem services provided by the park, and financial contributions to the park, especially ecotourism and taxes.

#### State of the park's species and ecosystems

Shisiwani National Park boasts the following species: sea turtles; dugongs; dolphins; whales. An assessment of their health status yielded the following results:

The park's main ecosystems are: coral reefs; seagrass beds; mangroves and the Selle islet. An assessment of their state of health yielded the following results:

### 9. Status and trend in habitats

Key habitats	Range	Area of habitat	Structure and function	Extent of threats
Coral reefs	Stable	Stable	Improving	Decreasing
Sea grass beds	Stable	Stable	Improving	Stable
Mangroves	Stable	Stable	Stable	Decreasing
Ilot de la Selle	Decreasing	Decreasing	Stable	Decreasing

### Conclusion

In order to improve the park's management efficiency over the coming years, the evaluation team has formulated the following recommendations and actions:

- Preparing tools for raising awareness of the law and decree, and raising the awareness of all stakeholders
- Evaluate park management efficiency on a regular basis, and revise the PAG.
- Draw up and implement a monitoring plan
- raise awareness among all stakeholders adjacent to the park of effective biodiversity management measures
- Start of process to increase park perimeter in collaboration with RPOC
- Install park boundary buoys
- Mobilize stable funding and partnerships to ensure effective management of the park
- Regular meetings with park stakeholders
- Prepare the park's PTA and budget at the beginning of each year





- Implement ecological monitoring protocols and an annual monitoring plan for conservation targets; set up a database on the park's biodiversity and integrate innovation into biodiversity management.
- Advocacy with the government to ensure the provision of additional human resources;
- Build park staff capacity
- Mobilize additional funding and participate in discussions to set up a stable and sustainable financing mechanism
- Recruit an administrative and financial assistant for the park, even as a trainee
- increase surveillance resources and equipment for better park management
- Swearing in park staff
- Draw up an annual monitoring plan with objectives and targets;
- Safety training for park staff;
- Draw up an annual research plan
- Draw up and implement an annual monitoring plan
- Communicate study results nationally and internationally
- Draw up a climate change and management plan each year and submit it to the implement
- Develop a policy and institutional framework and action plan geared towards carbon storage
- Educate communities about the importance of ecosystem services;
- Train school teachers in environmental education; plan regular school outings to the park's ecologically interesting areas.
- Negotiate collaboration agreements with neighboring states sharing the same resource
- Develop win-win partnership agreements between the park and the Comoros Tourist Board
- Carry out a feasibility study on the introduction of fees and taxes in the protected area, and implement it.
- Improve visitor services and develop brochures showing possible routes and costs
- Training the co-management committee in effective protected area management
- Plan ecosystem restoration in collaboration with communities
- Reinforce actions to set up no-take and rest areas for octopus and demersal fish
- Draw up and implement a threat reduction plan for the park
- Conduct a biodiversity connectivity assessment study for the park
- implement a household waste management policy; implement an ecosystem restoration plan
- Draw up and implement an annual monitoring plan



- Draw up a status report on the park's cultural values, and incorporate their protection into the park management plan.
- Draw up a management program for the park's cultural sites
- Draw up and implement a restoration program for conservation targets
- Continue to implement a park habitat restoration program in collaboration with local communities and NGOs