



MADAGASCAR
PROTECTED AREAS
AND BIODIVERSITY
FUND

2021

**ANNUAL
REPORT**



Landscape of Ankarafantsika national park
(MNP) © FAPBM

MESSAGE FROM THE PRESIDENT OF THE BOARD OF TRUSTEES

2021, a complicated year - again - marked by the persistence of COVID 19 and the economic consequences of this sanitary crisis; the intensification of climate change evidences such as the increasing food insecurity in the South of Madagascar.

In this challenging context, FAPBM as a sustainable financing mechanism for protected areas has proven to be more relevant than ever. With FAPBM funding, **42 protected areas, representing 3,600,000 ha of biodiversity**, were conserved during the last year. While fire and habitat loss have increased at the global level during the health crisis, the level of fire and habitat loss was lower in FAPBM-funded protected areas. Local communities have also benefited from development support through the promotion of value chains. Finally, the resistance of our investment policy to the ups and downs of the financial markets is also an important point to emphasize.

All of the above demonstrates that the financing model proposed by FAPBM : (1) is achieving its objectives and (2) must continue to be supported by the authorities, partners, and both current and upcoming contributors. Indeed, the financial means of FAPBM remain unfortunately insufficient on the scale of the **7,200,000 ha of protected areas in Madagascar**. The combined actions of poverty and climate change that threaten our biodiversity are more worrying than ever.

Before inviting you to read through our 2021 annual report, I would like to express a special gratitude from the FAPBM Board of Trustees to KfW, and through it the German government, for its exceptional endowment of **45.7 million EUR**. This will undoubtedly have a significant impact on our funding from 2023 onwards.

And it will be thanks to the actions of all that we will succeed in this difficult but noble task that has been assigned to FAPBM. Let us pursue tirelessly our efforts to transmit our rich biodiversity to future generations.

On this note, I wish you a good reading.



... It will be thanks to the actions of all that we will succeed in this difficult but noble task that has been assigned to FAPBM.





CONTENTS

1.

2021 KEY DATA

P.5

2.

FAPBM IN BRIEF

P.9

3.

THE
ACHIEVEMENT
OF 2017-2021
STRATEGIC
OBJECTIVES
CHALLENGED BY
THE PANDEMIC

P.11

4.

POST COVID
REVIEW : NATURE
AND PEOPLE
PRESERVED

P.13

5.

FINANCIAL
RESPONSE TO
THE CHALLENGES
OF THE COVID 19
PANDEMIC

P.25

6.

PROJECTS
THAT SHAPE
THE FUTURE
OF PROTECTED
AREAS

P.31

7.

A CAPITAL THAT
CAN WITHSTAND
MARKET
UNCERTAINTIES

P.35

8.

2021 FINANCIAL
REPORT

P.39

9.

RESUMPTION OF
INTERNATIONAL
PRESENCE

P.48

10.

GOVERNANCE OF
FAPBM

P.50

11.

TOWARDS 2026 :
THE NEW
STRATEGIC PLAN
2022-2026

P.54

2021 KEY DATA



BIODIVERSITY CONSERVATION

42 Protected Areas
(PAs) supported,
representing
3,600,000 ha

2 PAs benefiting
from the Emergency
Fund (FIS)

4 PAs benefiting
from the NPA
Strengthening
Support Fund
(FAR NAP)

**2.59 Indicator
of biological
integrity (IBI)¹**
(2.52 in 2020)

0 species extinction
(out of 319 targeted
species)

52 critically
endangered plant
species protected
(52 in 2020)

42 critically
endangered animal
species protected
(42 in 2020)

**3,000 ha of
area** restored in
fragmented forest
blocks

**0.68% deforestation
rate** in funded PAs
(1.4% in non-funded
PAs)



SUPPORT FOR COMMUNITIES

14,818 beneficiaries
of development
support
(12,675 in 2020)

3 115 jobs created for
the protection of PAs
(3 108 in 2019)

16 value chains
supported (19 in 2020)

3.5 million people in
the peripheral areas
of PAs benefit from
their ecosystem
services



PERFORMANCE OF PAs

71,83%
METT (MNP)

70,71%
(74,70% en 2020)
METT (NPA)

69,58%
(73,61% en 2020)
KPI² – MNP

67,69%
(71,21% en 2020)
KPI – NPA

¹ See Appendix 1

² See Appendix 1



SUSTAINABLE FINANCING OF PAs:

**MGA
11.7 BILLION**

(USD 3 million³) in total PA funding compared to MGA 8.8 billion (USD 2.4 million) in 2020

**MGA
9.9 BILLION**

(USD 2.5 million) in financing as annual grants and exceptional funding, compared to MGA 7.8 billion (USD 2.1 million) in 2020

**50%
OF THE ANNUAL
BUDGET**

of Madagascar National Parks (MNP) PAs supported (28% in 2020)

**22%
OF THE ANNUAL
BUDGET**

of New Protected Areas (NPAs) supported (29% in 2020)

**MGA
43 MILLION**

(USD 11,000) from the Emergency Fund (FIS)

**MGA
76 MILLION**

(USD 19,000) under the NPA Strengthening Support Fund (FAR NAP)



EVOLUTION OF THE CAPITAL

**EUR
45.7 MILLION**

endowment from KfW

**USD
139.7 MILLION**

of capital at 31 December 2021 (USD 88 million at 31 December 2020)



PERFORMANCE OF FINANCIAL INVESTMENTS

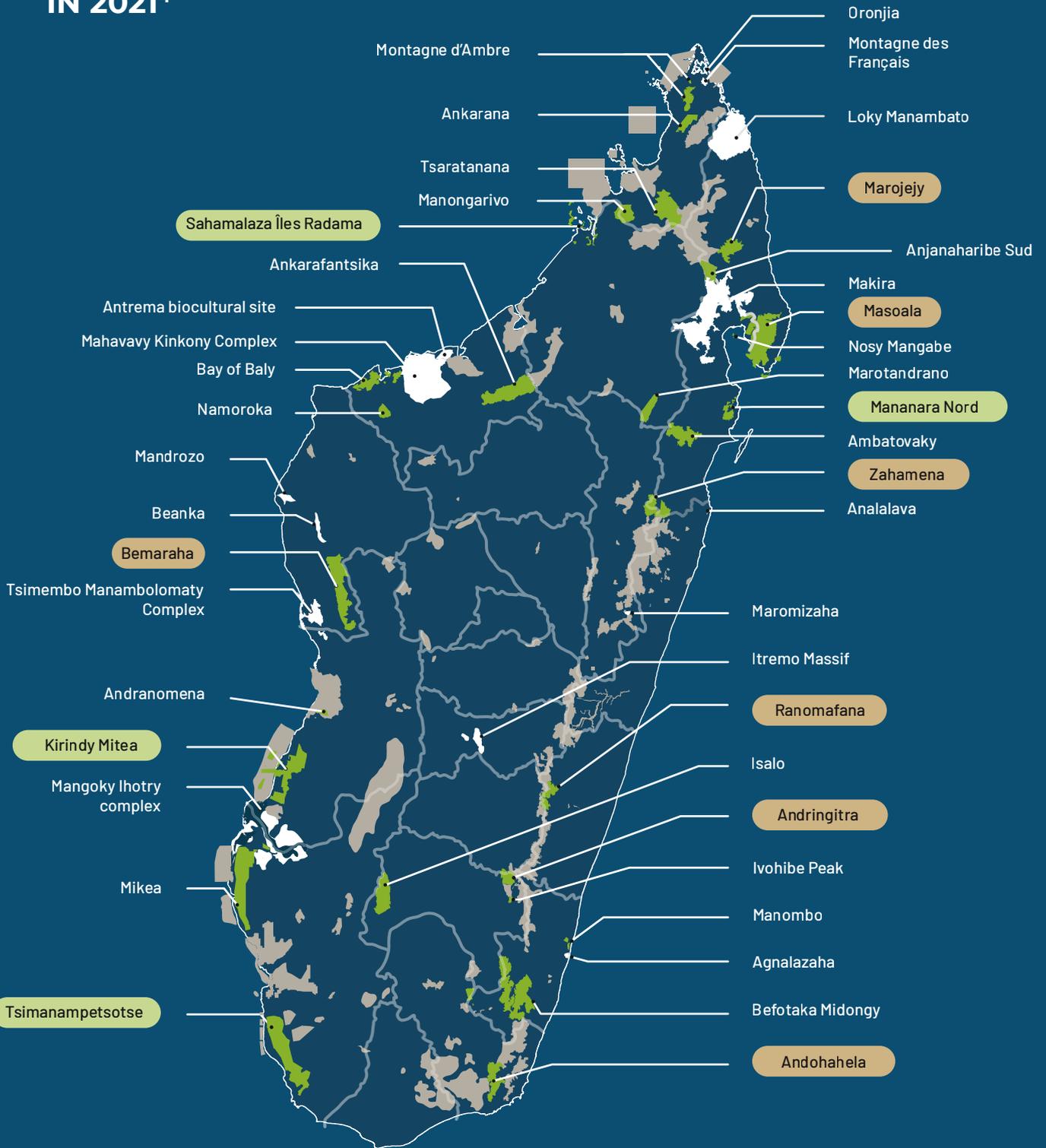
+6.25% OVERALL

portfolio performance (+7.6% in 2020)

³ Rate applied for 2021 funding : 1 USD = 3,855.38 MGA

THE 42 PROTECTED AREAS SUPPORTED IN 2021⁴

The map below details the location of the 42 protected areas supported by FAPBM in 2021 out of the 123 existing. Protected areas that are not yet funded by FAPBM are also shown on the map :



MNP protected areas funded by FAPBM

New Protected Areas funded by FAPBM

Protected Areas not funded by FAPBM

UNESCO World Heritage Site

Biosphere Reserve

⁴ After the organizational reform of MNP in the year 2021, protected areas that are more or less geographically close have been merged into one management unit (MU). Thus, MNP PAs belonging to the same management unit and with overlapping staff and Annual Work Plans (AWPs) have been counted in the number indicated as recipients during the year. This explains the increase in the number of PAs compared to 2020, from 36 to 42 PAs funded. The 22 MNP MUs receiving funding correspond to 28 PAs.



Landscape of Agnalazaha protected area
(MBG) © FAPBM

2. FAPBM IN BRIEF



In 2021, the Board of Trustees clarified the values, mission and 10-year vision of FAPBM :

2.1 VALUES, MISSION AND VISION



Values

Passion:

FAPBM is driven by its passion for nature. It is the primary motivation for its decisions and actions. This passion drives FAPBM to seek out and make positive impacts on nature. This passion is reinforced by its firm belief that Madagascar's unique nature is an exceptional asset, for the Malagasy people and for humanity. FAPBM works to ensure that it is preserved and passed on from generation to generation.

Accountability:

FAPBM is accountable to all contributors and the trust they place in it by ensuring proper management of the funds entrusted to it. FAPBM is also accountable to all stakeholders in the conservation of Madagascar's biodiversity by ensuring responsible management of biodiversity funding. Finally, it is accountable to present and future generations for preserving Madagascar's biodiversity. In fulfilling its mission, FAPBM places particular emphasis on transparency.

Ethics:

FAPBM adopts and applies strict ethical rules such as the fight against corruption and discrimination in all its forms. The principles of good governance are applied at all levels of the institution to ensure that the decisions and actions taken in pursuit of its mission are the fairest and most equitable for all stakeholders.



Mission

The mission of FAPBM is to : (i) contribute to the sustainable financing of the Madagascar Protected Areas System (SAPM), (ii) contribute to the conservation of biodiversity, the maintenance of ecosystem services, the well-being of the population, and the fight against climate change, and (iii) promote sound management within the SAPM.



Vision

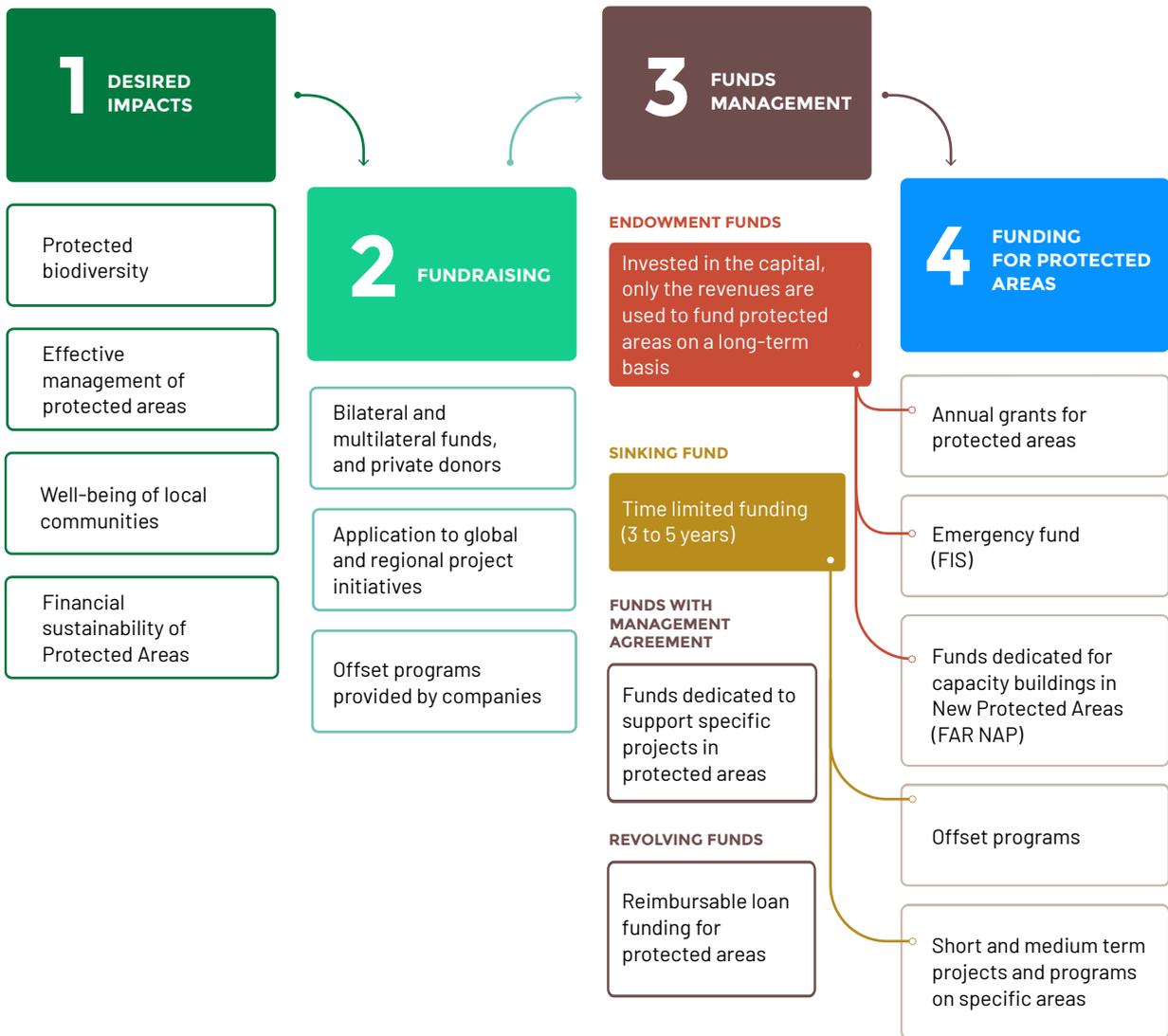
For the next 10 years, FAPBM will strengthen its status as an international benchmark "Conservation Trust Fund", and will be a strategic contributor to the sustainable financing of SAPM.

2.2 THE FAPBM'S FUNDING MECHANISM

Currently, FAPBM is proposing 2 innovative mechanisms for sustainable financing of protected areas in Madagascar :

- **Sustainable funding from the revenues of the financial investments of its capital;**
- **Funding for projects for which FAPBM provides financial management.**

A RELEVANT MODEL OF SUSTAINABLE PA FUNDING



3. THE ACHIEVEMENT OF 2017-2021 STRATEGIC OBJECTIVES CHALLENGED BY THE PANDEMIC

03

Madagascar Landscape © twenty20photos

2021 was the last year of the FAPBM Strategic Plan 2017-2021. An external evaluation of the Strategic Plan was carried out, and results are summarized in the below table :

INDICATORS	2017 Base values	2021 Target values	2019 Values achieved	2021 Values achieved
General objective : To contribute to the improvement of the ecological integrity of the PAs funded by FAPBM				
INDEX OF BIOTIC INTEGRITY (IBI⁵) ON A SCALE OF 1 TO 5	2,52	3	2,69	2,59
Specific Objective 1 : By 2021, increase to 1/3 the share of FAPBM in financing the management costs of the SAPM PAs				
PROPORTION OF FAPBM'S SHARE OF THE FUNDING OF THE MANAGEMENT COSTS OF THE SAPM PAs	31 out of 122 SAPM PAs, i.e. ¼ of the total number of SAPM PAs	36 PAs out of 122 SAPM PAs, i.e. 1/3 of the total number of SAPM PAs	36 out of 123 SAPM PAs, i.e. 1/3 of the total number of SAPM PAs	42 of the 123 SAPM PAs, i.e. 1/3 of the total number of SAPM PAs
Specific Objective 2 : By 2021, increase to 75% the KPI score of the PAs funded by FAPBM				
KEY PERFORMANCE INDICATOR (KPI⁶)	MNP score : 63.52%	MNP score: 75%	MNP score: 78.15%	MNP score: 69.58%
	NPA score : 59.56%	NPA score: 75%	NPA score : 76.26%	NPA score: 67.69%
Specific Objective 3 : Increase PA effectiveness by 25% as green infrastructure in land-use planning and climate change adaptation activities. All New Protected Areas (NPAs) use the METT				
MANAGEMENT EFFECTIVENESS INDEX (IEG) AND MONITORING AND EVALUATION TRACKING TOOLS (METT) FOR PAs	IEG MNP: 71%	IEG MNP: 72%	IEG MNP: 72%	METT MNP: 71.83%
	METT NPA : not available	METT NPA: 73%	METT NPA: 69%	METT NPA: 70.71%

Table 1 : Indicator's evolution for the Strategic Plan (2017-2021)

At the end of the Strategic Plan 2017-2021, the indicators show an increase from their initial values.

⁵ See Appendix 1

⁶ See Appendix 1

However, the 2017-2021 targets could not be met mainly due to the decline in indicator values during the health crisis :

- The IBI had progressed satisfactorily until 2019. Unfortunately, the COVID 19 pandemic has had a significant negative impact on the index in 2020 and 2021. An important positive point remains to be stressed : **no extinctions of fauna and flora species have been reported in FAPBM-supported protected areas, and the overall integrity of protected areas has been maintained;**

- The target values of the KPI⁷ have not been achieved despite a steady increase of these values from 2017 to 2019 (from 63.52% to 78.15% for MNP and from 59.56% to 76.26% for NPA). These values have dropped from 73.61% in 2020 to 69.58% in 2021 for MNP. Regarding the NPAs, the KPIs have dropped from 71.21% in 2020 to 67.69% in 2021. The decrease in KPI values can be explained by the impacts of the organizational restructuring⁸ that was unavoidable and necessary to deal with the pandemic. The resumption of activities in 2021 has not yet reached its level in 2019, prior to the pandemic;

- The management effectiveness of protected areas, as measured by the METT, shows a progressive slowdown in improving local management, in spite of the increase between the initial values in 2017 and the final values in 2021 :

- For MNP, the co-management component with local park committees (CLPs) has been the most heavily impacted by the pandemic. In the absence of funds generated by tourism-related activities, the mobilization of CLP members did not achieve the expected results in 2020. The year 2021 witnessed a gradual return to the effectiveness of community patrols and participatory ecological monitoring. The reform of patrol protocols begun in 2020 ("target monitoring" instead of "square monitoring") has started to show very positive results in managing pressures (logging and fires) and threats;
- For the NPAs, the increase in the frequency of community patrols and the building of conservation infrastructure (fence and watchtowers) in 2020, have not yet achieved conclusive outcomes. The number of infractions and offenses in the NPAs has only started to decrease as a result of initiatives at a local level. The METT score decreased due to some restructuring at the level of the management units : change of key personnel (high turnover in some MUs), revitalization of value chains, and mobilization of local associations for co-management activities.



⁷ The KPI is a performance index for protected area managers, combining the level of management of FAPBM's Funding Agreements and the annual results achieved on site. See Appendix 1.

⁸ Reduction in the number of local community members working with managers, lack of capacity building and training on conservation activities (patrols, ecological monitoring, ...) and development (implementation of value chains, monitoring and maintenance of infrastructure, ...).

4. POST COVID REVIEW : NATURE AND PEOPLE PRESERVED



Soil erosion in Ankarafantsika national park (MNP) © FAPBM

Protected areas and the communities surrounding them were relatively unaffected in 2021 despite the consequences of the COVID 19 pandemic on the economic and social situation of Madagascar.

4.1 IMPACTS ON BIODIVERSITY CONSERVATION

The main mission of FAPBM is the conservation of biodiversity in general, and particularly in PAs. This mission was fulfilled in 2021.

1- THREATS ARE DECREASING AFTER A DIFFICULT 2020

Since 2017, FAPBM has closely monitored the ecological integrity of the PAs it finances through the evolution of the IBI⁹ of each PA. Thus, the IBI value has increased from 2.52 to 2.59 on a scale of 1 to 5 between 2017 and 2021. This was a positive trend after a difficult 2020 which saw a drop in value from 2.69 in 2019 to 2.52. The reason for the significant drop in 2020 was the threefold increase in the number of fire points in Madagascar due to the pandemic.



Figure 1 : Evolution of the IBI (2017 - 2021)

The risks of fragmentation of natural habitats, considered as a major cause of biodiversity loss, were lower in 2021 than in 2020. Viability levels of conservation target species and habitats have improved and returned to the 2019 level.

⁹ This index relates the conservation status of target species to the changes of their habitats. See Appendix 1

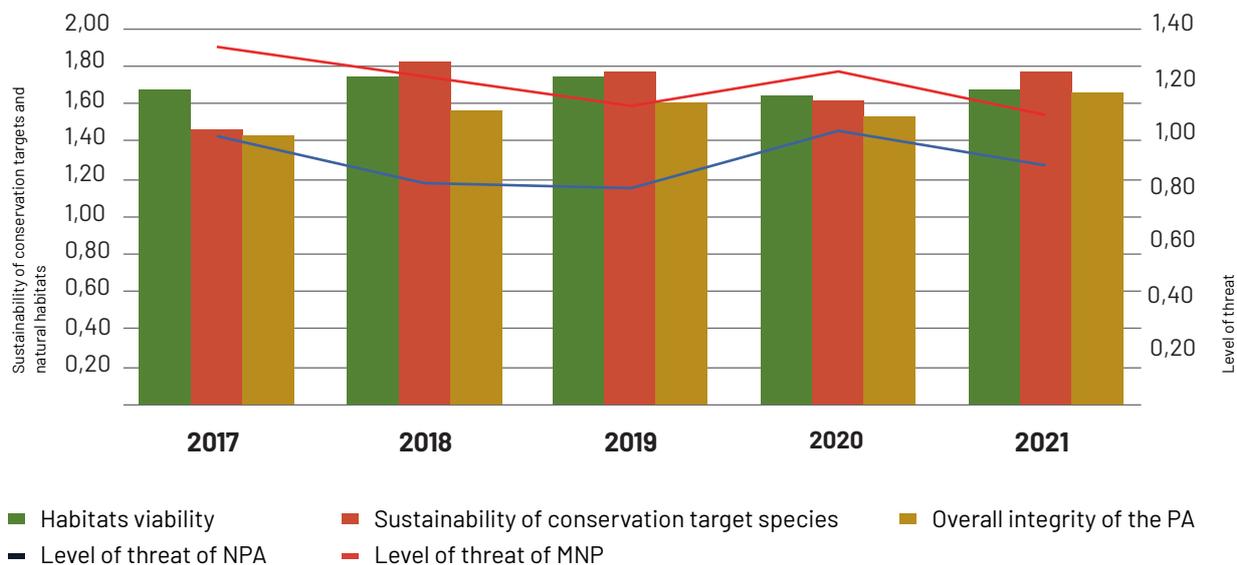


Figure 2 : Evolution of the level of threats in funded PAs (2017-2021)

All these results have been achieved through regular patrols in the PAs and greater involvement of local communities in conservation activities in 2021.

Due to the financial support of FAPBM, PA managers were able to:

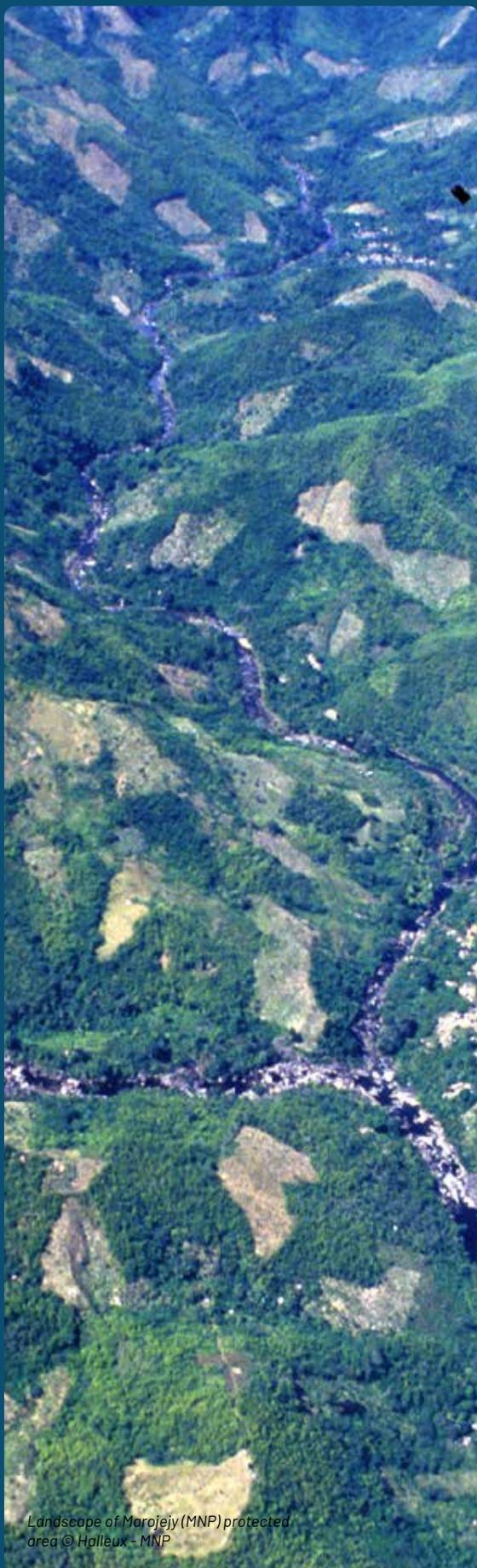
- Strengthen patrolling and active fire fighting with local communities. Early warning systems have been set up with the construction of watchtowers in some PAs, or with better and increased effective collaboration with village committees;
- Consolidate a collaborative management mode with local communities, which are organized in associations gathered in management platforms : The latter is proving increasingly effective in the PAs financed by FAPBM, especially following the reforms and restructuring in 2021. The mechanism has been in place for several years and is currently being fine-tuned and adapted to the prevailing contexts.

This close collaboration with the communities has resulted in a more effective management of fire threats in PAs, both in NPAs and in PAs in the MNP network.

Through their operational agents, the rangers (called "Polisin'ala" in Malagasy) and the members of the Local Park Committees (CLPs), the communities conduct not only regular patrols but also participate in ecological monitoring and in restoration activities. Positive results on natural resource management start to raise back in 2021.

To increase efficiency, the PAs in the Madagascar National Parks (MNP) network modified their patrol protocols in 2021. Instead of counting the number of squares visited during patrols, monitoring focuses on pressure zones, with the number monitored as the achievement indicator. This slight technical adjustment has proven to be effective in 2021 with an infractions decrease within the PAs.





Landscape of Marojejy (MNP) protected area © Halleux - MNP

TOWARDS A BETTER CONTROL OF FIREFIGHTING

In 2021, FAPBM increased its support to fire control and gained experience that it wishes to put at the service of all PAs in Madagascar.

Efforts to physically secure PAs¹⁰, **actual presence of managers** as well as community mobilization, have been able to strengthen the fire management system.

Compared to 2020, when the number of fires recorded was 3 times higher than in 2019, PA managers and local communities were more effective in 2021 in actively fighting forest and savanna fires.

The number of fire points dropped by 45% in 2021 vs 2020 in PAs funded by FAPBM.

Fire management is crucial in PAs. It is the main form of pressure on biodiversity. All PAs in Madagascar can be affected by these uncontrolled or intentional fires. An indicative list of PAs that are most at risk from fire has been developed at the FAPBM level in 2021, and will be updated regularly to anticipate faster and more effective interventions. PAs with dry forests, dry thickets and sclerophyllous forests are particularly affected. Wet forests are also affected by fires during the dry seasons for slash-and-burn agricultures.

Fire points monitoring on the ground and by satellite images¹¹ is the first step in the fight against these fires. New firebreak management methods, such as agricultural firebreaks, can be disseminated and adapted to local contexts in PAs.

These are potentially innovative approaches in which FAPBM can play a crucial role by supporting their implementation at the PA level or by promoting their wider use through exchange platforms between PA managers. The ultimate goal of FAPBM is to improve the effectiveness of fire management in PAs.

¹⁰ Patrol system, firewalls to security standards, construction of watchtowers, materialization of boundaries, ...

¹¹ FIRMS from NASA, FireAlerts and Fire Weather from the Fire Monitoring Centre, ...



2- LESS DEFORESTATION

According to FAPBM's geographic information map (SIG) statistics, the annual deforestation rate in FAPBM-supported PAs ranged from 0.52% to 0.68% between 2017 and 2021; while outside of these PAs the rate averaged between 0.89% and 1.14% during the same period. The table below shows the evolution of forest cover (with annual deforestation rates) in the PAs supported by FAPBM :

		2017	2018	2019	2020	2021
DENSE MOIST EVERGREEN FOREST	Forest area (N-1)	1,146,045.82	1,143,982.94	1,141,923.77	1,132,559.99	1,127,010.45
	Deforestation (N)		0,18%	0,18%	0,82%	0,49%
DENSE DRY FOREST	Forest area (N-1)	410,251.90	406,723.73	403,225.91	392,338.81	387,395.34
	Deforestation (N)		0,86%	0,86%	2,70%	1,26%
SPINY DRY THICKET	Forest area (N-1)	272,197.19	270,808.98	269,427.86	263,689.05	260,313.83
	Deforestation (N)		0,51%	0,51%	2,13%	1,28%
SCLEROPHYLLOUS OPEN FORESTS	Forest area (N-1)	13,713.00	13,713.00	13,713.00	13,692.43	13,663.68
	Deforestation (N)		0,00%	0,00%	0,15%	0,21%
COASTAL FORESTS	Forest area (N-1)	4,253.99	4,246.33	4,238.69	4,207.75	4,189.23
	Deforestation (N)		0,18%	0,18%	0,73%	0,44%
MANGROVES	Forest area (N-1)	45,473.95	44,832.77	44,200.63	43,917.74	43,750.85
	Deforestation (N)		1,41%	1,41%	0,64%	0,38%
AVERAGE % DEFORESTATION		1.03%¹²	0.52%	0.52%	1.20%	0.68%
TOTAL		1,891,935.85	1,884,307.76	1,876,729.85	1,850,405.77	1,836,323.38

Table 2 : Evolution of deforestation rate in PAs funded by FAPBM (2017-2021)

¹² In 2017, the deforestation rate was an estimate at the national level in the SAPM PAs.

In 2021, the total area of conserved forests in PAs that FAPBM supports is 1,836,323.38 ha. This area represents 99.23% of the forest area in funded PAs in 2020.

The deforestation rate in 2021 is 0.68% compared to 1.20% in 2020, illustrating a significant decrease.

According to FAO projections¹³, deforestation in Madagascar will continue between 1990 and 2050 at its current rate (0.9% to 1.14% outside PAs at the national level, without sanitary containment and major natural disasters), particularly around large forest blocks where population growth is higher. Since 2018 and with the exception of 2020, the rate of deforestation has been maintained between 0.5% and 0.7% in PAs funded by FAPBM.

According to Wright and Muller-Landau model (2006), the total area of forests depends mainly on the density of the human population living around these forests. The demographic transition projected by the FAO in 2020, consequently considered the level of economic and social development in these communities surrounding PAs : the more their situation is precarious, the more deforestation is intensified. Hence the importance of preserving the ecosystem services provided by PAs, and particularly by forests, in order to secure development activities around these PAs (e.g. continental and marine fisheries, agriculture in watersheds and in lowlands, drinking water, etc.).

PA forests also strengthen their resilience against climate change which could lead to the disappearance of several species of fauna and flora, and especially the deregulation of ecosystem provisioning services.

These informations highlight the importance of FAPBM funding for the conservation of these natural forests, ecological restoration and reforestation at the level of PAs, and for support to the development of communities bordering PAs through the establishment of value chains.

Ecological restoration actions within PAs have also been intensified thanks to FAPBM support. **Between the beginning and end of 2021¹⁴, the areas restored in 2021 have reached almost 3,000 ha in all PAs funded with a success rate of 75%¹⁵.**

¹³ "Fate for Africa's Forest", 2020. The FAO's population growth model predicts a demographic transition from 2050 onwards.

¹⁴ Without continuous monitoring by managers and local communities, this survival rate in restoration areas may further decrease to 55% in the next 3 years. Other causes for this decrease in survival rate may be climatic hazards or insect infestation, ...

¹⁵ It should be noted that following the passage of cyclones in the south-eastern part of Madagascar at the beginning of 2022, the restoration areas were badly affected. Only seedlings older than 2 years survived the storms.

3- THE STABLE IUCN RED LIST

The IUCN Red List¹⁶ is updated at least twice a year. Its monitoring allows FAPBM to orientate the priority of its funding. The publication of the last update happened in December 2021 and gave an update of the current situation :

TAXONOMIC GROUPS	CR CRITICALLY ENDANGERED		EN ENDANGERED		VU VULNERABLE		TOTAL	
	2020	2021	2020	2021	2020	2021	2020	2021
PRIMATES	18	18	30	30	19	20	67	68
BIRDS	1	1	14	14	16	18	31	33
AMPHIBIANS	7	9	57	55	39	43	103	107
REPTILES	15	14	40	41	46	45	101	100
OTHER MAMMALS	1	0	5	6	12	9	18	15
TOTAL FAUNA	42	42	146	146	132	135	320	323
TOTAL VASCULAR PLANTS	52	52	75	75	53	53	180	180
TOTAL	94	94	221	221	185	188	500	503

Table 3 : Change in IUCN conservation status of conservation target species in PAs. (Source : IUCN 2020 - 2021)

Only the number of taxa with an IUCN status of Vulnerable - VU increased overall between 2020 and 2021. This means that the level of threat remains manageable, but calls for conservation measures to be taken without delay in order to better anticipate the major sources of pressure¹⁷.

According to the December 2021 IUCN Red List, it is worth noting:

- An improvement in the conservation status of one reptile species (from CR to EN level) between 2020 and 2021. There were also fewer vulnerable species for reptiles in 2021;
- An improvement in the conservation status of one species classified as "other mammals" between 2020 and 2021 (from CR to EN level). There was also one less species in the vulnerable level (VU) for "other mammals";
- 2 more bird species, 4 more amphibian species and 1 more lemur species with a "vulnerable" conservation status in 2021.

¹⁶ Species are considered vulnerable (VU), endangered (EN) or critically endangered (CR) depending on the level of pressure they are under in their natural habitats.

¹⁷ These pressures were detected on maps of land use changes (forest area, canopy opening, decrease in wetland area, ...), satellite images (number of fire points, burnt areas, ...) and cross-checked with managers' reports.

All taxonomic groups are affected by these changes in their habitats :

-Amphibians are very sensitive groups to changes in their natural environment. These groups are good indicators of ecological disturbance, especially those caused by climate change;

-Birds are the most threatened group in Madagascar, particularly waterbirds. Out of the 42 threatened bird species, 16 (38%) are waterbirds. Madagascar's wetlands have been significantly degraded by conversion to cultivation (mainly rice fields), reduction in water quality due to soil erosion from deforested hills, overfishing and the introduction of non-native species. This has been compounded by the impacts of climate change leading to the migration of these species.



Mangroves restoration in Loky Manambato protected areas (Fanamby) © Fanamby



Lemur catta © MatthewWilliams Ellis

LEMURS, BETTER PROTECTED

In both the eastern moist evergreen forests and the western dry forests, lemurs are secured in FAPBM-funded PAs. Cases of poaching and trapping have become scarcer since 2018¹⁸. These results have been achieved thanks to the control and surveillance activities carried out by PA officers and local communities. In these PAs, environmental infractions and crimes are promptly reported to PA managers and local authorities by community rangers. According to managers, rangers were generally able to regularly monitor lemur populations throughout 2021. The patrol sheets attest to a good conservation status of these species in their natural habitats (relatively high abundance, traps' scarcity).

This is also specifically the case for frugivorous lemurs, notably the *Varecia* in the moist evergreen forests of Maromizaha, Ranomafana and Zahamena PAs, which are more susceptible to deforestation.

¹⁸ However, a 30% increase in poaching was noted in 2020 with the onset of the COVID 19 pandemic.

4- A WORLD HERITAGE REMAINED INTACT

FAPBM contributed in 2021 to the conservation of Madagascar's exceptional biodiversity heritage :

- **8 PAs** are RAMSAR sites;
- **7 PAs** are part of the 2 natural World Heritage sites;
- **4 PAs** are Biosphere Reserves.

All of Madagascar's ecosystems are represented in the PAs supported by FAPBM, thus sheltering biodiversity at several levels : ecosystems, species (fauna and flora) and even genetic. Through the funding of these PAs, FAPBM contributes to conserving taxonomic groups that are unique in the world, to protecting exceptional natural habitat complexes and, above all, to securing the ecosystem services that these PAs provide for the well-being of local populations.

By funding the conservation of natural habitats in PAs, FAPBM contributes to the conservation of the biological processes, including speciation, that is a unique phenomenon to tropical forests around the world. Many species await scientific description in Madagascar, as at the same time new species, subspecies and varieties continue to be discovered, such as *Microcebus jonahi* (lemur).



THE MADAGASCAR EAGLE, A WITNESS TO GOOD WETLAND CONSERVATION

Madagascar eagles (called Ankoay) live only in the PAs of the large lakes of western Madagascar (Mahavavy Kinkony, Antrema, Mandrozo, Tsimembo Manambolomaty, Ankarafantsika, ...) which are all funded by FAPBM. The Madagascar eagle (*Haliaeetus vociferoides*) is one of the 7 rarest species of diurnal raptors (classified as critically endangered by IUCN). Their density in these PAs has been stable for several years and has even increased in some PAs. Between 2005 and 2006, surveys by The Peregrine Fund (TPF) in Tsimembo Manambolomaty and Mandrozo shown that the Ankoay population have increased since the inventory made in 1995. In 2021, according to the results of ecological monitoring of this priority conservation target in the PAs that host it, the Ankoay population showed a slight increase in numbers.

The presence of these eagles is an excellent indicator of the state of conservation of the lakes and forest areas of these PAs. Indeed, this species is very sensitive to ecological disturbances in its environment and their numbers can decrease very rapidly if these natural environments are destroyed.

4.2 IMPACTS ON COMMUNITIES

Communities currently play a central role in the conservation of PA biodiversity. The collaborative mode is proving effective in achieving conservation goals.

In 2021, the quality of data from participatory ecological monitoring (PEM) was improved significantly. **Local know-how has been capitalized on through training and capacity building by PA managers.**

1- RESTRUCTURING DEVELOPMENT SUPPORT

A minor increase in the number of direct jobs created for PA management has been noticed since 2019.

3,115 direct jobs were supported in 2021 compared to 3,108 in 2020. These direct jobs include patrollers, fence and watchtower guards, nurserymen and other members of the CLP who reinforce patrols and PEM.

	2017	2018	2019	2020	2021
Direct jobs funded	4,670	4,935	3,064	3,108	3,115

Table 4 : Evolution of direct jobs supported by FAPBM (2017-2021)

Although the number of direct jobs did not change significantly from 2020 to 2021, the average completion rates of activities increased significantly. According to PA managers, this was due to the change in patrolling methods, which has become more efficient while mobilizing equivalent human resources. This was particularly the case for MNP.

For the NPAs, the number of rangers has not changed, whereas the frequency of patrols has increased, without raising the costs of these activities.

2- INCREASE IN THE NUMBER OF BENEFICIARIES OF DEVELOPMENT SUPPORT

In 2021, 3 VCs¹⁹ that did not prove profitable were abandoned and the remaining 16 received more technical support.

An important element to highlight in 2021 was the revitalization of IGAs. The number of IGAs was 93 in 2021 compared to none in 2020. The NPA managers opted to increase the IGAs numbers on a first phase, before reorganizing them into VCs on a second phase.

	2017	2018	2019	2020	2021
NUMBER VCs	33	31	24	19	16
Number of IGAs	23	28	28	0	93
Number of beneficiaries	13,014 ²⁰	12,005	12,127	12,675	14,818

Table 5 : Evolution of beneficiaries of VCs and IGAs supported by FAPBM (2017-2021)

The number of beneficiaries increased with the number of IGAs, from 12,675 beneficiaries in 2020 to 14,818 beneficiaries at the end of 2021. FAPBM funding to support economic development activities in the NPAs, including VCs and IGAs, has therefore had a positive impact on the number of direct beneficiaries of these activities.



FAPBM mission in Maromizaha (GERP) © FAPBM

¹⁹ A value chain (VC) is made up of links with different actors/beneficiaries, from the production of inputs (seeds, seedlings, ...) to the retailing of the products on the markets. Therefore, the elaboration of business plans, including an economic model, is very important for the sustainability of the activity.

²⁰ Number of PAPs (project-affected populations) under the World Bank's PSSE project, implemented by CI, WCS and MNP in 13 sites.

The different VCs supported in 2021 are detailed as follows :

NPA	MANAGER	VCs	NUMBER OF BENEFICIARIES 2021	ACTIVITIES
ANALALAVA	MBG	Short cycle livestock (poultry and rabbits) + Market gardening	1,302	Restructuring of activities after the resumption of training in breeding techniques, supply of materials and equipment (huts, etc.), sale of products.
ANTREMA	MNHN	Beekeeping	1,670	Training, supply of equipment (beehives), sales.
		Salt Culture	900	Training, supply of equipment, sales.
		Sea fishing	2,523	Monitoring of community fishing activities, fishing to standards and sale of products.
BEANKA	BCM	Cassava cultivation	223	Training in improved agricultural techniques, supply of inputs and equipment.
MANGOKY IHOTRY COMPLEX	ASITY	Rice farming	1,358	Training in improved agricultural techniques, supply of inputs and equipment, construction of irrigation canals, and sales.
MAHAVAVY KINKONY COMPLEX	ASITY	Handicraft (basketry)	925	Training of women, supply of materials and equipment, technical support in the restoration of the NPA's wet lands, and sale of products.
		Rice cultivation	745	Training in improved rice-growing system (SRA), construction of irrigation canals, scaling up of cultivation plots, and sale of products.
ITREMO	RBG	Silk farming	67	Training in silkworm rearing and weaving, restoration of <i>tapia</i> forest areas, supply of weaving materials, and sale of products.
LOKY MANAMBATO	FANAMBY	Market gardening + Rice farming	1,257	Restructuring of the agricultural sectors (vegetable growing and rice farming) after the resumption of training, scaling up of cultivation areas, improved rice growing techniques, etc.
		Sea fishing	1,520	Training, supply of materials and equipment, sales.
MONTAGNE DES FRANÇAIS	SAGE	Tourism	35	Track construction, guide training, target monitoring, reception and guidance.
MANDROZO	TPF	Inland fisheries	378	Fishing according to standards and regulations, using fiberglass canoes, drying/salting and sale.
MAROMIZAHA	GERP	Beekeeping + fish farming	881	Retraining and renewal of associations and base community (VOIs) member for the supervision and conduct of activities, followed by training and supply of materials and equipment (beehives, extractors, etc.) for new members.
ORONJIA	MBG	Sea fishing	578	Training, supply of paint for dugouts, sale of products.
TSIMEMBO MANAMBOLOMATY	TPF	Inland fisheries	456	Fishing according to standards and regulations, using fiberglass canoes, drying/salting and sale.
TOTAL			14,818	

Table 6 : Value chains supported by FAPBM in 2021.

MAHAVAVY KINKONY COMPLEX : DEVELOPMENT OF THE RAFFIA SECTOR

Destination Majunga. La Petite plage. In a handicraft shop, a young lady offers handicraft articles made of raffia. The tourist is especially surprised to find in the middle of this souk, bags and carpets labeled NETSY. To those who ask and know how to listen, she will gladly tell the story of this label.

At 77 km from Katsepy (Majunga, western Madagascar), raffia zones have found refuge within the Mahavavy Kinkony Complex (CMK) protected area. Raffia plays an important role in retaining water in the wetlands in and around the protected area. Ten years ago, however, the raffia fields were in the process of disappearing under the threat of constant expansion of rice fields. This disappearance would have inevitably led to a drought in the area and a consequent loss of income for the families who make a living from them.

In 2011, Asity Madagascar, the manager of CMK, began a vast project to develop this sector. It raises community awareness of the ecological and economic importance of this resource. Asity Madagascar provides training in the rational management of the resource (restoration, firewalls building, cutting and drying techniques, etc.). Training in natural dyeing and in the transformation of fibers into craft objects have been also provided. Since 2020, the NETSY brand has been awarded for raffia products from CMK. This guarantees the natural origin and responsible, fair and environmentally friendly sourcing.



The purchase price of raffia fibers by collectors has risen from 500 to 2,000 MGA/kg in 10 years (3,000 MGA/kg for dyed fiber). The sector generates between MGA 2,000,000 and MGA 6,000,000 annually for the communities. In 2021, this sector benefited to 100 households from 6 associations. In return, the families have actively participated in the conservation of this resource and thus contribute to preserving the protected area.

The raffia production is mainly sold on local and regional markets, including a shop in Majunga. The associations are currently considering exporting, looking for new distribution channels and working to comply technically with the requirements of the international market.

3- ECOSYSTEM SERVICES PROVIDED BY CONSERVED AREAS

FAPBM funding has helped to secure ecosystem services of provisioning and regulation in the lowlands and watersheds around the PAs.

It should be noted that the PAs financed by FAPBM are located upstream of Madagascar's major watersheds, such as the Tsaratanana and Marojejy mountain ranges in the north, the Ankarafantsika, Mahavavy Kinkony and Antrema wetlands in the west, the Ranomafana - Andringitra massifs in the central plateau, and the high mountains of Andohahela in the south, and the eastern cliffs of the Makira-Masoala complex and of Ambatovaky and Zahamena.

In 2021, FAPBM funding contributed to support activities to maintain these ecosystem services such as ecological restoration of natural forests or reforestation of denuded areas in several PAs it finances.

Appendix 2 details the economic contribution of the main economic services of each funded PA.

4.3 IMPACTS ON THE EFFECTIVENESS OF THE PA MANAGERS

1- COLLABORATION WITH COMMUNITIES STRENGTHENED

The average METT score²¹ of MNP PAs²² was 71.83% in 2021 and 70.71% for NPAs²³.

	2017	2018	2019	2020	2021
METT MNP		Rated on IEG			71,83%
METT NPA	59,56%	61,98%	76,26%	71,21%	70,71%

Table 7 : Evolution of managers' performance (2017-2021)

Funding from FAPBM has enabled the local MUs to continue operating in a difficult recovery context from the health crisis of 2020. The impacts of the pandemic and lockdown on the management of the PAs are still being felt, especially on activities led with local communities.

The rate of completion of activities in 2021 in non-FAPBM funded PAs averaged no more than 35%, compared to 42% in MNP PAs and 87% in NPAs funded by FAPBM.

The analysis of the METT score components showed that PA monitoring and surveillance activities with communities were strengthened in 2021 (average METT score of over 80%). These measures were necessary because the threats to natural resources in the PAs were so high, that local associations had to be reorganized and restructured in 2021 for them to continue to play their role in physically securing the PAs. Adjustments to patrol protocols had to be made. For MNP, the adoption of patrol protocols (monitoring pressure points and/or areas instead of patrolling squares), although more effective, has seen a decrease in the participation of CLP members. This has resulted in a slight decrease in METT scores in these PAs of the MNP network.

In addition, further capacity building (with the provision of materials) and training was required to resume development activities. Genuine community mobilization had to be carried out for the resumption of these development activities.

Restructuring of the beneficiary associations was necessary before implementation. The economic impact of these training activities has not yet been tangible in many NPAs, explaining the average METT score of less than 40% for this component. The resumption of activities has been effective, however, and the impacts are expected to be felt in 2022.

The low score of the development component is the main reason for the decrease in the average METT score in the NPAs.

For MNP, the switch from the IEG to the METT²⁴ as a management effectiveness assessment tool has resulted in a readjustment of the IEG scores from previous years, with a slight decrease in the 2020 scores compared to the METT 2021 score.



Euphorbia Itremoensis © KMCC

²¹ The METT is a management tool for measuring the management effectiveness of a PA.

²² MNP has switched to the use of METT since the end of 2020.

²³ Not all NPA METT scores have been validated by the local Steering and Support Committees (COSAPs).

²⁴ The switch from the IEG to the METT required a new way of calculating scores and the inclusion of new components in the index.

2- LOW TO MODERATE MANAGEMENT RISKS

FAPBM has a permanent risk management map for each PA manager supported by FAPBM. PAs can be categorized as high, moderate, and low risk. An important criterion of the risk level is the number of ineligible expenses on the one hand and possible cases of misuse of funds on the other.

For the period 2019–2021, following the risk mapping, the 42 Protected Areas have been categorized :

LEVEL OF RISK		2019	2020	2021
HIGH	●	4	3	4
MODERATE	●	6	14	15
LOW	●	26	19	23
TOTAL PA	——	36	36	42

Table 8 : Evolution of management risks by PA (2019–2021)

The number of high-risk sites remains relatively low, representing 10% of the sites supported. Analyzing with care the risk mapping for 2020 and 2021 remains important due to the limited possibilities to carry out annual supervision missions on all funded sites.

From 2022 onwards, internal control missions will be strengthened, in particular after a recruitment within the FAPBM's internal control department, as well as capacity building for managers in terms of reporting, compliance with procedure manuals and provision of supporting documents.



5. FINANCIAL RESPONSE TO THE COVID 19 PANDEMIC

05

Grassland in Itremo protected area (RBG Kew) © Kew

5.1 INCREASED FUNDING

After a very difficult year for PAs in 2020, total funding²⁵ to PAs has increased by 33% from MGA 8,855,636,911 (USD 2,457,292) in 2020 to MGA 11,787,500,506 (USD 3,057,416) in 2021.

1- 33% GROWTH IN GLOBAL FINANCING

This is due to a 26% increase in annual grants and exceptional financing, from MGA 7,780,411,732 (USD 2,158,935) to MGA 9,836,270,506 (USD 2,551,310) and an advance on the KfW Sinking Fund for the full year 2021.

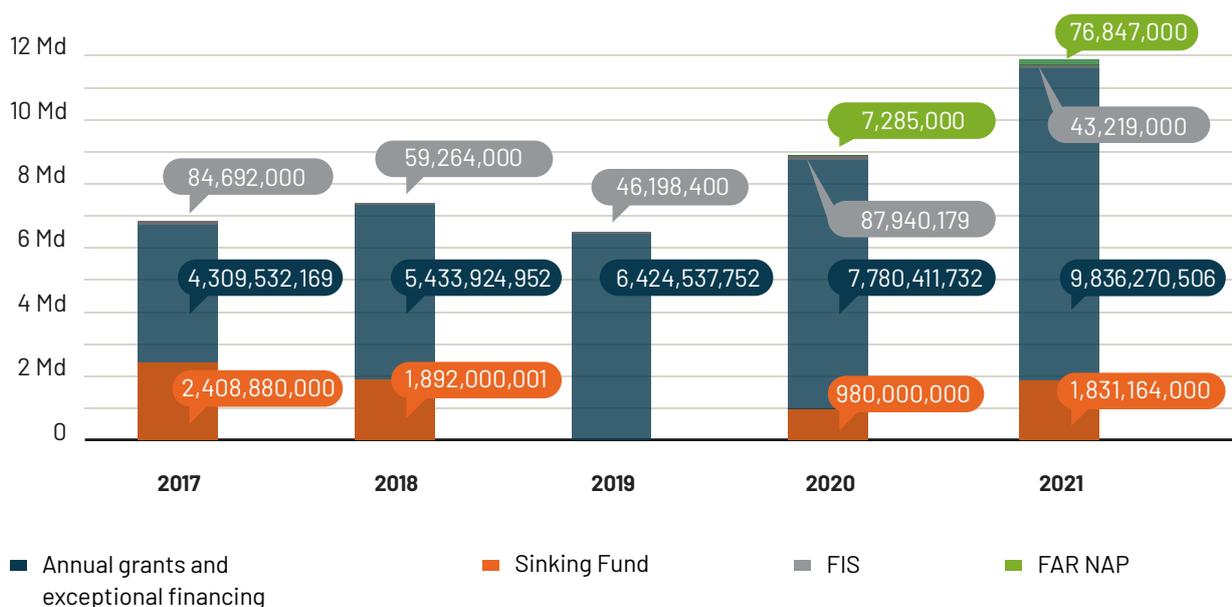


Figure 3: Evolution of funding in MGA (2017-2021)

²⁵ Total funding includes annual grants, FIS, FAR-NAP, and the advance on the KfW Sinking Fund.

2- A SPECIAL EFFORT IN FAVOUR OF THE MNP NETWORK

In 2021, 41 PAs covering a total of 3,622,551 hectares have benefited from the annual grants and the advance on the Sinking Fund (the 42th PA is granted by the offset fund):

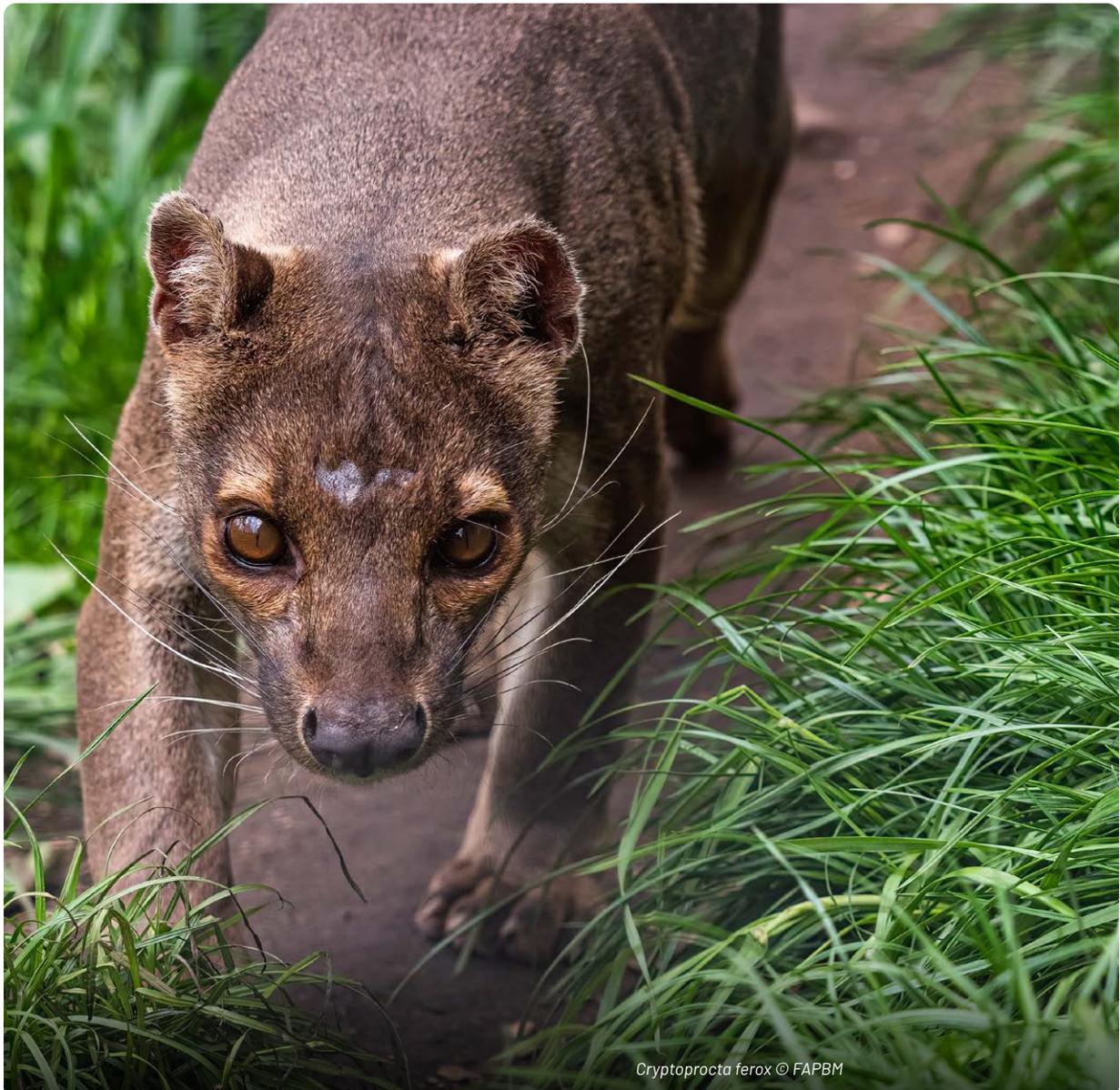
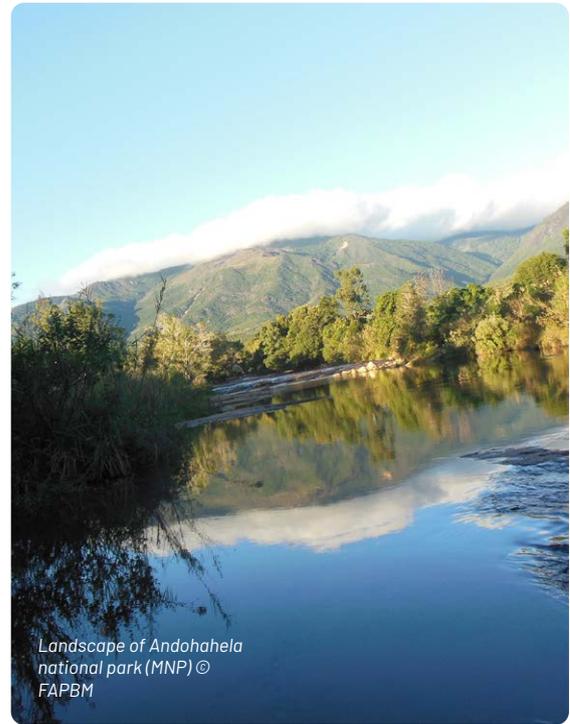
On annual grants and exceptional support :

20 MNP PAs	MGA 6,826,687,217 (USD 1,770,691)
13 NPAs	MGA 3,009,583,290 (USD 780,619)

On the advance of the KfW Sinking fund:

8 MNP PAs	MGA 1,831,164,000 (USD 474,963)
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FAPBM has made a special financial effort for MNP in 2021. In order to compensate for the state's failure to pay, FAPBM again granted an advance from the KfW Sinking Fund for 8 MNP's parks. Excluding the advance for the KfW Sinking Fund, MNP received 69% of the annual grants from FAPBM.



5.2 A GRADUAL TAKEOVER OF THE FUNCTIONING OF PAs

1- THE FUNCTIONING OF THE PAs PROGRESSIVELY ENSURED

1.1- For MNP network PAs

The negative impacts of the health crisis on the MNP network's financial resources continued in 2021. Indeed, the MNP network did not received any revenue from international tourists because of the lack of resumption of tourism activities following the COVID 19 pandemic.

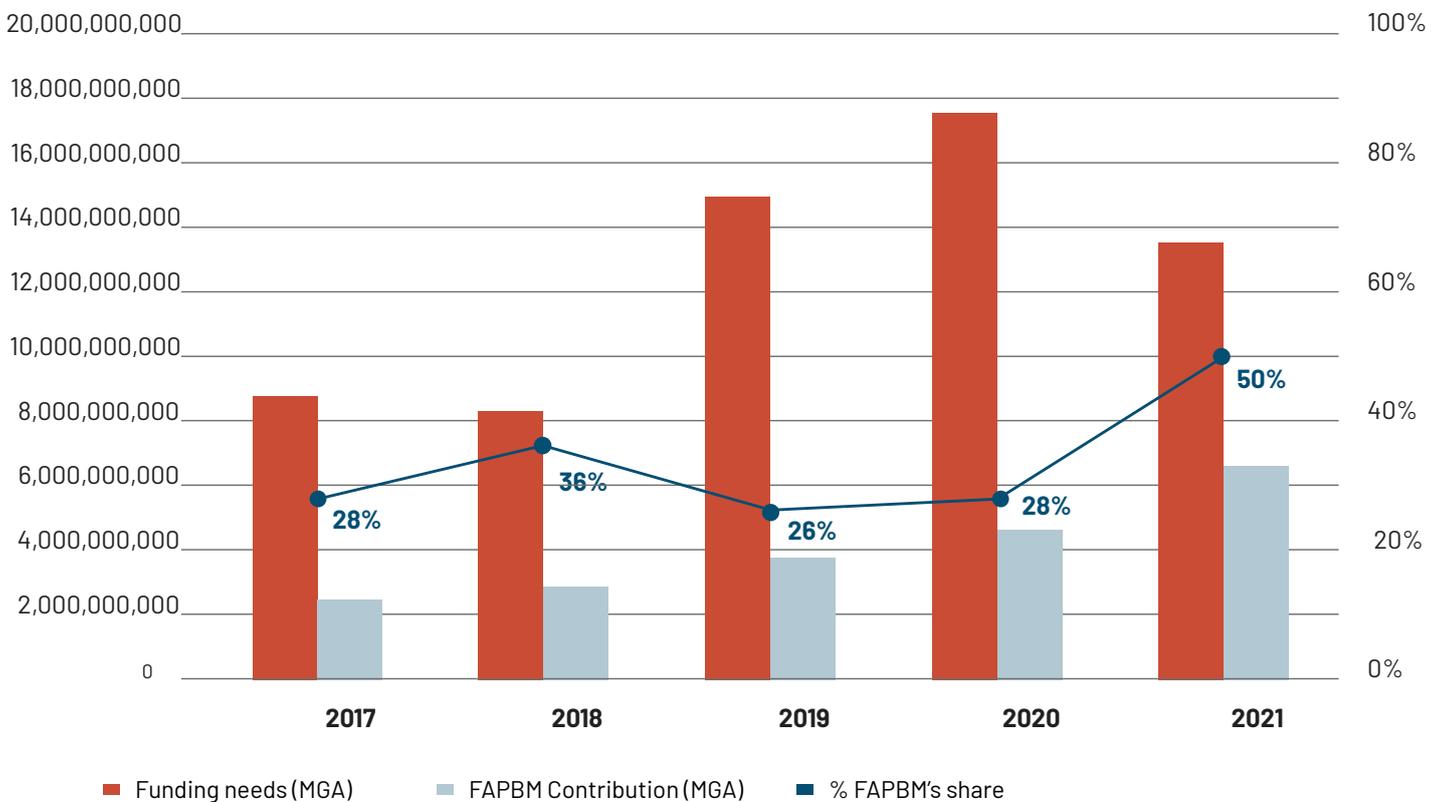


Figure 4: Evolution of the FAPBM's share in the overall financial needs of supported MNP PAs (2017-2021)

The proportion of the FAPBM contribution in the financing plans of the supported MNP sites has increased significantly, from 28% in 2020, i.e. MGA 4,889,584,523 (USD 1,356,778) out of the MGA 17,672,851,995 (USD 4,903,922) required, to almost 50% in 2021, i.e. MGA 6,826,687,216 (USD 1,770,691) out of the MGA 13,770,175,543 (USD 3,571,678) required. This was made possible by the organisational reform within MNP, which led to a reduction in the total wage bill and enabled FAPBM to cover 12 months of salaries for each funded site, but also by the increase in the established global envelope of capital revenues.



1.2- For the NPAs

The share of the budget financed by FAPBM in the financing plans for the supported NPAs has decreased from 29% in 2020 to 22% in 2021.

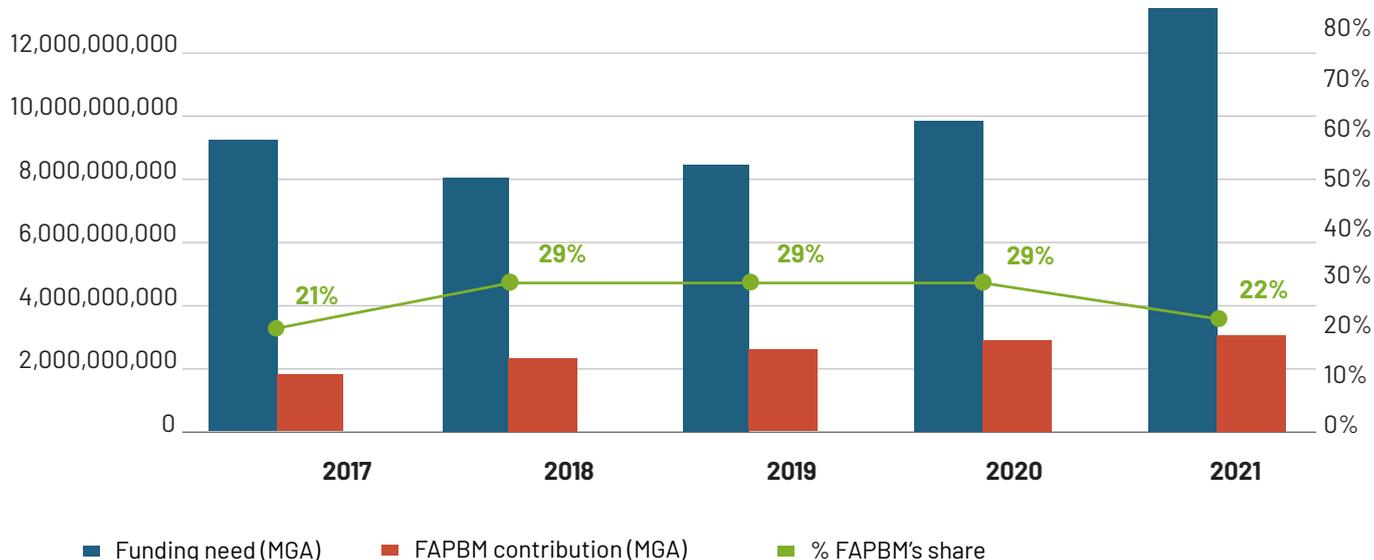


Figure 5 : Evolution of the FAPBM share in the budget of supported NPAs (2017-2021)

FAPBM's support to the NPAs remained stable in value, at MGA 2,890,827,209 (USD 802,156) in 2020 and MGA 3,009,583,290 (USD 780,619) in 2021, while needs increased from MGA 9,978,985,707 (USD 2,769,002) in 2020 to MGA 13,481,904,041 (USD 3,496,907) in 2021 as a result of the health crisis. Some managers were able to mobilize additional emergency funds from other financial partners during the health crisis.

The decrease in the FAPBM's share in the NPAs' budget therefore did not have a significant impact on their operations.

As in previous years, the reported average of 22% hides a disparity between NPAs. For illustration, the share of FAPBM funding can range from less than 10% for the Makira NPA to more than 70% for the Itremo NPA.



3- DISTRIBUTION OF ANNUAL GRANTS BY AXIS

Regarding MNP, FAPBM has exclusively financed salaries. For the NPAs, the distribution of funding at the level of the 13 NPAs according to the areas of intervention has been as follows :

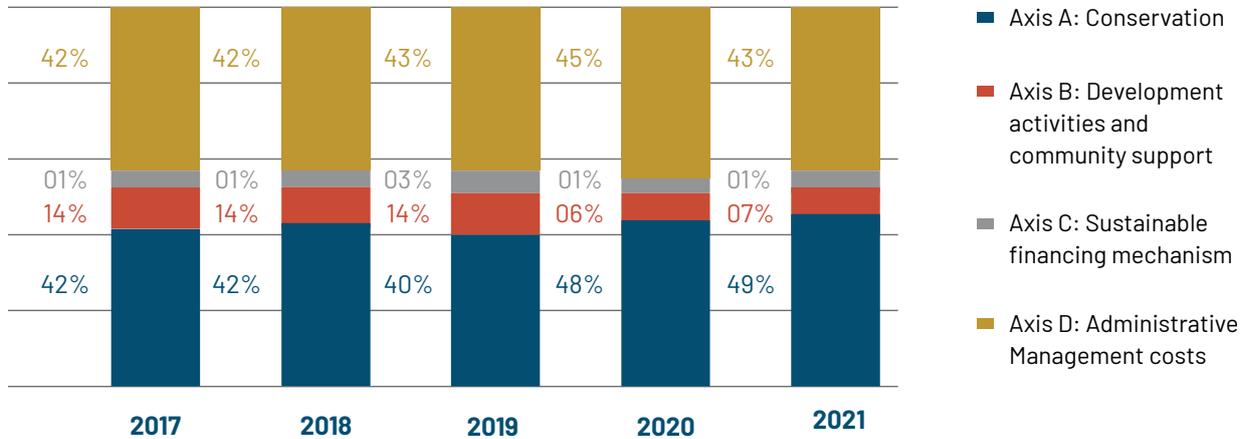


Figure 6: Evolution of funding streams at the level of supported NPAs (2018-2021)

No significant change was noted for the year 2021 compared to the 2020 distribution.

5.3 EMERGENCY RESPONSES

The Emergency Fund (FIS) is a fund designed to enable any PA manager to respond to specific, unforeseeable and urgent threats that jeopardize the viability of a particular target (a habitat, a species of fauna or flora) or the ecological integrity of the PA in general.

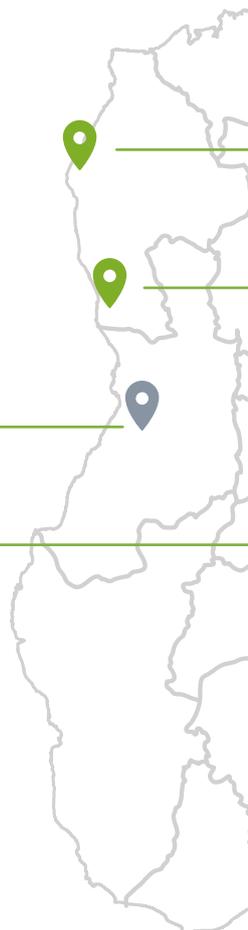
Through the FIS, FAPBM responded to two (02) urgent requests for a total amount of MGA 43,219,000 (USD 11,210) :

MENABE ANTIMENA:

The assistance consisted in supporting the implementation of joint patrols to ensure a permanent presence for securing the PA core areas in front of increasing pressure;

IBITY MASSIF :

FAPBM’s support enabled the manager to continue the efforts already underway to control the expansion of mica quarries near the PA. Interventions by joint brigades and patrols were carried out for law enforcement and awareness-raising purposes.



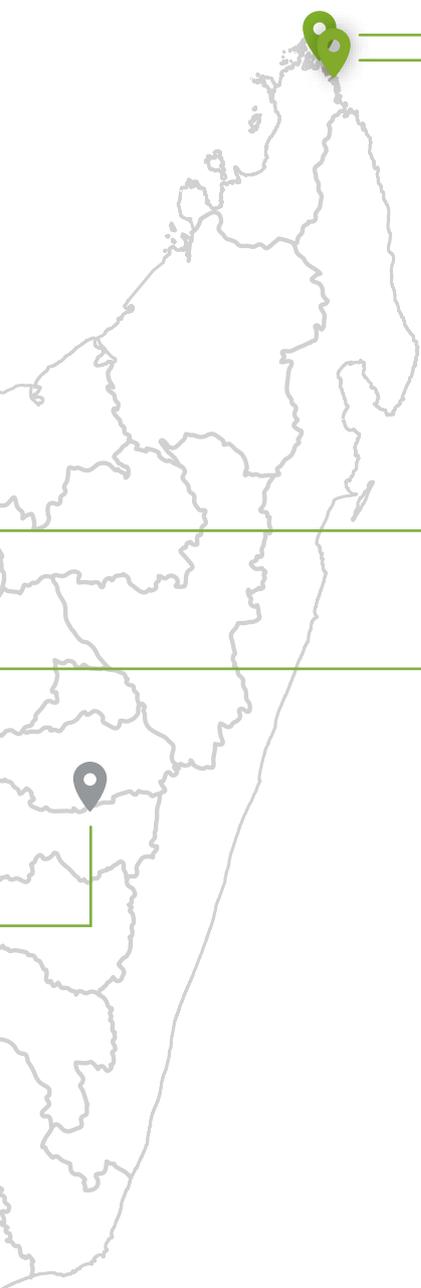
5.4 SUPPORT FOR THE STRENGTHENING OF NPAS

The objective of the Support Fund for the Strengthening of NPAs, FAR NAP, is to support the acquisition of additional knowledge on management contexts (situation, richness, evolution or change) in order to better orient intervention strategies.

Examples of activities that are funded by this instrument include research on target species, re-delineation, or training in new technologies related to PA management. All NPAs in Madagascar are eligible for this fund.

This new support instrument set up in 2020 made it possible in 2021 to support the strengthening of the management of the NPAs through the finalization of the update of the working documents, the Development and Management Plan (PAG) and the Environmental Management and Social Safeguard Plan (PGEES). These are the basic instruments for achieving the objectives set as PAs.

The following four NPAs benefited from this support for a total amount of MGA 76,847,000 (USD 19,932) :



ORONJIA:

The support consisted in the organization of a national validation workshop of the NPA's PAG and PGEES;



AMBODIVAHIBE:

The support consisted of the implementation of complementary investigations, notably in socio-economic data and the setting up of an operational database to facilitate the monitoring of the effective management of the MPA.



MANDROZO:

The support consisted of the organization of local and regional validation workshops for the PAG and PGEES;



TSIMEMBO MANAMBOMATY:

The support consisted of the organization of local and regional validation workshops for the PAG and PGEES.



6. PROJECTS THAT SHAPE THE FUTURE OF PROTECTED AREAS



Seedlings in creation in the protected area of Agnalazaha (MBG) © FAPBM

06

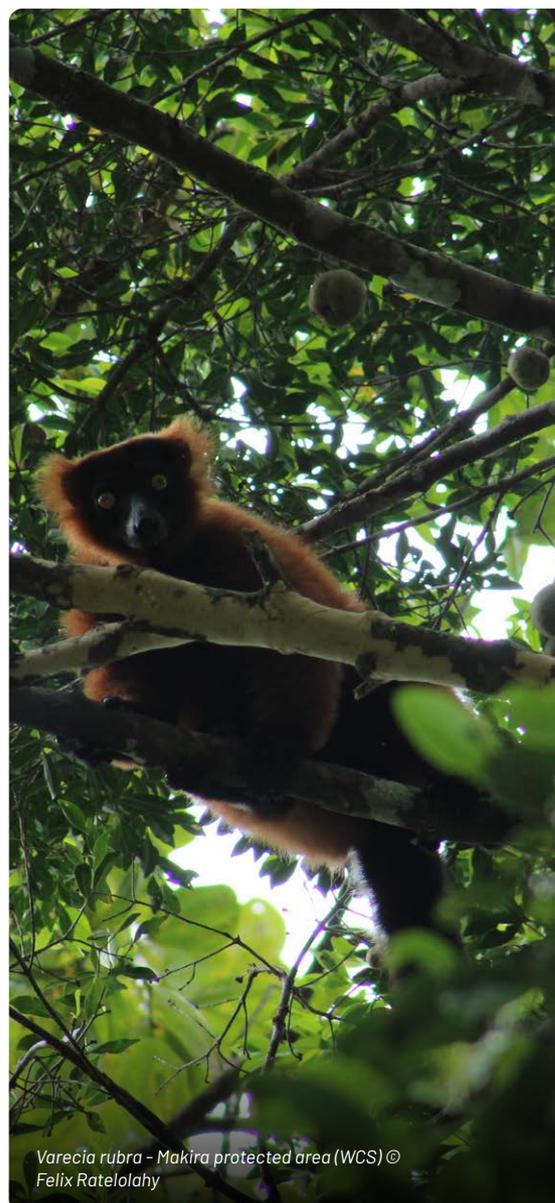
FAPBM also stands as a financial management mechanism for global initiatives and bilateral and multilateral biodiversity projects. In 2021, FAPBM provided financial management for 3 projects.

6.1 TOWARDS THE DEVELOPMENT OF MARINE PROTECTED AREAS

WWF US, as the GEF 6 implementing Agency, has mandated FAPBM to provide financial management for a program for an amount of USD 6,209,404 related to the expansion and consolidation of marine protected areas (2020-2024). The objective of the project is to ensure that Madagascar's marine biodiversity and productivity are effectively managed through a sustainable and resilient national network of MPAs.

For its second year of operation (2021), the GEF6 MPA project focused mainly on the following studies :

- Analysis of types of governance and management contracts for MPAs and locally managed marine areas (LMMAs);
- State of the art of MPA and LMMA management tools;
- Regional consultations for an inventory of existing marine conservation issues.



Varecia rubra - Makira protected area (WCS) © Felix Ratelolahy

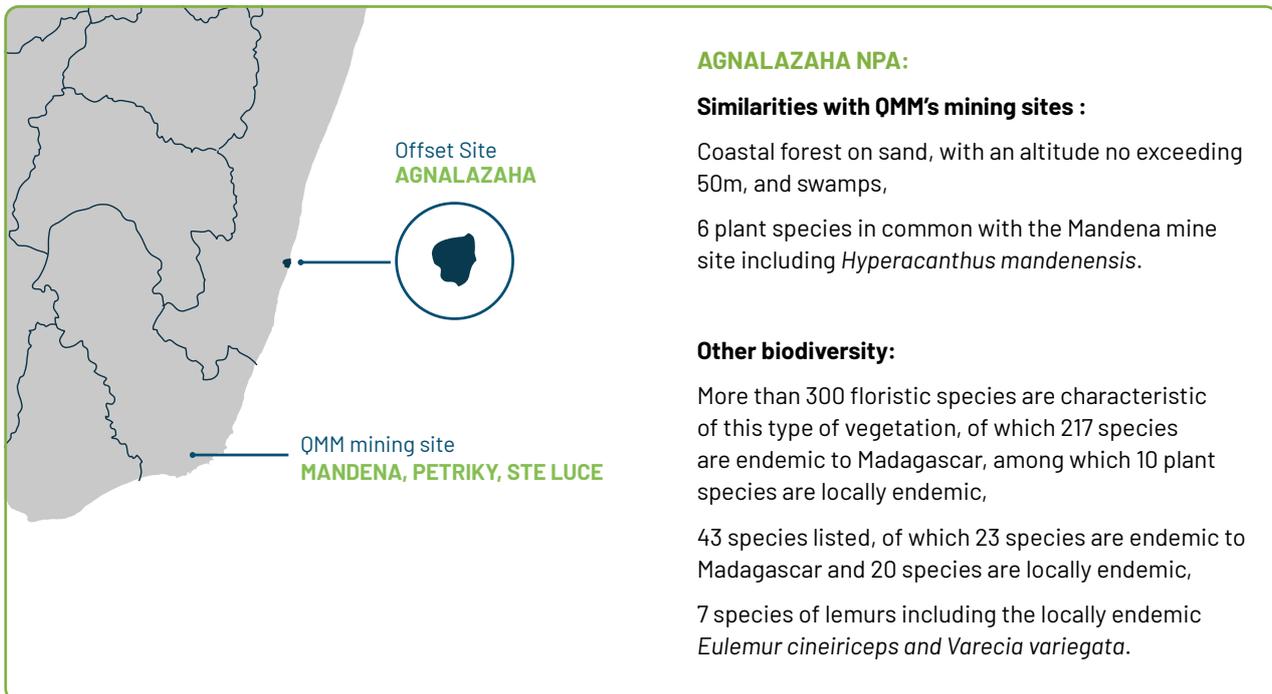
6.2 PRIVATE SECTOR FUNDING OF PAs : THE QMM OFFSET

The project, worth USD 300,000, for a period of 3 years (2019-2021) is part of the offset program of QIT Madagascar Minerals (QMM), a subsidiary of the Rio Tinto group. QMM has entrusted FAPBM with the financial management and monitoring of its offset program at Agnalazaha, a NPA managed by Missouri Botanical Garden (MBG).

1- AGNALAZAHA AND ITS BIODIVERSITY

Classified as a Forest Reserve in 1954, the Agnalazaha Forest became a category VI NPA in 2015 (Decree N°2015-767).

With an area of 2,250 ha, the Agnalazaha NPA is one of the best preserved coastal residual forests in Madagascar. These are unique habitats, very fragile and increasingly degraded. These coastal forests are home to a very rich biodiversity with many endemic species threatened with extinction. As the three mining sites of Mandena, Ste Luce and Petriky, in the Anosy - Taolagnaro area, contain 6.5% of Madagascar's coastal forests, the PA's choice for offsetting actions was Agnalazaha.



2- THE TYPE OF OFFSET FINANCING

QMM's Biodiversity Offset program aims to offset the residual impacts on biodiversity by protecting similar biodiversity in other sites to that destroyed as a result of mining activities. In the case of Mandena, the Agnalazaha NPA is the QMM Offset site.

The Quality Hectare (QH)²⁶ and Distribution Unit (DU)²⁷ impact indicators are used by QMM at the offset site level. These are similar to those developed under the BBOP (Business and Biodiversity Offsets Program) developed by AFD, FFEM, Forest Trends, KfW Group, WWF, USAID, These indicators are used to strengthen information from participatory monitoring and patrols (with local communities) and to inform adaptive management decisions.

3- ENCOURAGING RESULTS

INDICATORS	2019	2020	2021
METT	62,5%	62,5%	62%
QH		65%	65%
DU		67%	67%

Table 9 : Evolution of the offset PA indicators since the management of the funding by FAPBM (2019-2021)

In 2021, the manager of the Agnalazaha NPA, MBG, obtained a METT score of 62%, which is relatively a good average for a category VI PA (Natural Resource Reserve, co-managed with a local association). The DU (67%) and QH (65%) indicators show that the coastal forests of Agnalazaha are in a good state of conservation despite the presence of many forms of pressure, such as selective logging, uncontrolled fires and natural disasters.

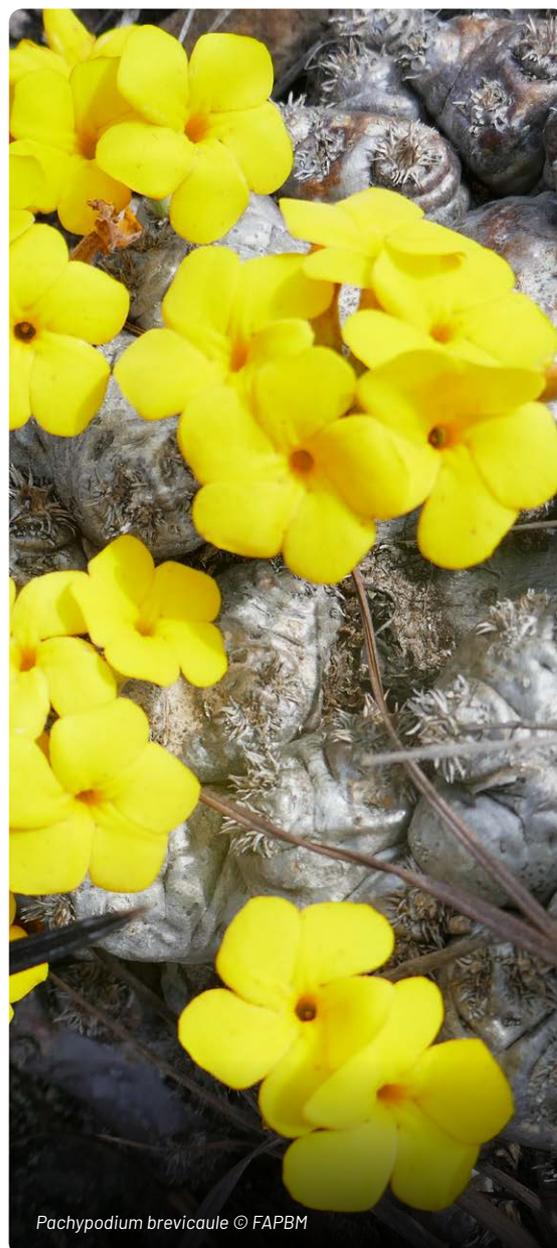
In detail, the QH index is based on satellite images of canopy openness and/or forest cover. It reflects a good conservation status on more than 70% of the monitoring plots.

As for the DU, it reveals a stable presence of conservation target species, notably for lemurs (*Avahi laniger* and *Eulemur cinereiceps*) and the endemic flora, common to the QMM mining sites²⁸. No cases of poaching or trapping have been recorded in these hard cores.

4- THE OUTLOOK

The QMM Offset funding came to an end in 2021. Negotiations will be conducted with QMM for continuous funding in the coming years.

FAPBM will capitalize on this experience in order to draw lessons for a possible improvement of the general framework of an Offset applied to PAs. In this perspective, FAPBM aims to set up a platform for exchanges between PA managers who manage Offset funding, such as the Asity association with the Torotofotsy and Tsitongambarika PAs, MBG with Agnalazaha and Conservation International with the Ankeniheny Zahamena corridor.



²⁶ The QH is a status indicator for assessing the viability of plant communities and animal populations, which are targets for conservation in Offsets. QMM uses it to monitor biodiversity over time. The way it is calculated shows that the decline of a species (abundance or density) is caused by the decrease in the area of its habitat and the degradation of the quality of this habitat (fragmentation, floristic composition, basal areas, etc.).

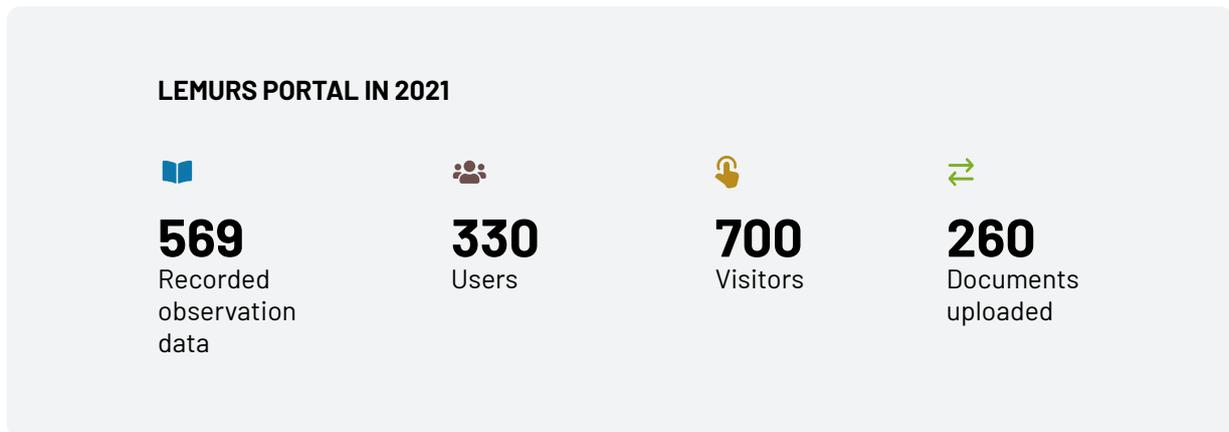
²⁷ DU is an indicator of the range of plant and animal communities that are targets for conservation in the Offsets. Its use is also important for monitoring the diversity of species present, the rate of forest regeneration and the viability of species.

²⁸ These results are still provisional and await validation by QMM.

6.3 TOWARDS A BETTER PUBLIC KNOWLEDGE OF LEMURS: LEMURS PORTAL

Madagascar Lemurs Portal (www.lemursportal.org) is a database dedicated exclusively to lemurs. Since its inception in 2017, FAPBM has served as the financial mechanism for the project. Additional funding of USD 51,000 from JRS Foundation in 2020 was extended for 3 months in 2021. This was aimed at ensuring the sustainability of the portal (hosting and maintenance of the site, funding for fundraising activities, ...).

On top of the JRS Foundation funding, FAPBM allocated additional MGA 64,800,000 (USD 16,807) from April to December. Activities focused on capitalizing on the project's achievements and securing institutional and financial sustainability.



An evaluation of the portal's performance and feedback from user surveys concluded that the portal needed to be more accessible to the general public. On the one hand, technical improvements have started to be made to make it a field-based tool through a mobile application accessible to both researchers, PA managers and local communities. On the other hand, the application will integrate ecotourism and the mobile application "Lemurs of Madagascar".

The reorientation of the portal and the fundraising efforts led to a funding agreement with the American foundation Re : Wild at the end of 2021 for an amount of USD 25,000 for the year 2022.



Lemurs Portal booth during the Lemur Day celebration at the Garden of Antaninarenina
 © Lemurs Portal

7. A CAPITAL THAT CAN WITHSTAND MARKET UNCERTAINTIES



Signing of FAPBM capital endowment between the Ministry of Finance, KfW and FAPBM © FAPBM

7.1 CAPITAL FOR SUSTAINABLE FINANCING

Securing sustainable funding for biodiversity is the purpose of Biodiversity Conservation Trust Funds. FAPBM therefore stands as a stable funding mechanism, complementing or following bilateral support and resources from tourism for PAs.

FAPBM positions itself first of all as a mechanism for sustainable financing of the operating costs of the PAs. It is well known that bilateral or global projects rarely finance operating costs. The FAPBM support therefore allows the PA managers to mobilize additional funding for their activities.

In addition, FAPBM also proposes to take over funding to PAs after fixed-term projects. **FAPBM is convinced that any biodiversity conservation project should include an endowment to the capital of a Trust Fund in order to perpetuate the funding.**

In this respect, AFD has contributed EUR 8 million to the capital of FAPBM in 2020. The revenues from this capital endowment will mainly be used as bridge financing for the PAs that have benefited from AFD's KOBABY project.²⁹

This same logic also motivated the GEF6 project “Conservation and sustainable use of biodiversity in the north-east of Madagascar, Boeny Region” funded by Conservation International. This project, which will end in 2022, included an endowment in the capital of FAPBM of USD 4.5 million in 2020. The aim of this endowment will be to continue funding to the 5 PAs in the Boeny region from 2023 onwards.

29. Kobaby is a biodiversity conservation project financed by AFD for PAs in the North and South of Madagascar. The Kobaby project will end in 2024.

7.2 AN EXCEPTIONAL ENDOWMENT FROM KfW

KfW made two one-off endowments in 2021 totaling EUR 45.7 million. This contribution has risen to EUR 77.2 million the German contribution to FAPBM's capital since the establishment of FAPBM in 2005.

For the first time, KfW has not earmarked its endowment for the MNP network as in the past. Indeed, KfW and FAPBM have agreed that the current FAPBM policy of allocating at least 60% of its annual funding to the MNP network will continue in the long term.

KfW's endowment increased the capital of FAPBM to USD 139.7 million as of 31 December 2021, and will allow the strengthening of current funding as well as the addition of further PAs from 2023 onwards.

7.3 DISTRIBUTION OF CAPITAL AS AT 31 DECEMBER 2021

As of 31 December 2021, the various endowments to FAPBM's capital are as follows :



Figure 7: Distribution of capital as at 31 December 2021



■ French Government : 10.51%	■ WWF: 0.75%
■ Conservation International : 5.37%	■ Malagasy Government : 0.75%
■ French Facility for Global Environment (FFEM) : 0.79%	■ Private and individuals donors : 0.24%
■ French Development Agency (AFD) : 7.77%	■ Global Environment Facility (GEF) : 7.16%
■ World Bank: 5.37%	■ German Government (BMZ through KfW): 61.30%

7.4 GOOD RESILIENCE OF THE INVESTMENT PORTFOLIO

2021 was a turbulent year for financial markets, dominated by a number of events including higher than expected inflation and the continuous COVID 19 pandemic. In contrast to the previous five years, when there was generally a general upward or downward movement in the various financial assets, 2021 saw a very wide dispersion of performance. Thus, 50% of the financial asset types ended up in the green, while the other 50% ended up in the red.

But the FAPBM portfolio as a whole has held up well.

1- PORTFOLIO RETURNS ON TARGET

The FAPBM portfolio held up well, performing at +6.25% (+7.6% in 2020). This performance is appreciable in absolute terms, although it is relatively lower than the benchmark for the strategic allocation (+7.1%).

The Investment Policy sets a long-term target of 4% net. This objective has been met over the last five years (+6.6%).

As of 31 December 2021, the capital allocation by asset class is shown in the graph below. This differs from the target allocation defined in FAPBM's 2020 Investment Policy :

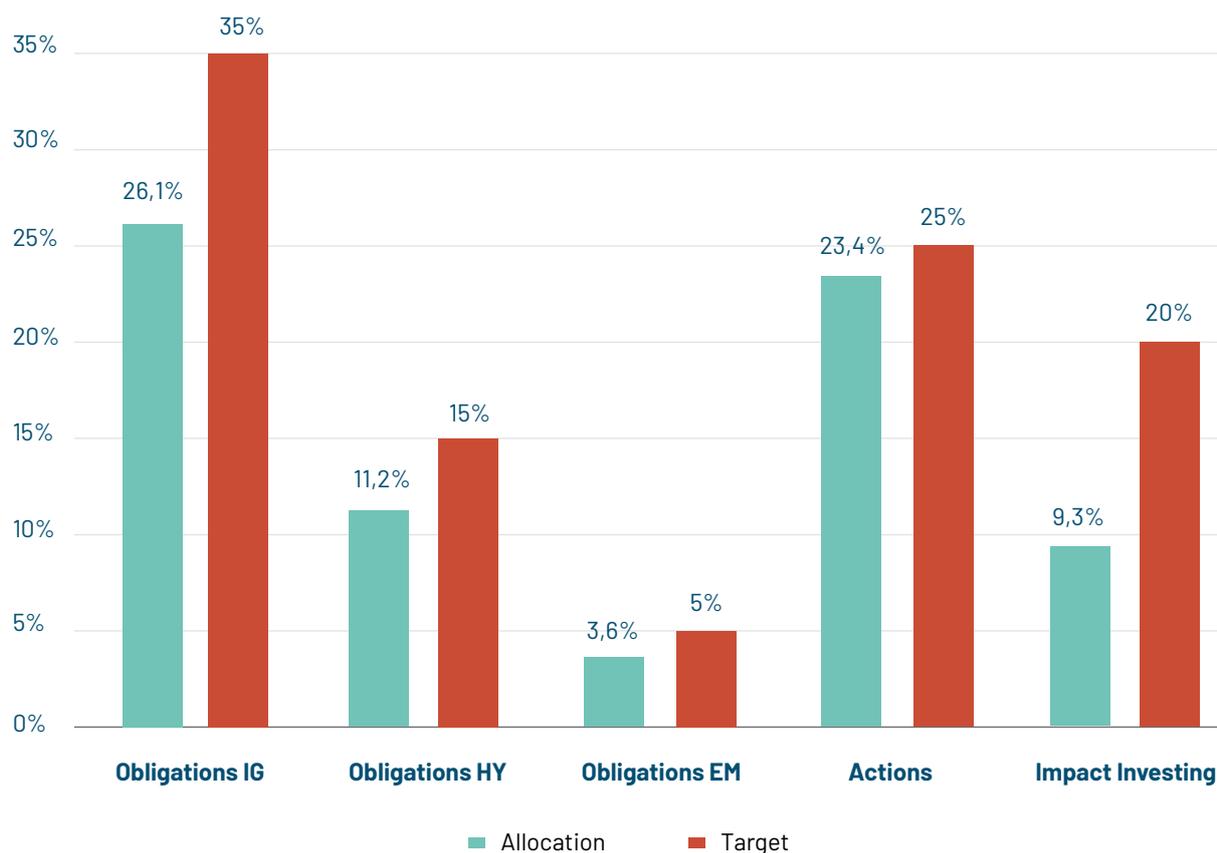


Figure 8 : Portfolio distribution at the end of 2020 compared to the portfolio distribution as defined in FAPBM's investment policy

This difference is mainly due to the capital endowments from KfW at the end of the year, which had not yet been deployed by 31 December 2021, and to the time it takes for Impact Investing investments to be fully deployed. The eight funds that make up this pocket will continue to call for committed capital over 2-5 years.

Investing in private equity and private debt involves a transitional phase during which the amount allocated to the different funds is committed but not invested. To avoid this amount not generating any revenue, FAPBM invests in money market funds for what will be in Private Debt, and in shares for what will be in Private Equity.

The +6.25% performance of the FAPBM portfolio can be broken down as follows :

	IMPLEMENTATION IN 2021	BENCHMARK
ACTIONS	+21.10%	+21.80%
OBLIGATIONS INVESTMENT GRADE	-2.27%	-1.15%
OBLIGATIONS HIGH YIELD	+0.95%	+5.06%
OBLIGATIONS EMERGING	-2.88%	-1.80%
IMPACT INVESTING	+6.84%	+6.80%

Table 11 : Performance of each investment pocket compared to the benchmark in 2021

7.5 RESPONSIBLE INVESTMENTS

FAPBM pursues a dual objectives : (i) to ensure that its investments comply with its values and mission, and (ii) to strengthen its positive social and environmental impact. The first has been characterized by a combination of normative and sectoral exclusions, while the second has been embodied by the Impact Investing pocket since 2016.

1- NORMATIVE AND SECTORAL EXCLUSIONS

Compliance with FAPBM's values and mission is firstly reflected in sectoral exclusions : weapons, tobacco, gambling, pornography, hard liquor for human consumption, fossil fuels including all companies whose main activities are the extraction and/or production and/or distribution of energy produced by the combustion of coal, oil or natural gas and extractive industries other than those concerning fossil fuels including all companies whose main activities are the extraction and/or transformation and/or distribution of non-renewable minerals, whether in their raw or transformed state.

This compatibility is also reflected in normative exclusions, i.e. company-by-company verification of compliance with the ten main principles of the United Nations Global Compact.³⁰

2- THE PERFORMANCE OF THE IMPACT INVESTING FUND

The strengthening of the social and environmental impact of FAPBM's financial investments is reflected in the strategic allocation of 20% of its capital to financial instruments that combine financial return and impact (impact investing).

The performance of this pocket since its beginning is disappointing, +1.4% per year since the pocket's inception compared to +6.8% for the benchmark. Particular attention will be paid to the Impact Investing pocket over the next two years.

7.6 LOCAL CAPITAL

The total amount of funding for year N+1 is decided by the Board of Trustees in July of year N. The total amount is immediately repatriated to the banks in Madagascar and placed in Term Deposits in local currency.

The revenues from these investments constitutes the local capital. As of 31 December 2021, FAPBM's local capital amounted to MGA 500 million (USD 126,000³¹).



Calicalicus madagascariensis ©
FAPBM

30 <https://www.unglobalcompact.org/what-is-gc/mission/principles>.

31 Rate applied : 1USD = 3956.66 MGA, BFM rate of 30 December 2021.

8. 2021 FINANCIAL REPORT

Baobabs © Halleux - WWF

08

8.1 AUDITED FINANCIAL STATEMENTS 2021

Delta Audit

Delta Audit Associés
Immeuble Tsimahafotsy
Lot III 100 PL Bis
Rue Ratovo R. Henri
Mahamasina
Antananarivo 101
Madagascar

PO Box241
Tel : +00 (261) 20 22 278 31
 +00 (261) 20 22 653 73
Fax : +00 (261) 20 22 210 95
E-mail : deltaadi@deltaaudit.mg
 deltaadi@moov.mg
Site web www.deltaaudit.com
NIF 300006925
Stat 69 202 11 1994 000 813
RCS 2003 B 00140

To the Board of Trustees and the Executive Director of the Madagascar Protected Areas and Biodiversity Fund (FAPBM)

INDEPENDENT AUDITOR'S REPORT Fiscal year ended December 31, 2021

Opinion

We have audited the annual financial statements of the Madagascar Protected Areas and Biodiversity Fund (FAPBM), which include the balance sheet as of December 31, 2021, and the income statement, the table of changes in equity, the statement of cash flows for the year then ended, and the related notes, including a summary of significant accountant policies.

In our opinion, the accompanying annual financial statements presenting a profit of Ariary 25.471.247.754,76 present a true and fair view in all material respects, of the financial position of the Foundation as of December 31, 2021, as well as of their financial performance and their cash flows for the year then ended, in accordance with the accounting principles applied in Madagascar (PCG 2005).

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISA). Our responsibilities under those standards are further described in the «Auditor's Responsibilities for the Audit of the Financial Statements» section of this report. We are independent from the Madagascar Protected Areas and Biodiversity Fund (FAPBM) in accordance with the International Ethics Standards Board for Accountants Code of Ethics for Professional Accountants (the IESBA Code), we have fulfilled our other ethical responsibilities in accordance with the IESBA code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of management and those charged with governance for the annual financial statements

Management is responsible for the preparation and fair presentation of the annual financial statements in accordance with the 2005 PCG, as well as for the internal control it considers necessary to enable the preparation of financial statements free from material misstatement, whether from fraud or errors. Upon preparing the annual financial statements, it is management's responsibility to assess the ability of the company to continue its exploitation, to communicate, where appropriate, matters relating to continued exploitation and to apply the comparable principle of continued exploitation, unless management intends to liquidate the company or cease its activity or if no other realistic solution is available to it.

Those charged with governance are responsible for overseeing the Foundation's financial reporting process.

Auditor's Responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Antananarivo, April 07, 2022
The Statutory Auditor

Delta Audit

Justine RAHELARINORO
Partner

Denis RATSIMANDRESY
Partner

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Madagascar Protected Areas and Biodiversity Fund

Balance sheets as of December 31st, (Amounts expressed in MGA)

Assets	Note	2021			2020		Variation
		Gross Value	Depreciation/ Impairment losses	Net Value	Net Value	Variation	
Non-current assets							
Intangible assets	4.1	5.100.000,00	(5.100.000,01)	-0,01	1.207.708,32	(1.207.708,33)	-100%
Tangible assets	4.2	2.312.789.938,02	(1.015.854.249,94)	1.296.935.688,08	1.198.079.787,07	98.855.901,01	8%
Financial assets	4.3	2.591.000,00	-	2.591.000,00	2.591.000,00	-	0%
Assets in progress		-	-	-	<u>77.557.601,28</u>	<u>(77.557.601,28)</u>	-100%
Total Non-current assets		<u>2.320.480.938,02</u>	<u>(1.020.954.249,95)</u>	<u>1.299.526.688,07</u>	<u>1.279.436.096,67</u>	<u>20.090.591,40</u>	<u>2%</u>
Current assets							
Other receivables	5	524.717.094,77	-	524.717.094,77	1.324.779.679,34	(800.062.584,57)	-60%
Accrued suspense account to be regularized	6	70.752.814.727,46	-	70.752.814.727,46	-	70.752.814.727,46	100%
Cash and cash equivalents	7	<u>558.330.015.912,69</u>	-	<u>558.330.015.912,69</u>	<u>398.559.163.467,16</u>	<u>159.770.852.445,53</u>	<u>40%</u>
Total current assets		<u>629.607.547.734,92</u>	-	<u>629.607.547.734,92</u>	<u>399.883.943.146,50</u>	<u>229.723.604.588,42</u>	<u>57%</u>
Total Assets		<u>631.928.028.672,94</u>	<u>(1.020.954.249,95)</u>	<u>630.907.074.422,99</u>	<u>401.163.379.243,17</u>	<u>229.743.695.179,82</u>	<u>57%</u>

Madagascar Protected Areas and Biodiversity Fund

Balance sheets as of December 31st, (Amounts expressed in MGA)

Equity and Liabilities	Note	2021	2020	Variation	Variation %
Equity					
Capital endowments		455.920.608.226,93	251.842.856.638,08	204.077.751.588,85	81%
Project funds received		15.870.849.393,53	14.148.460.922,42	1.722.388.471,11	12%
Accumulated expenses on realization		(15.410.402.951,24)	(13.909.158.876,53)	(1.501.244.074,71)	11%
Retained earnings		149.458.516.624,42	115.725.210.501,79	33.733.306.122,63	29%
Income statement		25.471.247.754,76	33.709.824.903,76	(8.238.577.149,00)	-24%
Total owner's equity	8	631.310.819.048,40	401.517.194.089,52	229.793.624.958,88	57%
Non-current liabilities					
Equipment grant		168.433.379,48	168.433.379,48	-	0%
Funds with management mandate		(811.141.225,79)	(768.625.422,20)	(42.515.803,59)	6%
Total Non-current liabilities	9	(642.707.846,31)	(600.192.042,72)	(42.515.803,59)	7%
Current liabilities					
Other payables	10	233.564.218,51	181.988.711,68	51.575.506,83	28%
Suspense accounts to be settled liabilities	11	5.399.002,39	64.388.484,69	(58.989.482,30)	-92%
Total current liabilities		238.963.220,90	246.377.196,37	(7.413.975,47)	-3%
Total Equity and Liabilities		630.907.074.422,99	401.163.379.243,17	229.743.695.179,82	57%

Madagascar Protected Areas and Biodiversity Fund

Income statement by nature fiscal year ended December 31 st, (Amounts expressed in MGA)

	Note	2021	2020	Variation	Variation %
Turnover		-	-	-	-
Stocked production		-	-	-	-
Immobilized production		-	-	-	-
Production of the fiscal year		-	-	-	-
Purchased services	12	(61.500.231,40)	(54.007.770,90)	(7.492.460,50)	14%
External services and other consumptions	13	<u>(2.836.962.189,08)</u>	<u>(2.172.605.238,48)</u>	<u>(664.356.950,60)</u>	31%
Consumption for fiscal year		<u>(2.898.462.420,48)</u>	<u>(2.226.613.009,38)</u>	<u>(671.849.411,10)</u>	30%
Added value		<u>(2.898.462.420,48)</u>	<u>(2.226.613.009,38)</u>	<u>(671.849.411,10)</u>	30%
Salaries and related expenses	14	(944.215.448,78)	(814.240.342,41)	(129.975.106,37)	16%
Dues and fees		<u>(110.200,00)</u>	<u>(105.700,00)</u>	<u>(4.500,00)</u>	4%
Gross operating surplus		<u>(3.842.788.069,26)</u>	<u>(3.040.959.051,79)</u>	<u>(801.829.017,47)</u>	26%
Other operating income	15	2.942.272.349,50	797.810.168,55	2.144.462.180,95	269%
Other operating expenses	16	(12.077.104.580,75)	(8.424.572.366,49)	(3.652.532.214,26)	43%
Depreciation and amortization		(143.696.367,59)	(128.500.997,04)	(15.195.370,55)	12%
Reversal of provisions and impairment losses		-	-	-	-
Operating income		<u>(13.121.316.668,10)</u>	<u>(10.796.222.246,77)</u>	<u>(2.325.094.421,33)</u>	22%
Finance products	17	47.249.981.906,53	76.282.606.638,57	(29.032.624.732,04)	-38%
Finance costs	18	<u>(8.657.417.483,67)</u>	<u>(31.776.559.488,04)</u>	<u>23.119.142.004,37</u>	-73%
Financial income		<u>38.592.564.422,86</u>	<u>44.506.047.150,53</u>	<u>(5.913.482.727,67)</u>	-13%
Income before tax		<u>25.471.247.754,76</u>	<u>33.709.824.903,76</u>	<u>(8.238.577.149,00)</u>	-24%
Income tax expenses		-	-	-	-
Deferred tax		-	-	-	-
Total income from ordinary activities		50.192.254.256,03	77.080.416.807,12	(26.888.162.551,09)	-35%
Total expenses from ordinary activities		<u>(24.721.006.501,27)</u>	<u>(43.370.591.903,36)</u>	<u>18.649.585.402,09</u>	-43%
Net income for the ordinary year		<u>25.471.247.754,76</u>	<u>33.709.824.903,76</u>	<u>(8.238.577.149,00)</u>	-24%
Extraordinary items (income)		-	-	-	-
Extraordinary items (expenses)		-	-	-	-
Extraordinary income		-	-	-	-
Net income for the year		<u>25.471.247.754,76</u>	<u>33.709.824.903,76</u>	<u>(8.238.577.149,00)</u>	-24%

Madagascar Protected Areas and Biodiversity Fund

Income statement by function fiscal year ended December 31 st, (Amounts expressed in MGA)

	2021	2020	Variation	Variation %
Income from ordinary activities	-	-	-	-
Cost of sales	<u>(2.898.462.420,48)</u>	<u>(2.226.613.009,38)</u>	<u>(671.849.411,10)</u>	<u>30%</u>
Gross margin	<u>(2.898.462.420,48)</u>	<u>(2.226.613.009,38)</u>	<u>(671.849.411,10)</u>	<u>30%</u>
Other operating income	2.942.272.349,50	797.810.168,55	2.144.462.180,95	269%
Selling expenses	(944.215.448,78)	(814.240.342,41)	(129.975.106,37)	16%
Administrative expenses	(143.806.567,59)	(128.606.697,04)	(15.199.870,55)	12%
Other operating expenses	<u>(12.077.104.580,75)</u>	<u>(8.424.572.366,49)</u>	<u>(3.652.532.214,26)</u>	<u>43%</u>
Operating income	<u>(13.121.316.668,10)</u>	<u>(10.796.222.246,77)</u>	<u>(2.325.094.421,33)</u>	<u>22%</u>
Finance income	47.249.981.906,53	76.282.606.638,57	(29.032.624.732,04)	-38%
Finance costs	(8.657.417.483,67)	(31.776.559.488,04)	23.119.142.004,37	-73%
Income before tax	<u>25.471.247.754,76</u>	<u>33.709.824.903,76</u>	<u>(8.238.577.149,00)</u>	<u>-24%</u>
Income tax expenses	-	-	-	-
Deferred tax	-	-	-	-
Net income from ordinary activities	<u>25.471.247.754,76</u>	<u>33.709.824.903,76</u>	<u>(8.238.577.149,00)</u>	<u>-24%</u>
Extraordinary expenses	-	-	-	-
Extraordinary income	-	-	-	-
Net income for the year	<u>25.471.247.754,76</u>	<u>33.709.824.903,76</u>	<u>(8.238.577.149,00)</u>	<u>-24%</u>

Madagascar Protected Areas and Biodiversity Fund

Cash flows statements

fiscal year ended December 31st

(Indirect method)

(Amounts expressed in MGA)

	<u>2021</u>	<u>2020</u>
Cash used in operations		
Receipts received (customers and other debtors)	-	367.130,00
Amounts paid (suppliers, staff, and other operating payables)	(4.000.830.937,21)	(3.778.174.268,55)
Interest and other financial statements paid	(748.563.696,62)	(591.682.398,17)
Received grants	-	-
Grants awarded	(11.179.651.034,77)	(8.080.446.014,79)
Cash flows related to extraordinary events	-	-
Net cash used in operations	<u>(15.929.045.668,60)</u>	<u>(12.449.935.551,51)</u>
Cash flows from investing activities		
Disbursements on acquisition of intangible and tangible assets	(143.768.160,59)	(79.321.601,28)
Receipts on disposals of intangible and tangible assets	-	-
Disbursements on acquisition of financial assets	-	-
Receipts on disposals of financial assets	-	-
Interest received	38.614.520.824,38	44.480.303.367,21
Dividends and share of results received	-	-
Net cash used in investing activities	<u>38.470.752.663,79</u>	<u>44.400.981.765,93</u>
Cash flows from financing activities		
Receipts following the issuance of shares	-	-
Endowment contributions received	135.507.018.075,80	50.041.712.519,65
Project funds received	1.722.127.374,54	862.470.313,44
Collection from loans	-	-
Issue of loans or other similar debts	-	-
Net cash generated from financing activities	<u>137.229.145.450,34</u>	<u>50.904.182.833,09</u>
Cash flows change for the period	<u>159.770.852.445,53</u>	<u>82.855.229.047,51</u>
Cash and cash equivalents at start of year	398.559.163.467,16	315.703.934.419,65
Cash and cash equivalents at end of year	<u>558.330.015.912,69</u>	<u>398.559.163.467,16</u>
Cash flows change for the period	<u>159.770.852.445,53</u>	<u>82.855.229.047,51</u>

Madagascar Protected Areas and Biodiversity Fund

Statement of changes in net assets fiscal year ending December 31st (Amounts expressed in MGA)

	Capital <u>allocations</u>	Funds received <u>from donors</u>	Accumulated expenses <u>on realization</u>	Other <u>equity</u>	<u>Income</u>	<u>Total</u>
Balance as of December 31st 2019	<u>201.801.144.118,43</u>	<u>13.285.960.229,30</u>	<u>(13.206.292.770,36)</u>	<u>77.787.557.565,16</u>	<u>37.957.738.142,11</u>	<u>317.626.107.284,64</u>
Change in accounting method	-	-	-	-	-	-
Error correction	-	-	-	-	-	-
Other income and expenses	-	-	-	-	-	-
Income allocation & retained earnings	-	-	-	37.957.738.142,11	(37.957.738.142,11)	-
Capital transaction	50.041.712.519,65	862.500.693,12	(702.866.106,17)	(20.085.205,48)	-	50.181.261.901,12
Net income Fiscal year 2020	-	-	-	-	<u>33.709.824.903,76</u>	<u>33.709.824.903,76</u>
Balance as of December 31st 2020	<u>251.842.856.638,08</u>	<u>14.148.460.922,42</u>	<u>(13.909.158.876,53)</u>	<u>115.725.210.501,79</u>	<u>33.709.824.903,76</u>	<u>401.517.194.089,52</u>
Change in accounting method	-	-	-	-	-	-
Error correction	-	-	-	-	-	-
Other income and expenses	-	-	-	-	-	-
Income allocation & retained earnings	-	-	-	33.709.824.903,76	(33.709.824.903,76)	-
Capital transaction	204.077.751.588,85	1.722.388.471,11	(1.501.244.074,71)	23.481.218,87	-	204.322.377.204,12
Net income Fiscal year 2021	-	-	-	-	<u>25.471.247.754,76</u>	<u>25.471.247.754,76</u>
Balance as of December 31st 2021	<u>455.920.608.206,93</u>	<u>15.870.849.393,53</u>	<u>(15.410.402.951,24)</u>	<u>149.458.516.624,42</u>	<u>25.471.247.754,76</u>	<u>631.310.819.048,46</u>

Delta Audit

Delta Audit Associés

Immeuble Tsimahafotsy
Lot 111100 PL Bis
Rue Ratovo R. Henri
Mahamasina
Antananarivo 101
Madagascar

POBox241

Tel : +00(261)20 22 278 31
+00(261)20 22 653 73
Fax : +00(261)20 22 210 95
E-mail : deltadt@deltaaudit.mg
deltadt@moov.mg
Site web www.deltaaudit.com
NIF 3000006925
Stat 69 202 11 1994 000 813
RCS 2003 B 00140

To the Board of Trustees and the Executive
Director of the Madagascar Protected Areas
and Biodiversity Fund (FAPBM)

Special report

of the Statutory Auditor

relating to Articles 18 and 19 of Law 2004-014 of August 19, 2004

Fiscal year ending December 31, 2021

Ladies and Gentlemen,

We have not been informed of any transactions carried out during the 2021 financial year falling within the scope of articles 18 and 19 below of the law No. 2004-014 of August 19, 2004, on the reform of the system of Foundations in Madagascar and we have not identified any related transactions in the financial statements as of December 31, 2021

According to Article 18 : The Foundation cannot grant loans, current account overdrafts, grants or donations directly or through an intermediary to members of the Board of Trustees, executive management, Auditors, or managers of funds.

Likewise, the Foundation cannot act as guarantor or endorse for commitments made by them to third parties. This prohibition extends to spouses, parents and relatives up to and including the fourth degree.

Acts taken in violation of the prohibitions enacted in the preceding paragraphs are null and void.

The beneficiaries and perpetrators of such acts are liable to pay damages to the Foundation without prejudice to disciplinary sanctions.

According to Article 19 : Service contracts concluded between the Founders/donors or their representatives and the Foundation are subject to the prior authorization of the Board of Directors and communicated to the Auditors who will establish a special report in this regard. All relevant funders/donors of the Foundation will receive this special report.

Antananarivo, April 07, 2022

The Statutory Auditor

Delta Audit



Justine RAHELIARINORO
Partner



Denis RATSIMANDRESY
Partner

Audit.Tax.Advisory

8.2 FINANCIAL ANALYSIS

The financial analysis below supplements the information contained in the 2021 financial statements. Together, the two documents form the basis of financial reporting and provide an account of resource management.

1- RESOURCES MATCHING EMPLOYMENT

The main activity of FAPBM remains based on investment revenues, which amounted to USD 3.8 million in 2021.

In addition to funding from capital revenues, the advance on the KfW Sinking Fund, the three projects (GEF6 Marine Protected Areas, Offset QMM and Lemurs Portal) for which FAPBM is in charge of financial management provided resources of USD 481,597 :



Figure 9: Distribution of resources in 2021

Figure 10: Distribution of employment in 2021

In 2021, 14% of the resources were used for local operations and investments of FAPBM. The remaining 86% of resources went to funding protected areas.



Human resources USD 241,297 46%	International missions USD 59,776 11%
Management expenses USD 59,870 11%	Site visits USD 28,939 5%
Board of Trustees USD 19,426 4%	Workshops USD 11,165 2%
Consultancy USD 62,135 12%	Communication USD 44,121 8%
Training USD 215 0%	

Figure 11: Operating costs

Operating costs increased by 40% compared to an exceptionally low year in 2020, following the gradual return to normal. This is due to the resumption of site visits, participation in international events, as well as fundraising and communication activities.

2- EXTERNAL ASSET MANAGEMENT FEES

HEADING	2021
COMMISSION (CUSTODY, MANAGEMENT, TRANSACTION, AND ADVICE)	468,367
AVERAGE ASSET FOR THE PERIOD	105,895,478
FEE IN% OF TOTAL	0.44%

Table 11 : External asset management fees in 2021 in USD

This table shows that the costs incurred in managing the estate represent 0.44% of the value of the estate. In 2020, these costs reached 0.51%.

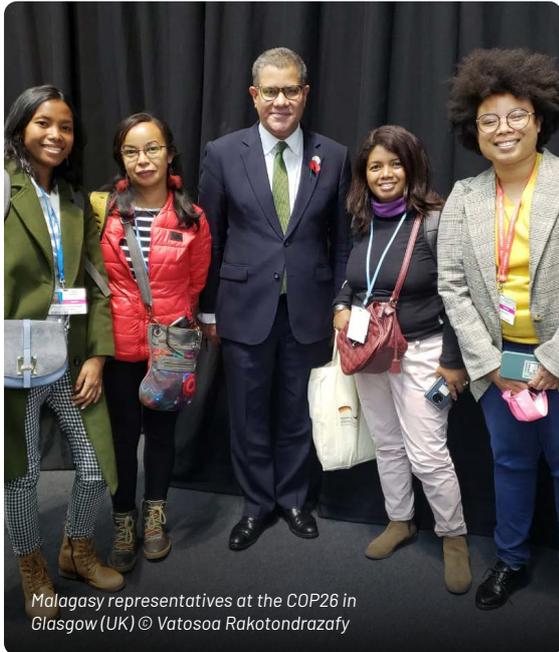
9. RESUMPTION OF INTERNATIONAL PRESENCE



FAPBM's presentation at the stand of Conservation Finance Alliance (CFA) on the topic "Trust funds facing the COVID 19 pandemic: is the model relevant?" during the IUCN World Congress in Marseille (France) © FAPBM

09

After a year 2020 marked by a clear slowdown in international events due to the COVID 19 pandemic, 2021 saw a resumption of these events improving the visibility of FAPBM.



Malagasy representatives at the COP26 in Glasgow (UK) © Vatosoa Rakotondrzafy



Meeting with Mrs. Cristelle Pratt, Assistant Secretary General of the Organisation of African, Caribbean and the Pacific States (OACPS) in Brussels (Belgium) © FAPBM



9.1 PRESENCE AT THE IUCN WORLD CONGRESS

The participation of three (03) representatives of FAPBM led by President **Nanie RATSIFANDRIHAMANANA** in the IUCN World Conservation Congress held in Marseille in September 2021, allowed to strengthen FAPBM's relations with members of the IUCN Southern and Eastern Africa region and to make contact with African Trust Funds as well as potential contributors.

The Madagascar stand was fully supported by FAPBM during this congress.

FAPBM organized a public session on the financial mechanism of the Conservation Trust Funds. This session was led by the General Director of MNP, **Mamy RAKOTOARIJAONA** and the Executive Director of FAPBM, **Alain Liva RAHARIJAONA**.



9.2 MEETING WITH THE EUROPEAN UNION

Alain Liva RAHARIJAONA, Executive Director of FAPBM, went to Brussels to make a plea to the European Commission for an endowment to FAPBM's capital. He was received by **Isabelle DELATTRE**, who is the Head of Unit in the General Directorate for International Partnerships. The two organizations agreed to coordinate environmental actions in Madagascar and explore ways of collaboration in the future.

In addition, the Executive Director was received by **Cristelle PRATT**, Assistant Secretary General of the Organisation of African, Caribbean and the Pacific States (OACPS) in Brussels, in charge of the environment and climate action.

These exchanges were each time the opportunity to advocate on the importance of protected areas in Madagascar with the expectation of establishing partnerships for sustainable financing.



9.3 PARTICIPATION IN THE GENERAL ASSEMBLY OF CAFÉ

FAPBM participated virtually in the General Assembly of the African Consortium of Environmental Funds (CAFÉ) held in Mozambique from 6 to 8 October 2021. At this General Assembly, a presentation on the offset mechanism, based on FAPBM's experience in the offset project with QMM for the Agnalazaha PA, was given by the Executive Director.

In addition, FAPBM participated in the 2^e Virtual Congress of RedLAC, the Latin American Conservation Trust Funds network.



9.4 SUPPORT TO THE MADAGASCAR DELEGATION AT COP26 ON CLIMATE CHANGE

The participation of three (03) representatives of Madagascar at the COP 26 on Climate Change which took place in Glasgow (Scotland) was financed by FAPBM. They were **Rina MANDIMBINIAINA**, Technical Advisor to the Minister of Environment and Sustainable Development, **J.M SOLOANTSOA**, Regional Director of Environment and Sustainable Development of the Androy region, and **Vatosoa RAKOTONDRAZAFY**, Coordinator of the ALAMINO initiative.

10. GOVERNANCE OF FAPBM



Presentation of the agreements review to FAPBM-supported managers in Antananarivo © FAPBM

10.1 CHANGES IN THE BOARD OF TRUSTEES

Sahondra RAJOELINA, President of the Board since May 2019, has taken leave of FAPBM in May 2021 due to the end of her term as a Trustee. **Naritiana RAKOTONIAINA**, Trustee and President of the Financing Committee, also saw her term of office end at the same time.

FAPBM therefore co-opted two new trustees on 19 May 2021.

THEY ARE:

**Fredy RAJAONERA
ANDRIAMBELO**

**Bruno Tsing Yat
RAJASPERA**



The Board of Trustees of FAPBM was composed as follows on 31 December 2021 :



Nanie RATSIFANDRIHAMANANA
(President), Country Director of WWF - Madagascar



Dimbindraibe RATAFIKA
(Vice-President), Special Advisor to the Prime Minister in charge of the Environment, Social and Health



Fredy RAJAONERA ANDRIAMBELO
(Treasurer), Deputy General Manager of Chocolaterie Robert, former President of the Syndicat des Industries de Madagascar



Eric RAKOTO-ANDRIATSILAVO
National Secretary of the World Bank's Integrated Growth Pole Project (PIC)



Hanta Zo RAKOTOVAO
(President of the Audit Committee), Head of Legal and Regulatory Department at Orange Madagascar



Hary Tiana RAHAINGALISON
(President of the Fundraising Committee), agronomist, Specialist in coordination and monitoring of international projects in Madagascar



James RANAIVOSON
(President of the Investment Committee), Former Executive Advisor to the European Investment Bank



Bruno Tsing Yat RAJASIPERA
Director of Forest Conservation and Community Support at Conservation International



Mamitiana ANDRIAMANJATO
(President of the Financing Committee), Executive of the Ministry of Environment and Sustainable Development, former Director of Sustainable Financing, specialist in climate change and REDD+

10.2 ARRIVALS IN THE EXECUTIVE MANAGEMENT

The year 2021 saw the arrival of **Vola RAJAOFERA** as administrative and human resources Officer, and **Elysabeth RAZANAMIARANA** as Consultant in charge of the financial follow-up of the GEF6 project on Marine Protected Areas.

The Executive Management was composed as follows as of 31 December 2021 :



Alain Liva RAHARIJAONA

Executive Director;
Master's degree in International Economics from the University of Paris Sorbonne, Diploma in Management Studies from the University of Paris-Dauphine, former diplomat



Onintsoa RANDRIANAIVO

Finance Officer;
Graduate in Finance from the National Institute of Accounting and Business Administration (INSCAE) and in Public Management from the National School of Administration of Madagascar (ENAM)



Ranto RANDRIANTSOA

Grants Officer;
Forestry engineer from the École Supérieure des Sciences Agronomiques (University of Antananarivo)



Evah RALALARISOA

Internal Control Officer;
Graduate in Finance and Accounting from the University of Antananarivo



Serge RATSIRAHONANA

Monitoring and Evaluation Officer;
Trained as a biologist, with a degree in economic anthropology from SUNY Brook, NY- USA



Vola RAJAOFERA

Administrative and Human Resources Officer;
Graduate in Management Control and Operational Audit from the National Institute of Accounting and Business Administration (INSCAE)



Roda OPERMAN

Communication and Advocacy Officer;
Graduated in Marketing Strategies from the National Institute of Accounting and Business Administration (INSCAE) and from the IAE Poitiers



Elysabeth RAZANAMIARANA

Consultant in charge of monitoring the GEF6 Marine Protected Areas project;
Graduate in Law and Social Sciences from the University of Tuléar



Lova TRUONG

Consultant in charge of the Lemurs Portal project;
Graduate in Environmental Management from Institut Supérieur en Sciences de l'Environnement et de Gestion (ISSEG)

10.3 REVIEW OF THE FINANCING AGREEMENTS

In order to ensure more efficient and relevant funding and better monitoring of impacts, FAPBM has been progressively implementing reforms since 2019 to improve the funding process. These reforms concern (1) the harmonization and standardization of the tools used, (2) the development of a single dashboard for monitoring and evaluation, and (3) the strengthening of the management capacities of the managers of the financed PAs.

FAPBM has thus supported PA managers in developing technical and financial reference documents according to the logical frameworks of their interventions. FAPBM is now requiring five-year planning of the sites' objectives and budgets based on the managers' reference working documents (PAG and PGESS), and the use of a single Annual Work Plan (AWP) matrix for all sites.

The Annual Financing Agreement with each PA has also been revised. It focuses on the following aspects :

- Consideration of the Development and Management Plan (DMP) as a reference document;
- Strengthening ethical commitments;
- Inclusion of environmental and social safeguard measures;
- Strengthening requirements in the use of funds and project implementation;
- Clarification of control, monitoring and evaluation requirements;
- Integration and clarification of clauses relating to penalties, prohibitions and sanctions.

Implementation of this reform will start with the 2022 funding agreements that were signed in December 2021.

10.4 RESUMPTION OF SITE VISITS

The year 2021 is marked by the progressive resumption of monitoring-evaluation and internal control missions in the PAs financed by FAPBM. Thus, 7 PAs were audited from February to December 2021 :

- Agnalazaha and Analalava managed by MBG;
- Ankarana and Ankarafantsika managed by MNP;
- Mahavavy Kinkony complex managed by Asity;
- Antrema managed by MNHN;
- Itremo managed by RBG Kew.

Due diligence missions for the additional 2022 PAs linked to the endowment to AFD's capital in 2020 were also carried out as planned.



Charadrius tricollaris © FAPBM

11. TOWARDS 2026 : THE NEW STRATEGIC PLAN 2022-2026



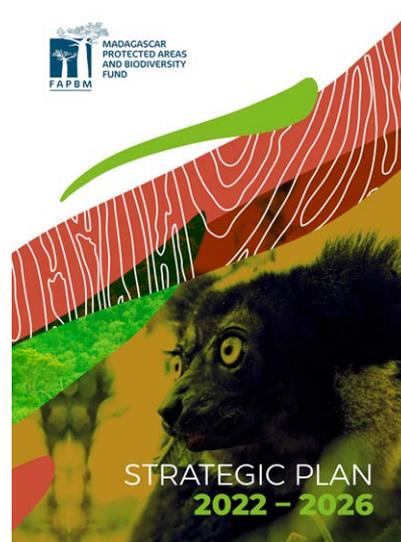
Landscape of Antrema protected area (MNHN) © FAPBM

The Board of Trustees of FAPBM adopted in December 2021 the new Strategic Plan for the period 2022-2026. This Strategic Plan has the ambition to consolidate the place of FAPBM as a strategic financing instrument for protected areas in Madagascar.

THE 3 STRATEGIC FOCUSES OF THE PLAN ARE THE FOLLOWING :

- **Focus 1**
Contribute to the sustainable financing of Madagascar's Protected Areas;
- **Focus 2**
Financing PAs for impacts on biodiversity, ecosystem services, human well-being and climate change mitigation;
- **Focus 3**
Promote the sound management of Madagascar's PAs.

The strategic focus 4 aims at strengthening FAPBM capacities to fulfill its mission.



MESSAGE FROM THE EXECUTIVE DIRECTOR

Our eyes are now turned towards the future, after 2 difficult years for the biodiversity of Madagascar during which the essentials have nevertheless been preserved.

This future remains uncertain because threats to our biodiversity are greater than ever. FAPBM is now however equipping itself with tools that will empower it to win battles.

The first tool of FAPBM is its Strategic Plan 2022-2026. Our objectives are clear and our efforts are already fully focused on achieving them. Our procedures are constantly being improved, especially with regard to PAs funding. We will review our investment policy to increase our financial returns. We will strengthen our human resources through recruitment and training. We will capitalize on all the good practices from our 17 years of experience and make them available to all PA managers, whether supported by FAPBM or not. We will also continue our efforts to increase our capital, which is the guarantee of our sustainable financing, while mobilizing projects for which we provide the financial mechanism.

Finally, FAPBM will continue to act with its greatest tools, which are its values: passion for nature, accountability to its stakeholders, and ethics in its work.

The near future of Madagascar's biodiversity is uncertain, but FAPBM will face it with perseverance and with the conviction that its mission is necessary and just.



**ALAIN LIVA
RAHARIJAONA,
EXECUTIVE
DIRECTOR.**



Our objectives are clear and our efforts are already fully focused on achieving them.



APPENDIXES

APPENDIX 1. INDEXES DEVELOPED BY FAPBM

THE INDEX OF BIOTIC INTEGRITY (IBI)

The IBI is a synthetic index relating the physical integrity of natural habitats in PAs to the conservation status of target species (abundance and/or density). Its value varies from 0 to 5 which is the best level.

These are the conservation targets of a PA. A conservation target is an element of biodiversity that requires management because of its exceptional character or level of threat.

A target may be a major species or a particular habitat. In the case where the target is a habitat, its contents constitute integrated targets. These targets serve as indicators for the ecological health of the PA, and their conservation will ensure the conservation of all representative biodiversity in the PA.

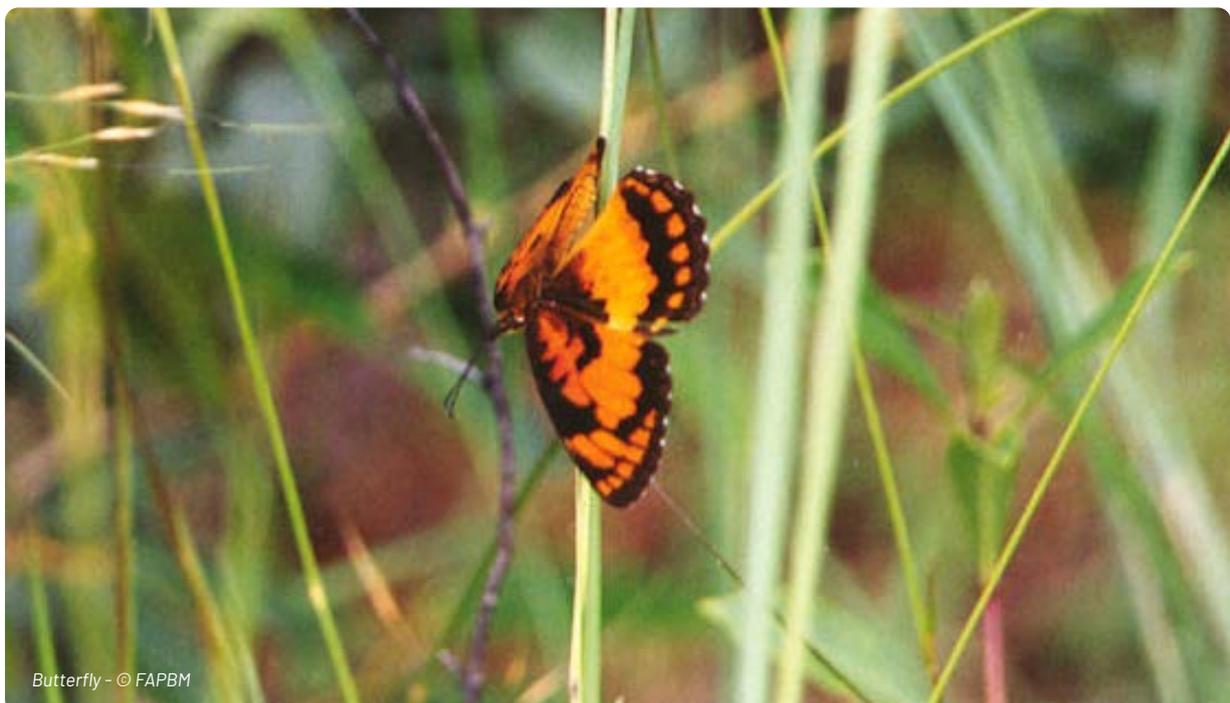
The calculation of this index of biotic integrity can also include values for ecosystem services such as drinking or irrigation water, rockfall avoidance or silting of crop fields...

Currently, FAPBM is considering integrating the assessment of these ecosystem services into the calculation of the IBI, in collaboration with its technical partners at national and international level.

KEY PERFORMANCE INDICATOR (KPI)

A scorecard has been set up to monitor the performance of PA managers against the criteria set by FAPBM. Key performance indicators have been identified and they relates to :

- The technical component (status of conservation targets, implementation rates, results achieved on site);
- The financial component (financial realization rate);
- Administration (quality of reports, respect of submission dates, ...);
- The results of the external audit;
- The results of the FAPBM internal audit;
- The number of redundant non-compliances (technical and financial);
- The scores obtained on the management level (IEG or METT).



APPENDIX 2. DETAILED PRESENTATION OF FAPBM-SUPPORTED PA

AGNALAZAHA (MBG)

LOCATION: Province of Fianarantsoa; Region of Atsimo Atsinanana; District of Farafangana

CONSERVATION TARGETS: Coastal forest, *Eulemur cinereiceps* - Varikamena, *Asteropeia micraster* - Manokimena, *Cryptocarya velutina* - hazotavolo

ECONOMIC VALUE: Agnalazaha PA is one of the last remaining coastal forests in this part of the island. The main ecological functions of these coastal forests are to stabilize the soil, which is very fragile and unstable in this region. It also retains water from rivers and streams for the local population and crop fields before they flow into the ocean.

The PA of Agnalazaha is accessible by the national road n°45 linking Farafangana to Vangaindrano. It has a great potential for tourism.

AMBATOVAKY (MNP)

LOCATION: Province of Toamasina; Region of Analanjirofo; District of Soanierana Ivongo

CONSERVATION TARGETS: Lowland rainforest (314-800m), midland rainforest (800-1,175m) and *Indri indri*, *Propithecus diadema diadema* and *Varecia variegata variegata*

ECONOMIC VALUE: Numerous rivers have their sources in the Ambatovaky Reserve, which constitutes a veritable water tower for the entire surrounding region.

AMBER MOUNTAIN (MNP)

LOCATION: Province of Antsiranana; Region of Diana; District Antsiranana II

CONSERVATION TARGETS: Dense evergreen rainforest, transitional forest, crater lakes

ECONOMIC VALUE: The national park ensures the fertility of the surrounding plains, and protects the watersheds in the lowlands (the area of irrigated land around the Montagne d'Ambre is about 70,000 ha).

It also provides water for agriculture and industry (JIRAMA, STAR, etc.), a source of income for communities (local labour, permanent or seasonal staff, ecotourism guides, etc.), mainly through ecotourism.

It is the main water reservoir of the city of Diego Suarez.

The Montagne d'Ambre National Park has many tourist attractions with the existence of the port of Diego Suarez which can accommodate large liners.

ANDOHAHELA (MNP)

LOCATION: Province of Toliara; Region of Anosy; Amboasary Atsimo and Taolagnaro Districts

CONSERVATION TARGETS: Lowland rainforest, midland rainforest, transitional forest, *Didiereaceae* and *Euphorbia* tall thicket

ECONOMIC VALUE: The park represents a water reservoir for the whole zones of Anosy, Androy and Atsimo Atsinanana: it covers the water needs of the surrounding populations as well as the irrigation of the crop fields of three vast agricultural production zones (Manampanihy valley, Amboasary basin and plains around Isaka).

ANALALAVA (MBG)

LOCATION: Province of Toamasina; Region of Atsinanana; District of Toamasina II

CONSERVATION TARGETS: Lowland dense moist forest, lemurs, endangered plants

ECONOMIC VALUE: The forest provides raw materials for handicrafts and basketry, which provide significant household income.

The forest is the source of several rivers that irrigate the lowland rice fields.

ANDRANOMENA (MNP)

LOCATION: Province of Toliara, Region of Menabe, District of Morondava

CONSERVATION TARGETS: Dense dry forest

ECONOMIC VALUE: Together with the Kirindy Mité National Park, the reserve is a regulator of the region's climate and a genetic reservoir of biodiversity.

ANJANAHARIBE-SUD (MNP)

LOCATION: Province of Antsiranana, Regions SAVA and Sofia, Districts of Andapa, Bealanana and Befandriana Nord

CONSERVATION TARGETS: Dense mid-altitude rainforest, *Indri indri*

ECONOMIC VALUE: The reserve acts as a hydrological source feeding the basins of the region, and as a protection of the hydrographic networks irrigating the large rice growing area of the Andapa basin. It also plays an important role in regulating the region's climate.

📍 **ANDRINGITRA (MNP)**

LOCATION: Province of Fianarantsoa; Regions of Haute Matsiatra and Ihorombe; Districts of Ambalavao and Ivohibe

CONSERVATION TARGETS: Lowland Dense Rainforest (650-800 m), Mountain Dense Sclerophyllous Forest (1800-2000 m), *Eulemur cinereiceps*, *Ravenea glauca*

ECONOMIC VALUE: The Andringitra National Park is home to numerous water sources that irrigate the plains of the Ihorombe Plateau into southern Madagascar. It hides numerous waterfalls and cascades, sacred caves and natural pools.

📍 **ANKARAFANTSIKA (MNP)**

LOCATION: Province of Mahajanga; Region of Boeny; District of Ambato Boeny and Marovoay

CONSERVATION TARGETS: Dense dry semi-caducified forest on sand, Swamp forests (Raphières; Frap), Permanent lakes, Diurnal lemurs (*Propithecus coquereli*, *Eulemur mongoz*), Nocturnal lemur (*Avahi occidentalis* *Lepilemur edwardsi*)

ECONOMIC VALUE: The park regulates the water cycle that irrigates the rice-growing plains of Marovoay, one of Madagascar's rice granaries, and the outlying areas as far as Soalala and Besalampy.

It is an accessible national park with many tourist attractions. It provides additional income opportunities for communities through ecotourism.

📍 **ANKARANA (MNP)**

LOCATION: Province of Antsiranana; Region of Diana; District of Ambilobe

CONSERVATION TARGETS: Dense Dry Forest, Canyons and Tsingy and its settlement.

ECONOMIC VALUE: Development, maintenance and biodiversity maintenance activities contribute to the income of the local population through the employment of local labour.

Ecotourism multiplies the number of promising sectors and sources of income for the population, and part of the entry fee to the PAs (DEAP) enables the local community to benefit from micro-projects and income-generating activities.

📍 **ANTREMA (MNHN)**

LOCATION: Province of Mahajanga; Region of Boeny; District of Mitsinjo

CONSERVATION TARGETS: Raphia areas, mangroves, dense dry semi-caducifolia forest, *Propithecus coronatus*, *Eulemur fulvus rufus*, *Eulemur mongoz*, *Microcebus murinus* and *Lepilemur edwardsi*

ECONOMIC VALUE: The PA provides the raw materials used locally for basketry which is the main income generating activity for women.

Marine fisheries are the main source of income for local people in this region.

📍 **BAIE DE BALLY (MNP)**

LOCATION: Province of Mahajanga; Region of Boeny; District Soalala

CONSERVATION TARGETS: Dense Dry Forests with integrated targets, *Astrochelys yniphora*, day lemurs

ECONOMIC VALUE: The park provides a reservoir of water for rice cultivation and a reservoir of fisheries resources that benefit the population as a source of income.

The raffia zone, which is subject to specifications (CUA), provides the raw materials for the population, whose products are sold as a source of income.

📍 **BEANKA (BCM)**

LOCATION : Province of Mahajanga; Region of Melaky; Districts of Maintirano and Morafenobe

CONSERVATION TARGETS: Dense dry deciduous forest, lowland and riparian forests, Lemurs, Birds, Reptiles and amphibians

ECONOMIC VALUE: The PA is a large water reservoir that supplies water to crop fields as far as the Great Plains of Maintirano.

The forests are essential for the villagers, providing them with various medicinal plants, but they also serve as a shelter for herds of zebu cattle in case of Dahalo attacks (large-scale banditry).

BEMARAHA (MNP)

LOCATION: Province of Mahajanga; Region of Melaky; Districts of Antsalova and Morafenobe

CONSERVATION TARGETS: dense dry forest on limestone plateau, Eulemur rufus, commercial reptiles (*Brookesia peramata* and *Uroplatus henkeli*), *Erymnochelis madagascariensis*

ECONOMIC VALUE: It is the most visited national park in the SAPM.

The Park acts as a water tower for all the downstream parts of the Bemaraha Plateau, including the Bemamba plain, which is one of the rice granaries of the region. It also contributes to the protection of traditional and cultural values of the Sakalava people through the presence of vazimba tombs in the Manambolo Gorge.

FRENCH MOUNTAIN (SAGE)

LOCATION: Province of Antsiranana; Region of Diana; District of Antsiranana II

CONSERVATION TARGETS: Dense dry forest, gallery forest, tsingy, cultural, traditional and historical values, *Adansonia suarezensis*, *Diegodendron humbertii*, threatened endemic mammals

ECONOMIC VALUE: MDF constitutes a water tower for the city of Antsiranana. Tourism activities in the PA are currently beginning to flourish with the construction of tourist circuits and camping sites within the PA. This is an opportunity for additional income for local people, some of whom are trained in tourist guiding techniques.

ISALO (MNP)

LOCATION: Province of Fianarantsoa and Toliara; Regions of Ihorombe and Atsimo Andrefana; District Ihosy

CONSERVATION TARGETS: Canyon rock forest, mid-altitude sclerophyllous forest, dense dry forest on alluvial soil, *Propithecus verreauxi*, *Scaphiophryne gottlebei*

ECONOMIC VALUE: The park is a significant revenue generator for MNP through ecotourism.

ITREMO (RBG-KEW)

LOCATION: Province of Fianarantsoa; Region of Amoron'i Mania; District of Ambatofinandrahana

CONSERVATION TARGETS: Rainforest, *tapia* and landy be forest, rock formation, terrestrial orchids, endemic birds (*Anas melleri*, *Aviceda madagascariensis* and *Accipiter madagascariensis*), *Mantella cowanii*, *Propithecus verreauxi*, useful plants

ECONOMIC VALUE: Source of the rivers that irrigate the rice fields in all the lowlands around the Ambatofinandrahana region.

IVOHIBE PEAK (MNP)

LOCATION: Province of Fianarantsoa, Region of Ihorombe, District of Ivohibe

CONSERVATION TARGETS: Dense low and medium altitude rainforest

ECONOMIC VALUE: The Special Reserve is a water condensation and catchment area, with some rivers having their sources here.

KIRINDY MITÉ (MNP)

LOCATION: Province of Toliara; Region of Menabe; Districts of Manja and Morondava

CONSERVATION TARGETS: dense dry forest (Kirindy-Mité and Andranomena), brackish coastal lakes, mangroves, coral reefs, marine turtles

ECONOMIC VALUE: Marine fishing is the main activity of the local population.

LOKY MANAMBATO (FANAMBY)

LOCATION: Province of Antsiranana; Region of Sava; District of Vohémar

CONSERVATION TARGETS: Dense dry sclerophyll forest, dense moist evergreen forests at high altitude, slopes and low altitude and semi-deciduous, mangroves, coastal forest, *Aspidostemon trichandra*, *Dalbergia gautieri*, *Combretum nusbaumei*, *Dyopsis ambanja*, *Dyopsis tokaravina*

ECONOMIC VALUE: Located in a region of high economic potential, the management of the Loky Manambato PA has been able to bring the benefits of cash crops to local people through the establishment of the Sahanala platform.

A fisheries center as also been built for marine fishing activities.

The economic spin-offs are very significant for the local economy, especially as the site is an undeniable tourist attraction.

📍 MAHAVAVY KINKONY COMPLEX – CMK (ASITY MADAGASCAR)

LOCATION: Province of Mahajanga; Region of Boeny; District of Mitsinjo

CONSERVATION TARGETS: Lakes, rivers and swamps, mangroves, dense dry forest, olive rail, endemic and threatened fish, waterbirds, bats

ECONOMIC VALUE: The mangrove is an area of economic importance in the CMK due to its productivity in shrimps, crabs and fish. The communities near the mouths (Ampitsopitsoka, Antsakoamanera, Andolomikopaka, Boeny Ampasy and Boeny-Aranta) live off the products of the sea and the mangroves.

The PA also provides drinking water to the population. The potential for handicrafts with raffia is significant. Development activities (income-generating activities/AGR, development of sectors, etc.), IEC and promotion of handicrafts have been implemented with local women's associations. The products of this handicraft are currently sold in the shops of Mahajanga.

📍 MAKIRA (WCS)

LOCATION: Provinces of Antsiranana, Mahajanga and Toamasina; Regions of Analanjirofo Sava and Sofia; Districts of Andapa, Antalaha, Befandriana Nord, Mandritsara and Maroantsetra

CONSERVATION TARGETS: Low and medium altitude dense rainforests, forest bridges, day lemurs and cathemerals

ECONOMIC VALUE: The park is a large water reservoir for the region : irrigation water for the cultivation areas and drinking water in the numerous water bodies.

📍 MANANARA-NORD (MNP)

LOCATION: Province of Toamasina; Region of Analanjirofo; District of Mananara-Nord

CONSERVATION TARGETS: Lowland rainforest, *Indri indri*, Coastal forest, Coral reefs

ECONOMIC VALUE: The National Park is a water reservoir for the region with about 30 springs.

📍 MANDROZO (TPF)

LOCATION: Province of Mahajanga; Region of Melaky; District of Maintirano

CONSERVATION TARGETS: Dense dry forest, Lake Mandrozo, teabony, *Phelsuma klemmeri*, lemurs, *Haliaeetus vociferoides*, *Amaurornis olivieri*, *Erymnochelys madagascariensis*

ECONOMIC VALUE: Lake Mandrozo attracts many fishermen, 75% of whom settle in the area only during the fishing season (7 months/year). Fishing contributes to generating significant household income. Annual fish production from the lake can reach 400 tonnes of fresh fish (2018-19)

The lake is a permanent source of water for agriculture.

📍 MANGOKY IHOTRY COMPLEX – CMI (ASITY)

LOCATION: Province of Toliara; Regions of Atsimo Andrefana and Menabe; Districts of Morombe and Manja

CONSERVATION TARGETS: Ihotry brackish lake, freshwater lakes and swamps, dense dry forest, mangroves, endemic threatened waterbirds, threatened diurnal lemurs, *Erymnochelys madagascariensis*, *Charadrius thoracicus*

ECONOMIC VALUE: Lake Ihotry and the mangroves constitute a reserve of halieutic resources for the riparians. The coastal and delta communities (Andranopasy, Antongo, Mangolovolo, Ambohibe) practice fishing as their main income generating activity.

The lakes also provide drinking water and groundwater replenishment.

The development of basketry from the exploitation of satrana (*Bismarkia* spp.), constitutes an additional income for the women.

📍 MANOMBO (MNP)

LOCATION: Province of Fianarantsoa; Region of Atsimo Atsinanana; District of Farafangana

CONSERVATION TARGETS: Lowland rainforest, Eastern coastal forest, *Varecia variegata editorium*, *Eulemur cinereiceps*

ECONOMIC VALUE: The PA serves as a regulator of the water cycle, with the streams that flow through the forest feeding 300 ha of rice fields. The PA also provides water for the town of Farafangana.

MANONGARIVO (MNP)

LOCATION: Province of Antsiranana, Regions of DIANA and Sofia, Districts of Ambanja and Analava

CONSERVATION TARGETS: Sambirano Dense Forest, Mid-altitude Dense Evergreen Forest, *Eulemur macaco*

ECONOMIC VALUE: RS Manongarivo is home to two large rivers, the Sambirano and the Andranomalaza, which flow into the Mozambique Channel, offering vast deltaic plains with high agricultural potential. It provides drinking water for the populations of the surrounding rural communes and irrigates crop fields estimated at around 100,000 ha. The protection of the soil and the downstream watersheds ensures the agricultural activities of the 3 major producing regions - Sambirano, Mahavavy and Sofia.

MAROEJY (MNP)

LOCATION: Province of Antsiranana; Region of SAVA; Districts of Andapa and Sambava

CONSERVATION TARGETS: Lowland Dense Forest, *Prophithecus candidus*

ECONOMIC VALUE: The park is a regulator of the water cycle irrigating the Andapa basin and the peripheral areas.

MAROTANDRANO (MNP)

LOCATION: Province of Toamasina; Regions of Alaotra Mangoro and Sofia; Districts of Andilamena and Mandritsara

CONSERVATION TARGETS: Dense rainforest, Diurnal lemur species

ECONOMIC VALUE: The Special Reserve of Marotandrano is a water tower where several rivers of the region have their sources.

MASOALA (MNP)

LOCATION: Provinces of Antsiranana and Toamasina; Regions of Analanjirofo and SAVA; Districts of Antalaha and Maroantsetra

CONSERVATION TARGETS: Lowland rainforest, midland rainforest, highland rainforest, coastal forest, rare palms, coral reefs, marine turtles, day lemurs

ECONOMIC VALUE: Protection of the hydrographic networks and source of water supplying the region's basins and part of the Andapa basin (rice granary of the region).

MAROMIZAHA (GERP)

LOCATION: Province of Toamasina; Region of Alaotra-Mangoro; District of Moramanga

CONSERVATION TARGETS: Dense humid mid-altitude forest, lemurs, Pandanus, bat cave, orchids, precious woods, *Cyathea*

ECONOMIC VALUE: Located on the edge of the RN2, near the parks of Andasibe and Analamazaotra, the Reserve of Maromizaha presents the same tourist attractions. It remains however to promote these attractions and the tourist infrastructures inside the Reserve (circuits and camping sites).

The Maromizaha Reserve has been the subject of several national and international reports.

The beekeeping sector has started to grow since 2017, as well as fish farming, whose products are sold on the markets of Moramanga and Antananarivo.

The collection of medicinal plants also contributes significantly to household income.

MIKEA (MNP)

LOCATION: Province of Toliara; Region of Atsimo Andrefana; Districts of Morombe and Toliara II

CONSERVATION TARGETS: Dense dry forest in the west, thickets on sand and limestone, heavily exploited plants, endemic local fauna hunted, day and night lemurs

ECONOMIC VALUE: Hydrological source feeding part of the region's basins and protection of the hydrographic networks irrigating the peripheral zone of Mikea.

NAMOROKA (MNP)

LOCATION: Province of Mahajanga, Region of Boeny, District of Soalala

CONSERVATION TARGETS: Dense dry deciduous forest on limestone plateau, day lemurs

ECONOMIC VALUE: The park constitutes a water reservoir that feeds the Kapiloza and Mandevy rivers, which supply water to the plains between the three existing communes in Soalala District (Soalala, Andranomavo and Ambohipaky) and which flow into the Mozambique Channel. The disappearance of the Park would deprive the Soalala District of its hydrographic network, which would render it arid and without economic interest.

NOSY MANGABE (MNP)

LOCATION: Province of Toamasina, Region of Analanjirofo, District of Maroantsetra

CONSERVATION TARGETS: Lowland evergreen rainforest, day lemurs, bats

ECONOMIC VALUE: The park is a major tourist attraction in the region, contributing to the development of ecotourism.

ORONJIA (MBG)

LOCATION: Province of Antsiranana; Region of Diana; District of Antsiranana II

CONSERVATION TARGETS: Dry forest, historical relics, Endangered endemic flora, lemurs, *Dioscorea orangeana*

ECONOMIC VALUE: The forest maintains the water sources that provide water to the villages along the river (for domestic needs)

As part of the Orangea Complex, the Oronjia landscape has great potential for ecotourism and even beach tourism.

RANOMAFANA (MNP)

LOCATION: Province of Fianarantsoa; Regions of Haute Matsiatra and Vatovavy Fitovinany; Ambohimahaso, Districts of Fianarantsoa II and Ifanadiana

CONSERVATION TARGETS: Dense mid-altitude rainforest, dense low-altitude rainforest, bamboo forest, swampy areas, *Varecia variegata*, *Hapalemur aureus*, *Hapalemur griseus*, *Anas milleri*, *Sarothrura watersii*, *Pandanus sp*, *Limnogale mergulus*

ECONOMIC VALUE: It is one of the most visited national parks by tourists in the network of PAs managed by MNP. This provides an income opportunity for households through guiding, sales of handicrafts or agricultural products, hotels and restaurants, etc. For years, the spa has attracted both nationals and foreign visitors.

The rivers provide a source of drinking water and irrigation for the rice fields of the riverside communities.

The Park shelters and protects the Namorona River water reservoir which is essential for the proper functioning of the JIRAMA hydroelectric plant.

SAHAMALAZA (MNP)

LOCATION: Province of Mahajanga; Region of Sofia; Districts of Ambanja and Analalava

CONSERVATION TARGETS: Lowland dense dry forest, Mangrove, Coral reefs, *Eulemur flavifrons*, *Threskiornis bernieri*

ECONOMIC VALUE: Economic value : The park is a water tower for the rice cultivation of the large plains of this region of Sofia.

The existence of fishery resources such as crabs, fish, shrimps, sea cucumbers, etc. constitutes a potential source of income for the population in addition to consumption.

Opportunity for additional source of income through ecotourism.

SOUTHERN MIDONGY (MNP)

LOCATION: Province of Fianarantsoa; Regions of Atsimo Atsinanana and Ihorombe; Districts of Befotaka, Iakora, Midongy Atsimo and Vangaindrano

CONSERVATION TARGETS: Lowland dense moist evergreen Forest and Highland dense moist Evergreen Forest, Diurnal Lemurs and *Anas melleri*

ECONOMIC VALUE: Many rivers have their source in the South Midongy National Park. It is a real water tower for the whole surrounding region.

TSARATANANA (MNP)

LOCATION: Province of Antsiranana; Regions of Diana, Sava and Sofia; Districts of Ambanja, Ambilobe and Bealanana

CONSERVATION TARGETS: Dense Moist Forest, Diurnal lemur species

ECONOMIC VALUE: The Tsaratanàna Integral Nature Reserve shelters the springs of the most important rivers of the region, thus ensuring the drinking water needs of the populations of the surrounding rural communes and irrigating more than 300,000 ha of cultivated fields. The protection of the soil and the downstream watersheds ensures the agricultural activities of the 3 main producing regions, the Sambirano, the Mahavavy and the Sofia.

TSIMANAMPETSOTSE (MNP)

LOCATION: Province of Toliara; Regions of Atsimo Andrefana; Districts of Ampanihy and Betioky Atsimo

CONSERVATION TARGETS: Xerophilous thicket, Lake Tsimanampetsotse, *Astrochelys radiata*

ECONOMIC VALUE: It is a tourist site for the discovery of nature and especially the culture of the region (Mahafaly). However, the number of visitors is not yet significant.

TSIMEMBO-MANAMBOLOMATY (TPF)

LOCATION: Province of Mahajanga; Region of Melaky; Antsalova, Districts of Maintirano and Morafenobe

CONSERVATION TARGETS: Dry deciduous forest on sand, mangrove, lakes, loadrano, lemurs, ankoay, *Anas bernieri* and waterbirds, *Erymnochelys madagascariensis*

ECONOMIC VALUE: The lakes supply groundwater for wells and thus ensure a qualitative and quantitative water supply for the population.

The lakes are also fishing grounds, the products of which are intended for consumption and sale and constitute a source of household income.

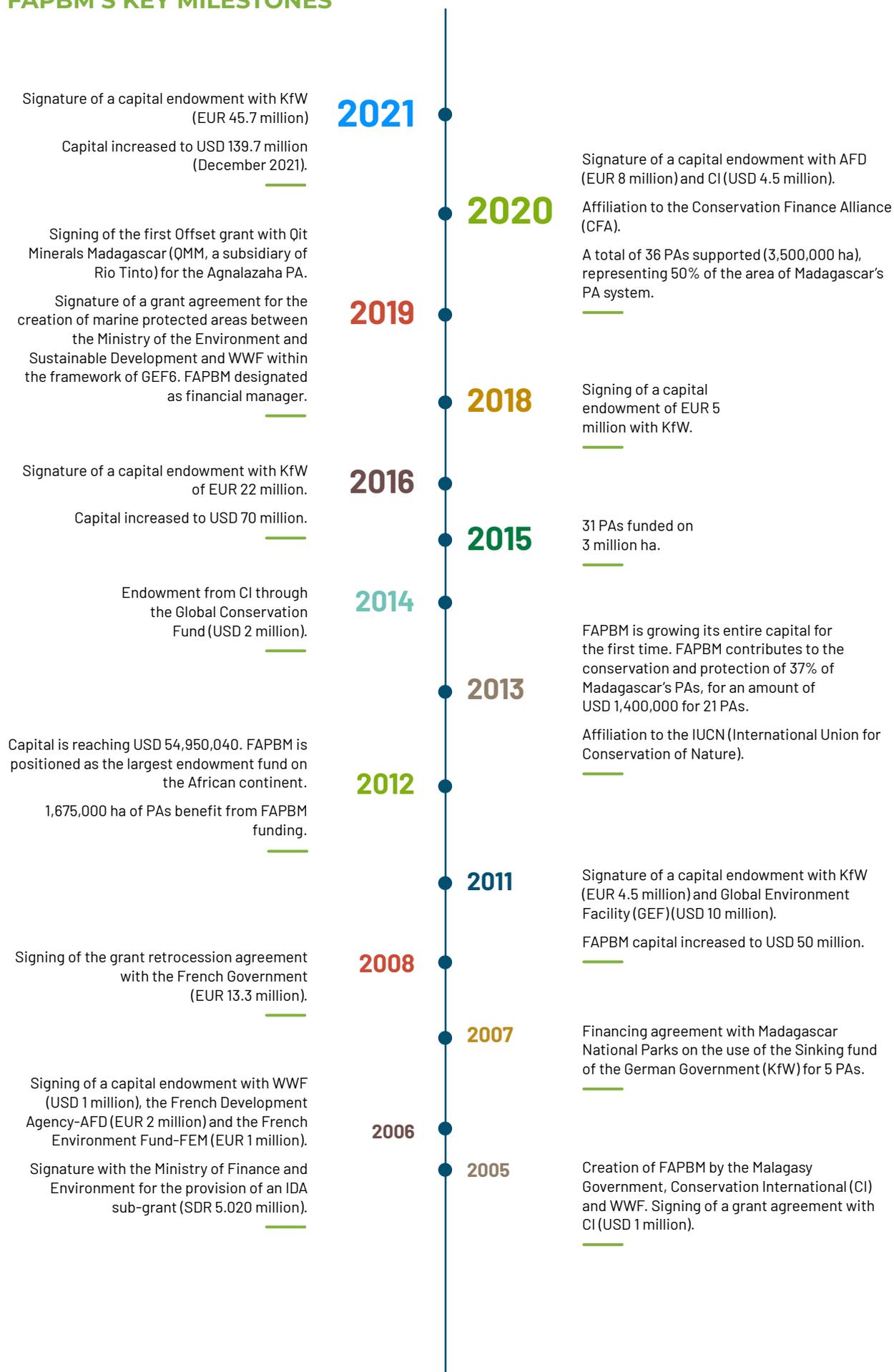
ZAHAMENA (MNP)

LOCATION: Province of Toamasina; Regions of Analanjirifo, Alaotra-Mangoro and Atsinanana; Ambatondrazaka, Districts of Toamasina II and Vavatenina

CONSERVATION TARGETS: Low, Medium and High Altitude Dense Moist Forest

ECONOMIC VALUE: The national park ensures the protection and water supply of the hydrographic networks that drain the large valleys of the Alaotra and the plains around Toamasina.

APPENDIX 3. FAPBM'S KEY MILESTONES



ACRONYMS

AWP	Annual Work Plan
BCM	Biodiversity Conservation Madagascar
CAFE	Consortium of African Environmental Funds
CBD	Convention on Biological Diversity
CI	Conservation International
CLP	Local Park Committees
CMI	Mangoky Ihotry Complex
CMK	Mahavavy Kinkony Complex
COP	Conference of Parties
COSAP	Steering and Support Committees
CR	Critically endangered
CUMA	Market gardening
DU	Distribution unit
EN	Endangered
ESG	Environmental, Social and Governance
FAR NAP	Support Fund for the Strengthening of NPAs
FIS	Special Intervention Fund
GEF	Global Environment Facility
GERP	Primate Study and Research Group
HY	High Yield
IBI	Index of biological integrity of PAs
IEC	Information, education, and communication
IEG	Management Efficiency Index
IG	Investment Grade
IGA	Income-Generating Activities
IMEC	Impact Mitigation and Ecological Compensation
IUCN	International Union for Conservation of Nature
KFW	Kreditanstalt für Wiederaufbau (German Development Bank)
KPIs	Key Performance Indicator
LMMA	Locally Managed Marine Area
MBG	Missouri Botanical Garden
MDF	Montagne des Français
METT	Monitoring and Evaluation Tracking Tools
MU	Management Unit
MNHN	National Museum of Natural History
MNP	Madagascar National Parks
MPA	Marine Protected Area
NCG	National Coordination Group
NPA	New Protected Areas
QMM	Qit Mineral Madagascar - Rio Tinto
QH	Quality Hectare
PA	Protected Area
PAG	Development and Management Plan
PGESS	Environmental Management and Social Safeguarding Plan
RBG	Royal Botanical Gardens
REDD	Reducing Emissions from Deforestation and Forest Degradation
REDLAC	Latin American Environmental Funds Network
SAPM	Madagascar's Protected Area System
SAGE	Environmental Management Support Service
SRI	Socially Responsible Investment
TPF	The Peregrine Fund
VC	Value Chain
VU	Vulnerable





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+261 20 22 605 13



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