BIODIVERSITY 30X30
MADAGASCAR
POUR LA NATURE ET LES COMMUNAUTÉS

# MADAGASCAR

## 30x30 Biodiversity National Plan

SEPTEMBER 2025

CAUTION: The information contained in this file is confidential, preliminary, and pre-decisional. All cost estimates are preliminary, confidential, and subject to change.

# Content

# Madagascar's biodiversity places the country at the forefront on the global stage…

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**5%**

**of the world's biodiversity**, for only 0.4% of the Earth's land cover

**~80%**

**of the fauna and flora** is found nowhere else on Earth

**>7M**

**hectares of intact forests** remaining

**~240K**

hectares of coral, including ~380 species and constituting the **2nd coral biodiversity hotspot in the world**

Source: Re wild, FAPBM, BGCI, Strategie Nationale de Gestion Integree de Mangroves, Madagascar's coral

# ... And contributes to national development, directly affecting the living conditions of communities

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

## Protecting forests secures food

**>85%**

**of the population depend on agriculture for their livelihoods**

Healthy forests protect soils, retain water, and safeguard harvests — showing how conserving ecosystems directly secures food and income

## Sustaining fisheries supports livelihoods

**>1.5M**

**people rely on fisheries**

Sustainable practices and the protection of coral reefs and mangroves ensure fish stocks remain abundant — linking marine conservation to nutrition, jobs, and community resilience

## Preserving biodiversity drives tourism

**$170M**

**in ecotourism revenues driven by lemurs and other endemic species**

Conserving biodiversity is at the heart of Madagascar's global appeal, sustaining jobs and bringing direct income to local communities

## Restoring mangroves strengthens resilience

**~150K**

**people displaced in 2022 by cyclones**

Mangroves and coastal ecosystems act as natural storm barriers, reducing risks and protecting vulnerable households

Source: WDPA, IBAT, MPEB, interviews, Madagascar: cyclone exposure and vulnerabilities – ACAPS, FAPBM economic contribution report

# Building on past efforts, the Biodiversity 30x30 Program marks a NEW WAVE positioning biodiversity at the heart of Madagascar's prosperity

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

### CREATION OF MNP AND GELOSE LAW

Establishing the foundations for managing protected areas and transferring resource management to communities

### DURBAN VISION AND SYDNEY PROMISE

Leading to >120 PAs on ~11% of Madagascar's territory through a collaboration between MNP and NGOs, and 4 MPAs being established

### CREATION OF FAPBM

First CTF in Africa, securing a sustainable financing model for Madagascar's PAs

### CREATION OF MIHARI AND TAFO MIHAAVO

Forming national community networks dedicated to conservation and development

## BIODIVERSITY PROGRAM 30X30

Setting the foundation for the national model of community-based resource management and defining a new ambition for ecosystem protection

Source: WDPA, IBAT, MPEB, interviews, Madagascar: cyclone exposure and vulnerabilities – ACAPS, FAPBM economic contribution report

# Madagascar faces challenges, but opportunities exist towards achieving the GBF 30x30 goal

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

Challenges | Opportunities

| Terrestrial ecosystems | Marine ecosystems | Conservation financing |
|---|---|---|
| **Half of the forests have disappeared over the past 50 years,** with increasing forest fragmentation in all regions | **The 1.2 M ha of critical marine habitats** in Madagascar, including mangroves, coral reefs, and seagrass beds, are under pressure from overfishing, maritime routes, sedimentation, and pollution | Madagascar allocates a conservation budget in line with the African average, but its **spending per hectare is lower than that of its peers**, which limits the effectiveness of conservation efforts |
| **A lack of sustainable livelihoods is the primary cause of deforestation**, with over 80% caused by slash-and-burn agriculture and fuel extraction | MPAs cover 0.6% of Madagascar's marine area, and **19% of marine KBAs are protected** by MPAs. Most critical habitats, such as seagrass beds, lack adequate protection | **The financing of conservation in Madagascar largely depends on foreign public donors**, with, for example, more than $150M allocated to the FAPBM |
| Protected areas cover 10.8% of Madagascar's land, **protecting 57% of key biodiversity areas** - an additional 7.3% of the land is proposed for protection | **LMMAs are the dominant form of management** of marine resources in Madagascar, providing an **effective basefor community conservation** and sustainable use of marine resources | **Madagascar attracts twice as much foreign public funding** per hectare as the African average, demonstrating strong international interest in supporting its conservation efforts |
| **Deforestation still occurs in protected areas**, although protection clearly reduces the risk of forest loss. Tropical rainforests have the highest level of protection, highlighting targeted conservation efforts in critical ecosystems | Commercial maritime transport activities are the lowest in MPAs, indicating **effective management and implementation of conservation efforts** | **Madagascar leads Africa in private direct funding for conservation** – 50% above the continental average – highlighting its ability to attract donors |

PRELIMINARY VERSION DATED
SEPTEMBER 16, 2025

# MULTISECTORAL MOBILIZATION

at all levels is essential to realize this vision that affects all of us

## SCIENTIFIC RESEARCH

re:wild

CNRE – Un environnement sain pour un développement durable

## PRIVATE SECTOR

BÔNDY

MIARAKAP – Partenaire d'IIP

ALTERRA

## DONORS

KFW

AFD – Agence Française de Développement

THE WORLD BANK

## CIVIL SOCIETY

TAFO MIHAAVO

Alliance Voahary Gasy

MIHARI – Gestion Locale des Ressources Marines - Réseau Madagascar

## GOVERNMENT

Ministère de l'Environnement et du Développement Durable

MEDAT – Ministère de la Décentralisation et de l'Aménagement du Territoire

Ministère de l'Économie et des Finances – MEF

Ministère Tourisme Artisanat Madagascar

MPEB

## CONSERVATION NGO

FAPBM

Conservation International

FANAMBY – Défis - Challenges

Madagascar National Parks

WWF

WCS

Rainforest Trust

blue ventures – beyond conservation

# Content

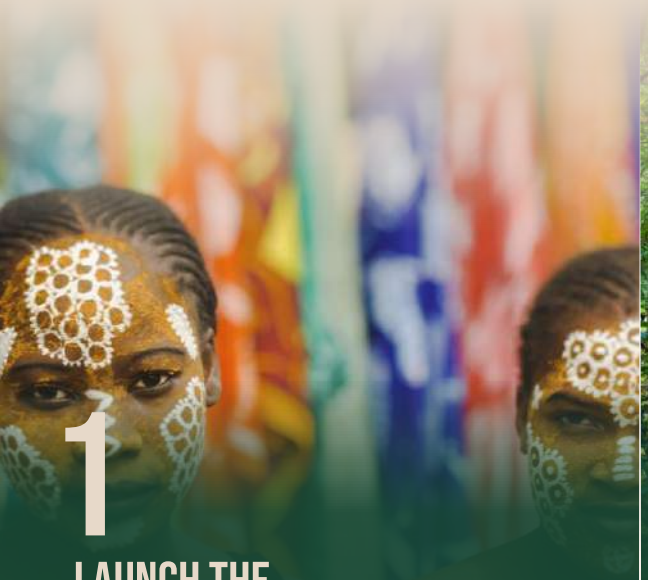
Context

**30x30 initiatives**

Governance

# 4 themes for Madagascar's National Biodiversity Conservation Plan

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025



## 1 LAUNCH THE MADAGASCAR THRIVING COMMUNITIES' MODEL

**>3M**

people with sustainable livelihoods in rural and coastal areas

## 2 ENSURE A SUSTAINABLE FUTURE FOR IMPORTANT TERRESTRIAL ECOSYSTEMS

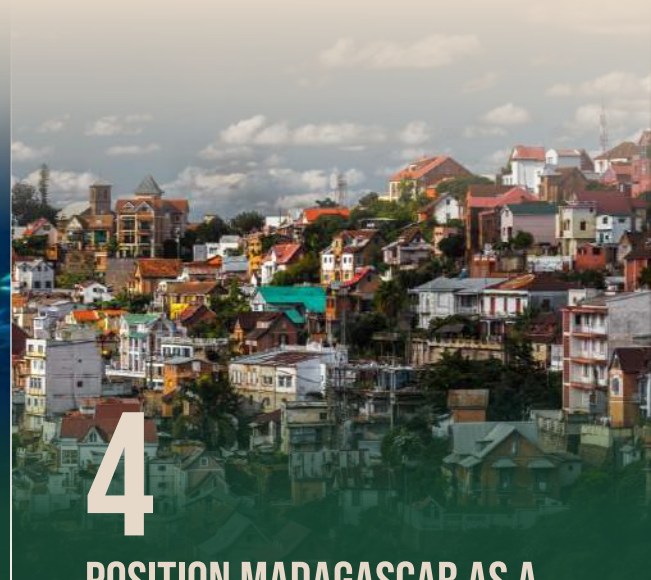
**~18MHA**

of terrestrial areas with high biodiversity placed under priority protection

## 3 ENSURE A SUSTAINABLE FUTURE FOR IMPORTANT MARINE ECOSYSTEMS

**~40MHA**

of critical marine ecosystems preserved and restored

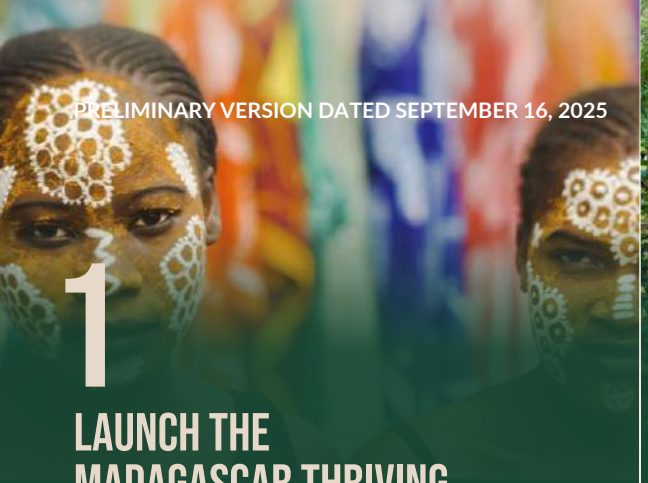


## 4 POSITION MADAGASCAR AS A KEY DESTINATION FOR BIODIVERSITY FINANCING

**$150-220M**

mobilized annually for conservation financing

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025



# 1

## LAUNCH THE MADAGASCAR THRIVING COMMUNITIES' MODEL

**>3M**

people with sustainable livelihoods in rural and coastal areas

Establish a **support network** for communities for **conservation and restoration activities**, backed by a **dedicated fund**

Simplify access and management of TGRNR/TGRH through **digitalized processes** and strengthened **institutional coordination**

Promote income-generating activities, particularly through **value chains with the private sector**, supported by mixed and sustainable financing

# 2

## ENSURE A SUSTAINABLE FUTURE FOR IMPORTANT TERRESTRIAL ECOSYSTEMS

**~18MHA**

of terrestrial areas with high biodiversity placed under priority protection

Classify ~2Mha of **temporary PAs** and manage ~6Mha of **KBAs and intact forests**

Strengthen **law enforcement** with over 5,000 rangers and more than 200 OPJs

Deploy **monitoring technologies**

Secure the **boundaries** of PAs

Expand **co-management** with communities

Strengthen the **network of local partners**

# 3

## ENSURE A SUSTAINABLE FUTURE FOR IMPORTANT MARINE ECOSYSTEMS

**~40MHA**

of critical marine ecosystems preserved and restored

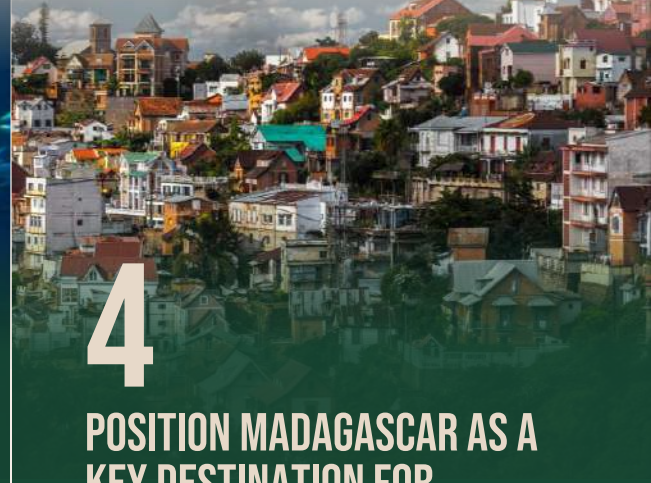
Ensure the protection of >2Mha of **key coastal marine ecosystems**

Sustainably manage ~24Mha of **marine mammal migration routes**

Preserve ~9Mha of the **Northern Mozambique Channel** through regional cooperation

Deploy **smart management** of MPAs (e.g., satellites, sonar, patrols)

Restore ~70k ha of **mangroves**



# 4

## POSITION MADAGASCAR AS A KEY DESTINATION FOR BIODIVERSITY FINANCING

**$150-220M**

mobilized annually for conservation financing

Deploy **carbon credit** programs

Negotiate **debt-for-nature swaps**

Launch the **Lemur bond** and other green bonds

Develop **PES schemes**

Mobilize **public and private financing,** e.g., blended finance, CSR, and environmental taxes

Expand the **endowment funds** FAPBM and Tany Meva

Develop Madagascar as a high-end **ecotourism** destination

# Several horizons will guide the implementation of the National Plan, ensuring MAXIMUM IMPACT

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## CONSOLIDATE THE FOUNDATIONS

2026-2027

**~5 MHA**
managed by communities (~**1500 TGRNR and ~200 LMMAs** existing)

**~4 MHA**
of temporary PAs or PAs under creation finalized

**+~2 MHA**
of additional terrestrial PAs

## EXPAND TO PRIORITY FRONTS

2028

**+1 MHA**
managed by communities (~**100 TGRNs and ~80 LMMAs** additional)

**+~2 MHA**
of terrestrial PAs and OECMs

**+9 MHA**
of the Northern Mozambique Channel within Madagascar's EEZ

## ACHIEVE THE FULL AMBITION

2029

**+3 MHA**
(total **>9 Mha**) managed by communities (**+150 TGRN and +200 LMMAs**)

**+2 MHA**
(total **>14 Mha**) of terrestrial PAs and OECMs covering new KBAs and intact forests

**+24 MHA**
(total **>35 Mha** protected) of migratory corridors in the South and North Caps

# The Plan aims to generate transformational impacts both on BIODIVERSITY and on the SOCIO-ECONOMIC LEVEL

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**>3M**

Rural and coastal people with improved livelihoods

**$1.3B**

Additional GDP generated by 2030, including $400M from ecotourism

**>$600M**

Direct investments in the country

**18MHA (30%)**

Sustainably managed land (PA, TGRNR, or OECM) starting from 6.4 Mha)

**40MHA (33%)**

Sustainably managed EEZ (MPA, LMMA, or offshore), starting from 0.7 Mha

**+1 MHA**

Reforested in degraded areas within PAs

**3X**

Endemic species benefiting from sufficient protection

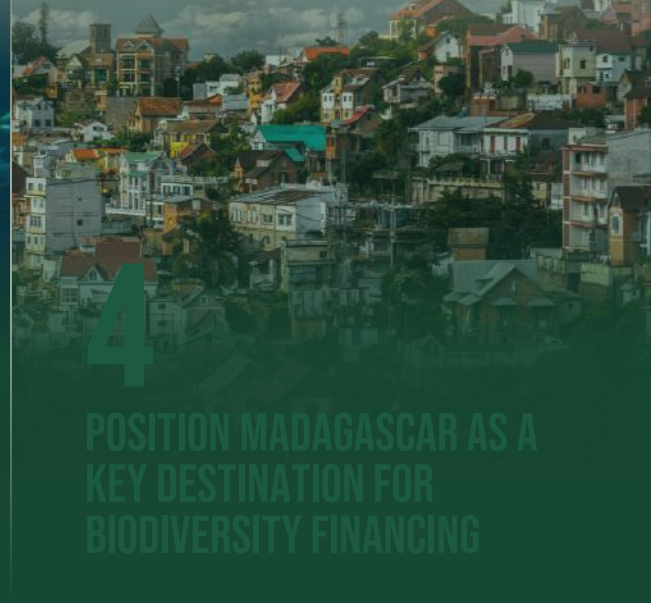

**>5 $MTCO_2$/YR**

Avoided emissions/ carbon sequestered through protection and restoration

# 1 LAUNCH THE MADAGASCAR THRIVING COMMUNITIES' MODEL

## 2 ENSURE A SUSTAINABLE FUTURE FOR IMPORTANT TERRESTRIAL ECOSYSTEMS

## 3 ENSURE A SUSTAINABLE FUTURE FOR IMPORTANT MARINE ECOSYSTEMS



## 4 POSITION MADAGASCAR AS A KEY DESTINATION FOR BIODIVERSITY FINANCING

**>3M**

people with sustainable livelihoods in rural and coastal areas

Establish a **support network** for communities for **conservation and restoration activities**, backed by a **dedicated fund**

Simplify access and management of TGRNR/TGRH through **digitalized processes** and strengthened **institutional coordination**

Promote income-generating activities, particularly through **value chains with the private sector**, supported by mixed and sustainable financing

# 1 | Deploy the Madagascar thriving communities' model

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

Promote the emergence of **>3,500 thriving communities in areas of high terrestrial and marine biodiversity** , enabling **sustainable management of their natural capital** and better **integration into value chains**, improving livelihoods for **>3M people**

**Simplify and facilitate access to and management of TGRNR / TGRH** thanks to

- The development of a digital platform and process simplification to facilitate and accelerate **obtaining and renewing contracts**
- The improvement of transfer management terms for a **better community ownership** and safeguarding of rights

**Establish an integrated support network for conservation and restoration activities**

- Ensure access to funding through **a shared dedicated fund** between FAPBM and Tany Meva, alongside PES mechanisms and carbon micro-credits
- Mobilize and strengthen **support partners**
- Strengthen the **governmental capacity** and **community networks** Mihari and Tafo Mihaavo

**Promoting the economic development of communities by strengthening value chains,** through

- A **field presence and capacity building** by support partners and the private sector
- An **aggregation for international sales**
- Attractive **financing mechanisms** including blended finance and microfinance supported by guarantee funds

**Expand the model to >3,500 thriving communities** through

- Gradual expansion based on priority and **the willingness of communities**, up to >3,000 communities around the PAs and ~500 LMMAs
- Financial **support for the creation** of thriving communities through a sinking fund managed by Tany Meva and FAPBM

**Mobilize $260-375M over 4 years for sustainable resource management by communities**

Source: co-design workshop, interviews

# 1 | Securing sustainable livelihoods for communities in and around areas with high biodiversity is a top priority

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

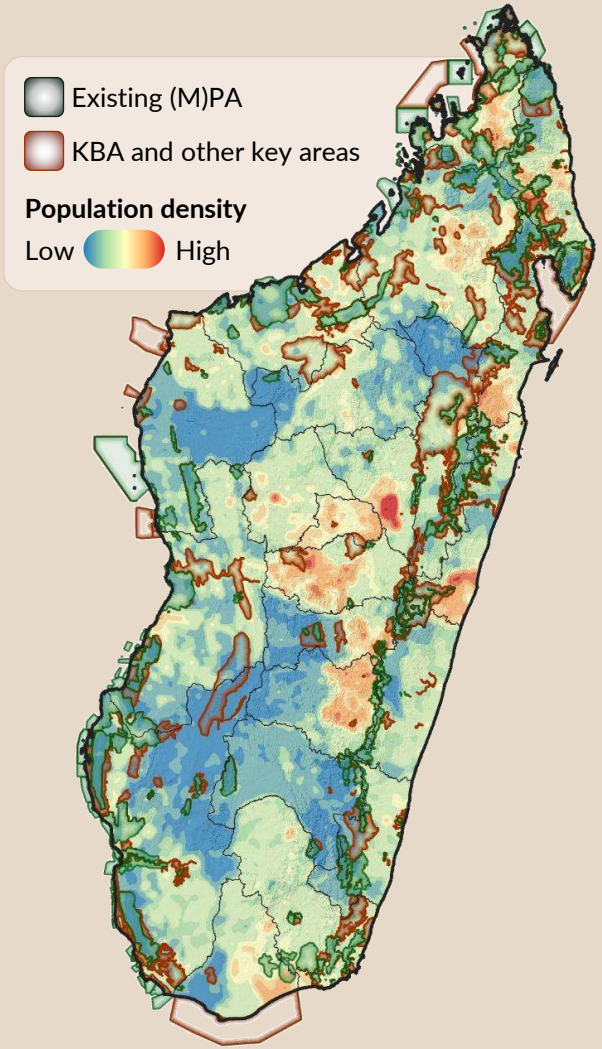
## ~3,500

Communities around areas with high biodiversity including

**~3,000 terrestrial communities** and

**~500 coastal communities**, covering

**~10MHA** for potential **community management**




## COMMUNITIES ARE EMPOWERED TO SUSTAINABLY MANAGE THEIR NATURAL RESOURCES THROUGH MANAGEMENT TRANSFERS

The TGRNR and TGRH

### PROVIDE

a legal framework for communities to organize exploitation, protect ecosystems, and monitor their status

### STRENGTHEN

local ownership and promote conservation

# 1 | The "THRIVING COMMUNITIES" of Madagascar model enables sustainable biodiversity management and development

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

***Provides funding*** *(directly or via NGOs) for conservation activities (patrols, monitoring) with a joint fund*

***Digital platform*** *for submission and evaluation of contracts*

***Validates and renews*** *management contracts through a central digital platform*

**MEDD / MPEB**
**DREDD / DRPEB**
**Involvement of MINAE and municipalities**

**PES / micro carbon credits**

***Alternative mechanisms*** *for conservation, e.g., via FAPBM or jREDD*

**Communities under TGRNR/TGRH**

TAFO MIHAAVO MIHARI

***Coordinates partner activities*** *and ensures knowledge sharing*

***Finances entrepreneurs*** *at low rates*

***Provides technical support*** *for conservation activities*

***Buys products, provides technical/material support*** *to improve production capacity, and offers CSR support*

***Supports the structuring of producers*** *and collaborates with other development partners*

**Microfinance + guarantee funds**

**Support Partner / (M)PA Manager**

***Collaborate*** *for conservation activities*

Aggregation

**Blended finance**

***Provides attractive financing*** *(e.g., green bonds, development bank grants) to reduce investment risks*

**Private Sector**

***Engage****, identify needs, collaborate to resolve them*

# 1 | A member of the "THRIVING COMMUNITIES" of Madagascar will benefit from all necessary support to thrive in harmony with nature

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Legal rights

The member's **conservation efforts are recognized** and the **management contract obtained and renewed** seamlessly thanks to the digital monitoring platform

## Micro finance

The member can **access low-rate financing to grow his activity** (e.g., buy a new type of seeds of fishing gear) because of his participation in a thriving community

## Thriving community member

**Empowered to thrive and help nature thrive** thanks to an enabling ecosystem

## Biodiversity management

The member is **empowered to protect the nature he depends on** through on-the-ground partner support and dedicated financing

## Access to global markets

The member can **sell his products** (e.g., vanilla, octopus) **internationally** through aggregator support and partnerships with sustainable global buyers

# 1 | The success of the model relies on meeting 5 essential conditions for its deployment

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025


## Strengthening management transfers

Development of a **digital platform**

**Simplification and acceleration of the** application and renewal process

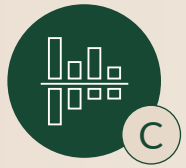
**Improvement of transfer management terms** (e.g., contract durations) for better rights protection


## Consolidation of support networks

Strengthening government capacity, including >70 staff members in Regional Directorates

Strengthening and mobilizing **support partners** for **management** and a **nature-positive production**

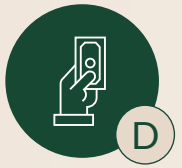
Strengthening **community networks** Tafo Mihaavo and Mihari




## Private sector engagement

Establishment of **aggregators for the sale of products** to sustainable buyers

Implementation of **partnerships with private sector players** seeking sustainable products and ready to enter into a **long-term collaboration** with communities




## Launch of dedicated funds

Endowment and amortization funds for **financing community management**

**Blended finance instruments** to encourage private sector participation

**Guarantee funds** for microfinance institutions

Mechanisms for **PES and carbon microcredits**


## Incentive Model

Design an **incentive system** linking efficient resource management to the support model, including renewal of TGRNR / TGRH, access to financing, product purchasing, etc.

# 1A | Madagascar currently has 1570 TGRNR and ~100 TGRH, supporting community conservation and livelihoods

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**1570 TGRNR**

**3.4MHA**

**2.1M PEOPLE IN COMMUNITIES UNDER TGRNR**

## TGRNR Framework in Madagascar

**Legal contract** under GELOSE that transfers **partial rights and responsibilities for the management of renewable natural resources** (e.g., forests, wetlands) **from the state to communities**

- Contract **granted for 3 years, renewable** for 5 or 10 years
- **Anchored in simplified management plans** (PAGS) and local laws (Dina)

The TGRNR is implemented within PAs, around PAs (buffer zones/green belts), and outside PAs (key landscapes for biodiversity and resource use)

## TGRH framework in Madagascar

**Legal contract** under the Fisheries Code that transfers **partial rights and responsibilities for the management of aquatic and fishery resources** (e.g., fisheries) **from the State to communities**

- Contract **granted for 2 years, renewable**
- **Anchored in simplified management plans** (PAGS) and local laws (Dina)

**>200 LMMAS INCLUDING~100 TGRH**

**1.8MHA**

**~400K PEOPLE IN LMMAS**

Source: MEDD – DAPRNE, Interviews

# 1A | Application and evaluation of TGRNR / TGRH will be facilitated through a centralized platform leveraging remote sensing

ILLUSTRATIVE PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

DETAILS ON THE PLATFORM TO FOLLOW

The community wishes to engage in conservation and **applies on the platform** (with the support of a partner)

The platform receives the request and **creates initial zoning based on satellite data.** The TGRNR / TGRH is under review and receives an **identification number**

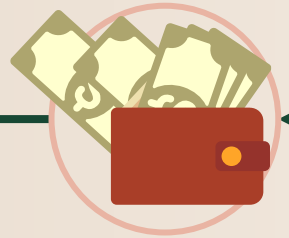
The association/NGO requests funding from the **pooled fund**, and the partner NGO receives the initial setup costs (~$20k)

The community/ NGO/ DREDD/ DPREB conducts the **data collection** (**GPS boundaries via phone**, **management plan through an AI agent**) and uploads them to the platform

MPEB/DREDD staff review and **validate the TGRNR/TGRH** on the platform

The partner association or NGO applies again for **funding from the common fund** and receives **conservation funding for 6 months** (~$20-40k)

**The TGRNR / TGRH team of the Ministries** and **the common fund financing team** monitor the TGRNR / TGRH on the platform and **receive alerts** in case of any issues



If an improvement / no degradation is observed, the **next funding tranches are released** to the association or supporting partner until the renewal period

As the renewal approaches, DREDD / DRPEB receives an alert with the status of the TGRNR / TGRH based on **satellite data**

The associated partner and/or NGO receives an alert with **additional data to submit**

**Renewal granted** if the status is positive

**In-person visit** if the status is concerning

# 1A | Additional details: The platform will leverage available satellite data and will require ~$1M in investments

ILLUSTRATIVE PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Satellite data

- *Forest cover and mangroves*: NICFI Planet basemap
- *Coral reefs*: Allen Coral Atlas
- *Seagrass meadows*: Sentinel-2 / NICFI

## Communities / support partners / DREDD-DRPEB

- Application submission
- Collection and submission of GPS data for zone delineation

## IT team for maintenance and updates

- External developers (e.g., Technoserve)
- 2 project managers (1 MPEB / 1 MEDD)

## TGRNR / TGRH Platform

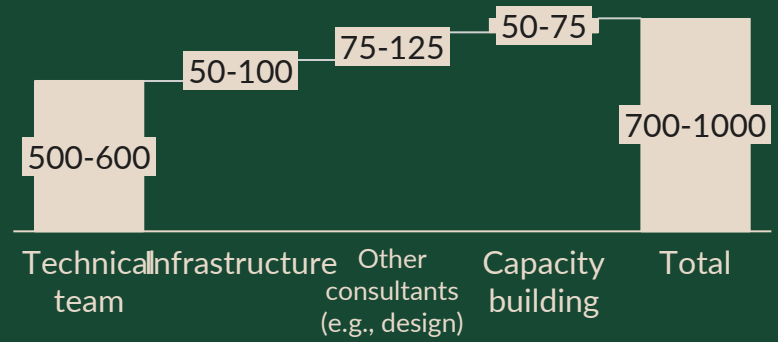
- **Initial zoning** for TGRNR / TGRH
- **Central database** for TGRNR / TGRH, incl. efficiency level **thanks to satellite data**, enabling
- Monitoring by Ministries
- Fund allocation
- **Identification of renewals** and **automatic renewal proposals** in case of proven efficiency from data
- **Alerts** in case of ecosystem loss

## MPEB / MEDD / DREDD / DRPEB

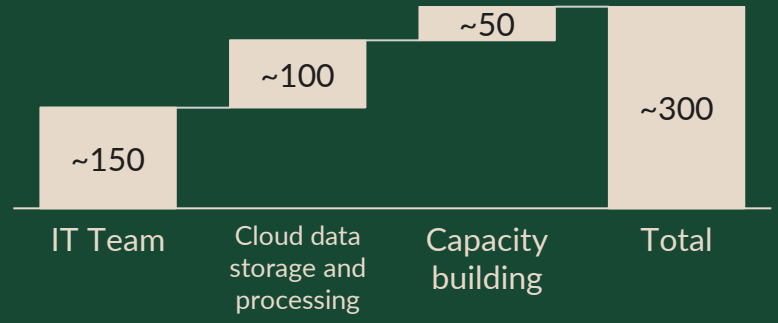
- Validation of TGRNR / TGRH on the platform, causing a release of funding
- Deployment of personnel on the ground if a need is reported by the platform

## Estimated investment costs, $k

*Development time* ~1.5 years




## Operating costs estimation, $k/year




Source: Interviews, LMMA workshop, TGRN workshop

# 1B | The strengthening of existing TGRNR / TGRH and their extension will be based on a tailored support model for communities

NON-EXHAUSTIVE PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Municipality

- **Signing** of the TGRNR / TGRH contract
- Implementation of the **dina**
- Mobilization for **combating pressures** including fires
- Registration in **municipal development plans**
- Monitoring **compliance with the contract**

## DREDD / MPEB and DRPEB

- Implementation, validation, and signing of **TGRNR / TGRH contracts** (obtaining and renewal)
- Monitoring and **evaluations**
- Application of the law and **control**
- **Capacity building** and operational support
- **Coordination** with other territorial and intersectoral actors

## Community networks

- *Sometimes Federations/Unions of VOI with a similar role*
- **Support for the TGRNR/TGRH process** (obtaining and renewal)
- **Technical and administrative support**
- **Coordination** of interventions by technical and financial partners
- Institutional support to orphaned TGRNR/TGRH
- **Advocacy**
- **Knowledge sharing**

## NGO / (M)PA partner

- Field presence
- **Technical support** for community management and AGR development
- Capacity building
- Support for the **TGRNR/TGRH process** (obtaining and renewal)
- Logistical and **financial support**
- Support for **advocacy**
- *If applicable: Coordination of TGRNR actions and accountability to DREDD*

**Close coordination needed between stakeholders with DREDD / the MPEB in the lead**

Source: Atelier TGRNR 21/08

# 1B | The role of the Ministries of Environment and Fisheries will be central

ILLUSTRATIVE PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

MEDD DREDD MPEB DRPEB

| Main activities | Involved entities | Needs and coverage |
|---|---|---|
|  **Validation of TGRNR / TGRH on the platform** | | • **Platform maintenance** – managed by a private partner (e.g., Technoserve)<br>• **Capacity building for usage** – managed by a private partner (e.g., Technoserve) |
|  **Monitoring of TGRNR / TGRH on the platform** | | |
|  **Field movements for evaluation of NRGT / HRGT and support in case of concern** | | • **Travel funding** – covered by the community funded by the national community endowment fund<br>• **Salaries** – funding paid directly to Ministries |

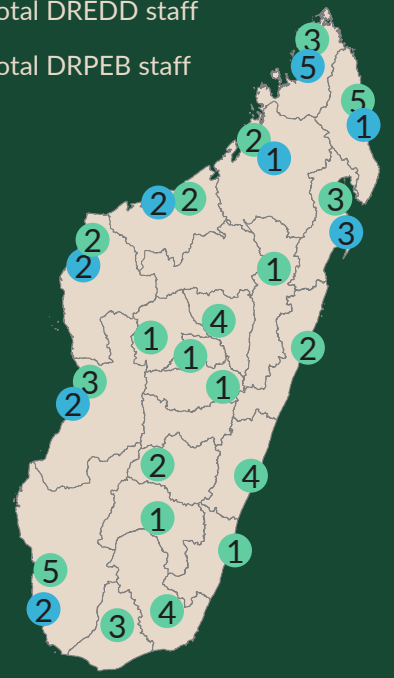
In the long term, the needs may be addressed **directly by the Ministries through a fund** financed by application fees, licenses in the areas, and fines

Source: Interviews, TGRNR workshop

## Strengthening of DREDD and DRPEB, # staff per region

~55 Total DREDD staff

~20 Total DRPEB staff




**~$700-800K**

Annual costs for strengthening DREDD

**~$200-300K**

Annual costs for strengthening DRPEB

# 1B | Strengthening the TAFO MIHAAVO network will enable effective support for TGRNR

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

TAFO MIHAAVO

### Technical support on the field

- Support communities in the **processes of creation and renewal** of TGRNR
- Provide **technical and administrative support** on an ongoing basis through regional technical secretaries, including for economic activities (AGR)

### Institutional recognition and advocacy

- Identify and prepare potential sites for an **OECM assessment**
- Conduct **advocacy** to strengthen the legal framework, including land tenure security for communities

### Coordination of partners

- Serve as a **coordination platform** for partners incl. DREDD, NGOs, etc.
- Facilitate the **mobilization of technical support** for sites not directly supported by TAFO MIHAAVO
- Support access to **financial partners**

### Capacity building and knowledge sharing

- Capitalize and disseminate **best practices**
- Organize training, **exchanges, and field visits**
- Structure and facilitate a network of community trainers and **train new trainers**

## Potential reinforcements for TAFO MIHAAVO

| | 2025 | 2030 |
|---|---|---|
| TGRNR made autonomous every 2 years | 200 | 400 |
| Headquarters Staff | 6 | 15 |
| Regional Technical Secretaries | 25-30 | 50-70 |

**~$400-500K** estimated annual costs

Source: TAFO MIHAAVO

# 1B | The Mihari network will be consolidated to focus on three central pillars for the LMMAs

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

MIHARI
Gestion Locale des Ressources Marines - Réseau Madagascar

## LMMA Recognition

Ensure the **monitoring of the HRD tools** and support communities in the **application/renewal processes**

Lead the **transition from LMMAs to OECMs** through:

The proposal of sites

Training adapted to criteria

Support for self-assessment

## Coordination of partners

Coordinate **partner interventions** at the regional level (e.g., for the dissemination of a specific tool)

Mobilize **partner support** for so-called orphan LMMAs and the expansion of LMMAs

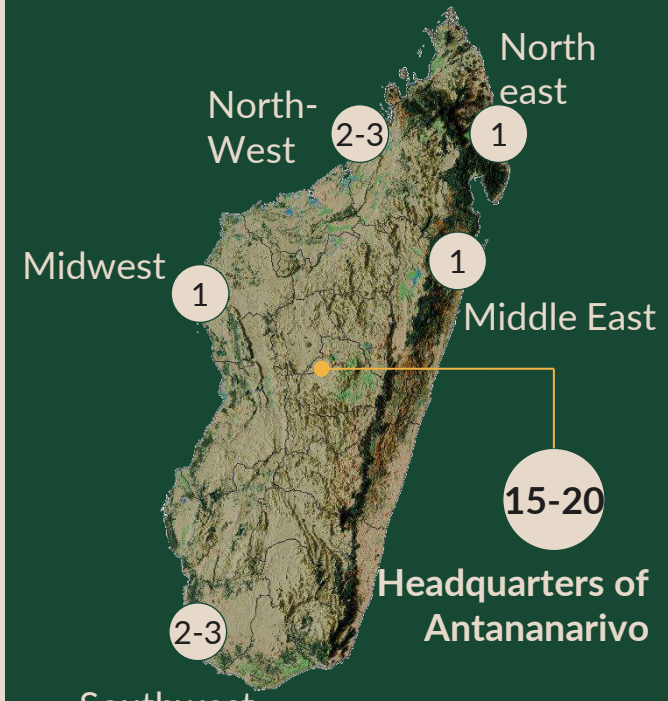
## Creation and sharing of knowledge

Gather **best practices** from the field

Develop **guides and tools** for effective LMMA management

Facilitate **the widespread adoption** of best practices through partner training, exchange visits, the Ocean Defenders network, etc.

**Required personnel,**
# per region

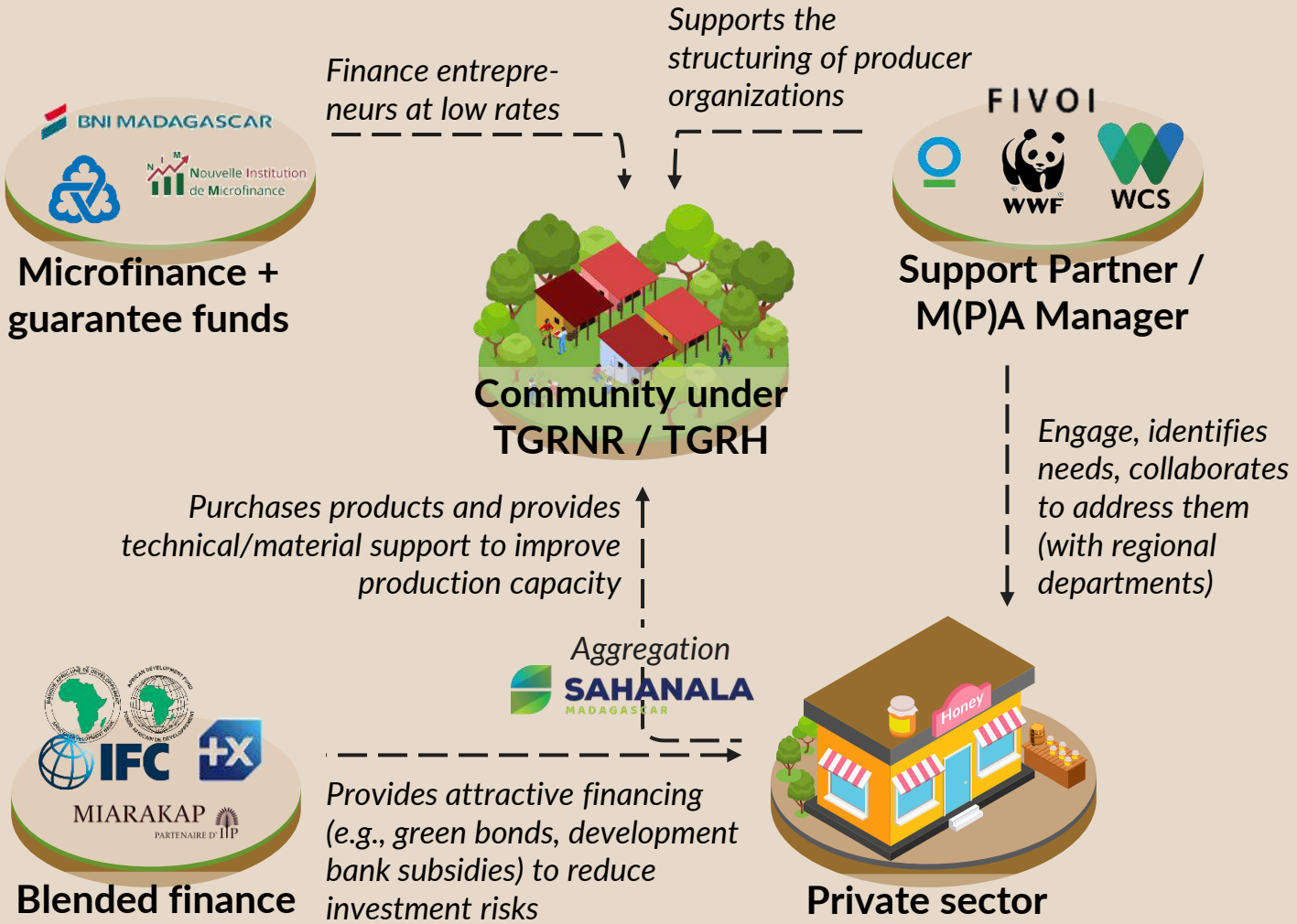



**~$200-300K** estimated annual costs

Source: Mihari network

# 1C | A support ecosystem will enable the development of value chains

ILLUSTRATIVE PRELIMINARY VERSION DATED SEPTEMBER 16, 2025




## Success conditions

**Long-term commitment of partners** and aggregators with communities

**Identification of value chains led by the Ministries** (e.g., Agriculture, Fisheries) and partner NGOs

**Aggregator enabling international sales** and capacity building for communities, in collaboration with sustainable buyers through long-term partnerships

**Investment-friendly environment** for the private sector (e.g., blended finance, certification)

**Guarantees to ensure attractive microcredit rates** for the development of activities by communities

# 1C | The prioritized agricultural value chains for economic development will be favorable to conservation

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

Low Medium High

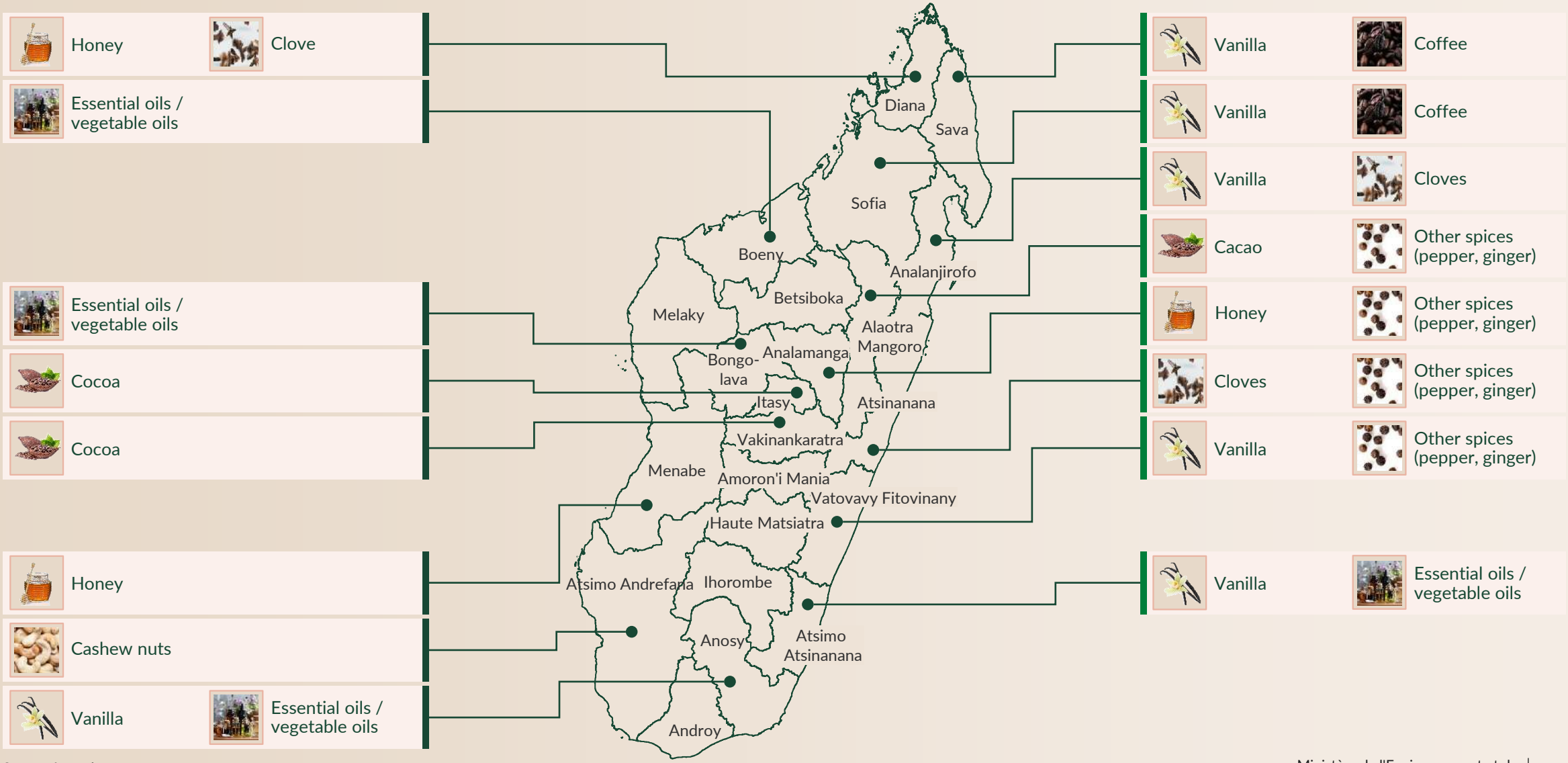
| Value chains | 40% Link to conservation | 30% Commercial potential: Local | 30% Commercial potential: Export | 15% Existing activities | 10% Aggregators' presence | 5% Ease of aggregation[1] | Total | Key Regions |
|---|---|---|---|---|---|---|---|---|
| Vanilla | High | Low | High | High | Medium | Medium | High | Sava, Sofia, Analanjirofo, Vatovavy-Fitovinany, Atsimo-Atsinanana, Anosy |
| Cloves | High | Medium | High | Medium | Medium | Medium | High | Analanjirofo, Atsinanana, Vatoavy-Fitovinany, Diana |
| Cocoa | High | Medium | High | Medium | Medium | Medium | High | Alaotra-Mangoro, Analanjirofo, Vakinankaratra, Itasy |
| Coffee | High | High | Medium | Medium | Medium | Medium | High | Alanjirofo, Sava, Sofia |
| Honey | High | Medium | Medium | Medium | Low | High | High | Diana, Analanjirofo, Menabe, Sava, Analamanga |
| Other spices (e.g., pepper) | High | Medium | Medium | Medium | Low | Medium | Medium | Analanjirofo, Sava, Atsinanana, Diana, Analamanga, Vatovavy-Fitovinany, Analamanga, Alaotra-Mangoro, Atsinanana |
| Essential / vegetable oils | Medium | Low | High | Medium | Medium | Medium | Medium | Diana, Alaotra-Mangoro, Atsinanana, Anosy, Sava, Boeny, Atsimo-Atsinanana, Bongolava |
| Raffia | Medium | Medium | High | Medium | Low | High | Medium | Atsinanana, Analanjirofo, Sava, Alaotra-Mangoro |
| Dried fruits | Medium | Medium | Medium | Medium | Medium | High | Medium | Diana, Analanjirofo, Atsinanana, Atsimo-Atsinanana |
| Staple crops | Low | High | Low | High | Low | High | Low | Alaotra-Mangoro, Vakinankaratra, Boeny, Atsimo-Andrefana, Sofia, Melaky, Menabe, Analamanaga, Androy, Anosy, Betsiboka, Diana |
| Cashew nuts | Medium | Medium | Medium | Medium | Low | High | Low | Boeny, Atsimo-Andrefana, Sofia, Diana |
| Fresh fruits/ vegetables | Low | High | Low | High | Low | Low | Low | Vakinankaratra, Analamanga, Atsinanana, Boeny, Diana, Menabe |
| Freshwater fish | Low | High | Low | High | Low | Low | Low | Alaotra-Mangoro, Itasy, Boeny, Melaky |

1 Includes product perishability, logistics complexity, etc.

Source: Interviews

# 1C | These agricultural value chains could be prioritized at the regional level to facilitate aggregation and coordination

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**




Source: Interviews

# 1C | Similarly, the prioritized marine value chains for economic development will be favorable to conservation

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

Low Medium High

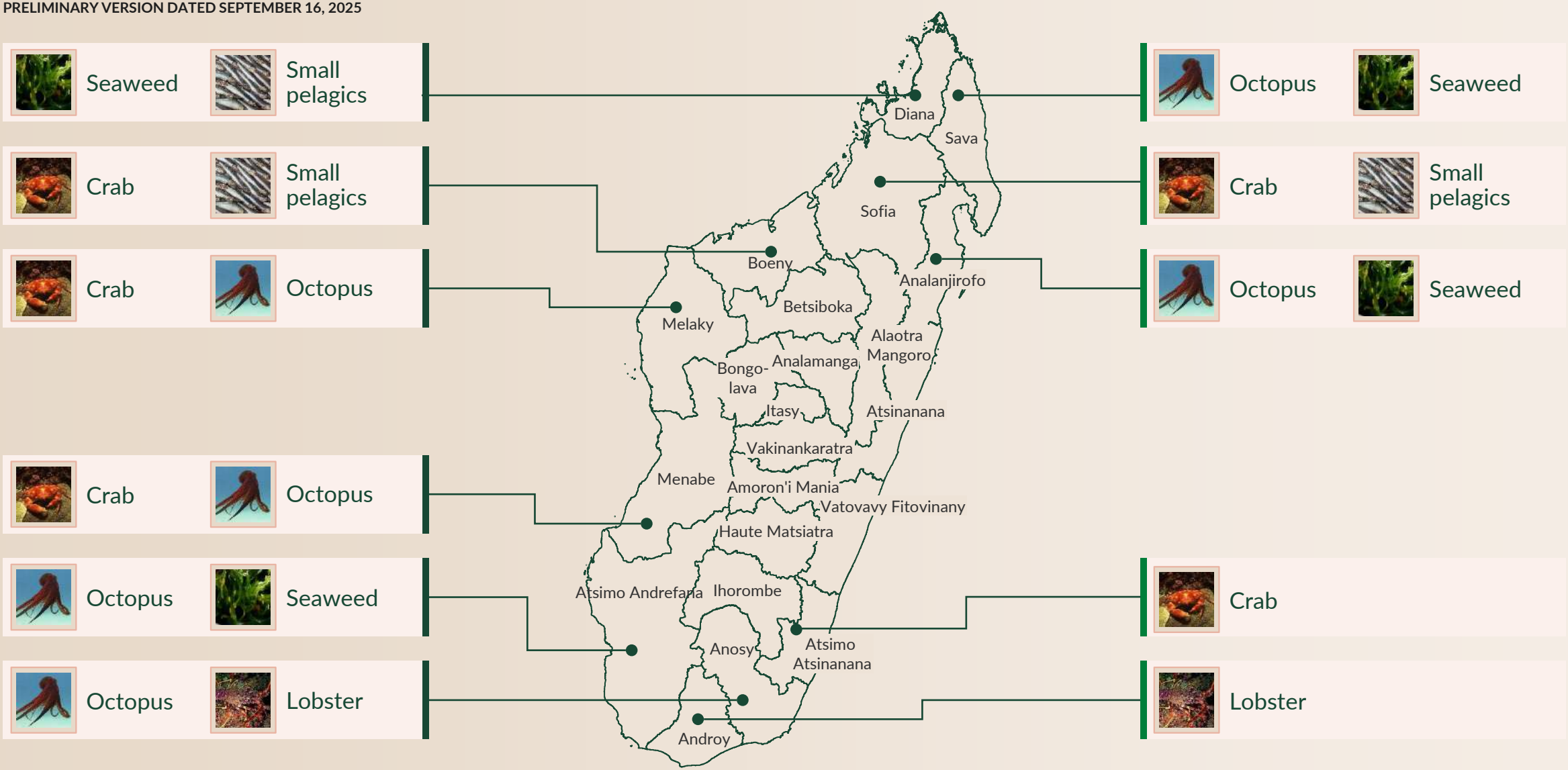
| Value chains | 40% Link to conservation | 30% Commercial potential: Local | 30% Commercial potential: Export | 15% Existing activities | 10% Aggregators' presence | 5% Ease of aggregation[1] | Total | Key regions |
|---|---|---|---|---|---|---|---|---|
| Octopus | High | Medium | High | Medium | Medium | Medium | High | Atsimo-Andrefana, Menabe, Anosy, Melaky, Sava, Analanjirofo |
| Crab | High | Low | High | Low | Medium | Medium | High | Sofia, Boeny, Melaky, Menabe, Atsimo-Atsinanana |
| Seaweed | High | Low | Medium | Medium | Medium | High | High | Diana, Analanjirofo, Atsimo-Andrefana, Sava |
| Lobster | High | Medium | Medium | Medium | Medium | Low | High | Androy, Anosy |
| Small pelagics | Medium | High | Low | High | Low | Low | Medium | Boeny, Sofia, Atsimo-Andrefana, Atsinanana, Diana, Analanjirofo, Melaky |
| Shrimps | Medium | Medium | High | Medium | Medium | Low | Medium | Boeny, Sofia, Menabe, Atsinanana, Atsimo-Andrfana, Diana, Melaky |
| Honey | High | Medium | Medium | Low | Low | High | Medium | Atsinanana, Boeny, Menabe, Melaky, Sofia, Atsimo-Andrefana, Diana |
| Salt | Low | High | Low | High | Medium | High | Medium | Androy, Atsimo-Andrefana, Menabe |
| Sea cucumber | Medium | Low | High | Low | Low | Medium | Medium | Atsimo-Andrefana, Boeny, Sofia, Sava, Analanjirofo |
| Silk | High | Low | Low | Low | Low | Medium | Low | Boeny, Menabe, Melaky |
| Oysters | High | Low | Low | Low | Low | Low | Low | Analanjirofo, Vatovavy-Fitovinany |
| Large pelagics | Low | Medium | High | Medium | Low | Low | Low | Diana, Boeny, Atsimo-Andrefana, Atsinanana, Sava |

1. Includes product perishability, logistics complexity, etc.

Source: Interviews

# 1C | These marine value chains can be prioritized at the regional level to facilitate aggregation and coordination

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**




Source: Interviews

# 1C | Mobilizing research to transform products will allow for greater added value

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

| Context | Objectives | Main Themes | Expected impacts | Potential partners |
|---|---|---|---|---|
| Madagascar has exceptional bioeconomy resources and could leverage them through innovation clusters and cooperation among stakeholders | Bring together academic, scientific, and economic stakeholders in value chains to develop high value-added products | Valorization of natural resources, local/circular economy, and innovation | Increasing the utility and added value of agricultural products through diversification and processing | MINAE, research center, development partners, technical partners, private sector (e.g., processors, exporters, etc.) |

## National Innovation Center for Product Transformation and Valorization

Technological platform dedicated to transforming agricultural products into high-value-added goods (agri-food, cosmetics, well-being). It offers support in process development, quality, sensory testing, market studies, and training. The center promotes diversification, access to export markets, and regional innovation

# 1D | Madagascar's community-based management model will rely on 5 financing mechanisms

Details to follow

ILLUSTRATIVE PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

| Mechanism | Description | Potential entities involved | Deployment Model |
|---|---|---|---|
| **Support for the creation of TGRN / TGRH** | Funds available to cover the **creation of new management contracts** (~$20k per contract) | Fondation Tany Meva; FAPBM | • Through the **partner NGOs** supporting the creation of TGRNR / TGRH |
| **Support for biodiversity management** | Endowment fund for **sustainable community management of resources** in the TGRNR / TGRH | Fondation Tany Meva; FAPBM | • Through the **partner NGOs** for the initial years<br>• Directly to the **community associations** over the long term |
| **Support for the development of value chains** | Financing, including blended finance, for **supporting value chains by partners**, as well as to **de-risk private sector investments** | +X; IFC; MIARAKAP | • By the **private sector** for capacity building and less risky investments<br>• By the **partner NGOs** for structuring producers |
| **Guarantee Fund for Microfinance** | Low-rate microfinance through a **guarantee fund** for the development of **nature-friendly activities**, in collaboration with incubators | BNI MADAGASCAR<br>Microfinance institutions | • Directly to **community entrepreneurs** through the microfinance institution |
| **Carbon micro-credits and PES** | Monetization of restoration through **carbon credit generation** and other PES | Ministère de l'Environnement et du Développement Durable; FAPBM | • Directly to communities under the **jREDD+ program** or through an **aggregator** (e.g., FAPBM) |

Source: interviews, TGRNR and LMMA workshops

# 1D | Ensuring sustainable financing for management under the TGRNR/TGRH frameworks would require >$1B in endowment

ILLUSTRATIVE PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

x Costs per TGRNR ($k) x Costs per LMMA ($k)
x TGRNR only x LMMA only

## Set up

~16 ~20

- Development of the PAG (e.g., data collection, consultations)
- Site delineation
- Creation of the association

Sinking fund

*For the creation/revitalization of ~850 TGRNRs and ~300 LMMAs*

~$14M + ~$6M

## Biodiversity management

~20 ~35 *per year*

- Patrolling and surveillance
- Ecological monitoring
- Operations and organization
- Restoration
- Training and support

Endowment Fund

*For the management of ~1820 TGRNR and ~500 LMMAs*

~$750M + ~$350M

***Co-management of the community fund***

Fondation Tany Meva

**Disbursing funds for communities**, monitoring and evaluation of TGRNR / TGRH via the platform and in the field if necessary

FAPBM

**Financial management**, including fundraising

**An endowment fund for community management will enable:**

- **A sustainable financing mechanism** ensuring long-term impact
- **A high-impact investment opportunity**, with no risk of capital loss
- **Gradual flexibility**, allowing funds to be withdrawn as communities strengthen their funding capacity

Source: LMMA workshops and TGRNR, interviews

# 1D | Guarantee funds and incubators will unlock the technical and financial support needed for the development of sustainable activities

NON EXHAUSTIVE PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**Income-generating activities developed by community members**

| Fishing | Aquaculture | Blue carbon | Mangrove honey | Eco-tourism | Microfinance |
|---|---|---|---|---|---|
|  |  |  |  |  |  |

*Low-rate loans to communities as they are de-risked by the guarantee fund*

Bank (e.g., BNI) or microfinance institution

*Deposit account and potential coverage in case of default*

*Potential payment of interest on the deposit account*

Guarantee Fund

**Financial support**

NGOs and/or private sector actors offer **technical support** and **"business" training**

- Call for expressions of interest for incubators/experts in prioritized value chains in each region
- Co-creation between technical partners and communities regarding development needs
- Field support (e.g. one partner per region), including branding, governance, equipment provision, etc.

**Technical support**

Source: Interviews, co-creation workshop

# 1D | Communities involved in restoration will be able to generate carbon micro-credits under jREDD or an aggregator

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

| Approach & Example | Project-based approach with an aggregator<br>*Example of Trees for Global Benefits (Uganda)* | Jurisdictional REDD+ with community benefits<br>*Example of jREDD+ East Kalimantan (Indonesia)* |
|---|---|---|
| **Mechanism & stakeholders involved** | 1. **Farmer registration, contracting** & development of the carbon plan<br>2. **Tree planting** (agroforestry or reforestation) & maintenance incl. technical support<br>3. **Monitoring, reporting & verification** (community training and third-party audit every 5 years)<br>4. **Aggregation, certification** Plan Vivo **& sales** on the voluntary carbon market (VCM)<br>Communities: 1, 2, 3<br>Buyers: 4<br>ECOTRUST: 1<br>ECOTRUST, PLAN VIVO: 2, 3 | 1. **Provincial MoUs and ERPA agreements** with the World Bank (FCPF)<br>2. **Benefit-sharing plan** (BSP) (e.g., eligible beneficiaries, allocation formulas incl. accountability & performance) adopted by provincial regulation<br>3. **FPIC[2] process and activity registration** in the MRV portal to access performance-based payments<br>FOREST CARBON PARTNERSHIP: 1<br>Province: 1, 2<br>Communities: 3 |
| **Payment flow** | VCM Buyer → Plan Vivo → ECOTRUST (CTF[2]) → Communities | FCPF → Government of Indonesia → Environmental Fund → Provincial government → Local stakeholders (incl. communities) |
| **Scale** | **12k households** of smallholder farmers with PES agreements | **150 villages** registered representing **~100k households** |
| **Key success factor** | **Trusted Aggregator** (ECOTRUST)<br>**Community Monitoring** | **Clear regulation** on **benefit-sharing**<br>**Digital MRV and registration platform** linked to the National Forest Monitoring System |

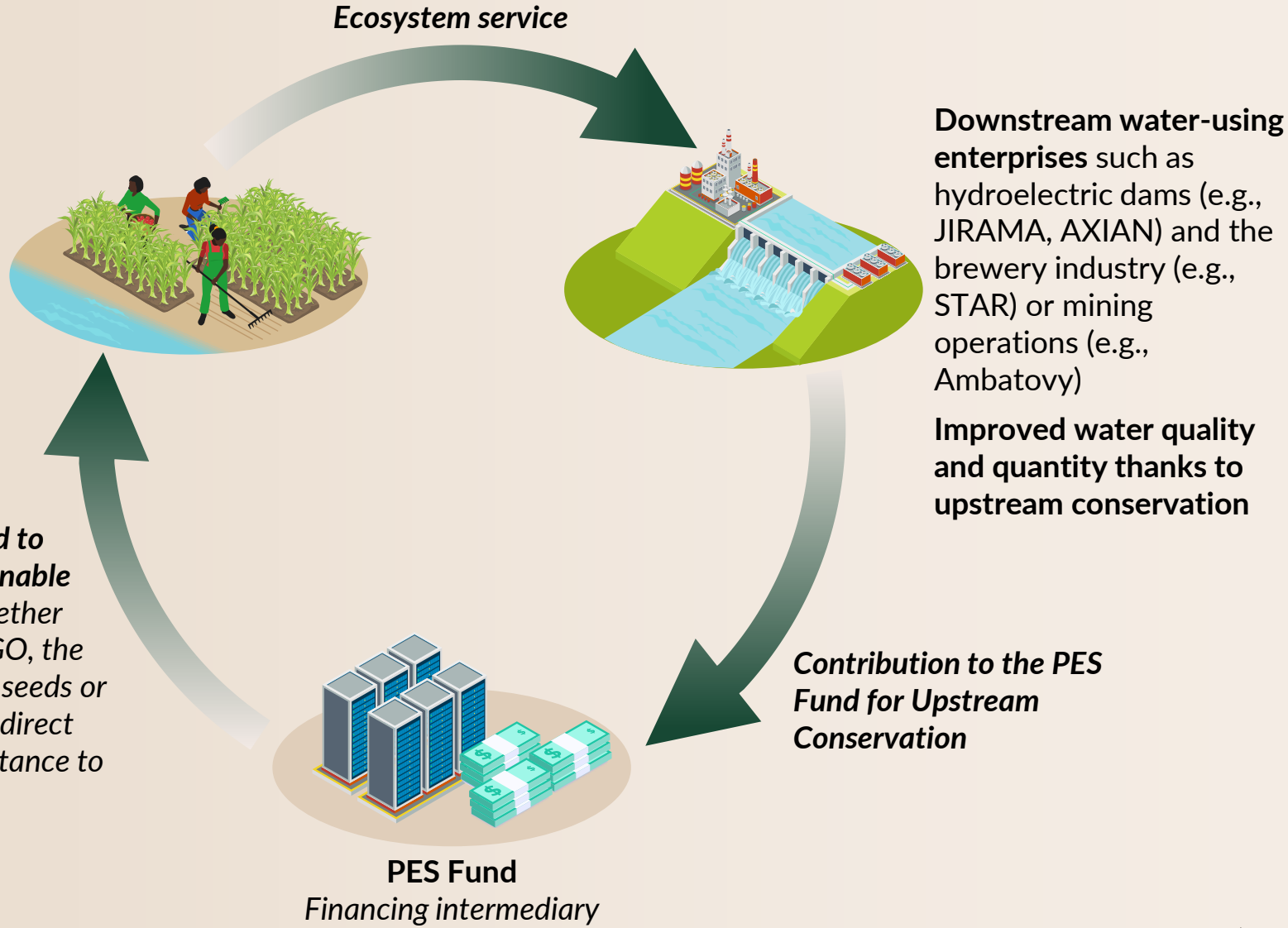
1 Conservation Trust Fund - Trust Fund; 2. Free, Prior and Informed Consent

Source: ECOTRUST, Plan Vivo, World Bank

# 1D | Water-using companies will finance community reforestation upstream of key watersheds through a PES fund

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

A **PES Fund for Watersheds** is a **sustainable financing mechanism that channels contributions from water-using companies** (e.g., hydroelectric dams) **to support upstream nature-based solutions** — such as reforestation, watershed restoration, or sustainable agriculture — in exchange for improved water quality and quantity downstream




Source: Nature4Water – The Nature Conservancy

# 1E | All stake-holders in the ecosystem are incentivized to ensure successful conservation outcomes

ILLUSTRATIVE

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

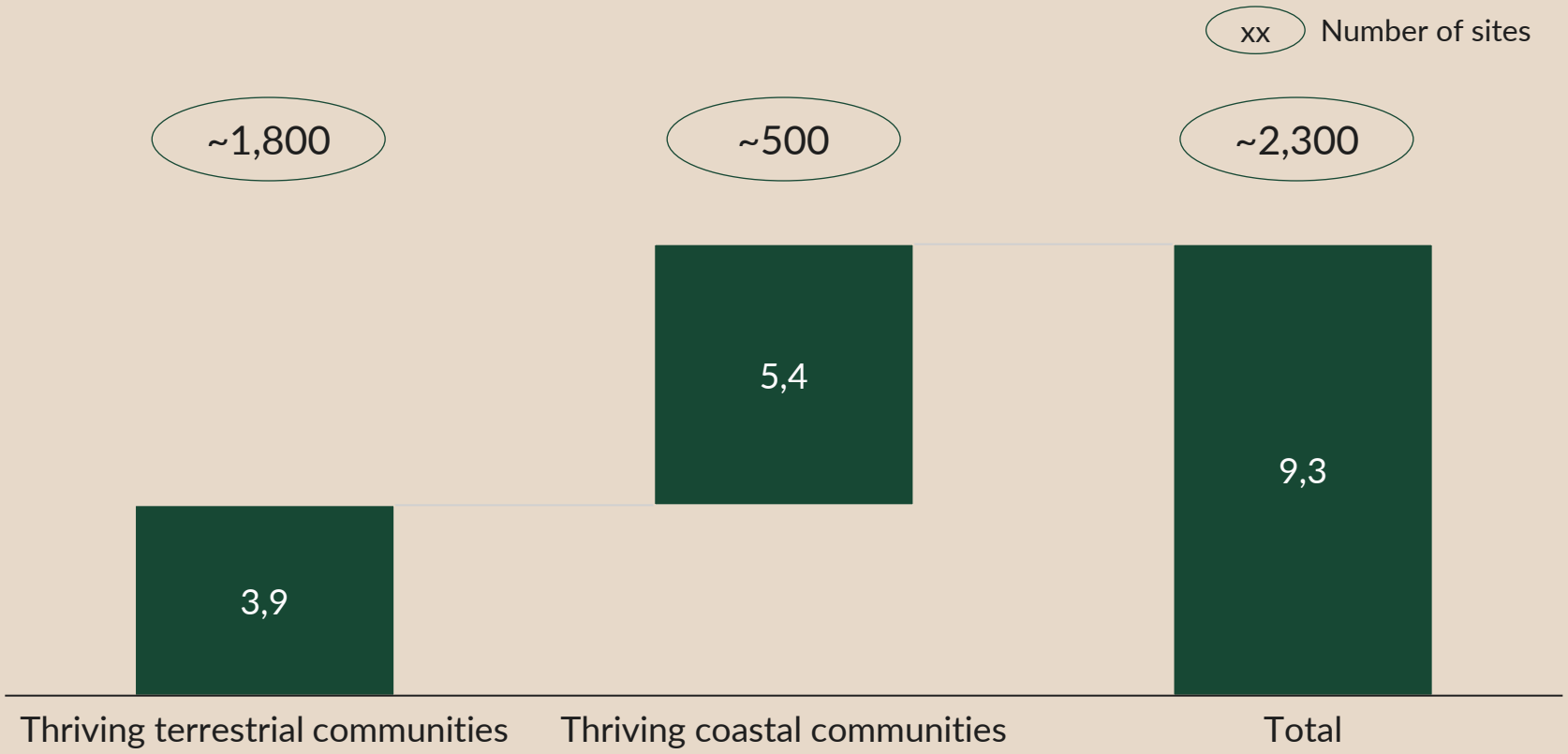
| | Community | Private sector | MEDD/MPEB |
|---|---|---|---|
| |  |   |  |
| **Main role** | **Sustainable manage-ment** of resources and **biodiversity protection** | **Capital injection** and **creation of opportunities** for sustainable livelihoods | **Supervision and effective management** of resource transfer |
| **Motivations for the pro-tection of biodiversity** | • Management transfer<br>• Access to private sector contracts and value chain development<br>• NGO support<br>• Carbon micro-credits and PES as additional sources of income | • Access to new business opportunities<br>• Support through favorable financing conditions and credit lines via IFIs<br>• Certification schemes for responsible sourcing and potential green premium on products | • Sustainable landscape management by communities<br>• Sustainable liveli-hoods and reduced pressures on PAs<br>• More effective management of community conservation efforts |

← The rights to resources, NGO funding, favorable financing and certification, as well as support for the MEDD, **all depend on positive conservation outcomes** →

# 1 | >9M ha could be managed by thriving communities by 2030, supporting >3M people

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**Territory managed by thriving communities**, 2030 aspiration, M ha




**~2,300**

Sites managed by thriving communities

**~3.6M**

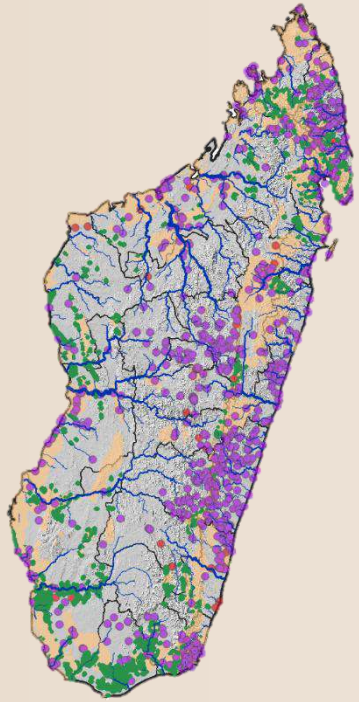
People living in thriving communities

# 1 | Following the revitalization of existing TGRNRs, extending the TGRNRs by ~500 sites (~1 Mha) would allow for the integration of all intact forests

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

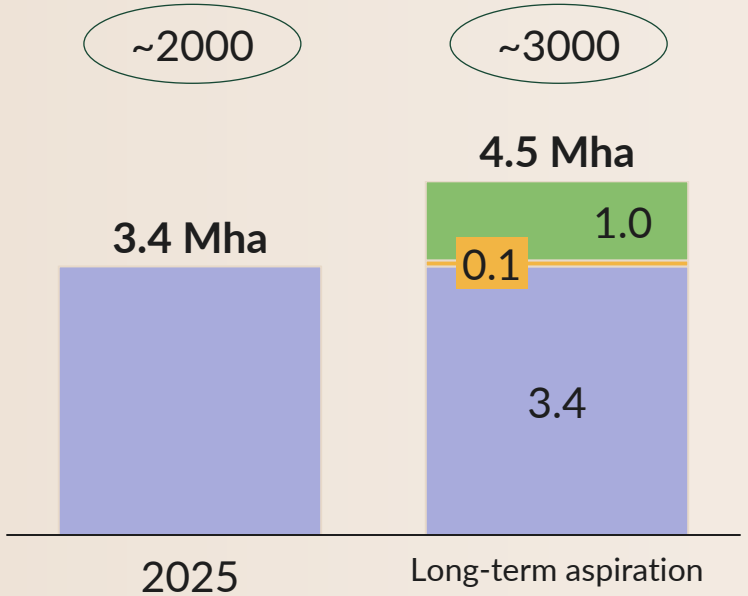
## Existing and potential community terrestrial sites

- PA network, KBAs[1], Proposed FDR[2] expansion, Planned expansion, Proposed expansion workshop[3]
- Current TGRN sites
- Potential TGRN sites identified by the DREDD[4]
- Zones for potential additional community sites[4]



## Key figures on aspiration

- Mha currently under TGRNR
- Mha proposed for a new TGRNR (DREDD)
- Mha proposed for additional community management
- XX Number of communities[5]




**+ ~500** TGRNR, including 40 already proposed

**+ 1.1 MHA** under community management

**~3.2 M** people benefiting from land areas managed by communities by 2030

1 Includes existing KBAs provided by the Integrated Biodiversity Assessment Tool (IBAT) and additional proposed KBAs presented in "Target 3 Roadmap: 30x30 Madagascar"; 2. As identified in "Target 3 Roadmap: 30x30 Madagascar"; 3. Additional areas were identified through a two-step process: first, we applied integer linear programming to the existing and proposed PA network to identify coverage gaps and prioritize sites needed to ensure species protection (see the annex for details); second, we refined these priorities during the stakeholder workshop on July 1-2, 2025, incorporating feedback on feasibility, security, and biodiversity values. These proposed areas are preliminary and will be adjusted as consultations with stakeholders progress; 4. Current TGRN sites are approximate locations, identified based on the locality specified in the database: ~1,100/~1,500 total mentioned in the database. Polygons were drawn around these approximate locations based on the area specified in the database. In the absence of area information, an average of 2,200 ha per site was used. Proposed TGRN site locations were identified through mapping, and corresponding polygons were drawn using an average of 2,200 ha. Additional community sites were identified in clusters of intact forests over 500 ha and located outside the envisioned protected area network; 5. Assuming 1,000 people per community.

Source: IUCN Red List; IBAT; SAPM (2017); 30x30 Roadmap; MEDD – DAPRNE, Interviews; High Resolution Settlement Layer (CIESIN); BNCCREDD+ (2019)

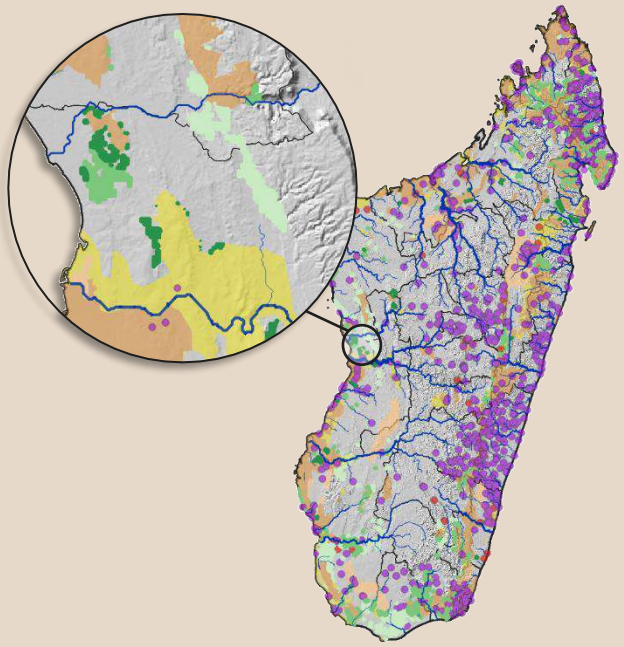
# 1 | ~250 sites have been identified as priority for the expansion of the TGRNR by 2030

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

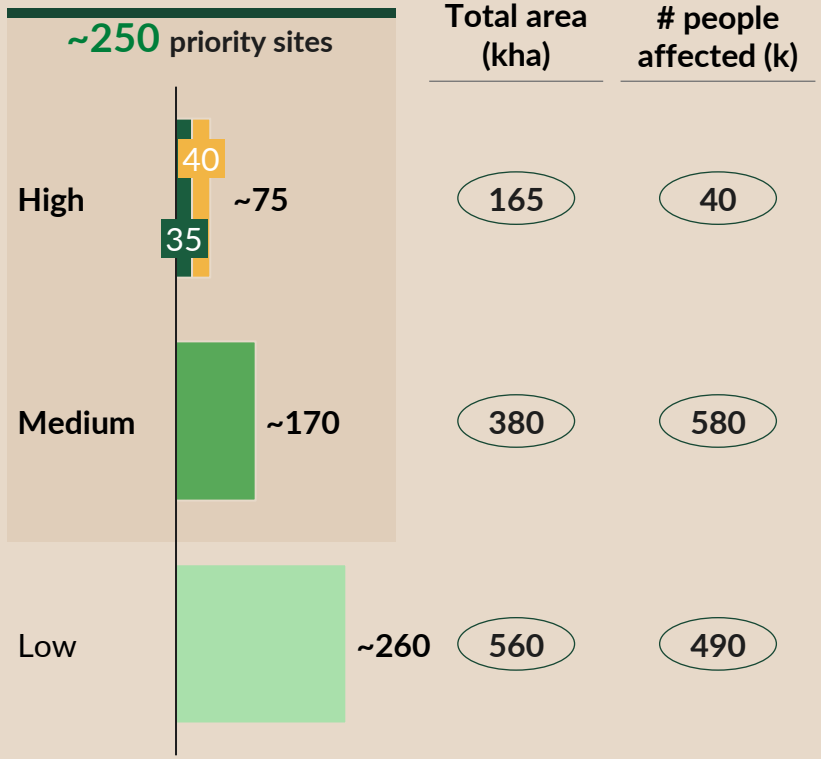
KBA AP Proposed AP

**Priority for TGRNR[1] expansion:** low medium high Already identified by DREDD

## Proposed Expansion of TGRNR



## Number of additional TGRNRs, by priority level




| | Total area (kha) | # people affected (k) |
|---|---|---|
| High | 165 | 40 |
| Medium | 380 | 580 |
| Low | 560 | 490 |

## Preliminary Insights

- With 470 additional TGRNRs beyond the 40 already identified by the DREDD, the **majority of unprotected intact forests** could be covered, affecting 1.1 million people (~1,000 communities)
- About **250 priority sites** by 2030 (those identified by DREDD and new high- and medium-priority sites) would allow the protection of forests serving as **buffer zones around protected areas currently facing high deforestation rates**

1 Potential TGRNRs receive a score based on their proximity to the protected area network and deforestation rates observed between 2015 and 2019. The scores combine the deforestation rate (rated from 1 to 4, in 25th percentile intervals) and the proximity score to the protected area network (rated 2 if >10 km, 4 if <10 km); the totals range from 3 to 8, with high priority = 8, medium priority = 6–7, low priority = 3–5.

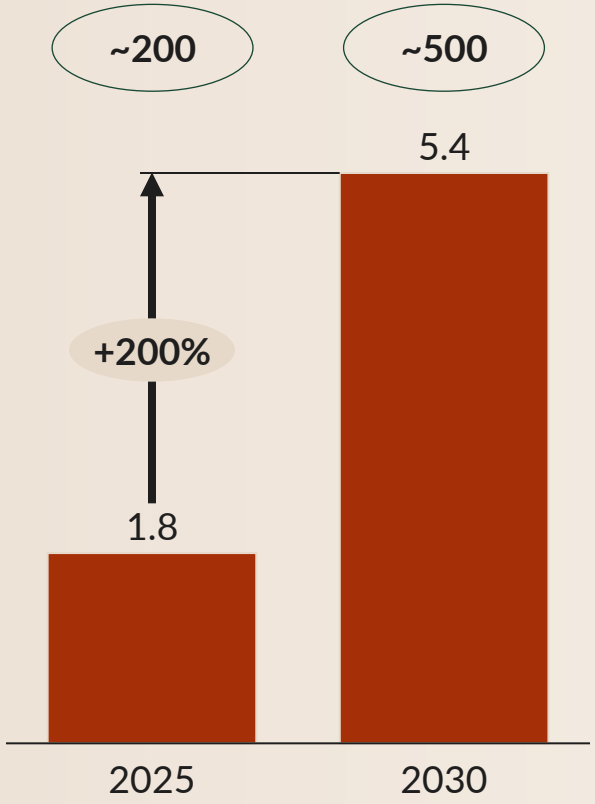
Source: IUCN Red List; IBAT; SAPM (2017); 30x30 Roadmap; MEDD – DAPRNE, Interviews; High Resolution Settlement Layer (CIESIN); BNCCREDD+ (2019)

# 1 | The ambition is to triple the coverage of LMMA, primarily on the West Coast of Madagascar, for holistic coverage

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Current network and potential expansion


## Key facts on aspiration to scale, M ha covered by LMMAs




**+ ~300** LMMA

**+ ~4M** hectares covered

**~1M** people benefiting from LMMA

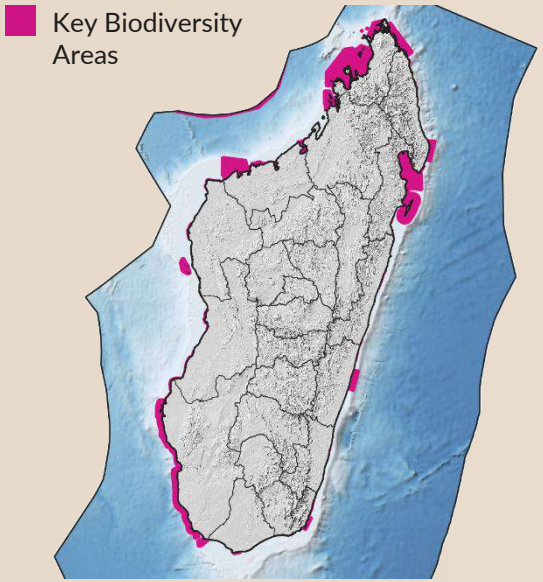
Source: Mihari network, LMMA portal

# 1 | Areas characterized by proximity to KBAs and MPAs, as well as high populations, could be prioritized

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

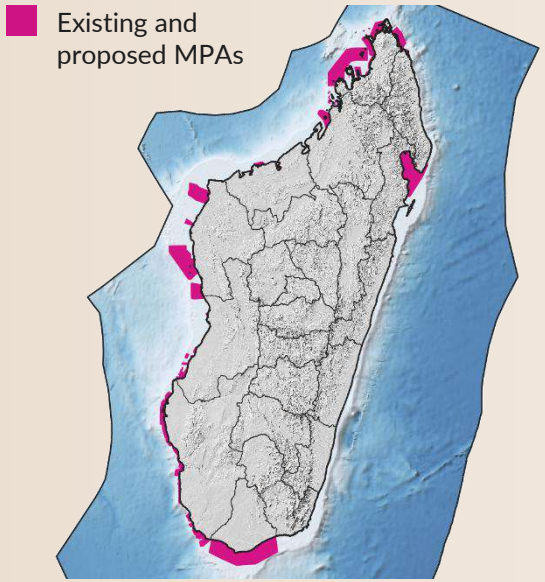
## Proximity to KBAs

Key Biodiversity Areas (KBAs) assessed by IBAT and WWF are used to evaluate the **relevance of new LMMAs for biodiversity**



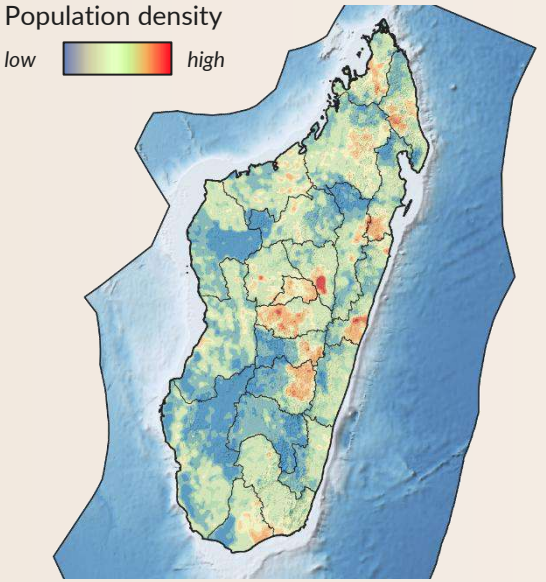

## Proximity to MPA network

The creation of new LMMAs around existing and proposed LMMAs can help **create a blue belt** against threats




## Total affected population

The GHLS1 is used to evaluate the number of people living within 5 km of the proposed LMMAs, indicating a **potential socio-economic impact**




1 Global Human Settlement Layer

# 1 | Expansion of coastal thriving communities could start with the Northwest and Antongil Bay

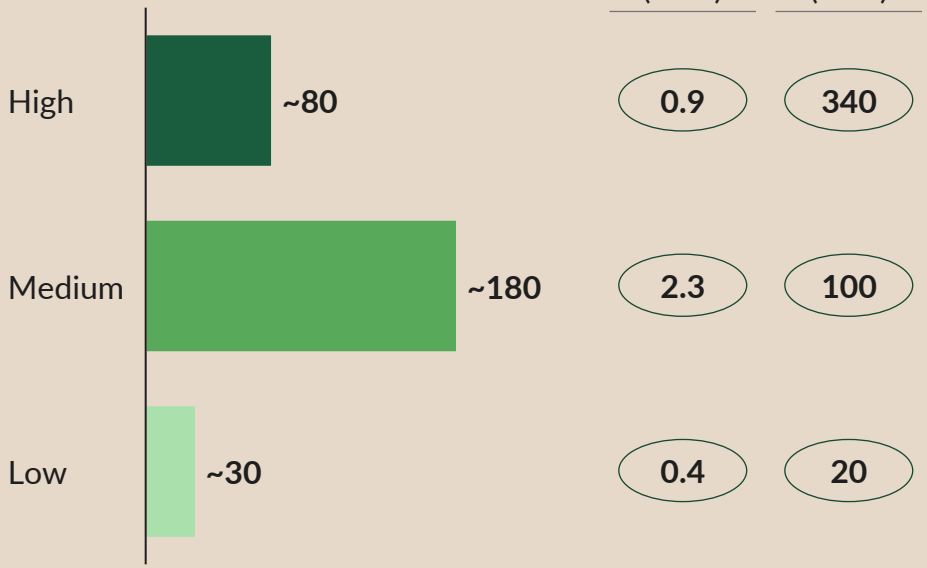
PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Map of the proposed expansion of LMMAs

Existing LMMA | Existing MPA | Proposed MPA

Priority for LMMA expansion: Low | Medium | High

## Number of additional LMMAs




## Preliminary insights

The expansion of LMMAs could initially focus on areas characterized by high population densities and proximity to KBAs and MPAs

The creation of approximately 80 LMMAs around Nosy Be, Antongil Bay, and the west coast could target 0.3 million inhabitants living near the shore

1 Potential LMMAs are scored based on 1) proximity to MPAs and KBAs, and 2) population density within a 5 km radius. The first score is 1 if the potential LMMA overlaps with an MPA or KBA, and 0 otherwise. The second score is 1 for LMMAs with a population density above the 70th percentile of observed densities across potential LMMAs. The sum of the two scores gives a final priority score between 0 and 2, with 2 being the highest priority and 0 the lowest.

Source: IUCN Red List; IBAT; SAPM (2017); 30x30 Roadmap; MEDD – DAPRNE, Interviews; High Resolution Settlement Layer (CIESIN)

# 1 | The deployment of thriving communities will take place in several phases, starting with the revitalization of the existing ones

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

| Phase # | | # sites | Mha |
|---|---|---|---|
| 2025-2027 | **Strengthening and revitalization** of existing TGRNRs<br>**Strengthening** of existing LMMAs and **expansion** to priority LMMAs | 1850 | 6.1 |
| 2028-2029 | **Expansion to priority TGRNRs and all identified LMMAs** with community willingness | ~460 | 3.2 |
| 2030+ | **Expansion of TGRNR to other forests to be preserved and according to the will of the communities** | ~250 | 0.5 |

Source: TGRNR workshops

Up to **9 Mha** could be integrated into the **30x30 objectives** if the 1820 TGRNR and 500 LMMAs were **recognized as OECMs**

# 1 | ~$260-375M by 2030 will be needed for the deployment of the Thriving Communities model

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

x Number of TGRNR / TGRH affected

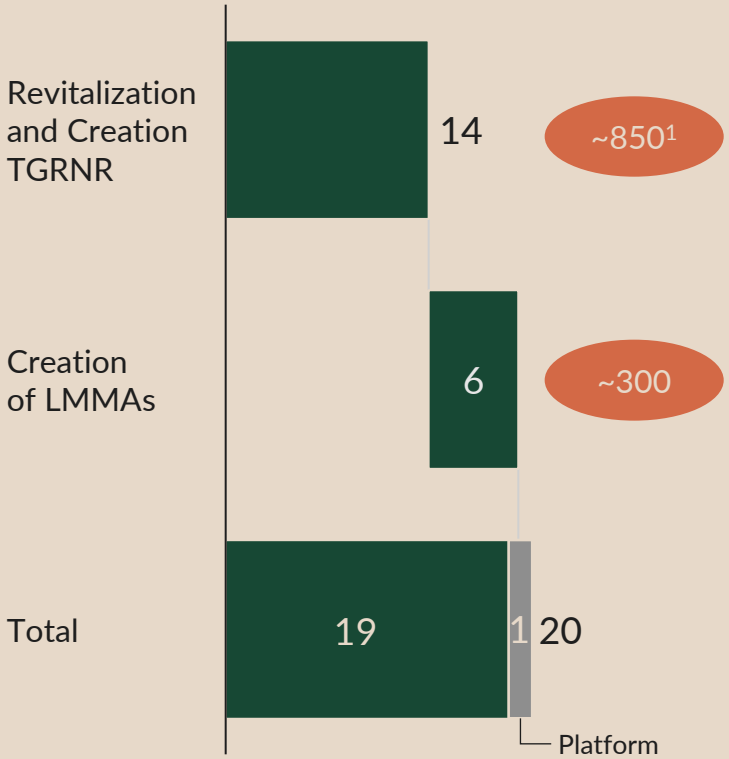
Development of value chains

Biodiversity management

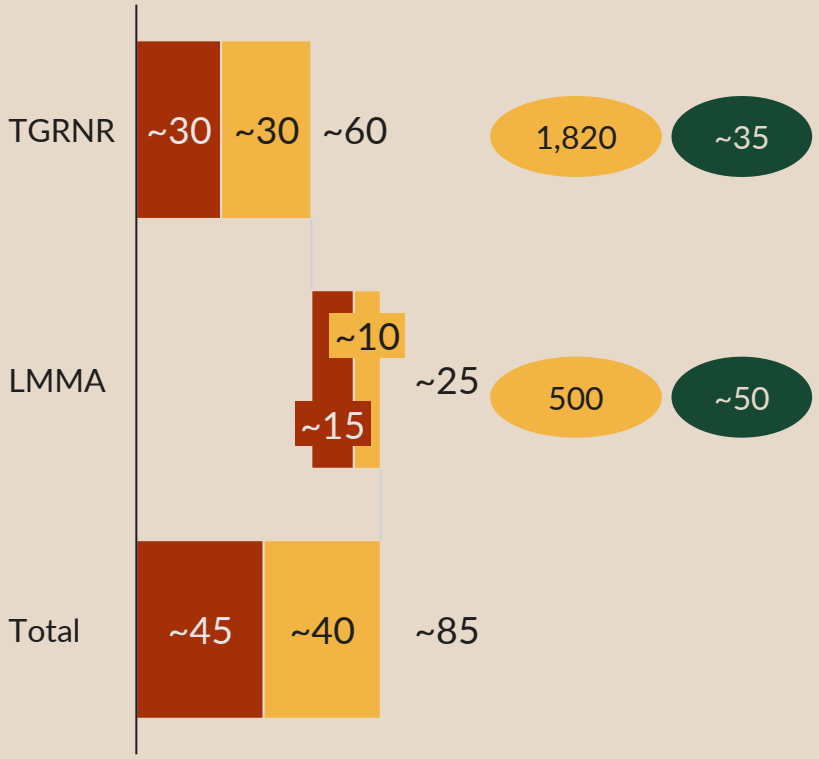
x Number of TGRNR / TGRH in 2030

x Annual costs per TGRNR / TGRH ($k)

## Investments related to community management by 2030, $M




## Estimated annual costs of community management, 2030, $M




**~$260-375M**

Total cost of community management by 2030

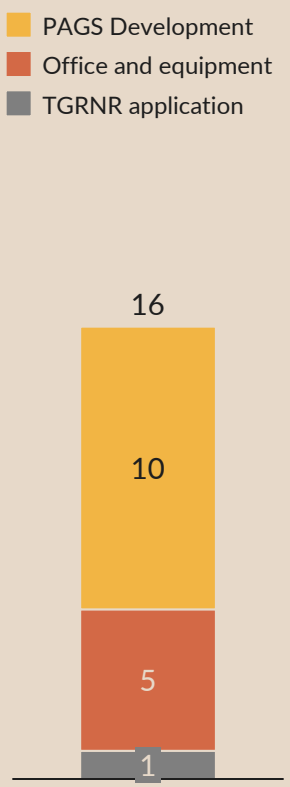
1. ~600 inactive and ~250 additional

Source: workshops TGRNR / LMMA

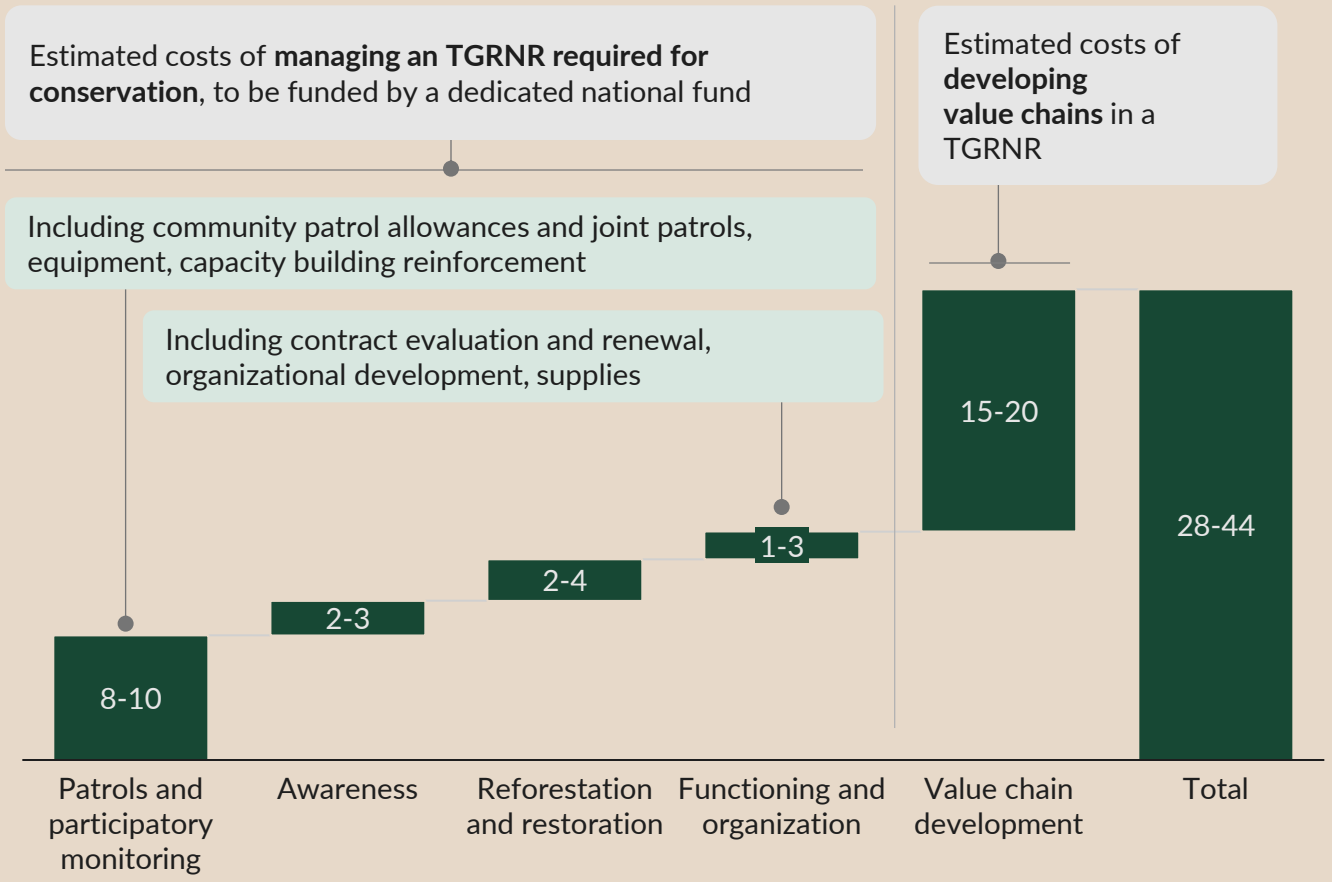
# 1 | Thriving terrestrial communities will require the mobilization of ~$200-275M by 2030

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

**Upfront cost**, $k per TGRNR




**Estimation of annual community management costs**, $k per TGRNR




1 Investment of ~$700k and operation of ~$200k/year; 2. ~$800k/year

Source: Atelier TGRNR 21/08/2025 (CI, WCS, WWF, TANY MEVA, TAFO MIHAAVO, NITIDAE)

## ~1820

TGRNR about ~1570 to strengthen (including ~600 inactive) and ~250 to develop afterward

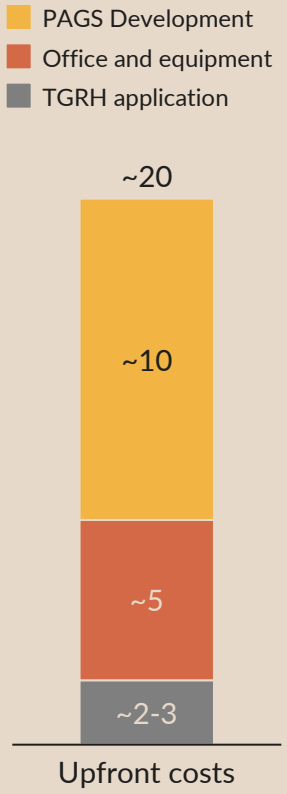
## ~$200-275M

Total cost over 4 years for managing active TGRNRs, revitalizing inactive ones, and expanding to 250 new sites according to the roadmap; a digital platform[1] and strengthening of DREDD[2] staff

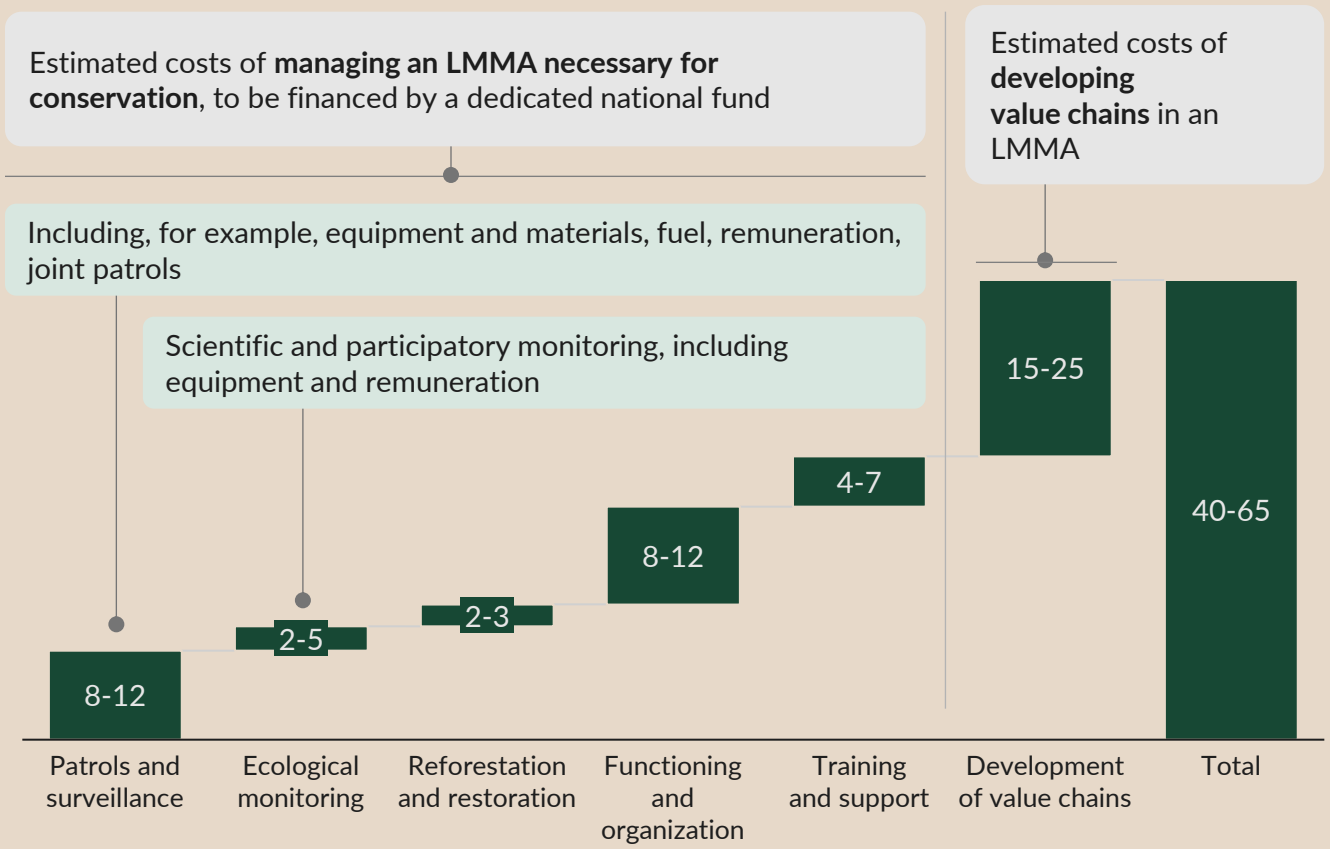
# 1 | Thriving coastal communities will require the mobilization of ~$60-100M by 2030

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

**Upfront cost**, $k per LMMA




**Estimated annual costs of community management**, $k per LMMA[1]




1 Average LMMA size of ~10-13k ha, leading to an average cost of ~$3-6/ha
2 Taking into account a gradual expansion of LMMAs: 220 LMMAs in 2026, 300 LMMAs in 2027, 380 LMMAs in 2028, 500 LMMAs in 2029 – including ~$300k/year for the digital platform and ~$1M for strengthening DRPEB staff

Source: Atelier LMMA, PAGs from CI and WCS

**~500**

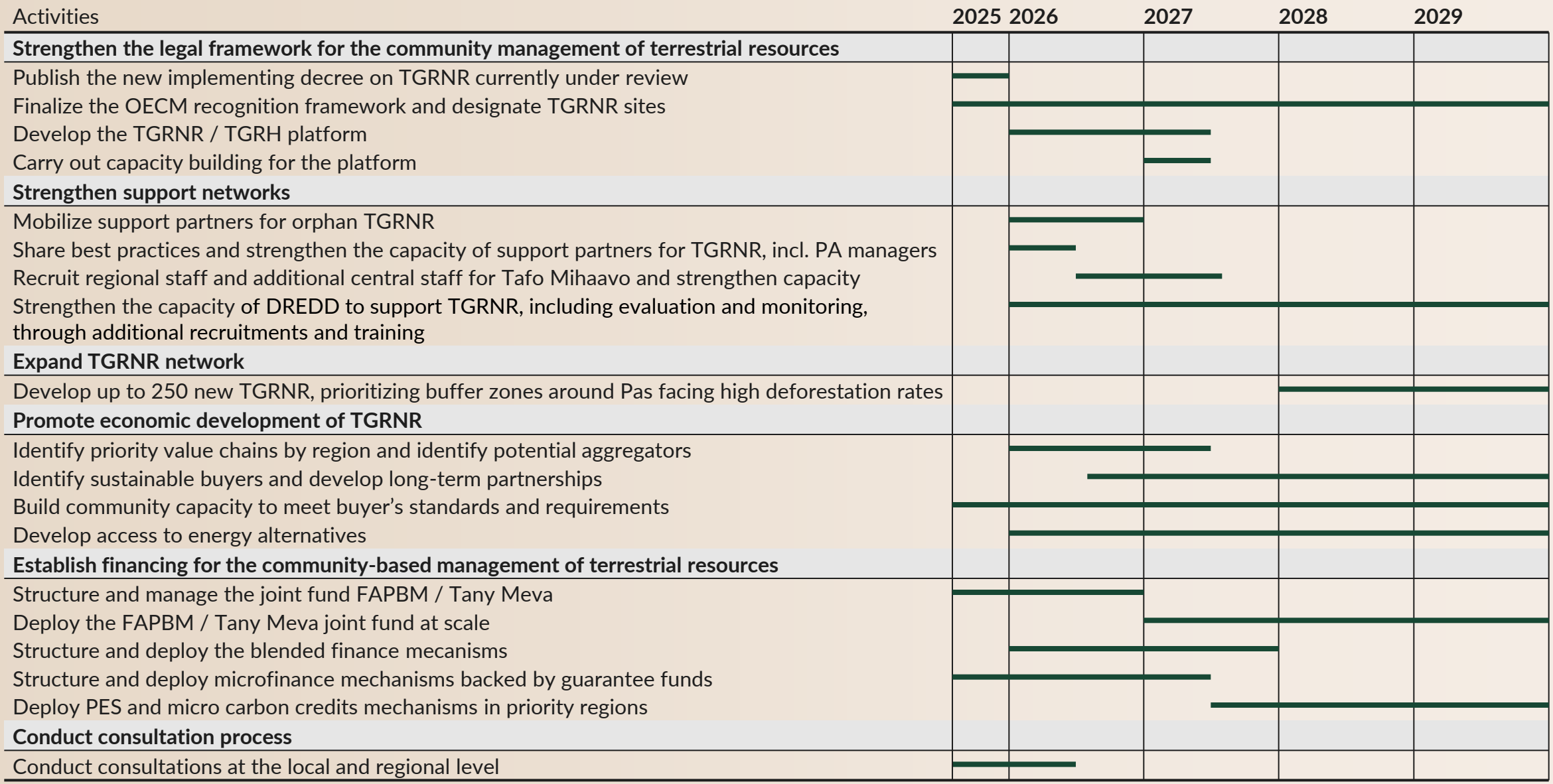
Targeted LMMAs by 2030

**~$60-100M**

Total cost by 2030 for the 500 LMMAs[2]

# 1 | Preliminary roadmap to 2030 – Thriving terrestrial communities

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025



# 1 | Preliminary roadmap to 2030 – Thriving coastal communities

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

| Activities | 2025 | 2026 | 2027 | 2028 | 2029 |
|---|---|---|---|---|---|
| **Strengthen the legal framework for the community management of marine resources** | | | | | |
| Publish the update of the GELOSE law | | | | | |
| Finalize the OECM recognition framework and designate TGRH sites | | | | | |
| Develop the TGRNR / TGRH platform | | | | | |
| Carry out capacity building for the platform | | | | | |
| Revise the legal framework of the TGRH for improved terms (e.g., extend the contract duration) | | | | | |
| **Strengthen support networks** | | | | | |
| Mobilize support partners for orphan LMMAs | | | | | |
| Share best practices and strengthen the capacity of support partners for LMMAs | | | | | |
| Recruit regional staff and additional central staff for Mihari and strengthen capacity | | | | | |
| Strengthen the capacity of DRPEB and DREDD to support TGRH, including evaluation and monitoring, through additional recruitments | | | | | |
| **Expand LMMA network** | | | | | |
| Develop ~80 new LMMAs around Antongil Bay and in the Melaky region | | | | | |
| Develop ~200 new LMMAs on the west coast of Madagascar | | | | | |
| **Promote economic development of LMMAs** | | | | | |
| Identify priority value chains by region and identify potential aggregators | | | | | |
| Identify sustainable buyers and develop long-term partnerships | | | | | |
| Build community capacity to meet buyer's standards and requirements | | | | | |
| Develop access to energy alternatives | | | | | |
| **Establish financing for the community-based management of marine resources** | | | | | |
| Structure and manage the joint fund FAPBM / Tany Meva | | | | | |
| Deploy the FAPBM / Tany Meva joint fund at scale | | | | | |
| Structure and deploy the blended finance mecanisms | | | | | |
| Structure and deploy microfinance mechanisms backed by guarantee funds | | | | | |
| Deploy PES and micro carbon credits mechanisms in priority regions | | | | | |
| **Conduct consultation process** | | | | | |
| Conduct consultations at the local and regional level | | | | | |

1

LAUNCH THE MADAGASCAR THRIVING COMMUNITIES' MODEL

2

## ENSURE A SUSTAINABLE FUTURE FOR IMPORTANT TERRESTRIAL ECOSYSTEMS

3

ENSURE A SUSTAINABLE FUTURE FOR IMPORTANT MARINE ECOSYSTEMS

4

POSITION MADAGASCAR AS A KEY DESTINATION FOR BIODIVERSITY FINANCING

# ~18MHA

of terrestrial areas with high biodiversity placed under priority protection

| | | |
|---|---|---|
| Classify ~2Mha of **temporary PAs** and manage ~6Mha of **KBAs and intact forests** | Strengthen **law enforcement** with over 5,000 rangers and more than 200 OPJs | Deploy **monitoring technologies** |
| Secure the **boundaries** of PAs | Expand **co-management** with communities | Strengthen the **network of local partners** |

# 2 | Ensure a sustainable future for important terrestrial ecosystems

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Aspiration

**Sustainably and efficiently manage all important biodiversity areas in Madagascar (~18M ha), while achieving national restoration targets, by leveraging technological tools and strengthening FAPBM's capital for sustainable financing**

**Strengthen collaboration between PA managers and surrounding communities, by**

- **Expanding co-management agreements** ("Conventions de Gestion Communautaire" or Community Management Agreements), to empower communities as stakeholders with shared governance and revenues
- **Support the creation and renewal of TGRNR** in green belts

**Ensure the protection of all areas important for biodiversity – 18 Mha in total — through PAs, NPAs and OECMs, by**

- **Formally designating the 27 temporary PAs** and those under creation (1.7 Mha)
- **Protecting existing KBAs** (4.5 Mha) and supporting their updates
- **Integrating remaining intact forests** (at least 1.8 Mha already identified)
- Validating and prioritizing the through **scientific studies** (including species criteria), **fieldwork and consultations** and then directing them towards appropriate management modes
- Identifying and prioritizing **restoration areas outside PAs**

**Effectively protecting all PAs and future terrestrial OECMs (including those listed as UNESCO World Heritage) by**

- **Strengthening law enforcement,** notably by **recruiting ~5000 forest rangers and ~200 OPJs**[1] and securing funding for patrols
- **Equipping the PAs with intelligent monitoring systems and technologies** (AI, drones)
- **Securing the boundaries** of PAs with MDAT
- **Strengthening and mobilizing the local partner network** to support unmanaged PAs as well as future OECMs or PAs
- Increasing the **contribution of PA to the national restoration target of 4 Mha by 2030 and coordinating with restoration efforts outside PAs** to reduce pressure on protected forests

**Mobilize approximately $285-360M over 4 years for effective management of terrestrial biodiversity**

1 Estimated staffing needs: 5000 additional forest rangers needed — the estimate is based on an optimal density (~1 forest ranger for 2000 ha). Madagascar currently has ~2000 forest rangers. Approximately 200 judicial police officers (OPJs) will be needed, based on the number of protected areas (1 OPJ per protected area)

# 2 | Scaling up “Conventions de Gestion Communautaire” or "Community Management Agreements" will ensure benefits for communities while reducing pressure on forests

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## " Conventions de Gestion Communautaire " or Community Management Agreement

- **Legal requirement** according to the COAP for all PAs
- **Contract between the PA manager and local communities**, developed through a process of dialogue and participatory negotiation
- **Defines:**
  - Rights of access and use of natural resources
  - Responsibilities and commitments in conservation
  - Co-management rules, incl. governance structures and usage limits
  - Mechanisms for compensation or alternative livelihoods
- **Often complements existing TGRNR agreements**
- **Not yet established in all PAs** despite being mandatory under the COAP
- **Standardized model to be presented** to the SAPM Committee in August for national rollout

## Key benefits for communities

**Legal recognition of rights and responsibilities** over natural resources in and around protected areas

**Access to income opportunities and compensation**, including jobs in ecotourism, sustainable agriculture, NTFPs, and carbon credits

**Meaningful participation in governance**, reducing conflicts and increasing local ownership of conservation rules

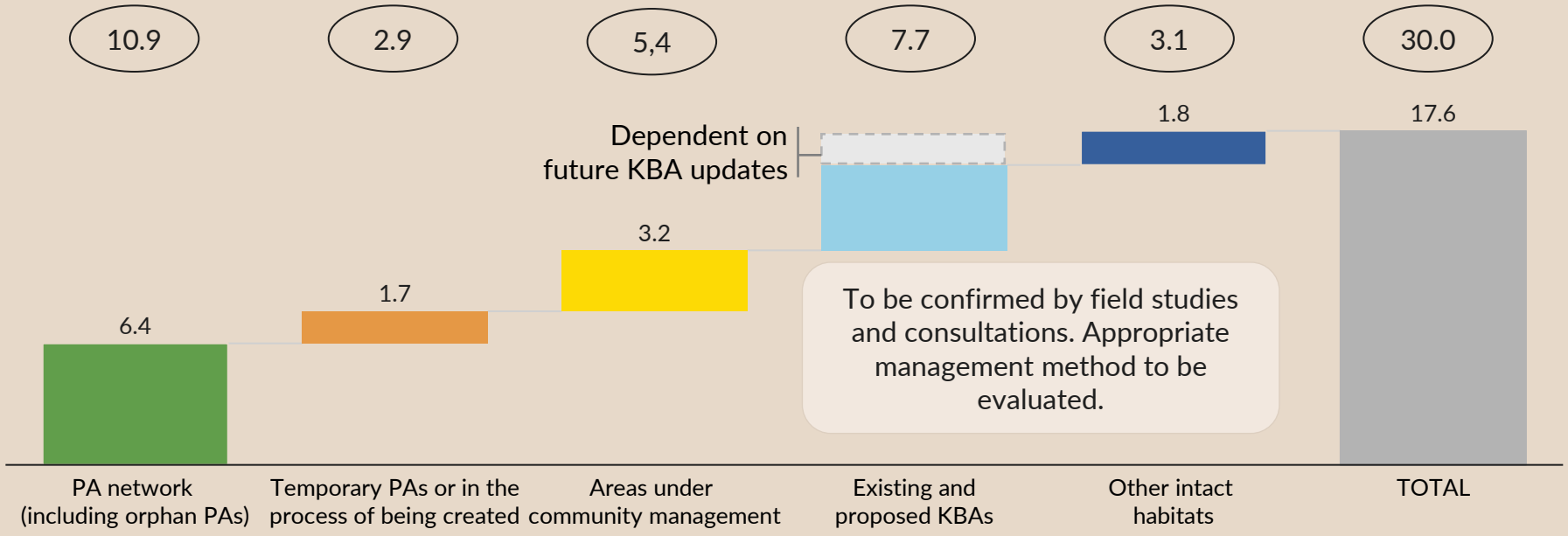
**Entry point for capacity building, financing, and partnerships**, including eligibility for donor support, benefit-sharing mechanisms, and partnerships with private sector actors (e.g., agricultural value chains)

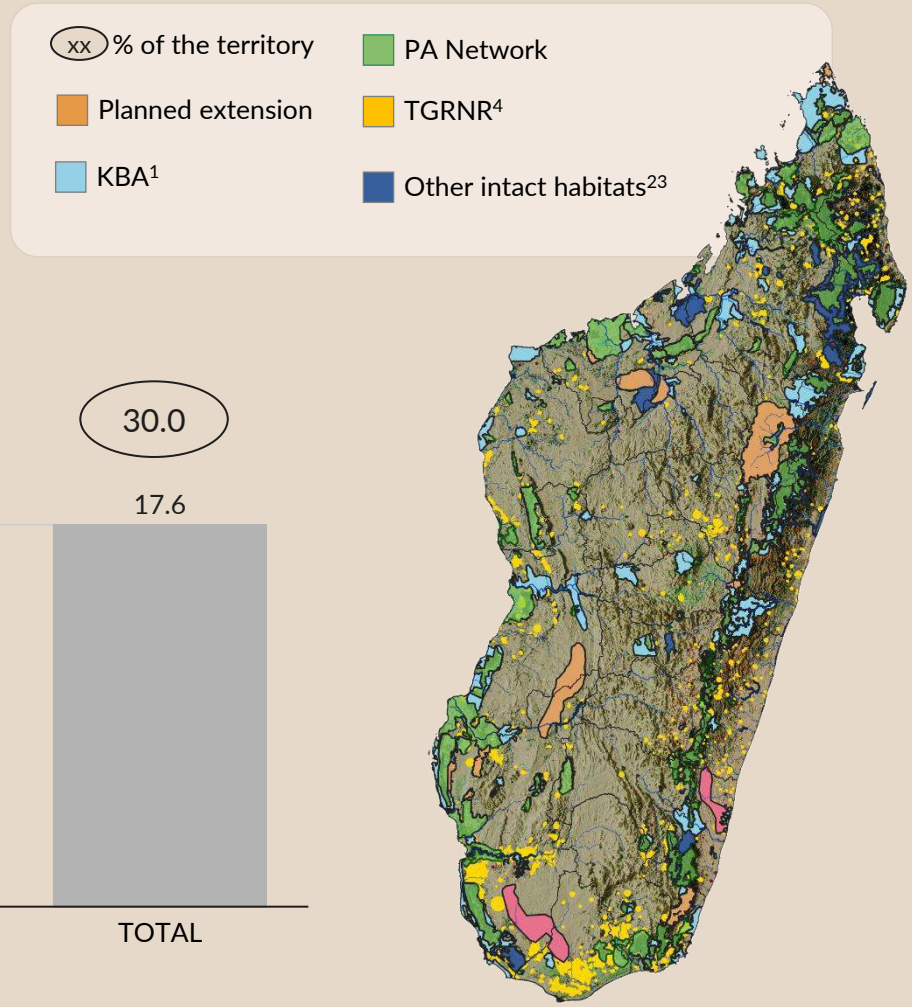
Source: Environmental and Social Management Framework for Protected Areas of Madagascar – July 2025

# 2 | ~18MHA of terrestrial areas with high biodiversity value will be targeted for priority sustainable management

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Distribution of priority areas for biodiversity, Mha




1 Includes the existing KBAs provided by the Integrated Biodiversity Assessment Tool (IBAT) and the additional proposed KBAs presented in "Target 3 Roadmap: 30x30 Madagascar"
2 As identified in "Target 3 Roadmap: 30x30 Madagascar"
3 Additional areas have been identified through a two-step process: first, we applied integer linear programming to the existing and proposed PA network to identify coverage gaps and prioritize sites needed to ensure comprehensive species protection (see appendix for more details); second, we refined these priorities during the stakeholder workshop held on July 1-2, 2025, incorporating inputs on feasibility, security, and biodiversity values. These proposed areas are preliminary and will be adjusted as stakeholder consultations continue.
4 Current OECMs outside protected areas (PAs), as well as additional proposed OECMs.

Source: IUCN Red List; IBAT; SAPM (2017); 30x30 Roadmap

# 2 | Madagascar's unique ecosystems and biodiversity will directly benefit from increased protection

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

**FROM 45% TO >65%** forest cover under protection

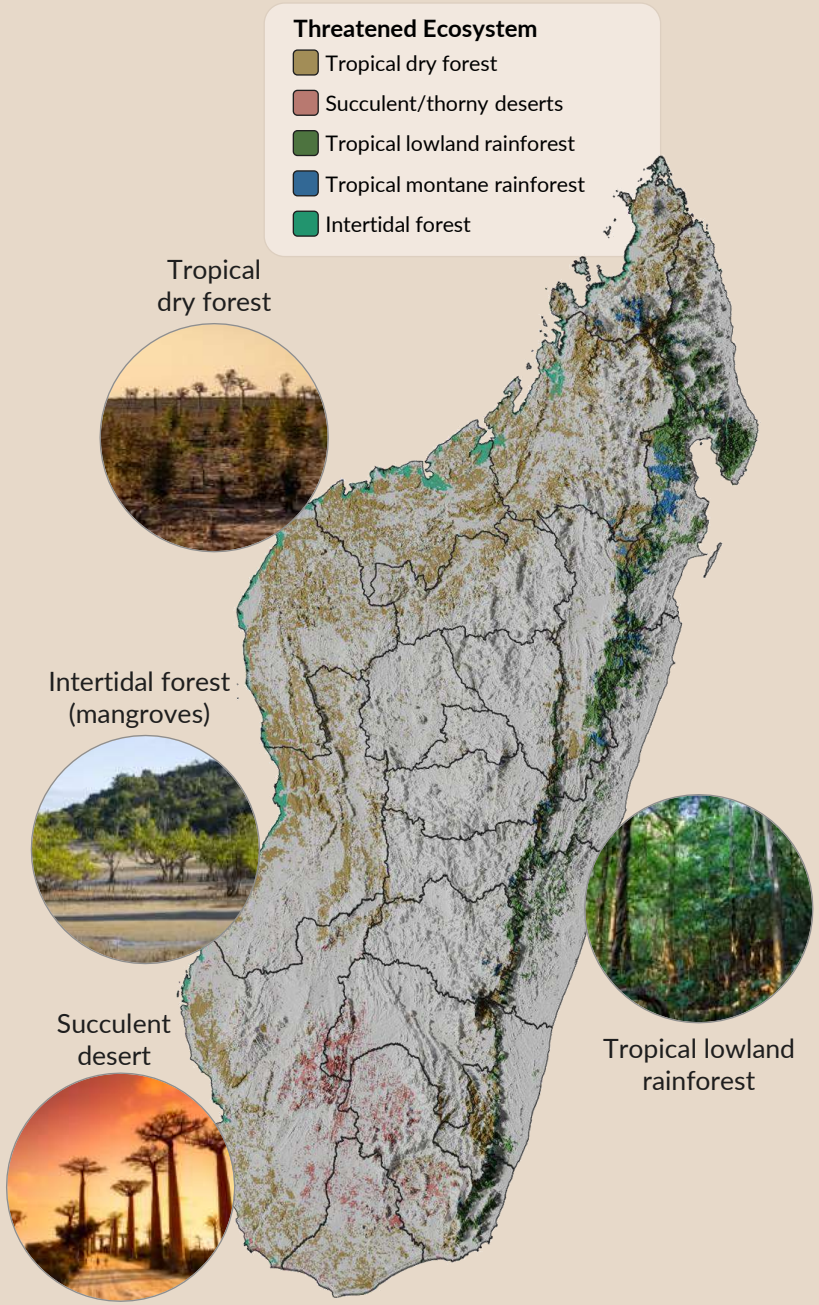
**x3** endemic species with sufficient protection, from 170 to ~500

## Increase in habitat protection for selected endemic species










Source: IUCN Red List; IBAT; SAPM (2017); 30x30 Roadmap

# 2 | The protection and restoration of prioritized areas will help safeguard the endemic species of Madagascar

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Endemic species

**>2000**

**Known terrestrial endemic species** including notably:

- Ring-tailed lemur, Indri
- Madagascar Pochard
- Parson's Chameleon
- Ploughshare tortoise

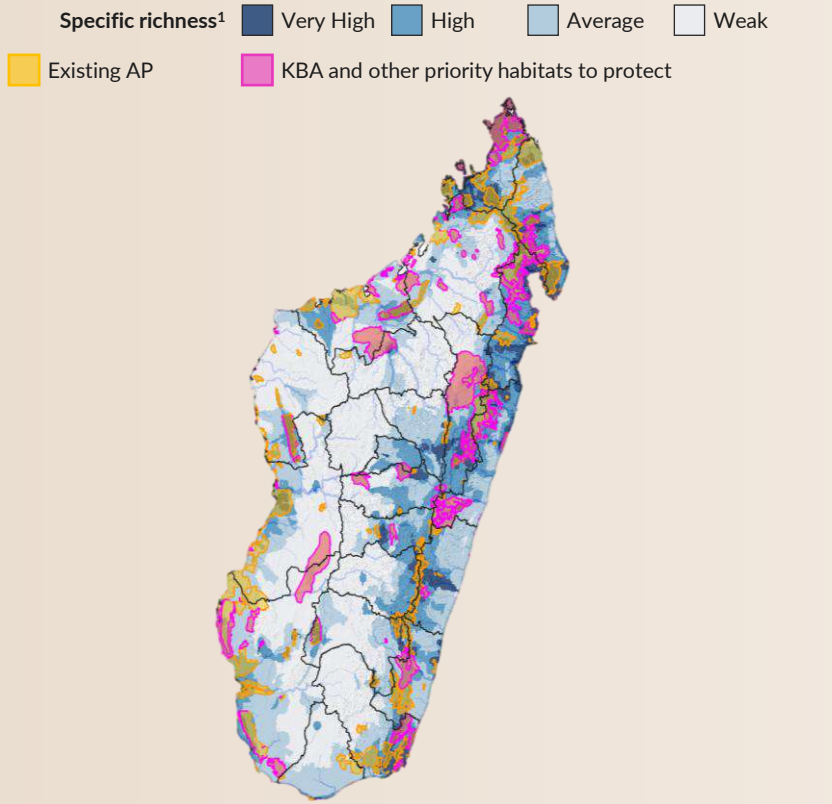
**43%**

**Threatened**, including 10% critically endangered

**48%**

**Insufficiently protected**

## Specific richness of endemic species weighted by rarity[1]




## Prioritization and targeted actions for endemic species

- Priority areas include the protection of sites with very high richness and rarity, doubling habitats of endemic species that have sufficient protection2
- Prioritization and phasing will consider species-related criteria
- Additional actions could be implemented for critically endangered species (e.g., control of illegal trade, patrols, corridors, awareness, restoration of key habitats)

1 Range-weighted richness (RWR), in which species with a more restricted habitat range contribute more to richness in a pixel. The RWR was reclassified into four categories (Very High, High, Medium, Low) using the 40th, 70th, and 90th percentiles of observed values
2 Calculated based on the average protection rate of 2,005 endemic species in the current protected area network and the proposed network

Source: IUCN RedList, WDPA, IBAT

# 2 | Beyond the designation of new protected areas, the expansion of areas to be protected will also involve the development of OECMs

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**OECM Definition:** Area located **outside a protected area**, **sustainably managed**, that contributes **effectively and in the long term to the conservation of biodiversity**, while respecting the **associated ecological, social, and cultural values**

## OECM Criteria

1. **Outside the protected area zone**: the PA site must not already be recognized as a PA
2. **Governed and managed**: a governance actor is clearly identified and implements management actions over a defined area
3. **Effective in situ biodiversity conservation**: the site conserves or enhances biodiversity, reduces threats, and maintains ecosystem functions and services — even if conservation is not its primary goal
4. **Associated protected values**: cultural, spiritual, social, or economic values compatible with conservation are recognized and respected

## OECM Benefits

- **Recognition and promotion of existing conservation efforts,** with greater visibility at the national and international levels
- **Official contribution to the 30x30 target,** without changing local governance
- **Enhanced access to technical support and funding** (biodiversity, climate, PES…)
- **Flexible framework, adapted to local contexts,** allowing conservation to be formalized outside protected areas

## Proposed process for OECM recognition

- **Participatory pre-identification of sites with OECM potential**
- **Information and engagement with the concerned communities** including implementation of FPIC (Free, Prior and Informed Consent) before any formal assessment
- **Evaluation of OECM criteria**
- **Submission of the file to a national body** (to be set up)
- **Official recognition and registration in the national OECM database**

Source: IUCN – Guidance on other effective area-based conservation measures (OECMs).

# 2 | Different OECM models can be developed in Madagascar in partnership with communities, NGOs, and the private sector

NON EXHAUSTIVE PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

| Category | Primary conservation | Secondary conservation | Accessory conservation |
|---|---|---|---|
| **Characteristic** | Conservation as **the main objective** | Integrated **conservation** but not the primary objective | **Positive indirect effect** on conservation, unintentional |
| **Potential models for Madagascar** | • Community management: **TGRNR** under GELOSE/GCF or ICCA<br>• **Ecological restoration sites**<br>• Ecolodges and **ecotourism concessions** where conservation is integrated as an objective<br>• **Private forests** explicitly managed for conservation<br>• Sites managed by **NGOs without PA designation** | • **Restoration and protection of watersheds** upstream of hydroelectric dams<br>• **Compensatory ecological restoration**, e.g., by mining companies<br>• **Scientific / university research sites**<br>• **Certified agroforestry plantations** e.g. vanilla, coffee | • **Sacred forests and lakes**<br>• **Heritage sites**<br>• **Military terrains** with forests protected by **access restriction**<br>• **Mining buffer zones** left untouched |
| **International examples** (OECMs confirmed or cited as potential by IUCN) | **Lewa Wildlife Conservancy** (25 kha), managed by a foundation without PA designation<br>**Nya Nyae Conservancy** (900 kha), ecotourism-oriented concession with effective conservation<br>**Heritage Agreements** (~1.8 Mha), voluntary agreements protecting native vegetation on private lands | **Greater Victoria Water Supply Area** (9 kha), closed watershed<br>**Queen's University Biological Station** (3 kha), for scientific research<br>**Offsets New Britain Palm Oil** (~10k ha), industrial ecological compensation sites | **Canadian Forces Base Shilo** (21 kha), military base with preserved habitats in an area<br>**Røros Mining Town and Circumference** (56 kha), UNESCO site with preservation of semi-natural landscapes<br>**Sacred Groves** (~30 in total), sacred forests protected by customs |

## Key elements

- **Validation** and publication **of the interministerial decree on the OECM framework** in Madagascar, integrating restoration
- **Pre-identification** of terrestrial sites (currently only marine with GEF-6 MPAs)
- **Evidence of positive and lasting impact** on biodiversity

Source: IUCN – Guidance on other effective area-based conservation measures (OECMs), Protected Planet

# 2 | Among the terrestrial community-led options that could be recognized as OECM, the TGRNR appears as the strongest

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

✓ Criteria met ✓ Partially met criteria ✗ Criterion not met

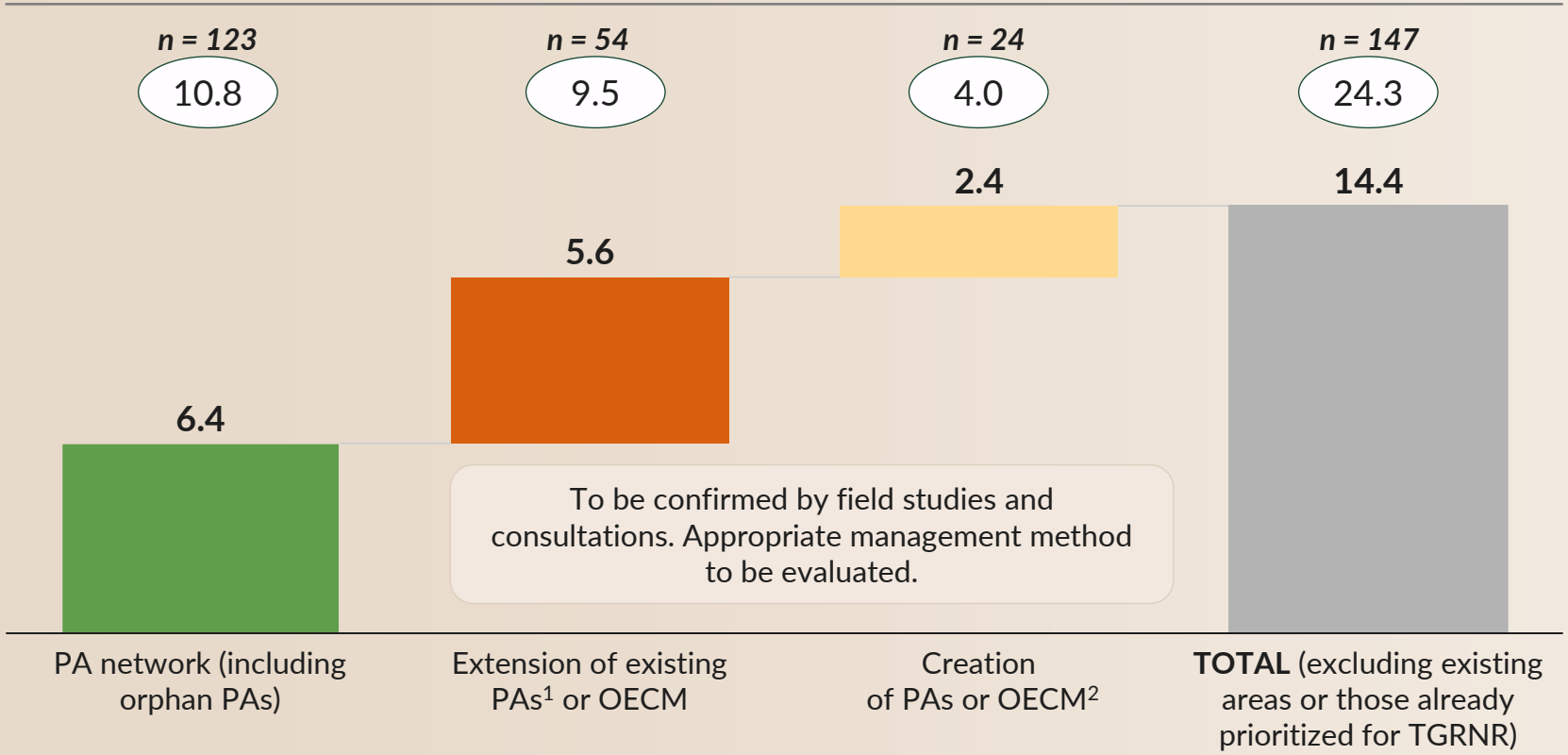
| Model | TGRNR | APAC | Community PA | Sub-delegation of PA |
|---|---|---|---|---|
| **Description** | **Official management transfer to a community (COBA) with a signed contract** with the State. Approved management plan, limited duration, renewal after evaluation | **Indigenous and Community Heritage Areas and Territories – Territories of life** traditionally managed. Recognition via ICCA network, but no clear legal status yet | **Protected Area directly managed by a community,** recognized by the State and following the full legal SAPM process | **Partial management of an existing PA by a community** through a formal sub-delegation agreement with the state-approved manager, without a change in status |
| **Name** | **~1570 TGRNR** (including 1/3 active) | **~30 APAC** (including 14 formally identified) | NA - in the process of obtaining temporary protection | NA - 5 cases among the 14 APAC identified |
| **Total land area** | **3.4 Mha** | **~ 20,000 ha** for the 14 identified APACs | NA | NA |
| **OECM Eligibility** | ✓ **Eligible OECM** | ✓ **Potentially eligible OECM** | ✗ **Not OECM eligible** | ✗ **Not OECM eligible** |
| 1. Outside of AP | ✓ Outside PA (except certain cases) | ✓ Out of scope (except certain cases) | ✗ PA status | ✗ Within a PA |
| 2. Clear governance | ✓ Legal status and contract | ✓ Customary governance (non-formalized) | ✓ Legal status and contract | ✓ Agreement with manager |
| 3. Effective conservation | ✓ Validated development plan | ✓ Traditional Practices | ✓ Validated development plan | ✓ Validated development plan |
| 4. Associated values | ✓ Cultural values often integrated | ✓ Central cultural, spiritual, and social values | ✓ Local values integrated into the plan | ✓ Recognized local values |

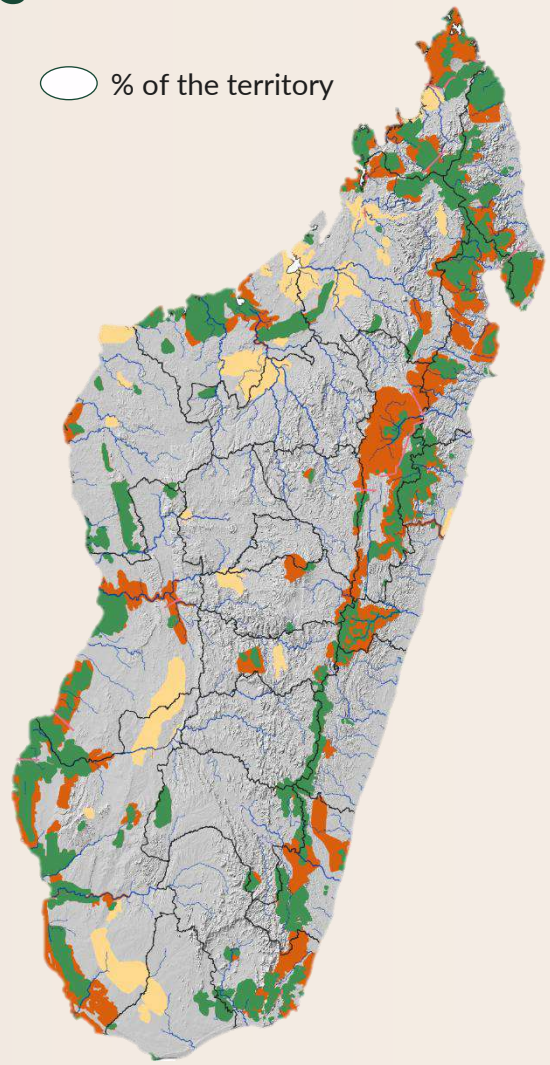
Source: MEDD-DAPRNE, TAFO MIHAAVO, Workshop report – Reflection on the recognition of forms of natural resource conservation ensured by the fokonolona at the level of their living territory and linked to their local culture (May 14-15)

# 2 | 5.6 Mha of expansion can be implemented through extensions of existing PAs or through OECMs in partnership with current managers

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Distribution of priority areas for biodiversity, Mha



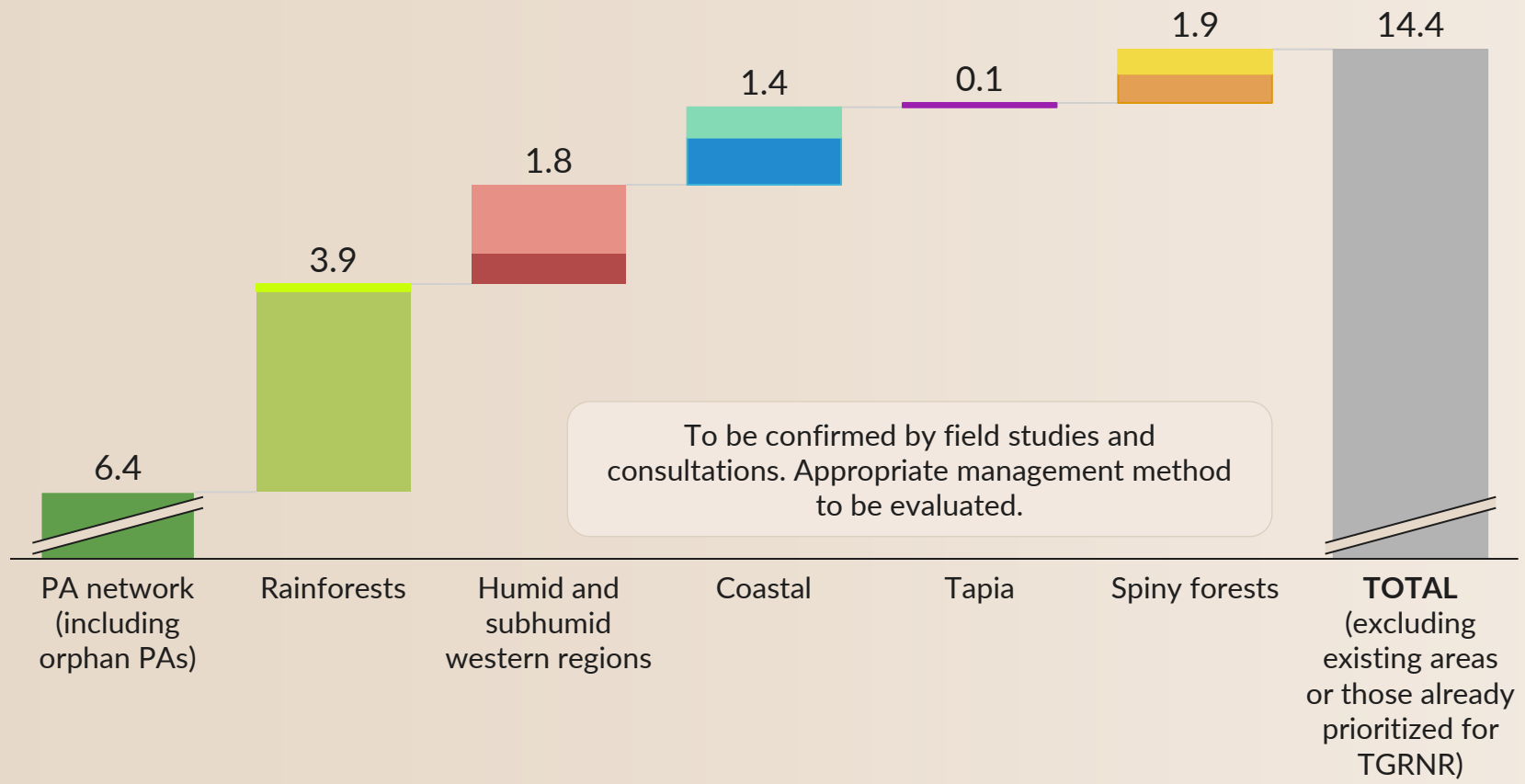
1 A PA expansion area is considered a potential PA extension when it overlaps with the current PA network
2 A PA expansion area is considered a creation of PA when there is no overlap with the existing network
3 Expansion areas smaller than 10 kha were not considered here to reduce the total number of areas. By retaining only areas larger than 10 kha, 98.4% of the planned expansion is still covered

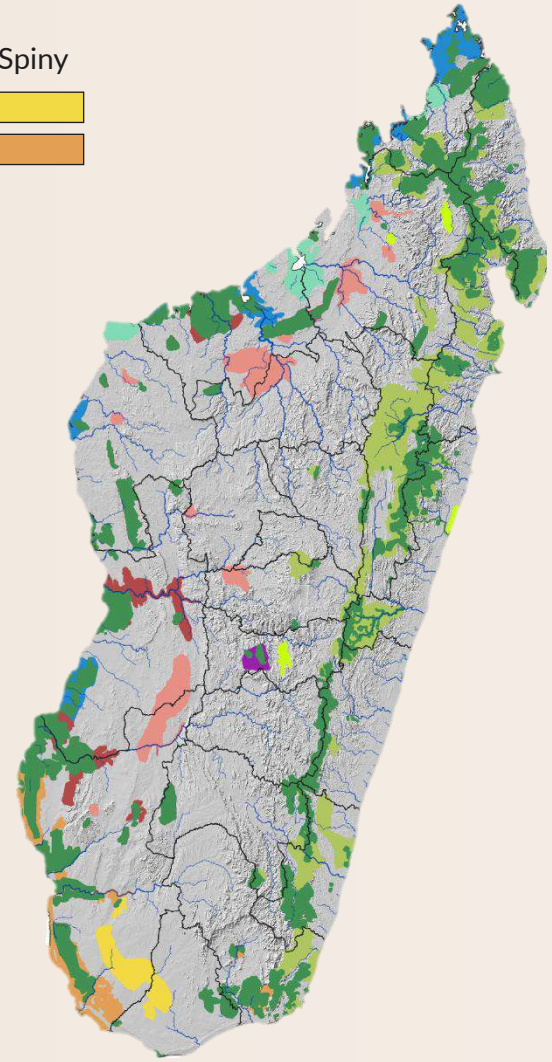
Source: IUCN Red List; IBAT; SAPM (2017); 30x30 Roadmap

# 2 | Nearly half of the expansion of PAs will involve the extension of PAs in rainforests, particularly around the Eastern Escarpment

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Distribution of priority areas for biodiversity, Mha



1. A PA expansion area is considered a potential AP extension when it overlaps with the current AP network. An AP expansion area is considered a new PA when there is no overlap with the existing network. Expansion areas under 10 kha were not considered here to reduce the total number of areas. By retaining only areas above 10 kha, 98.4% of the planned expansion is still covered.

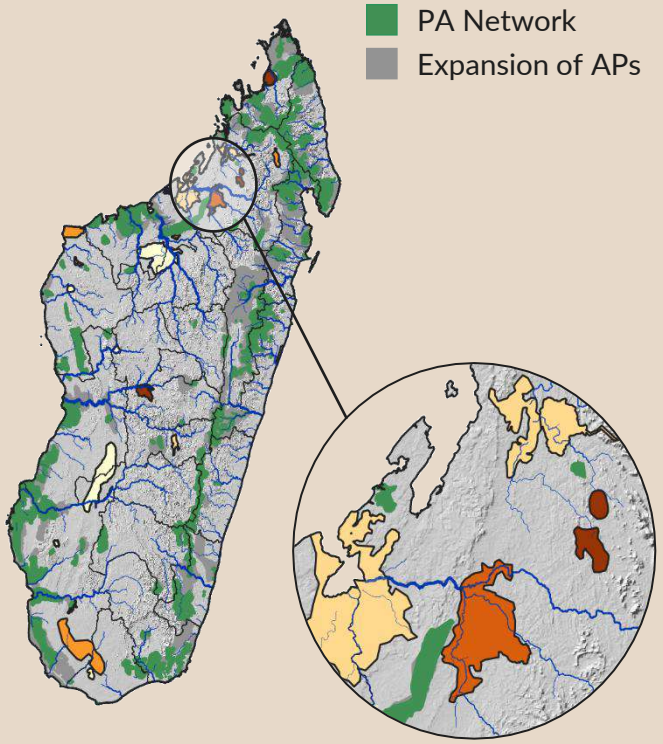
Source: Vegetation map of Madagascar (Kew Madagascar Conservation Center)

# 2 | The new PAs to be created can cover different levels of IUCN or OECM categories

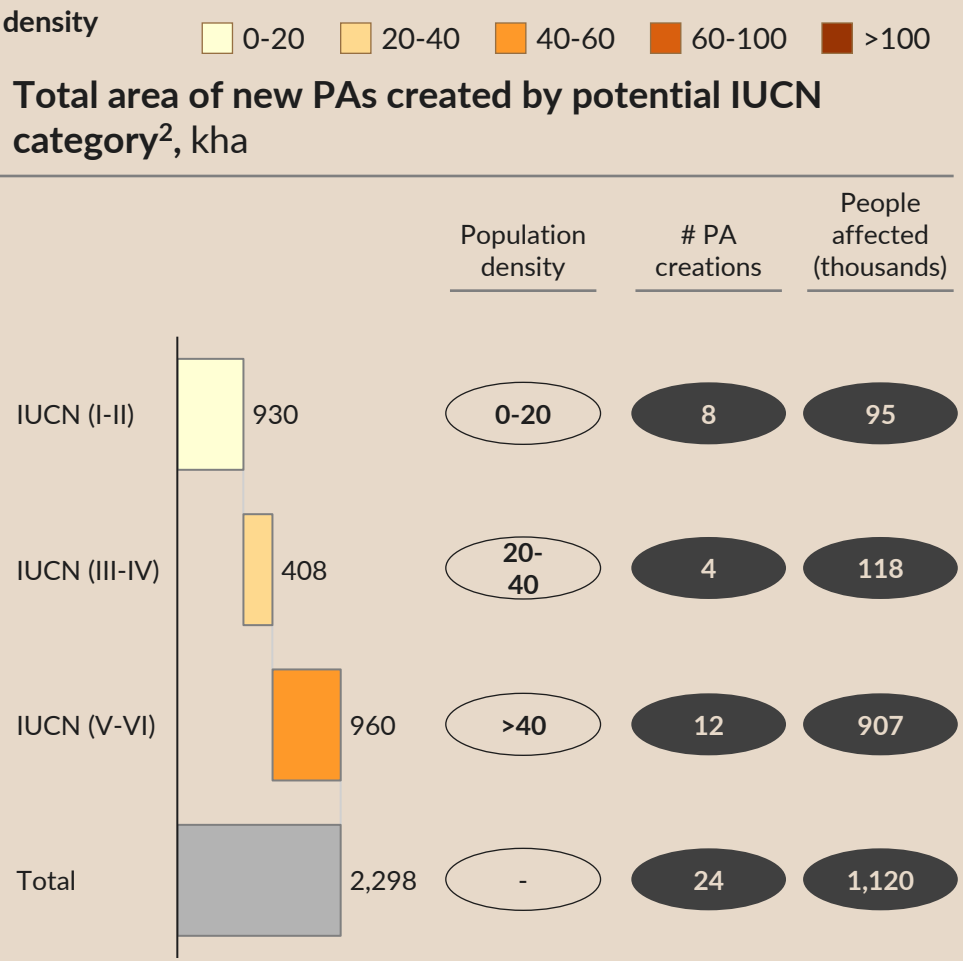
**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

To be confirmed by field studies and consultations. Appropriate management method to be evaluated.

## Population density in PAs to be created[1]




## Total area of new PAs created by potential IUCN category[2], kha




1. The new proposed PAs are those zones aimed at achieving 24.3% conservation that do not overlap with the existing PA network. For each new PA, the rural population was assessed within a 5 km radius
2. Estimated based on population density

Source: Global Human Settlement Layer (CIESIN)

## Preliminary insights

**24 new APs or OECMs identified** (expansion areas outside the existing network)

Approximately **1.1 million rural people** live in or around these new APs or OECMs

The **level of protection** would need to be adjusted depending on the affected population and the level of degradation

**At least half** of the new PAs could fall under **categories V–VI** (higher densities and pressures)

# 2 | To ensure optimal management of protected areas, the plan includes concrete measures to improve effectiveness

(X) Details to follow

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## SUSTAINABLE FINANCE

**Increase in FAPBM allocations** for the management of protected areas

Creation of a co-managed fund between FAPBM and Tany Meva **for community efforts**, reducing pressures

## CROSS-SECTORAL COLLABORATION

Implementation of clear **digital delineation**

Integration of protected areas and other sustainably managed areas into **territorial planning** (OPT-PLOF)

Strengthening **intersectoral integration** (mining, agriculture, tourism, energy)

Implementation **of impact assessments and mitigation measures** (e.g., gold mining, road)

A

## LAW ENFORCEMENT AND SURVEILLANCE

Recruitment and training of **~5,000 rangers and 200 judicial police officers**

Strengthening of **mixed brigades**

Implementation of **intelligent surveillance systems** (e.g., drones) and **real-time tracking** platforms

Enforcement of **CITES and judiciary measures** (annual reports, zero quota, seized timber, sanctions against traffickers)

B

## STRENGTHENING LOCAL NGOS

Implementation of **incubation programs** and training for emerging local NGOs

**Development of structured partnerships** between local and international NGOs

Facilitation of **access to funding** via targeted micro-grants

Support to **development and validation of management plans** (PAGs)

## FIELD STUDIES AND CONSULTATIONS

**Field studies and community engagement** to confirm priority sites

Definition of the **management model** and **managers**

Strengthening of the designation process, with **intersectoral collaboration** (e.g., mining, agriculture)

# A 2 | AI-based monitoring will improve the efficiency and responsiveness of PA management

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

Details on the next page

| Category | Function | Technology | Current usage in Madagascar | Next potential step |
|---|---|---|---|---|
| **Remote Sensing and Satellite** | Detect forest loss from the sky in near real-time | **Forest Watcher (Global Forest Watch)**  | • Used in sites like Andasibe by Durrell<br>• Sends deforestation alerts via a mobile app<br>• Detects tree cover loss within one week | **Expand Forest Watcher** to all priority PAs |
| **Field detection** | Detect illegal activities using field sensors | **AI-enhanced drones**  | • Non-AI drones used by Conservation Allies, Durrell, and RBG Kew in several PAs<br>• Allows forest monitoring and mangrove reforestation | **Test the use of AI-enhanced drones** (e.g., object recognition, thermal cameras) at high-pressure sites |
| | | **Rainforest Connection (RFCx) – AI Acoustic Sensors**   | • Not yet deployed in Madagascar but used in Gabon, Peru, Indonesia<br>• Detects chainsaws and gunshots via AI acoustic sensors and sends alerts via mobile | **Evaluate the feasibility of a pilot** using AI acoustic sensors in high-pressure sites |
| **Management of patrols and rangers** | Plan and monitor field operations and law enforcement | **Spatial Monitoring and Reporting Tool (SMART) Mobile**  | • Widely adopted in the PA network<br>• Allows rangers to record patrols, violations, and wildlife observations offline using GPS and photos | **Standardize SMART** across all APs and train new users |
| **Real-time dashboards and integration** | Centralize alerts, patrols, biodiversity, and satellite data | **EarthRanger**  | • Used in 80 countries around the world, with an ongoing pilot in Madagascar (Makira)<br>• Integrates multiple data (patrol, alerts, satellites, GPS, species) into a real-time visual dashboard | **Test EarthRanger** in some PAs and **ensure integration with SMART and Forest Watcher** to build a national dashboard |
| | | **SMART Connect** | • Not yet in Madagascar but used in Kenya and Namibia<br>• Provides a cloud extension of SMART, enabling synchronization and integration of real-time alerts | **Use SMART Connect** in other sites as an intermediate step |

Source: Forest Watcher / Global Forest Watch Application, RainForest Connection, SMART Conservation Software, EarthRanger

# A 2 | EarthRanger, combined with AI-based data collection systems, can enhance PA monitoring and reduce patrol costs

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

| | EARTHRANGER<br>A product of Ai2  | AI Data Collection Systems<br>AI-enhanced drones   RAINFOREST CONNECTION | |
|---|---|---|---|
| **Key functions** | **Real-time management platform for PAs**<br>• Multi-source data aggregation (GPS, SMART, sensors, drones, reports)<br>• Live map display<br>• Patrol planning and coordination<br>• Automated alerts | **Drones with**<br>• Automatic detection of humans, animals, fires, vehicles<br>• Thermal cameras for nighttime surveillance<br>• Object recognition and automatic tracking | **AI acoustic sensors capable of detecting :**<br>• Chainsaws, gunshots, motorcycles in real time<br>• Animal cries and anthropogenic pressures |
| **User examples** | • Users in ~80 countries, including African Parks (Botswana, Mozambique, DRC, Malawi), Kenya Wildlife Services (Kenya), Peace Parks Foundation (Mozambique) | • WWF in Zambia (Kafue) and Kenya (Mara), EyeForest (India), ForestGuard (Gabon) | • Users in 37 countries including NGOs in Brazil and Indonesia |
| **Examples of financing** | • GEF-UNEP “SMART Partnership” project of $7.2M to deploy EarthRanger in 6 parks (5Mha) in Botswana, Mozambique, and DRC | | |

**Potential Impacts**

- Reduction of field patrols
- Reduction of operational costs
- Increase in surveillance coverage and incident prevention

Source: EarthRanger, Rainforest Connection, African Parks, GEF

# A 2 | Technologies will enhance surveillance and law enforcement for an initial investment of ~$10M

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Proposed Technologies

**For all PAs:**

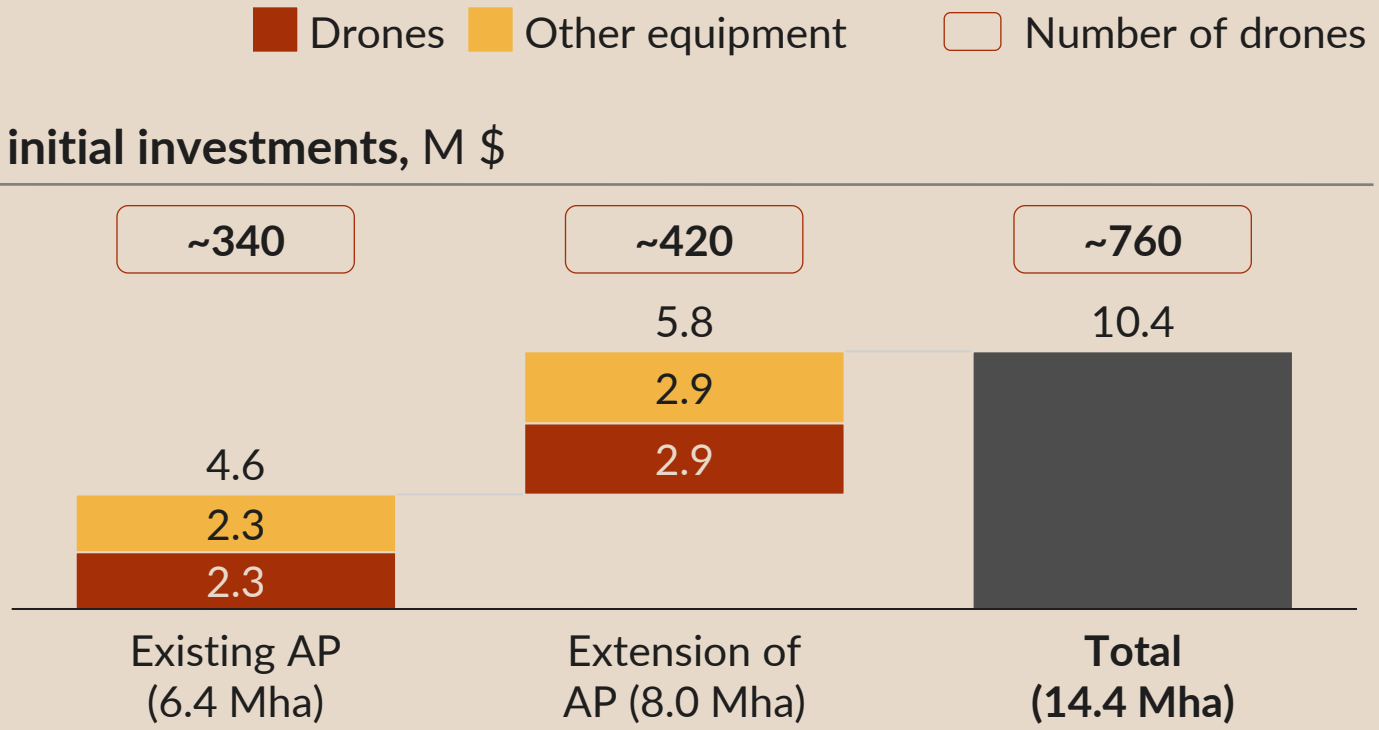
- **Drones** (DJI Mavic 3 Pro, without AI) **with additional batteries**
- **Dedicated Starlink connection** for each drone
- **SMART mobile** deployed 100% **with smartphone and power bank** per patroller

**For priority areas:**

- **EarthRanger** with camera trap and acoustic sensors

*Aligned with MNP's digitalization plan*

## Total initial investments, M $




**Key assumptions**

- Initial investment for equipment: $1.6M for 2.2Mha (MNP), excluding computers, servers, etc., for the control room
- Drones: 119 units for 2.2Mha, at $6,800/unit (batteries included)

Source: MNP, FAPBM, Co-design workshop

# B 2 | Having a qualified, motivated staff aligned with the conservation mission in the protected areas network would enhance management efficiency

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Plan

**Define the necessary workforce and skills**

- Mapping needs by PA (functions, workforce, gender)
- Skills framework by type of position (eco-guard, site manager...)
- Standardized HR tools (job descriptions, salary scales)
- National HR monitoring (MEDD/FAPBM)

## Attract

**Recruit the right profiles in the right places**

- Priority on local recruitment in peripheral areas
- Distance bonuses + housing for isolated sites
- Partnerships with local universities for internships and pre-recruitment
- Promotion of professions (local radio, open days, social networks)

## Develop

**Strengthen skills and career paths**

- Training modules through a Managers' and Conservation Staff Academy: ethics, technical, management, social dialogue
- Clear career progression paths (e.g., eco-guard → team leader)
- Exchanges between PAs and junior/senior pairings
- Offline training materials (USB drives, WhatsApp, audio)

## Retain

**Motivate, secure, and engage teams**

- Timely payment + bonuses tied to risk, seniority, and performance
- Health and accident coverage (CNAPS + additional insurance)
- Recognition: promotions, certifications, and appreciation days

## Set the conditions for success

**Gather the conditions for implementation**

- Engagement of MEEF, FAPBM, NGOs, donors on common HR standards
- Sustainable financing (trust funds, multi-annual contracts)
- Integration into public reforms (civil service status, certification, bridges)

# B 2 | Strengthening the network of AP partner managers, particularly local ones, is essential to achieving the expansion goal

NOT EXHAUSTIVE PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

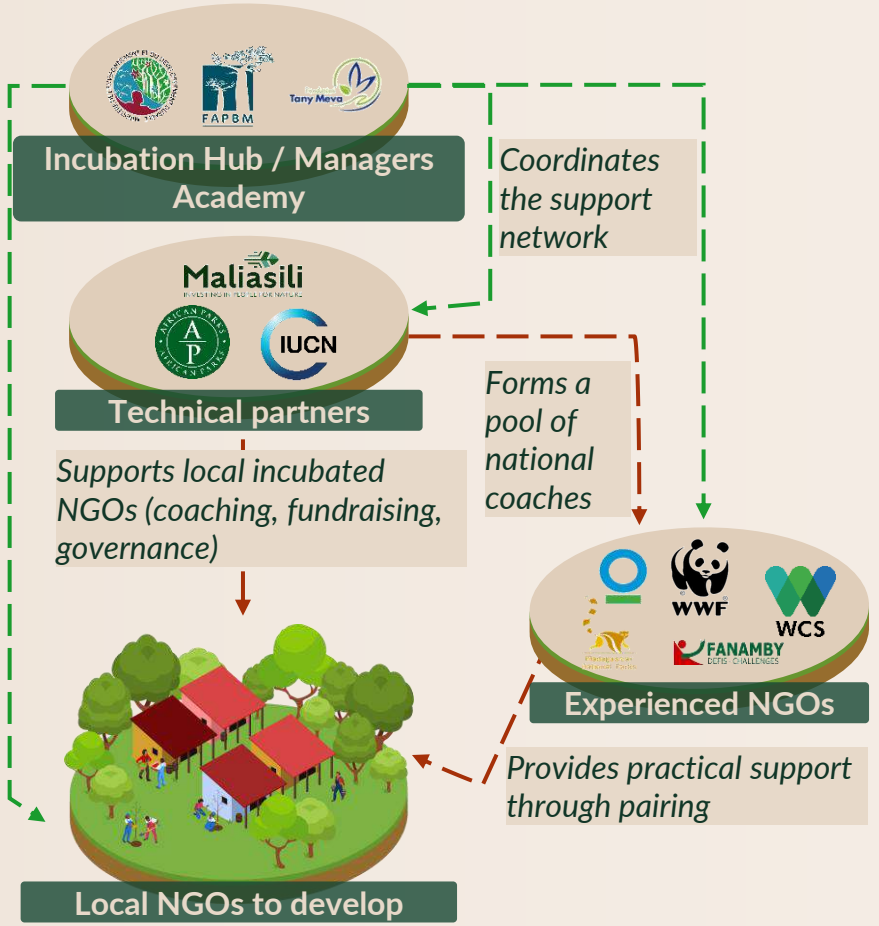
## Distribution of terrestrial protected areas by type of manager

| Area of PAs by type of manager, ha | | Number of partners | Examples |
|---|---|---|---|
| MNP / MEDD | 2,838 | 1 | |
| NGO International | 1,571 | 5 | WCS, WWF, DURRELL, CONSERVATION INTERNATIONAL, Missouri Botanical Garden |
| Local NGOs Experienced | 1,553 | 4 | FANAMBY, MADAGASCAR, MADAGASIKARA VOAKAJY, TITLE TERRESTRIAL HUNDS |
| Other NGOs local | 412 | 17 | Association FAMELONA, TSIMOKA, SAGE |
| Private sector | 9 | 2 | ANJAJAVY le lodge, LEMURIA LAND |
| Total | 6,383 | ~30 | |

**Opportunity to increase the capacity of smaller local NGOs to manage protected areas and/or OECMs**

## Incubation hub for local NGOs and academy for managers

*Identifies NGOs through calls for applications, allocates incubation micro-grants, and connects them to the support network*



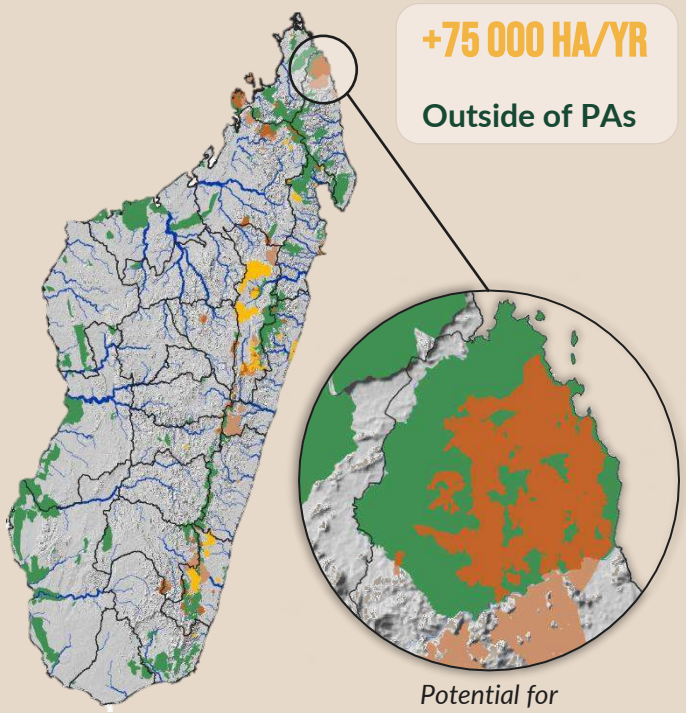

Source: IBAT, DAPRNE

# 2 | Protected areas and areas outside PAs will jointly contribute to the national restoration effort

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

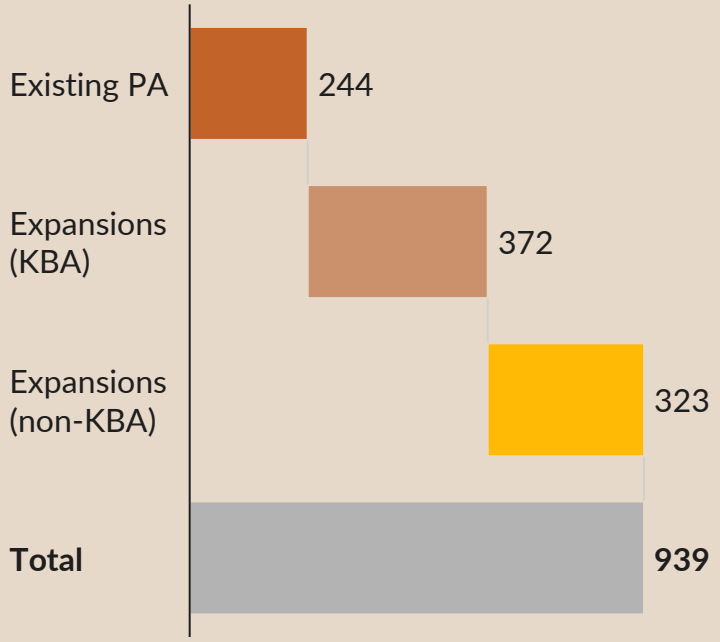
Existing PA
Restoration in the PA
Restoration in the proposed PAs
Restoration in the KBAs

## Potential restoration zones in the PAs and their proposed expansions[1]




*Potential for restoration in Loky Manambato*

**Potential by type of PA, kha**




1 Restoration was considered only in the tropical rainforest ecoregion, as sequestration rates in other ecoregions are likely too low for profitable reforestation projects. Lands unsuitable for reforestation were excluded, such as agricultural lands, built-up areas and infrastructure, water surfaces, and existing forest covers. Parcels smaller than 200 ha were excluded, as well as populated areas (>10 inhabitants/km2)

## Preliminary Insights

- A potential of **~1 Mha of restoration** has been identified **within protected areas** (existing and planned expansions), which can contribute to the **national objective of 4 Mha restored by 2030**. A large share can be achieved through **passive restoration**, provided there is effective protection of the areas concerned, complemented by **targeted active restoration actions**
- In parallel, Madagascar has set a **target of 75,000 ha/year of reforestation outside PAs**, notably to meet the demand for fuelwood around urban centers
- These efforts build on the **1.4 Mha already restored and validated in 2019** (Bonn Challenge Barometer), with a need for validation and rigorous monitoring of more recent progress

# 2 | Effective PA management will require $80-100M per year, with costs varying significantly depending on the site size

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Estimated unit cost for terrestrial PAs by PA size

| PA size category: | Large | Average | Small |
|---|---|---|---|
| **Size of the PA,** ha | >20k | 2.5 – 20k | Up to 2.5k |
| **Share of the total number of PAs,** % | 70 | 21 | 9 |
| **Estimated unit cost,** $/ha/year | **5**[4-6] | **20**[15-25] | 80[70-90] |

**Weighted average cost,** $/ha/year: **5.5** [4.3-6.6]

Adjustment upward as needs underestimated according to AP expansion workshop on 25/08

**Adjusted cost**[1], $/ha/year: **5.5-7**[1]

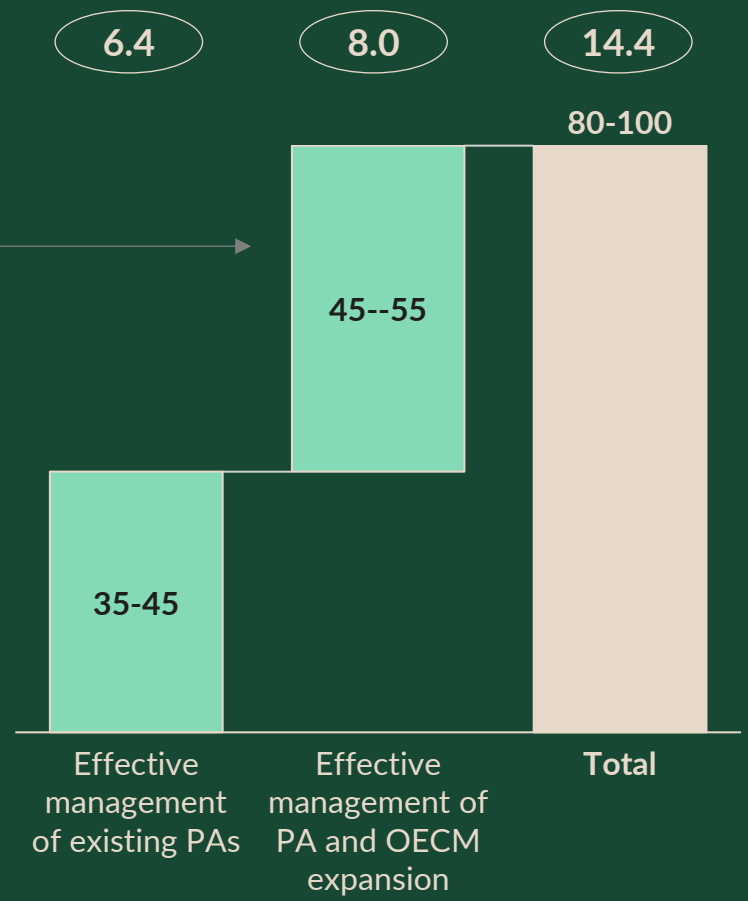
*Weighted average of the FAPBM's adjusted AP database used for national-level estimation*

1 The cost presented here covers only the recurring operational costs of directly managing protected areas. It includes only basic support for communities to avoid any double counting with the dedicated fund that will be established for community efforts, even if these actions also involve protected area managers. Moreover, technologies are considered investments rather than recurring costs; thus, they are accounted for separately.

Source: FAPBM database based on needs and AP expansion workshop of 08/25

Mha

## Potential total annual costs, M $

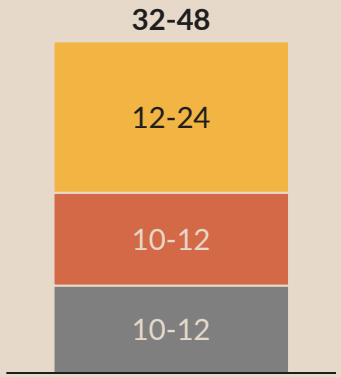


# 2 | Sustainable management of terrestrial ecosystems will require $285-365M over the next 4 years

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

## CAPEX Estimation, $M

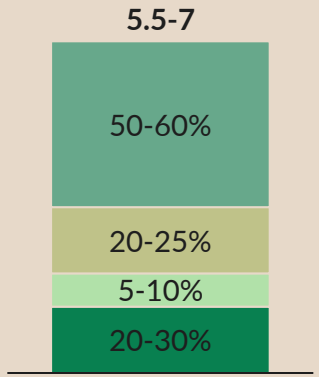
- Creation and extension of PAs incl. FPIC consultations Technical & legal studies, Development of PAG Basic equipment and delimitations
- Technologies incl. ~760 drones and equipment additional (e.g., phones, Starlink, camera trap…) in line with the MNP strategy
- Training of officers and judicial police officers




- $150-300k / creation or extension of PA
- 54 extensions & 24 creations of PA/OECM
- Training of ~5000 officers and ~200 judicial police officers for $2000/person

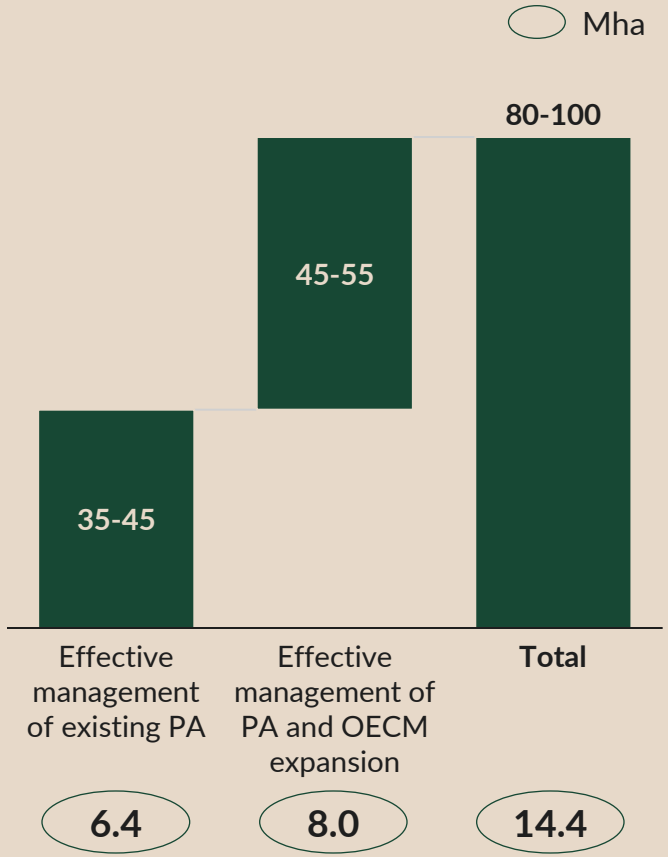
## Weighted average management cost[1], $/ha/year

- Biodiversity conservation incl. officers' salaries
- Co-management and basic community support
- Sustainable financing incl. eco-tourism, carbon credits
- Operation




- Weighted average of $5.5/ha based on needs collected by FAPBM but underestimated according workshop on 08/25

## Estimation of annual OPEX for terrestrial PAs, 2030,$M/year




1 Only the recurring operational costs of direct management of protected areas, excluding strengthened support to communities (considered in community management) and excluding technologies (treated as investments)

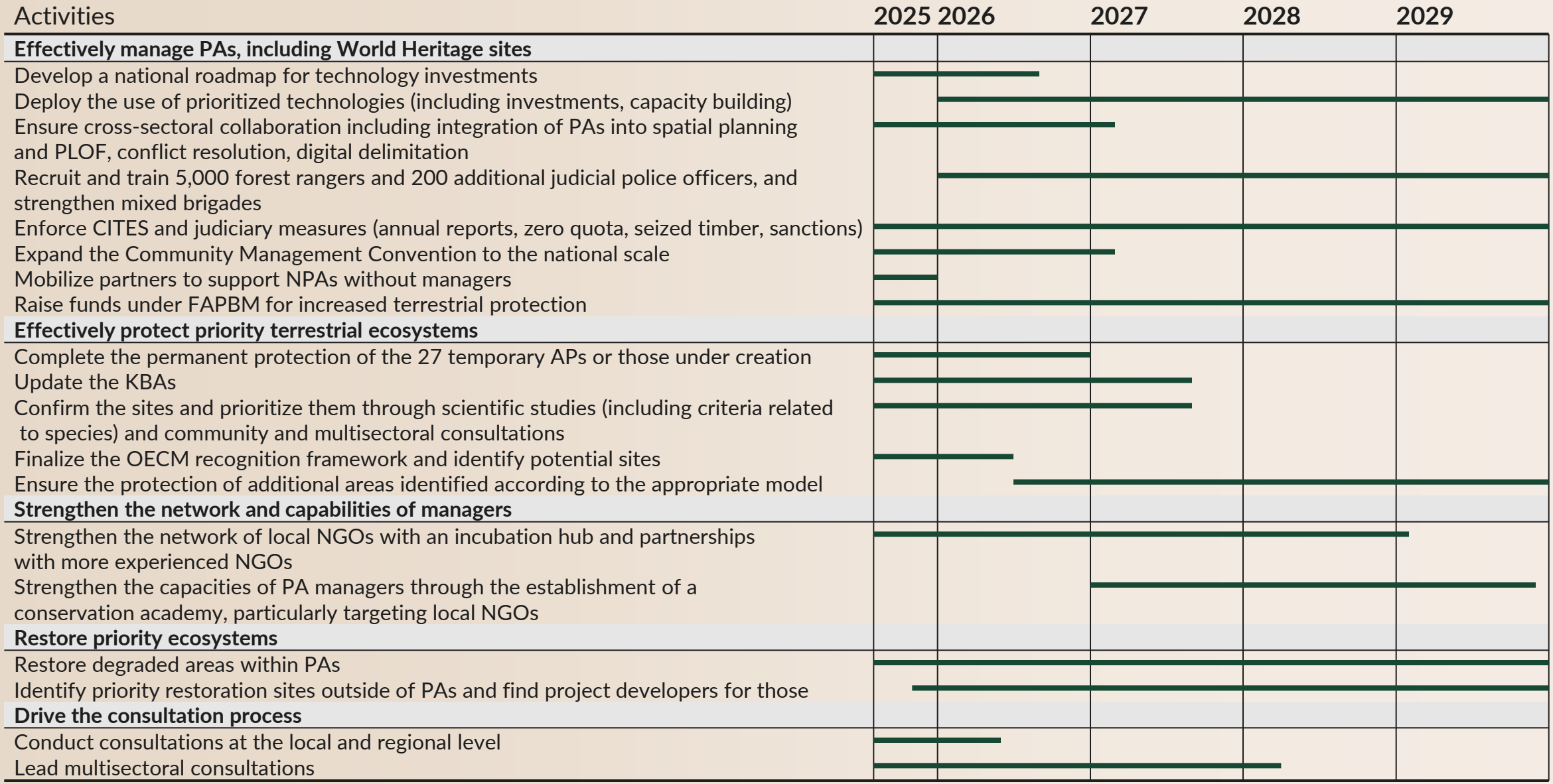
Source: FAPBM, MNP, WCS, CI, Atelier Expansion AP 25/08

**~$285-365M**

Total cost for 4 years with gradual expansion as a PA or OECM over 2026-2030

# 2 | Preliminary Roadmap to 2030

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025



1

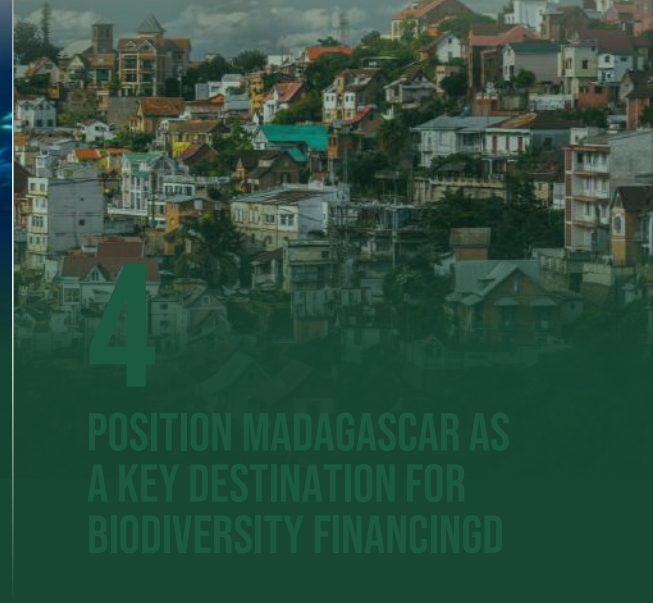
LAUNCH THE MADAGASCAR THRIVING COMMUNITIES' MODEL

2

ENSURE A SUSTAINABLE FUTURE FOR IMPORTANT TERRESTRIAL ECOSYSTEMS

3

ENSURE A SUSTAINABLE FUTURE FOR IMPORTANT MARINE ECOSYSTEMS



4

POSITION MADAGASCAR AS A KEY DESTINATION FOR BIODIVERSITY FINANCINGD

# ~40MHA

of critical marine ecosystems preserved and restored

Ensure the protection of >2Mha of **key coastal marine ecosystems**

Sustainably manage ~24Mha of **marine mammal migration routes**

Preserve ~9Mha of the **Northern Mozambique Channel** through regional cooperation

Deploy **smart management** of MPAs (e.g., satellites, sonar, patrols)

Restore ~70k ha of **mangroves**

# 3 | Ensure a sustainable future for important marine ecosystems

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**Ensure the sustainable management of ~40M ha of critical marine biodiversity areas in Madagascar, including KBAs, whale migration routes, and the northern Mozambique Channel, and create a marine fund for sustainable financing**

**Protect all key coastal marine ecosystems, including MPAs under creation (~2M ha)**, fulfilling the Sydney Promise

- Antongil Bay
- Tandavandriva
- Grand Sud
- Sainte-Marie Island
- Barren Islands
- Other KBAs and areas under identification by the MSP

**Successfully implement the national mangrove strategy,** including the conservation and sustainable enhancement of 390k ha of mangroves, and the restoration of ~70k ha

**Ensure sustainable management of marine mammal migration routes (~24M ha)** in the North and South capes, including measures

- To reduce the impact of maritime transport (e.g., slowdown zones), using the results of the QWIO[1] initiative
- To protect against IUU fishing, particularly in the North cape

**Enable sustainable management of the northern Mozambique Channel (~9M ha)**, including areas of resilient corals, through regional collaboration under the Nairobi Convention and involving harmonized marine spatial planning

**Effectively manage all marine MPAs** through "smart MPA management," including high-tech tools such as satellite data or sonar technologies, and securing (physical and/or digital) MPA boundaries

**Mobilize ~$70-120M over 4 years for effective marine biodiversity management**

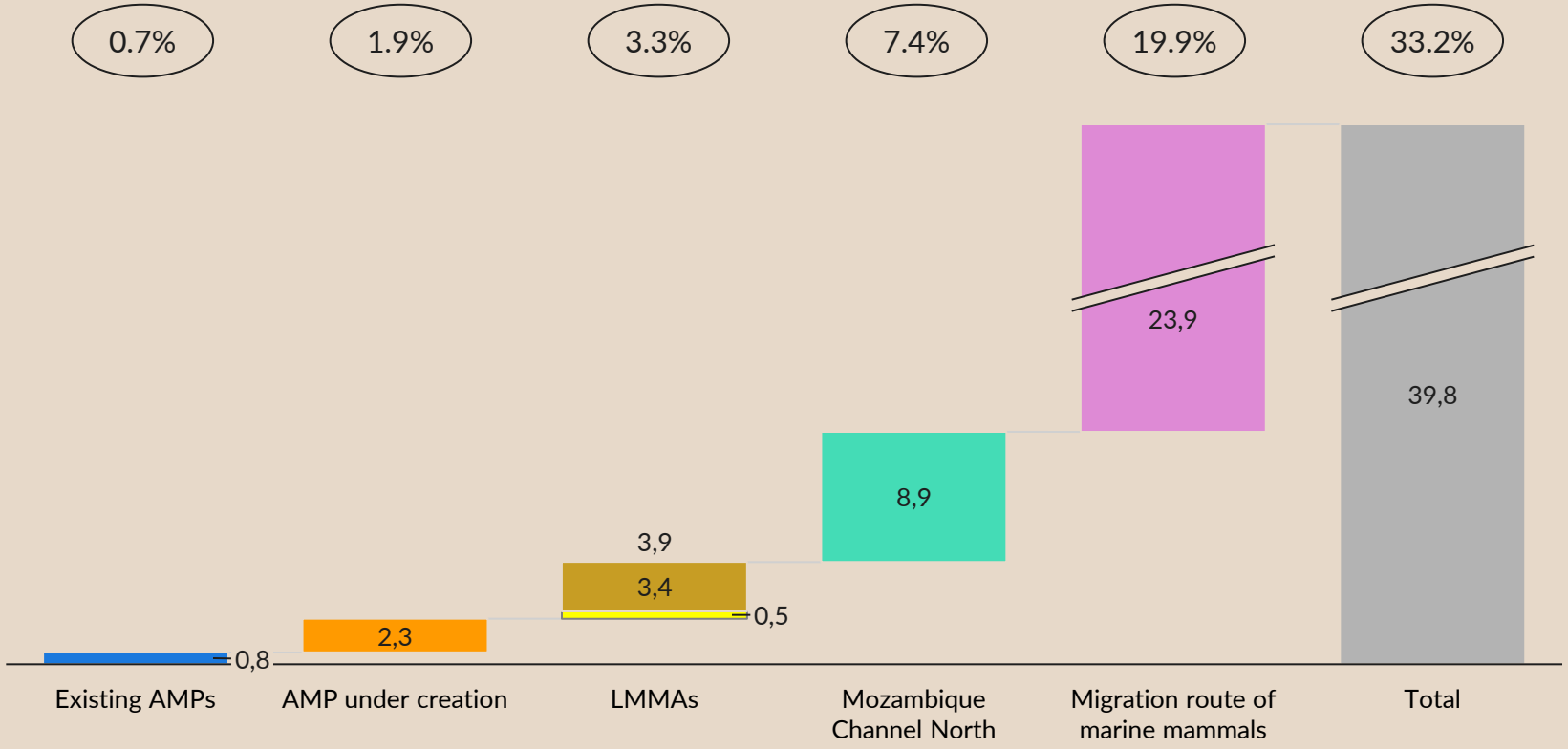
1 Quiet Western Indian Ocean, working on a model to measure holistic impact from various protection measures from shipping traffic

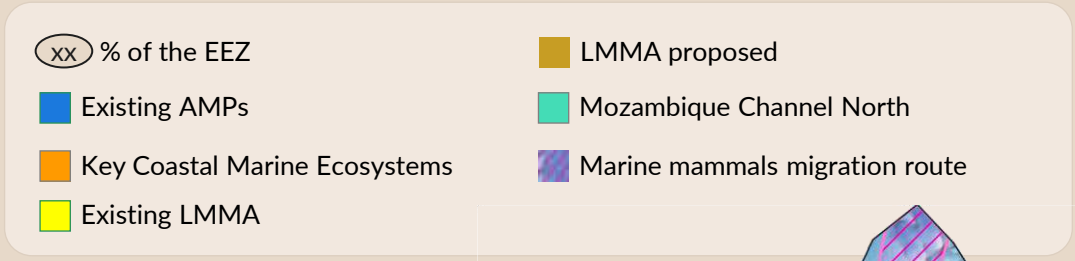
Source: co-design workshop, interviews

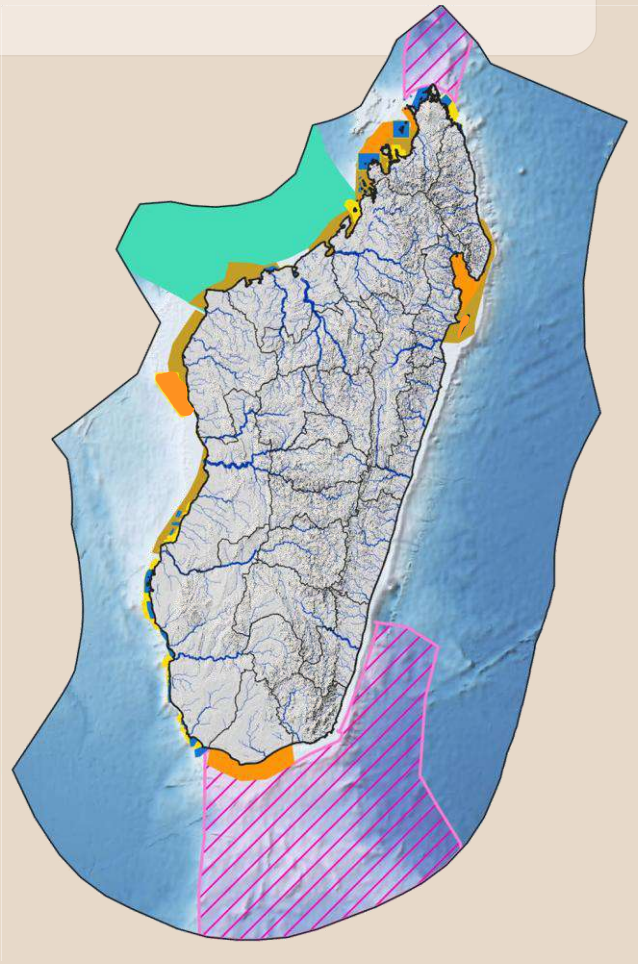
# 3 | ~40MHA of critical marine biodiversity will be subject to priority sustainable management

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Distribution of priority areas for biodiversity, Mha



Source: co-design workshop, interviews

# 3 | Madagascar's unique marine ecosystems and biodiversity will directly benefit from increased protection

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

**>33%** Of the EEZ managed to enhance habitats for endangered iconic and endemic species


Green turtle


Whale shark


Dugong


Madagascar skate


Humpback whales

# 3 | Concrete measures will be taken to strengthen the effectiveness of marine priority areas management



## SUSTAINABLE FINANCE

Increase in allocations for the management of marine protected areas through **a dedicated marine fund under FAPBM**

Creation of a fund co-managed by FAPBM and Tany Meva **for community efforts**, reducing pressures

## CROSS-SECTORIAL COLLABORATION

Finalization of the **marine spatial planning** for Madagascar's EEZ

Implementation of a **clear physical and digital delineation** for MPAs and other protected areas

## LAW ENFORCEMENT AND SURVEILLANCE

**Strengthening fisheries monitoring centers** (CSP)

Incorporating CSP into MPA financing

Establishing **smart monitoring systems** (e.g., drones), digital platforms for **real-time tracking**

## NORTHERN MOZAMBIQUE CHANNEL

**Marine spatial planning of the area** following regional guidelines, including sector consultations

Establishment of an **inter-regional governance framework** under the Nairobi Convention

## MIGRATION CORRIDORS

**Complete the QWIO modeling exercise by WCS** in the Deep South

**Determine the most effective interventions** with a limited economic impact on maritime transport and **implement these interventions**

# 3 | 4 MPAs will be recognized as a priority for the protection of KBAs and the fulfillment of the Sydney Promise

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

Size | Promoter | Key Facts

## Tandavandriva

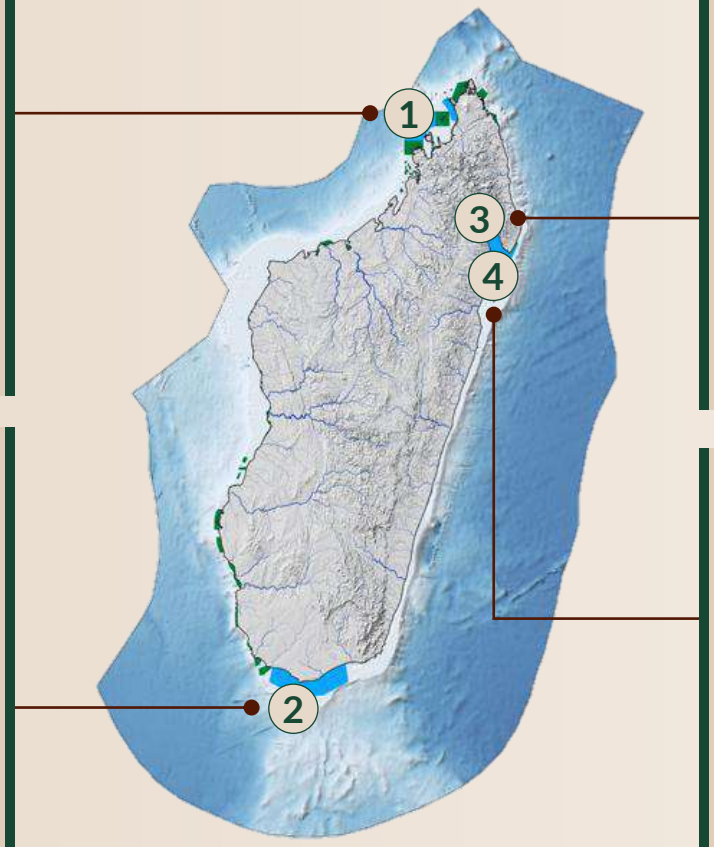
330k ha | WCS

Potential UNESCO World Heritage Site, corridor between Ankivonjy and Ankarea, with the presence of whale sharks and high-quality reefs

## Deep South

772k ha | WCS

Potential UNESCO World Heritage site, critical feeding area for migratory species in the region, e.g., seabirds and mammals, presence of leatherback turtles




## Antongil Bay

416k ha | WCS

Potential UNESCO World Heritage Site, concentration of high-quality reefs on the East Coast, presence of mammals and endemic sharks and rays

## Île Sainte Marie (Sorkay)

~265k ha (including terrestrial) | GRET

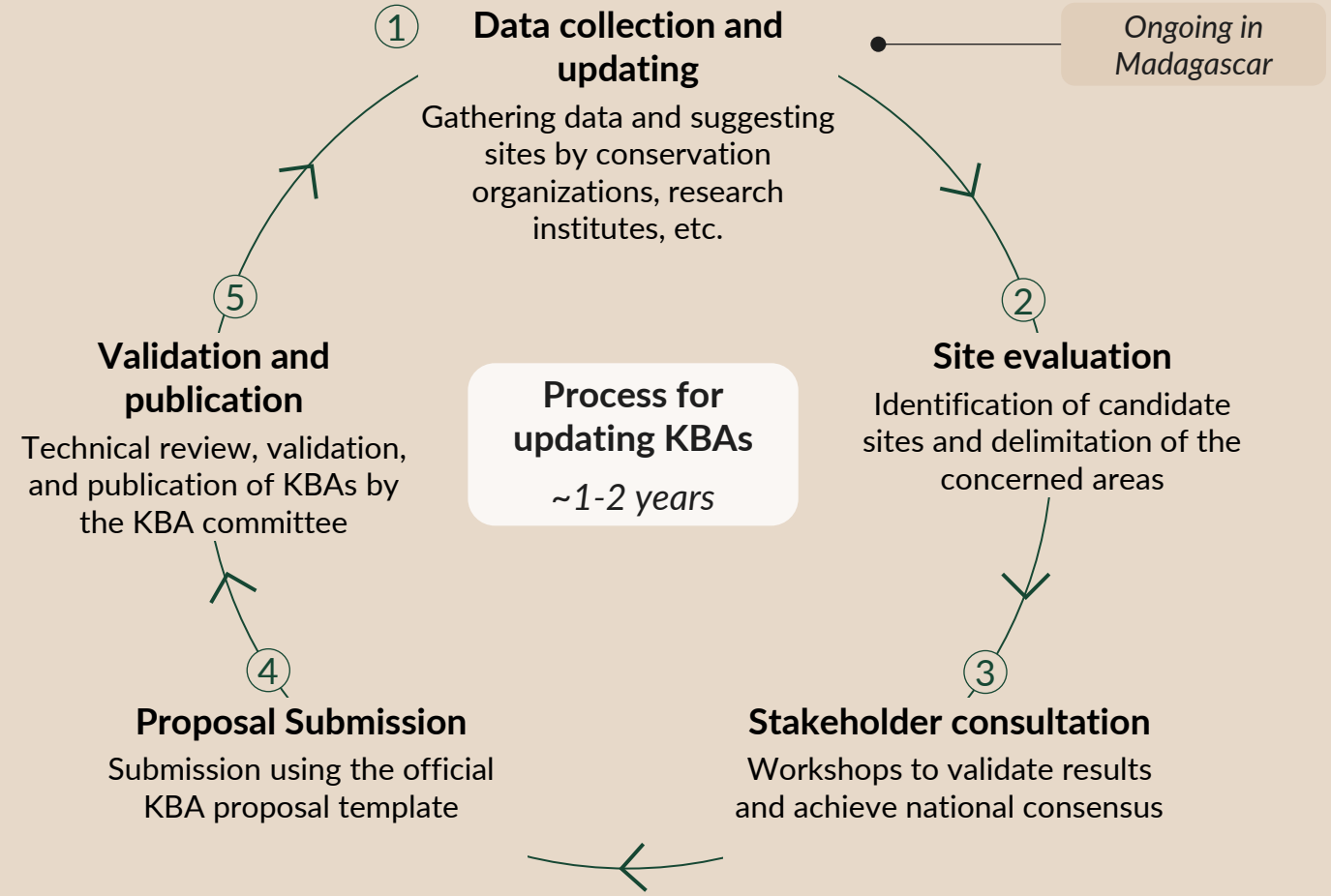
Humpback whale breeding zone, >4k ha of coral reefs, key tourist destination in Madagascar

Source: WDPA, WCS, RESOLVE

# 3 | KBAs will continue to be identified in the coming years and may be incorporated into the plan

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Update process for KBAs (illustrative)




Source: KBA international

### Importance of process continuity

Updating KBAs allows consideration of the evolving nature of key biodiversity areas, specifically:

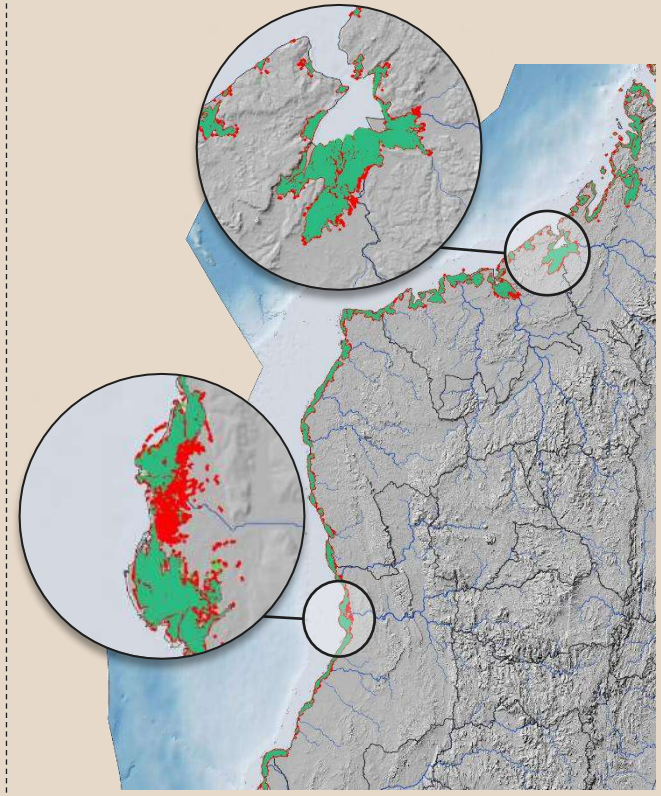
- Observed changes in **species populations**
- Changes in **threat levels**
- Availability of new **data on ecosystems**

# 3 | The large-scale restoration of mangroves will make Madagascar a blue carbon power

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## **Loss of mangroves,** 1995-2018

Permanent Loss Gain



**~70K HA**

Estimated extent of degraded mangroves since 2010

**$3-5M**

Resulting potential carbon credit resulting[1]

## Components of Carbon from Mangrove Restoration

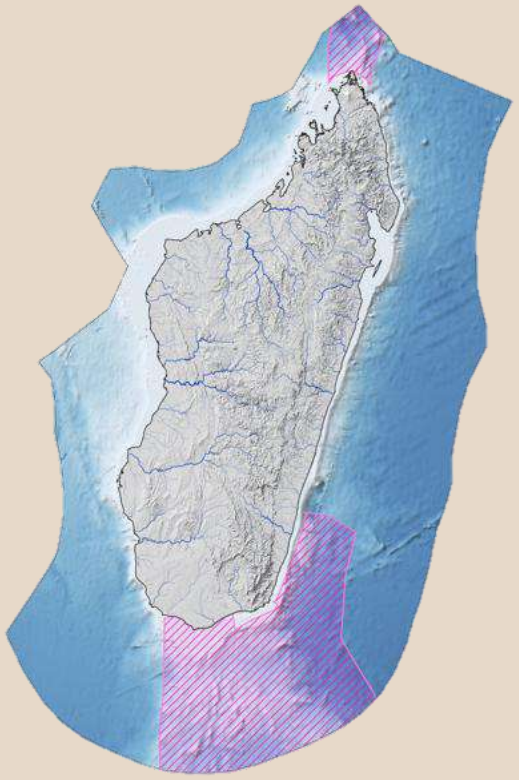
- **Included in the next wave of jREDD+,** with projects embedded in MPAs / LMMAs supported by NGOs
- **Need for a robust benefit-sharing plan** to acknowledge the efforts of protection and restoration both inside and outside MPAs **by communities** (e.g., registering NGOs supporting LMMAs to receive revenue for CBNRM)
- Intensive efforts to **create demand** to sell credits on a large scale to private buyers (e.g., Velux) or through future bilateral agreements under Article 6
- Funded by **donors** (e.g., World Bank, GEF), **individual project developers** (e.g., Bondy, WCS), and/or **advance market commitments**
- **Co-benefits** arising from restoration related to the **socio-economic potential** of mangroves

1 Assuming the complete restoration of 70k ha, with a sequestration rate of 10 tCO2/ha/year, and $10/tCO2; a restoration rate of 10k ha/year; a delay of 2 years before the generation of the first credits; 20% reserve.

# 3 | The impact of maritime traffic on biodiversity will be mitigated…

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Priority zones[1] and threats to biodiversity



Maritime traffic and whale migration routes **converge along the southern coast of Madagascar**

**The risk of collisions (whales, but also turtles or sharks)** increases with the speed and length of ships

Maritime traffic causes **significant noise pollution**, generating stress and disrupting communication and social behavior of species

1 Intersection of mammal migration corridors and main maritime routes

Source: WCS, The risk of maritime collision threatens whales across the world's oceans (Nisi et al., 2024); The ship collision risk model provides information about the mortality risk for endangered North Atlantic right whales along the U.S. East Coast (Blondin et al., 2025)

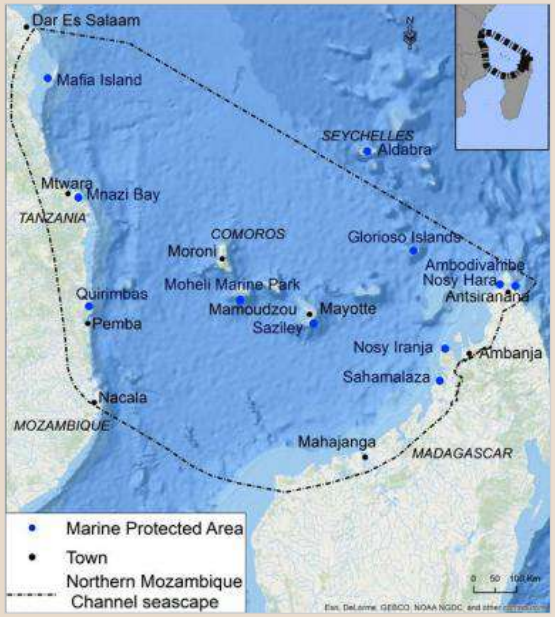
# … thanks to measures yet to be defined

| Measure | + | − |
|---|---|---|
| **Seasonal slowdown zones** | Simple implementation, significant reduction in collisions and the overall amount of noise generated by ships | Longer transportation time, cost implications for shipping companies |
| **Rerouting with restricted zones** | Redirecting traffic to areas with better noise propagation properties | Longer transport time, cost and GHG implications due to fuel |
| **Restrictions on the types of ships (e.g., type of propeller)** | Limiting the spread of noise generated by ships | Cost implications for shipping companies, although an investment may be profitable |
| **Notification systems** | Optimized traffic protec-tion and management through real-time alerts | High costs and imple-mentation complexity |
| **Environmental Tax** | Flexibility in design, potential revenues for Madagascar | Cost implications for shipping companies, indirect impact on noise pollution |

*A model showing the impact on biodiversity and trade-offs based on mitigation measures is under development as part of the QWIO initiative*

# 3 | Global biodiversity hotspot, the Northern Mozambique Channel (NMC) will be sustainably managed through regional mobilization

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**




*Seascape of the NMC (©WWF)*

*Marine landscape of the NMC (©WWF)*

**2nd global hotspot for coral biodiversity**, comprising 35% of coral reefs in the entire Indian Ocean, including one of the 50 global areas for the most resilient corals

**Breeding and feeding zone for key marine and migratory species**, including green turtles, whale sharks, and humpback whales

**Immense economic value**, providing resources to 10M coastal residents and rich for oil and gas exploitation

Named **"World Restoration Flagship"** by UNEP and FAO

## Potential approach to NMC protection

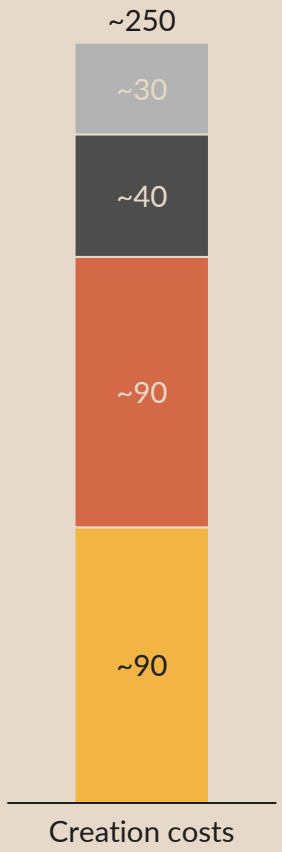
- Initiate marine spatial planning for Madagascar's EEZ
- Ensure **integrated governance under the Nairobi Convention** (e.g., via a dedicated working group)
- Ensure the **sustainable development of economic sectors** (e.g., oil and gas, tourism)
- Define the **collaboration between key stakeholders** for protection and sustainable use within the NMC, e.g., tuna spawning areas under the IOTC

Source: WWF, RESOLVE

# 3 | Sustainable management of marine ecosystems will require $70-120M over the next 4 years

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**Site creation cost**, $k per site



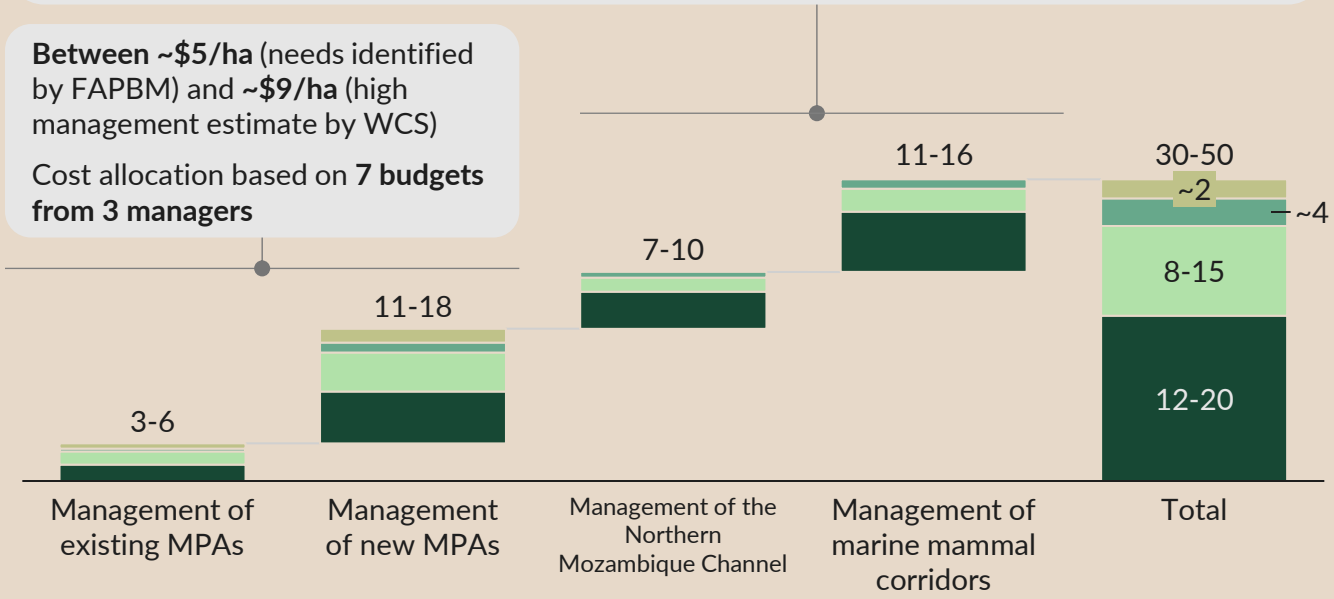

**Estimated annual costs for managing marine areas**, 2030, $M

Cost allocation similar to an IUCN I-II AMP – total estimated according to the following zoning:

| Required level of protection | $/ha | NMC | Corridors |
|---|---|---|---|
| *High* – seamounts, whale concentration/resting | 5-7 | 5% | 5% |
| *Medium* – tightened migration corridors, aggregation areas for tuna and sharks | 2-3 | 25% | 10% |
| *Low* – wide pelagic zones with lower fauna density | 0.03-0.05 | 70% | 85% |

**Between ~$5/ha** (needs identified by FAPBM) and **~$9/ha** (high management estimate by WCS)

Cost allocation based on **7 budgets from 3 managers**




Consultations FPIC / CLIP
Securing
Development of the PAG
Preliminary evaluations
Co-management and basic community support
Sustainable financing
Functioning
Biodiversity conservation

**~$70-120M**

Total cost by 2030[1] including management starting from

2026: Existing MPAs

2027: + New MPAs

2028: + NMC

2029: + Corridors

1. Taking into account the creation of 4 new MPAs in 2026, the protection of the Northern Mozambique Channel in 2027, the protection of marine mammal corridors in 2028, and the management costs for each area starting from the following year

Source: PAGs from CI, WCS, MNP; FAPBM, management of Papahanaumokuakea and Great Barrier Reef Marine Park, The economic contribution of Madagascar Protected Area Network

# 3 | Preliminary roadmap to 2030

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

| Activities | 2025 | 2026 | 2027 | 2028 | 2029 |
|---|---|---|---|---|---|
| **Effectively manage MPAs** | | | | | |
| Develop a roadmap for technology investments | | | | | |
| Deploy the use of prioritized technologies (including investments, capacity building) | | | | | |
| Ensure physical and/or digital delimitation of MPAs | | | | | |
| Set up and raise funds for the marine fund under the FAPBM | | | | | |
| Strengthen fishery monitoring centers for law enforcement | | | | | |
| **Effectively protecting priority coastal marine ecosystems** | | | | | |
| Complete the permanent protection of >2M ha of MPAs under creation | | | | | |
| Implement national mangrove strategy | | | | | |
| Update the KBAs, collect data on the seagrass beds in the Northeast | | | | | |
| Ensure the permanent protection of the additional identified areas | | | | | |
| **Protect the migration routes of marine mammals** | | | | | |
| Implement and complete the QWIO initiative in the Deep South | | | | | |
| Engage stakeholders and the Ministry of Transport and implement initial regulations on maritime transport | | | | | |
| Validate and operationalize zoning, including the designation of strict protection zones | | | | | |
| **Protect the Northern Mozambique Channel** | | | | | |
| Complete the MSP for the Northern Mozambique Channel according to the guidelines of the Nairobi Convention | | | | | |
| Set up an inter-regional working group for the area | | | | | |
| Validate and operationalize zoning, including the designation of strict protection zones within the Northern Channel | | | | | |
| **Consultation process** | | | | | |
| Conduct consultations at the local and regional level | | | | | |
| Complete the MSP for Madagascar's EEZ | | | | | |

1

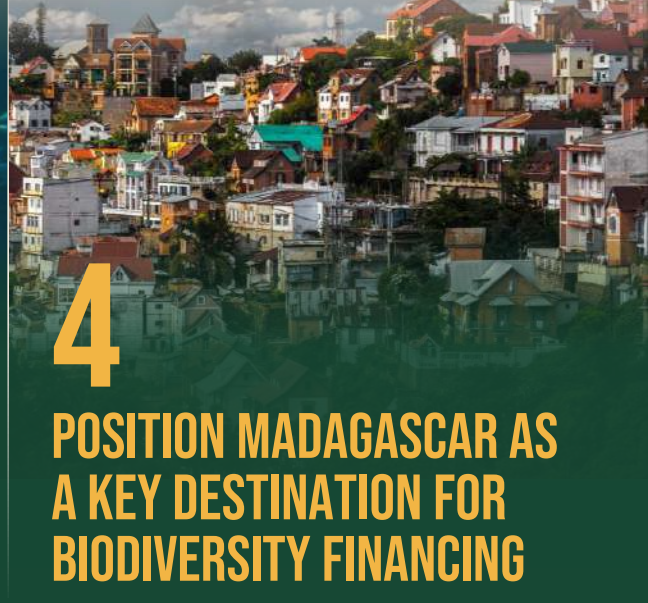
LAUNCH THE MADAGASCAR THRIVING COMMUNITIES' MODEL

2

ENSURE A SUSTAINABLE FUTURE FOR IMPORTANT TERRESTRIAL ECOSYSTEMS

3

ENSURE A SUSTAINABLE FUTURE FOR IMPORTANT MARINE ECOSYSTEMS



4

POSITION MADAGASCAR AS A KEY DESTINATION FOR BIODIVERSITY FINANCING

# $150-220M

mobilized annually for conservation financing

| | | | |
|---|---|---|---|
| Deploy **carbon credit** programs | Negotiate **debt-for-nature swaps** | Launch the **Lemur bond** and other green bonds | Develop **PES schemes** |
| Mobilize **public and private financing,** e.g., blended finance, CSR, and environmental taxes | Expand the **endowment funds** FAPBM and Tany Meva | Develop Madagascar as a high-end **ecotourism** destination | |

# 1 | ~$260-375M by 2030 will be needed for the deployment of the Thriving Communities model

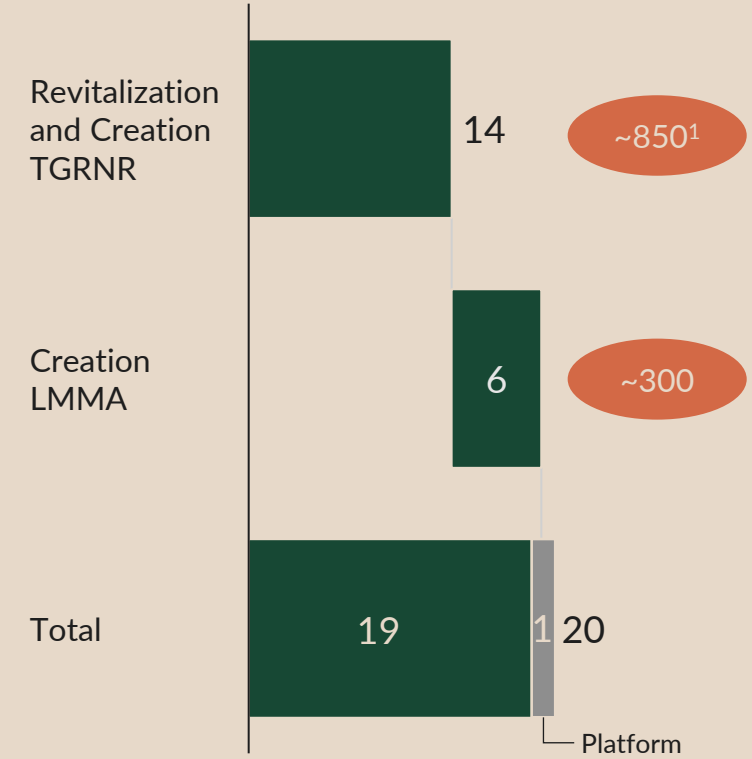
ILLUSTRATIVE

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

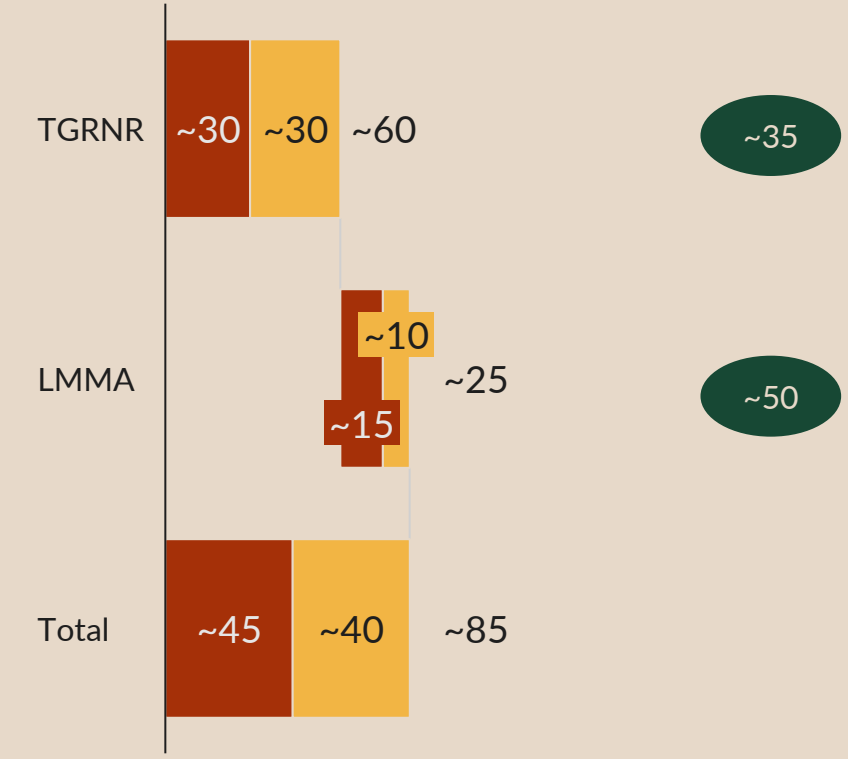
x Number of TGRNR / TGRH concerned | Development of value chains | Biodiversity Management

Number of TGRNR / TGRH in 2030 | x Annual costs per TGRNR / TGRH ($k)

## Investments related to community management by 2030, $M




## Estimated annual costs of community management, 2030, $M




1. ~600 inactive and ~250 additional

Source: workshops TGRNR / LMMA

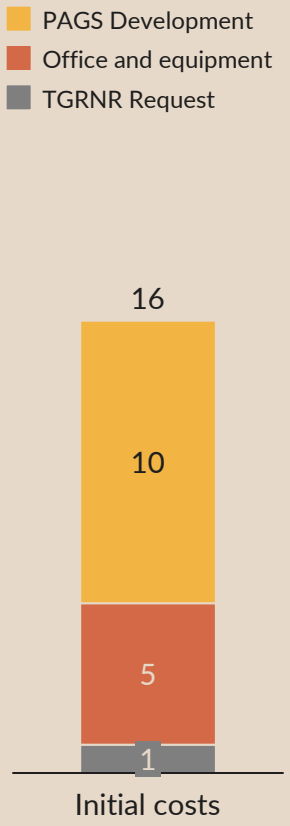
**~$260-375M**

Total cost of community management by 2030

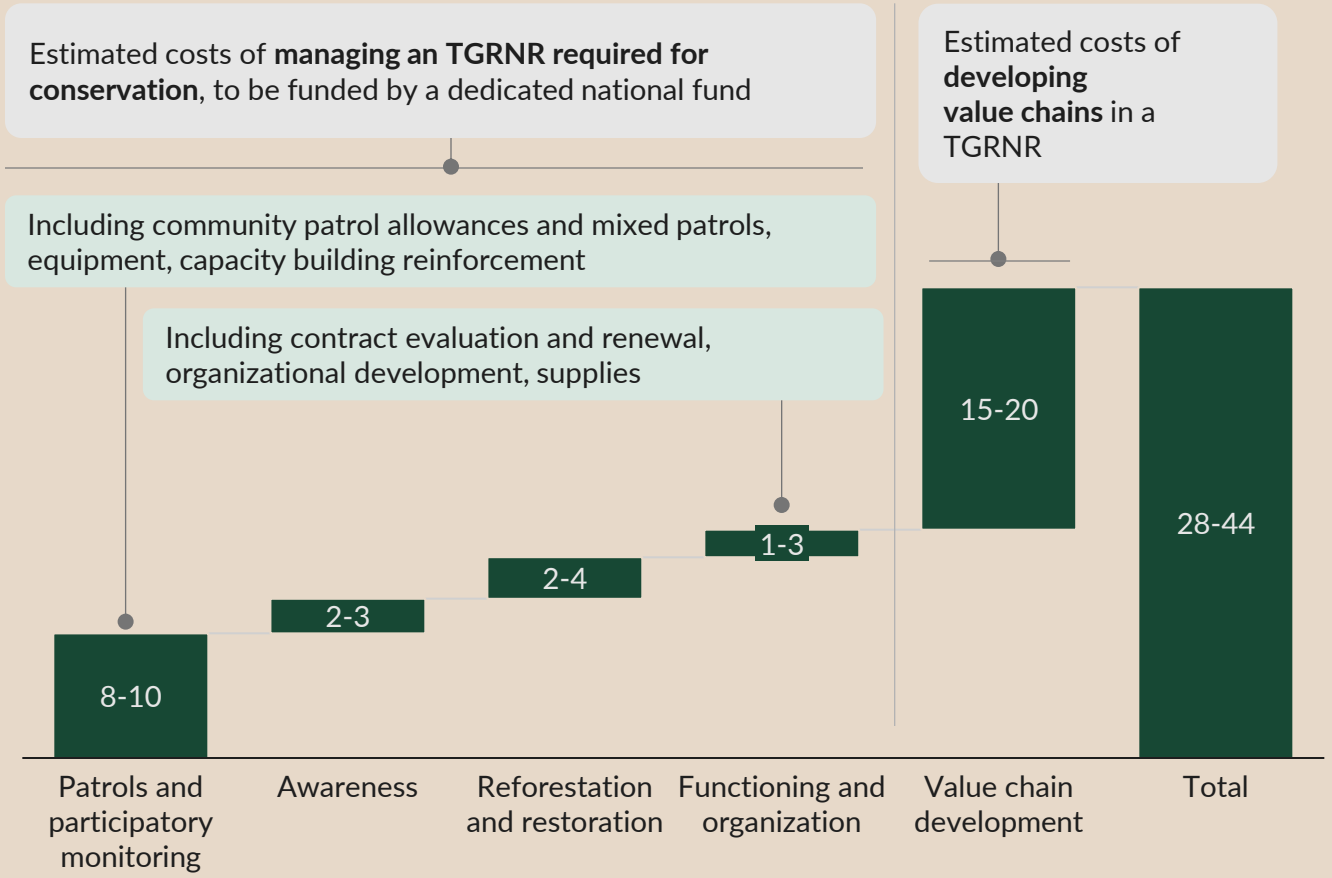
# 1 | Thriving terrestrial communities will require the mobilization of ~$200-275M by 2030

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

## Initiation cost, $k per TGRNR




## Estimation of annual community management costs, $k per TGRNR




1 Investment of ~$700k and operation of ~$200k/year; 2. ~$800k/year

Source: Atelier TGRNR 21/08/2025 (CI, WCS, WWF, TANY MEVA, TAFO MIHAAVO, NITIDAE)

**~1820**

TGRNR, about ~1570 to strengthen (including ~600 inactive) and ~250 to develop afterward

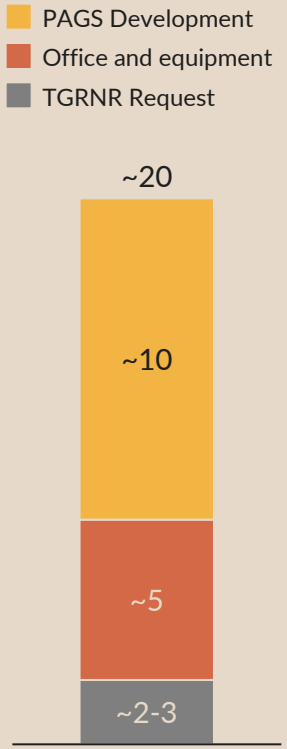
**~$200-275M**

Total cost over 4 years for managing active TGRNRs, revitalizing inactive ones, and expanding to 250 new sites according to the roadmap; a digital platform[1] and strengthening of DREDD[2] staff

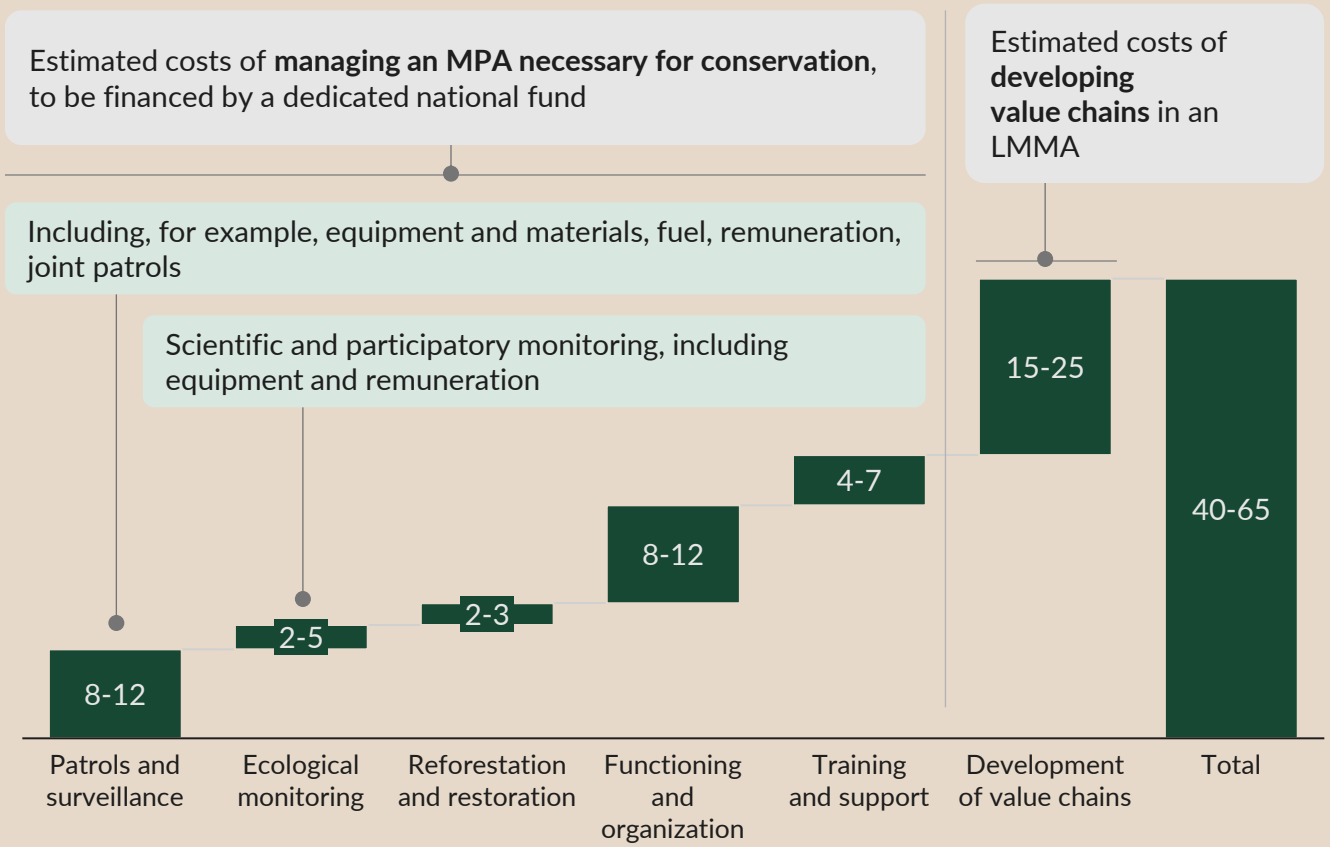
# 1 | Thriving coastal communities will require the mobilization of ~$60-100M by 2030

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

**Initiation cost**, $k per LMMA




**Estimated annual costs of community management**, $k per LMMA[1]




1 Average LMMA size of ~10-13k ha, leading to an average cost of ~$3-6/ha
2 Taking into account a gradual expansion of LMMAs: 220 LMMAs in 2026, 300 LMMAs in 2027, 380 LMMAs in 2028, 500 LMMAs in 2029 – including ~$300k/year for the digital platform and ~$1M for strengthening DRPEB staff

Source: LMMA workshop, PAGs from CI and WCS

**~500**

Targeted LMMAs by 2030

**~$60-100M**

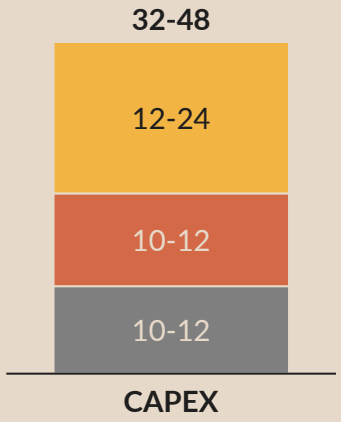
Total cost by 2030 for the 500 LMMAs[2]

# 2 | Sustainable management of terrestrial ecosystems will require $285-365M over the next 4 years

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## CAPEX Estimation, $M

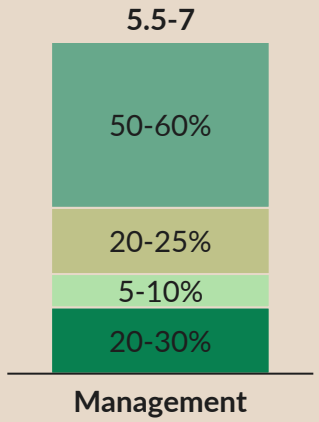
- Creation and extension of PAs incl. FPIC consultations Technical & legal studies, Development of PAG Basic equipment and delimitations
- Technologies incl. ~760 drones and equipment additional (e.g., phones, Starlink, camera trap…) in line with the MNP strategy
- Training of officers and judicial police officers




- $150-300k / creation or extension of PA
- 54 extensions & 24 creations of PA/OECM
- Training of ~5000 officers and ~200 judicial police officers for $2000/person

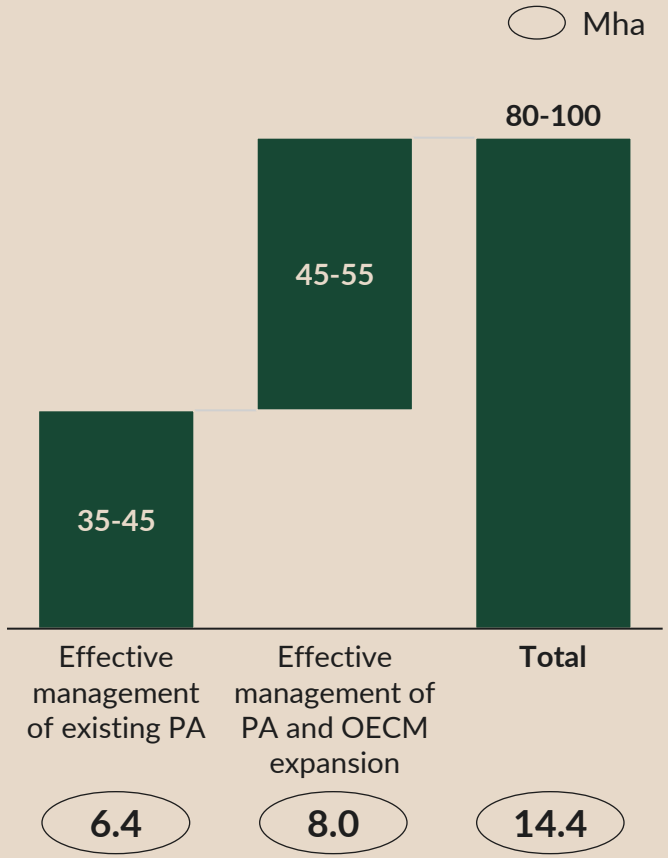
## Weighted average management cost[1], $/ha/year

- Biodiversity conservation incl. officers' salaries
- Co-management and basic community support
- Sustainable financing incl. eco-tourism, carbon credits
- Operation




- Weighted average of $5.5/ha based on needs collected by FAPBM but underestimated according workshop on 08/25

## Estimation of annual OPEX for terrestrial PAs, 2030,$M/year




**~$285-365M**

Total cost for 4 years with gradual expansion as a PA or OECM over 2026-2030

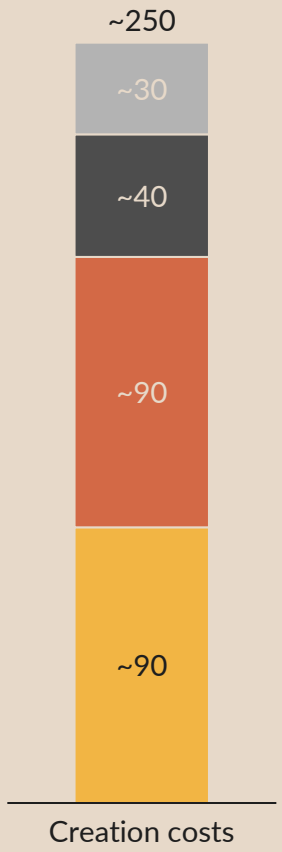
1 Only the recurring operational costs of direct management of protected areas, excluding strengthened support to communities (considered in community management) and excluding technologies (treated as investments)

Source: FAPBM, MNP, WCS, CI, Atelier Expansion AP 25/08

# 3 | Sustainable management of marine ecosystems will require $70-120M over the next 4 years

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**Site creation cost**, $k per site



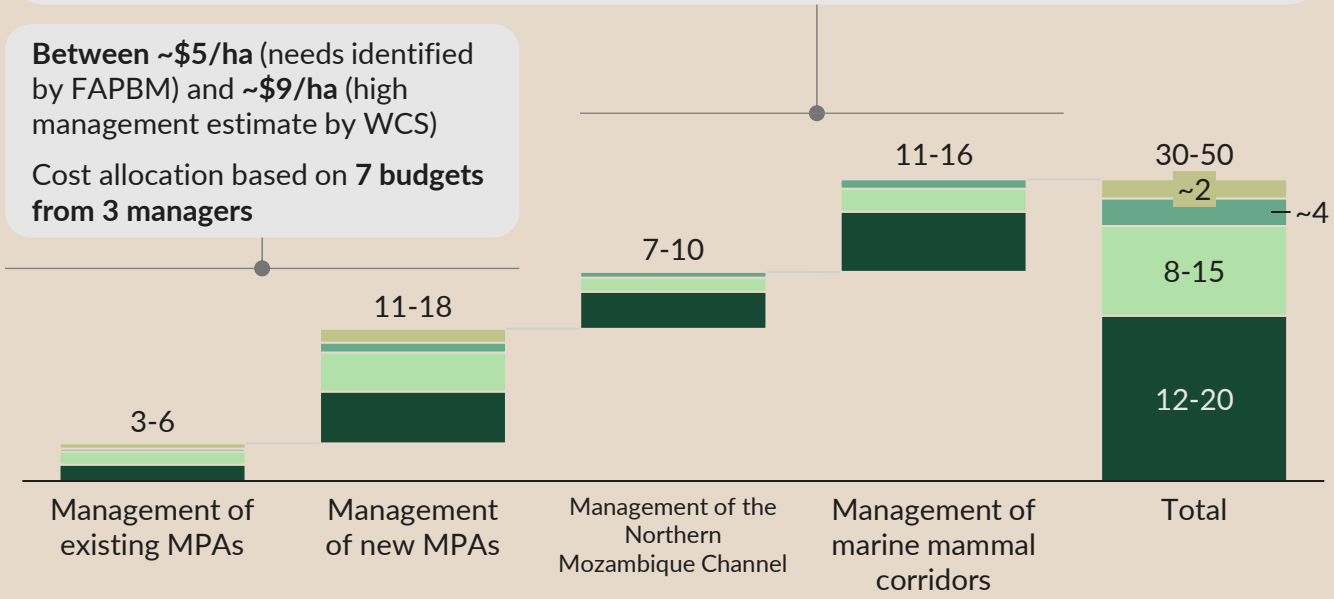

**Estimated annual costs for managing marine areas**, 2030, $M

Cost allocation similar to an IUCN I-II AMP – total estimated according to the following zoning:

| Required level of protection | $/ha | NMC | Corridors |
|---|---|---|---|
| *High* – seamounts, whale concentration/resting | 5-7 | 5% | 5% |
| *Medium* – tightened migration corridors, aggregation areas for tuna and sharks | 2-3 | 25% | 10% |
| *Low* – wide pelagic zones with lower fauna density | 0.03-0.05 | 70% | 85% |

**Between ~$5/ha** (needs identified by FAPBM) and **~$9/ha** (high management estimate by WCS)

Cost allocation based on **7 budgets from 3 managers**




- Consultations FPIC / CLIP
- Securing
- Development of the PAG
- Preliminary evaluations
- Co-management and basic community support
- Sustainable financing
- Functioning
- Biodiversity conservation

**~$70-120M**

Total cost by 2030[1] including management starting from

2026: Existing MPAs

2027: + New MPAs

2028: + NMC

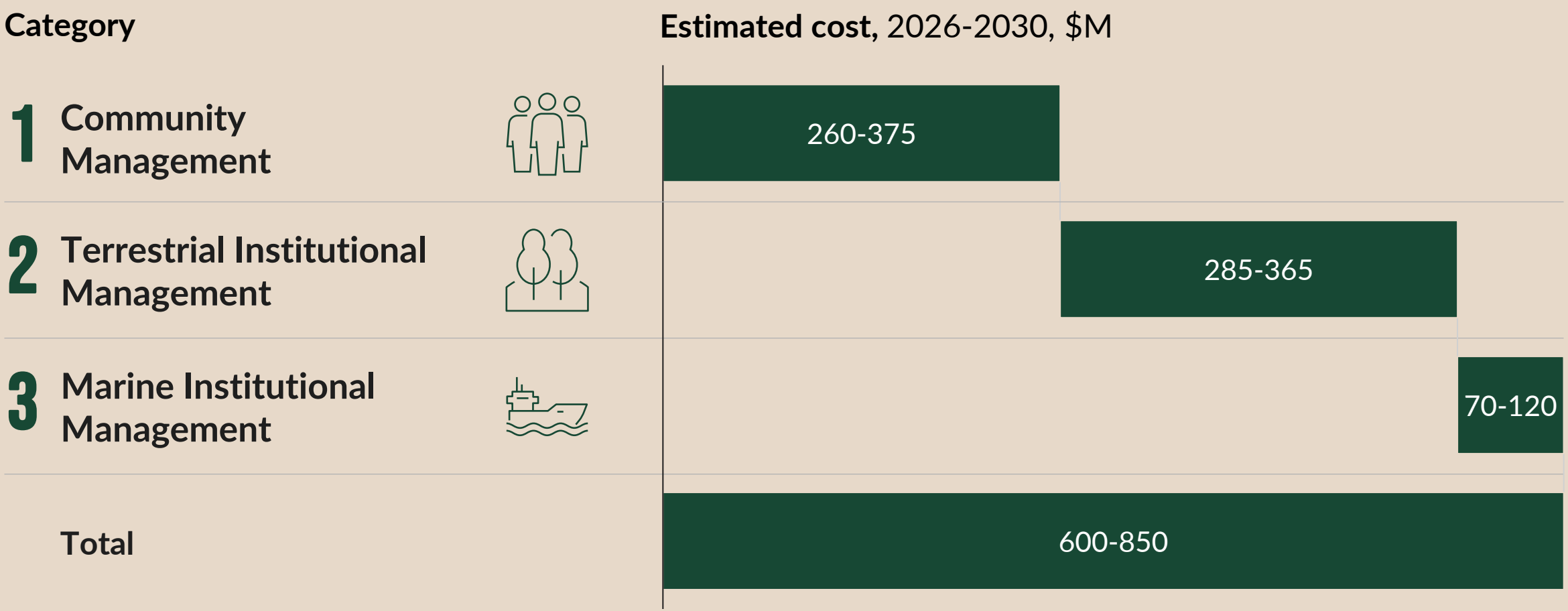
2029: + Corridors

1. Taking into account the creation of 4 new MPAs in 2026, the protection of the Northern Mozambique Channel in 2027, the protection of marine mammal corridors in 2028, and the management costs for each area starting from the following year

Source: PAGs from CI, WCS, MNP; FAPBM, management of Papahanaumokuakea and Great Barrier Reef Marine Park, The economic contribution of Madagascar Protected Area Network

# 4 | The implementation of the national biodiversity plan will cost between **$600-850M** over the next 4 years

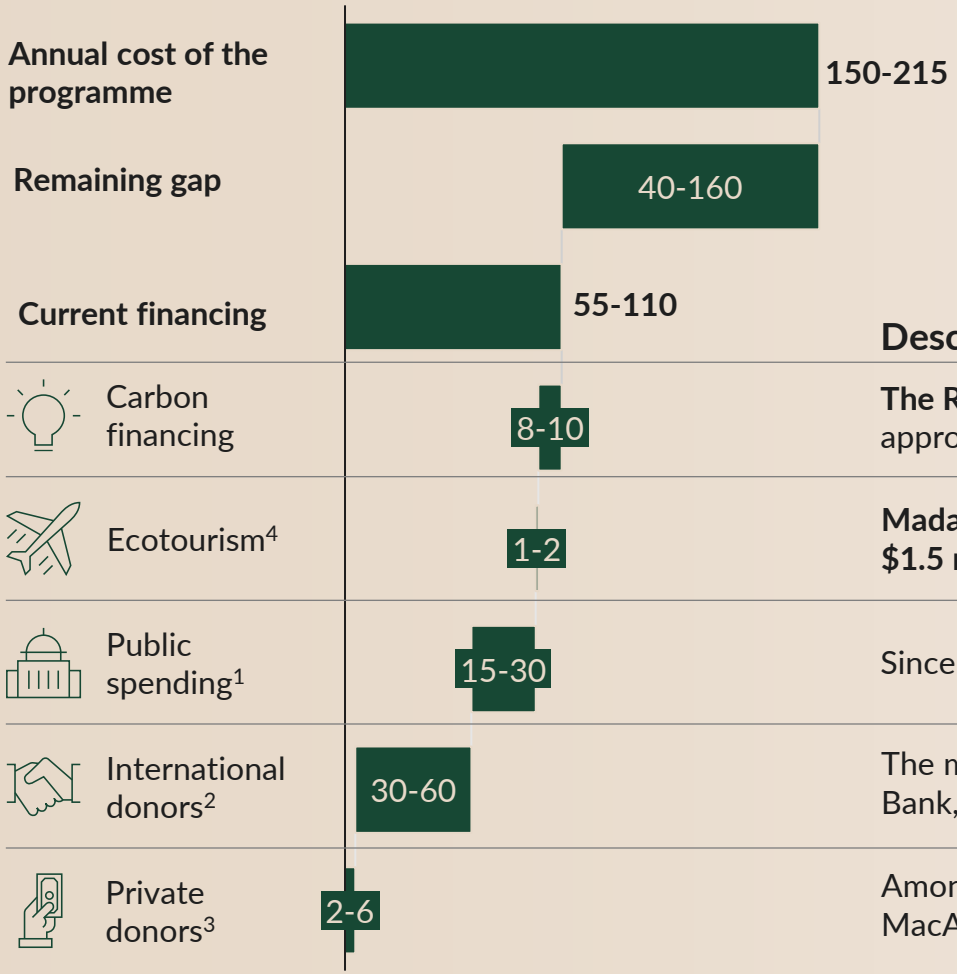
PRELIMINARY VERSION DATED SEPTEMBER 16, 2025



# 4 | Current funding covers only part of the funding needed to achieve the 30x30 targets, leaving a gap of $40–160M per year to be filled

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Annual financing for Madagascar, M USD



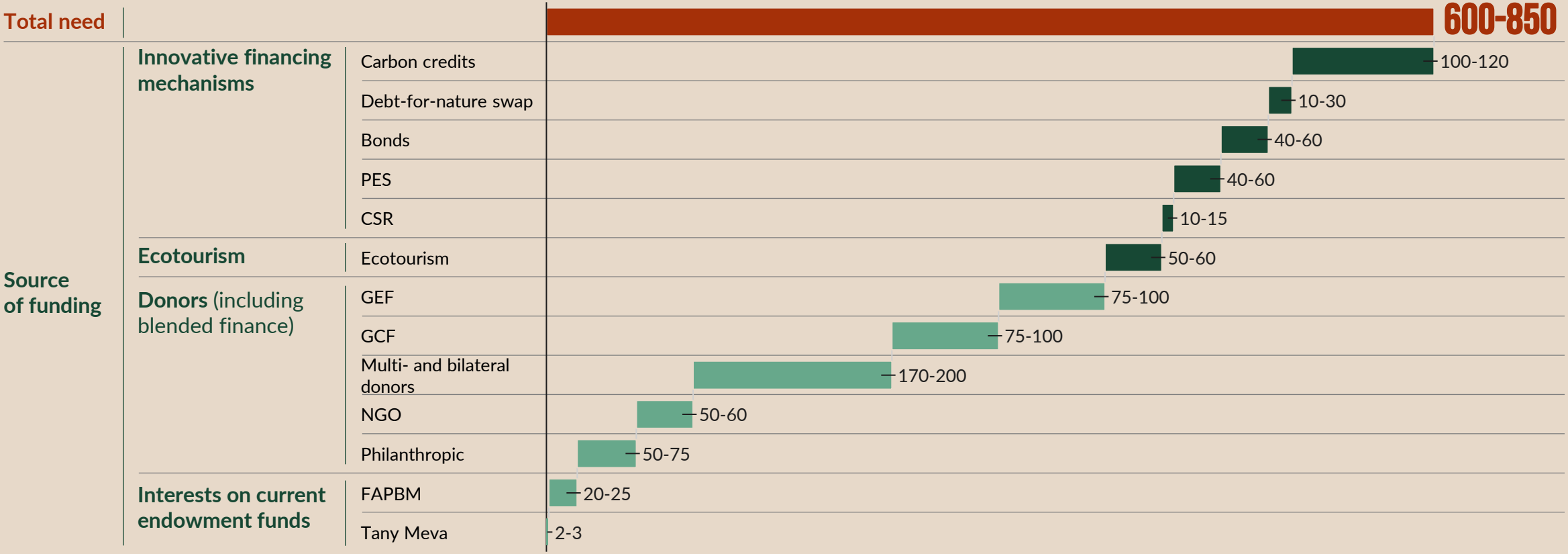

| | Description |
|---|---|
| Carbon financing | **The REDD+ jurisdictional programme** (PRE-AA) in north-eastern Madagascar aimed to generate approximately **$50 million in revenue over five years**, of which ~$8 million has already been disbursed. |
| Ecotourism[4] | **Madagascar welcomed over 315,000 tourists in 2024**, and MNP reported revenues of approximately **$1.5 million from park entrance fees**. |
| Public spending[1] | Since 2020, Madagascar has allocated an average of **~0.7% of its government budget to conservation**. |
| International donors[2] | The main source of funding comes from donors, particularly development banks such as the World Bank, AFD, KFW and the European Union. |
| Private donors[3] | Among the largest private donors for conservation in Madagascar were the Arcadia Fund, the MacArthur Foundation, the Packard Foundation, the Hempel Foundation, and the RainForest Trust. |

1 Madagascar's average budget expenditure for the period 2020-2024 includes all expenditure related to environmental functions (MEDD)
2 Based on funding from major public donors, grants, excluding loans
3 OECD DAC database; individual project reports and interviews with key stakeholders in Madagascar, 2013-2025
4 MNP national park revenues in 2024
Note: Public donors exclude recent commitments. Information is limited to data published by the OECD and may be limited. Allocations taken into account for the environment, biodiversity and forestry.

# 4 | The implementation of the national biodiversity plan will cost between $600-850M over the next 4 years

**ESTIMATIONS** **PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

## Needs and potential funding sources, 2026-2030, $M



# 4 | Position Madagascar as a key destination for biodiversity financing mechanisms

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

Financing for 4 years (2026-2030)

## Aspiration

**Position Madagascar as a key destination for biodiversity financing mechanisms, including carbon credits , debt-for-nature swaps , Lemur Bonds, payments for ecosystem services and ecotourism, and mobilise $150-220 million per year to finance conservation efforts ($600-850 million over 4 years)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Deploy a national programme to generate carbon credits**, in particular by consolidating jREDD+ programmes, concluding bilateral agreements under Article 6 and partnerships with private companies, and attracting private project developers. | **Negotiate bilateral debt-for-nature swaps (DNS)** with countries committed to combating climate change, such as France and Japan. | **Launch the Lemur Bond and mobilise new green bonds in commercially viable sectors** such as ecotourism and value chains, through agreements that guarantee the environmental integrity and bankability of private projects. | **Establish a payment programme for ecosystem services (PES)** to generate more private funding annually. | **Obtain funding from GEF, GCF, international donors, NGOs, and philanthropic organisations** with the aim of raising funds for conservation. | **Increase the endowment fund of the FAPBM and Tany Meva** in order to generate more interest in the management of protected areas. | **Mobilise public and private funding** by combining blended finance, corporate CSR budgets, and environmental taxes such as the carbon tax on maritime transport. | **Develop Madagascar as a premium biodiversity destination in Africa**, attracting ~170k eco-tourists and contributing $380-460 million to GDP by 2030. |
| $100M-$120M | $10M-$30M | $40M-$60M | $40M-$60M | $400-500M | $20M-$30M[1] | $10M-$15M | $50M-$60M |

1 Current interest on FAPBM and Tany Meva funds until 2030, without taking into account possible increases

# 4 | Position Madagascar as a key destination for biodiversity financing mechanisms

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Aspiration

**Position Madagascar as a key destination for biodiversity financing mechanisms and mobilise $150-220 million annually to fund conservation efforts ($600-850M over 4 years)**

**Deploy a national programme to generate carbon credits**, in particular by consolidating jREDD+ programmes, concluding bilateral agreements under Article 6 and partnerships with private companies, and attracting private project developers.

**$100M-$120M**

**Negotiate bilateral debt-for-nature swaps (DNS)** with countries committed to combating climate change, such as France and Japan.

**Launch the Lemur Bond and mobilise new green bonds in commercially viable sectors** such as ecotourism and value chains, through agreements that guarantee the environmental integrity and bankability of private projects.

**Establish a payment programme for ecosystem services (PES)** to generate more private funding annually.

**Obtain funding from GEF, GCF, international donors, NGOs, and philanthropic organisations** with the aim of raising funds for conservation.

**Increase the endowment fund of the FAPBM and Tany Meva** in order to generate more interest in the management of protected areas.

**Mobilise public and private funding** by combining blended finance, corporate CSR budgets, and environmental taxes such as the carbon tax on maritime transport.

**Develop Madagascar as a premium biodiversity destination in Africa**, attracting ~170k eco-tourists and contributing $380-460 million to GDP by 2030.

# 4 | Madagascar has several opportunities to exploit in the field of carbon credits that could benefit biodiversity

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

| | | | |
|---|---|---|---|
| **Type of carbon credit** | **Carbon credit derived from nature-based solutions**<br>Credits generated by **conservation, restoration, or sustainable management of natural ecosystems** (forests, mangroves, grasslands, etc.) | | **Carbon credit from technological solutions**<br>Credits generated by projects using technologies or **equipment/process changes** to reduce or avoid emissions |
| **Opportunity** | **Jurisdictional REDD+**<br>REDD+ system put in place by the government covering a large given geographical area, with reporting at the jurisdictional scale | **REDD+ Project**<br>REDD+ projects developed on a more local scale (site, landscape) by NGOs, companies or communities, often through the voluntary carbon market | **Clean cooking**<br>Projects aimed at replacing traditional stoves (charcoal, firewood) with improved stoves or clean fuels, thus reducing deforestation |
| **Situation**  | **PRE-AA active** in the Northeast, **potential expansion** to the East Coast with LEAF | **Several active projects** (e.g., WCS Makira, CAZ, COFAV) but **untapped potential** | **Several emerging pilot projects** (e.g., ADES), **to be developed** |

Source: Interviews

# 4 | Extending the REDD+ jurisdictional programme to the national level could generate additional revenue through carbon credits

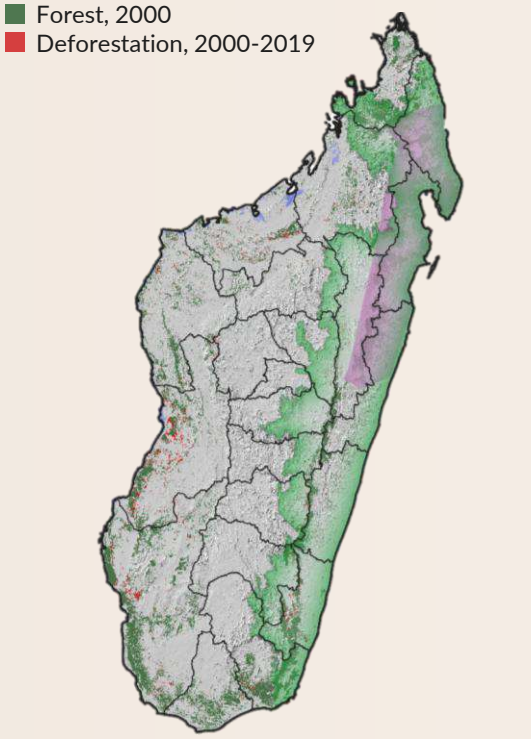
PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**Potential carbon credit generating programmes:** Current programme 1 | Potential programme 2 | Programme potentiel 3

**Activité JREDD :** Avoided deforestation | Restoration

| Proposed carbon credit programme | Forest cover under jurisdiction, kha | Potential price, $/tCO2e | Number of potential carbon credits[5], MtCO2e/year | Potential annual revenue in 2030, M USD | Comment |
|---|---|---|---|---|---|
| **Rainforests of NE MG**[1] | 2,600 (7,000 – zone sous juridiction) | 5[1] | **1.6 – 2.00** N/A | **8.0 – 10.0** N/A | N/A |
| **Avoided deforestation in all rainforests in E MG** | 4,339 | 10 - 15[3] | **2.70 – 3.50** N/A | **27.0 – 54.0** N/A | Based on historical trends[2], the area at risk could reach 150k ha per year. |
| **Avoided deforestation of mangroves in W MG** | 391 | 10 - 20[3] | **0.08 – 0.09** **0.6-0.8** | **0.8 – 1.8** **2.0-3.0** | Based on historical trends[2], the area at risk is 1+ kha per year. |
| **National programme covering all ecosystems** | 7,900 (58,200 – entire country) | Avoided deforestation: 10[4] Restoration: 15[4] | **3.60 – 6.00** **1.80 – 2.40** | **36.0 – 60.0** **27.0 – 36.0** | Based on historical trends[2], the area threatened by deforestation is approximately 550k ha. |

**REDD+ Programmes,** current and proposed




1 The FCPF price is $5/tonne, but it is possible to sell carbon at a higher price beyond this contract. Data taken from Madagascar's FREL and FCPF report. Potential carbon credits were calculated by dividing the revenue received by the agreed price of carbon credits; 2. Historical trends as presented in the diagnostic; 3. The price of avoided deforestation varies between $10/tonne (FCPF floor price) and $15/tonne (LEAF). Mangrove carbon could fetch a higher price, particularly if sold under Article 6; 4. Aligned with LEAF prices; 5. The following assumptions were made to determine the potential carbon credits for avoided deforestation: Carbon stock for rainforests: 610 tCO2e/ha, mangroves: 1,668 tCO2e/ha. Of the total number of potential carbon credits based on historical deforestation risk, a 30% reduction will be applied. In addition, due to lack of governance, potential leakage, etc., a 50% buffer reserve would further reduce the potential credits. For reforestation, we assume that reforestation of the target area of 4 Mha will be completed by 2036 (assuming a start in 2026) and that the sequestration rate will vary between 9 and 12 tCO2e/ha/year. The potential number of associated carbon credits is assessed for the year in which the target area is reforested (i.e. the maximum potential for carbon sequestration). The estimated potential revenues from carbon credits for reforestation correspond to the arithmetic mean over a 25-year period (i.e. between 2026 and 2051).

Source: Vieilledent et al. (2016); Benson et al. (2017); Andriamananjara et al. (2016); World Bank (2023); Press Search

# 4 | Identifying and targeting the most promising buyers is key to fully leveraging Madagascar's REDD+ credits

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025 NON-EXHAUSTIVE

| | Voluntary market | | | Compliance market |
|---|---|---|---|---|
| | **FCPF of the World Bank** | **LEAF Coalition** | **Corporate buyers** | **Bilateral agreements** |
| **Buyer profile** | **Governments donors** via a World Bank fund | **Sovereign states and companies** (e.g. Amazon, Unilever, H&M) | **Private companies** aiming to meet their emission commitments | **Sovereign states under the Paris Agreement** |
| **Vendor profile** | **Host countries** with approved REDD+ programmes | **(Sub-) national jurisdictions** with high-integrity REDD+ programmes | **Project developers, NGOs or communities** with credits | **Sovereign states with formal agreements**, aligned with NDCs |
| **Scale of agreements** | **2-10 $MtCO_2e$** per deal | **5-30+ $MtCO_2e$** per jurisdiction | **0,01-20+ $MtCO_2e$** per deal | **5-50 $MtCO_2e$** per deal |
| **Potential price** | **5 $/tCO_2e$** | **10-15 $/tCO_2e$** | **5-15+ $/tCO_2e$** (for high-integrity credits) | **15-30 $/tCO_2e$** (depending on cost of reduction) |
| **Deal examples** | **Madagascar-FCFP** agreement worth $50M (2021) for 10 MtCO2[1]<br>**Mozambique-FCFP** agreement worth $6.5M (2021) for 1.8 MtCO2[2] | **Equator-LEAF** agreement worth $30M (2022) for 3 MtCO2e[3] | **Microsoft** – contract to purchase **4.8MtCO2e of high-quality carbon credits** over a 10-year period with *Anew Climate*[4]<br>**TotalEnergies** – announcement to invest **$100Mper year in projects** capable of generating more than **5 MtCO2** in carbon credits[5] | **Singapore** – signing of memoranda of understanding with countries such as **Chile (62.5 MtCO2)**, Cambodia, Mongolia, Paraguay and Rwanda[6]<br>**Switzerland** – signing of bilateral agreements with countries such as **Peru (35 MtCO2)**, Ghana, Senegal, Georgia and Thailand[7] |

1. Source: World Bank, 2023; 2. World Bank, 2021; 3. Emergent Climate - LEAF Coalition; 4. Carbon Credits: Microsoft; 5. TotalEnergies Press Release; 6. NCCS Singapore Government; 7. KliK Press Release

# 4 | A few nature-based projects generating carbon credits exist, but the potential remains largely untapped

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025 NON-EXHAUSTIVE

Reforestation project Mangrove restoration project


| Carbon credit generating project | Project developper | Localisation | Avoided emissions, MtCO2 | Scale, ha | Carbon register |
|---|---|---|---|---|---|
| **1. Makira project REDD+**[1] | WCS | Makira Natural Park | 38 (over 30 years) | ~ 360,000 Of primary forests | VCS; CCB |
| **2. Carbon project CAZ**[3] | World Bank Kyoto Funds | Ankeniheny-Zahamena Corridor | NA | ~ 370,000 of tropical rainforests | VCS |
| **3. Carbon project COFAV**[4] | FAPBM | Ambositra-Vondrozo Corridor | 2 (since 2007) | ~ 285,000 Of rainforest | VCS |
| **4. Ma Honkô**[5] | Bondy | 3 regions including: Melaki, Sofia, Diana | NA | ~ 50,000 Of mangroves | Gold Standard |
| **5. Tahiry Honko**[2] | Plan Vivo Foundation | Baie des Assassins à Velondriake | 0.013 (par year) | ~ 1200 Of mangroves | VCS; Plan Vivo |
| **6. Tsitongambarika** *(under development)* | Asity Madagascar | Anosy region | NA | NA | NA |

**Potential next steps:** **Identify potential areas for project development** beyond forests in order to **generate new carbon credits**, including: wetlands, grasslands, seagrass beds, and sustainable agricultural practices (e.g., biochar)

1. Makira REDD+ Project; 2. Plan Vivo Foundation: Tahiry Honko; 3. WB Kyoto Funds: The CAZ carbon project; REDD Projects Database: 411 COFAV; 5. Bondy Earth: Ma Honko

# 4 | The activation of carbon markets may involve the implementation of several components and strategic coordination

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025 NON-EXHAUSTIVE

| Elements | Objectives | Areas of intervention |
|---|---|---|
| **Financing**  | Attract carbon credit buyers by entering into long-term purchase agreements | • Make the country a **favorable destination for investors** (e.g., tax incentives/taxes to balance project development with revenue generation).<br>• **Enhance the capacity to sell carbon credits** to support negotiations with buyers.<br>• **Provide bridge financing to project developers** who have signed purchase agreements.<br>• **Propose performance-linked purchase agreements** adjusted according to delivery milestones. |
| **Process**  | Create end-to-end processes for the implementation of carbon projects | • Design **internal processes** for the review of proposals and project approvals<br>• Design **processes related to Article 6** (e.g., authorization and ITMO transfer). |
| | Create a mechanism for equitable benefit-sharing | • Establish an independent agency responsible for **overseeing the implementation of the project.**<br>• Design a process to **ensure the supervision of benefit sharing** among all stakeholders. |
| **Systems**  | Automate the process of data collection and monitoring of carbon projects | • Create a **provisional tool** during the development phase of the national carbon registry.<br>• Develop a **national carbon registry** tailored to the VCM regulatory markets and Article 6 and link it to other systems.<br>• Deploy an **IT system for the market integrating the national carbon registry** with government systems. |
| **Capabilities**  | Equip the government and stakeholders with the necessary skills to support the operational implementation of the carbon market | • Strengthening **capacities and skills within the government** to manage daily operations<br>• Improving **community preparedness** by offering literacy programs to inform local populations about carbon markets |

# 4 | Several biodiversity-related mechanisms, such as biodiversity credits, could be mobilized and adapted to the Malagasy context

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

Details to follow

| | Biodiversity credits | Compensations and biodiversity banks | Labels and certifications |
|---|---|---|---|
| **Overview of the mechanism** | **Mechanism in which biodiversity outcomes** (e.g., habitat restoration, species recovery) are **sold as credits** to fund conservation | **Compensation measures for biodiversity impacts** by financing conservation measures of equivalent or superior value elsewhere, **either directly or through pre-established biodiversity "banks"** | Market insurance systems that **label products or services as biodiversity-friendly**, allowing producers to access premiums or niche markets |
| **Example** | 1 credit = 1 ha of restored forest | X has been protected or restored in a designated conservation bank | Product bearing a label indicating it is "biodiversity-friendly" |
| **Payment type** | One-time purchase of credits (~$10-$50/credit) | Direct payment in a compensation project or credit purchases from a habitat bank | Costs borne by producers and rewarded through price premiums (5 to 20%) |
| **Typical payers** | Private sector (e.g., CSR) | Project developers seeking to offset an impact elsewhere | Buyers/consumers |

# 4 | Several biodiversity credit opportunities could be implemented alongside carbon credit projects

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**An economic tool** that allows private investors to fund projects generating net gains for biodiversity by purchasing "units" or credits **measuring this positive impact on biodiversity**

## How do biodiversity credits work?

1. **The current state of biodiversity is measured and evaluated** to determine the nature of the resulting project
2. **A project is implemented in an area rich in biodiversity** by an NGO, a government agency, etc.
3. Biodiversity improvements are **measured and converted into units called "biodiversity credits"** where 1 credit equals a measurable improvement
4. **Biodiversity credits are sold to buyers**, for example, through habitat banks, and the proceeds are distributed to project developers or reinvested into conservation efforts
5. 

**Once purchased, the credits are retired to ensure the legitimacy of the impact**

### Habitat banking project in Colombia with Terrasos[2]

**Objective**: restore and protect forest ecosystems

**Number of projects**: 6 habitat banks (in 2022)

**Credit unit**: 1 credit = 1 hectare of forest restored

**Number of hectares restored**: 5000 hectares of forests

**Number of credits issued**: ~5000

**Total revenue**: $1.6M (project-specific)

### Mangrove restoration project in Marereni, Kenya[1]

**Objective**: restore and protect coastal mangroves

**Number of projects**: 30 projects with 640 local communities

**Credit unit**: 1 credit = 1 mangrove planted

**Number of mangroves restored**: 190K (since 2022)

**Number of credits issued**: 300,000 (Currently 190,000 credits used)

**Total revenue**: $900K

1 Mongabay 2025: A Kenya marine biodiversity credit program; 2. Partnerships for Forests (P4F): Habitat Banks

# 4 | The biodiversity credits project carried out in Kenya with SeaTrees could serve as an example to replicate in Madagascar

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Elements drawn from Kenya

**Long-term legal agreements**: 10-year agreement

**Clear and marketable units**:
1 'biodiversity block' = 1 mangrove planted

**Community-led conservation efforts**: implementation, monitoring, reporting

**Key partnerships for implementation**: SeaTrees and COBEC with the local community of Marereni

**Project credibility**: credits certified under the Plan Vivo standard

## Potential opportunity in Madagascar

### 1 Type

**Degraded coastal mangrove** along the northwest coast

(e.g., Menabe)

### 2 Credit unit

For example,
**1 biodiversity credit** = **1 mangrove restored**

### 3 Management and implementation

**Coastal community** withimplementation partners

(e.g., Bondy, Blue Ventures, WWF)

### 4 Regulation

**Global Biodiversity Standard** (GBS)

**Verra** - VCM

**Plan Vivo** – BCS

### 5 Credits and estimated revenues

**~350-700K**[1]

potential number of credits generated

**5M**[2]

potential revenues from the sale of credits

1 Assume that the objective is to restore ~70 ha of mangrove forest, i.e., approximately 5,000 to 10,000 mangroves per hectare; 2 Assuming the sale of high-integrity credits, with an average price per unit of $10. Average of 500K credits sold.

# 4 | Position Madagascar as a key destination for biodiversity financing mechanisms

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Aspiration

**Position Madagascar as a key destination for biodiversity financing mechanisms and mobilise $150-220 million annually to fund conservation efforts ($600-850M over 4 years)**

**Deploy a national programme to generate carbon credits**, in particular by consolidating jREDD+ programmes, concluding bilateral agreements under Article 6 and partnerships with private companies, and attracting private project developers.

**Negotiate bilateral debt-for-nature swaps (DNS)** with countries committed to combating climate change, such as France and Japan.

$10M-$30M

**Launch the Lemur Bond and mobilise new green bonds in commercially viable sectors** such as ecotourism and value chains, through agreements that guarantee the environmental integrity and bankability of private projects.

**Establish a payment programme for ecosystem services (PES)** to generate more private funding annually.

**Obtain funding from GEF, GCF, international donors, NGOs, and philanthropic organisations** with the aim of raising funds for conservation.

**Increase the endowment fund of the FAPBM and Tany Meva** in order to generate more interest in the management of protected areas.

**Mobilise public and private funding** by combining blended finance, corporate CSR budgets, and environmental taxes such as the carbon tax on maritime transport.

**Develop Madagascar as a premium biodiversity destination in Africa**, attracting ~170k eco-tourists and contributing $380-460 million to GDP by 2030.

# 4 | Debt-for-nature swaps (DNS) may be explored with certain external creditors in collaboration with the MEF

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**Likelihood of DNS :** High Medium Low

| Creditor | Value of the debt in $M and % of external debt[1] | Reasoning |
|---|---|---|
| France | 184 (3,2%) | Paris Club, precedent of DNS in Madagascar (e.g., FAPBM exchange 2008) |
| Japan | 195 (3,4%) | Paris Club, history of DNS (1990–2000) |
| South Korea | 6 (0,1%) | Paris Club, history of past debt relief |
| Others[2] | 5 305 (93,3%) | Concessional lenders, no DNS history |
| TOTAL | 5 747 (100%) | |

**Next Steps** (aligned with the DDP)

1. **Target a project**, specifying its **profitability** (return on investment)
2. **Approach potential creditors** with a project proposal
3. **Submit the file to the relevant ministries** (including the Ministry of Finance) to ensure prior alignment
4. **Issue a compliance notice** to the MEF, indicating the amount of the debt

## Key learnings

- The experience in Madagascar includes DNS agreements: ~$30M with the US (1996), ~$11M with Germany (2003) and ~$20M with France (2008)
- **~$440 million in external debt identified** as having potential for DNS, with possible commitment from Paris Club members with a precedent of DNS or debt relief: **France, Japan, Korea**
- **Internal coordination between the MEF and the MEDD is necessary**

1 Mars 2025; 2 Inclut : IDA Banque Mondiale – 2 784 (48,5%), BAD – 712 (12,4%), BFM (fonds réempruntés du FMI) – 637 (11,1%), FIDA – 322 (5,6%), Eximbank Chine – 212 (3,7%), OFID – 195 (3,4%), BADEA – 92 (1,6%), Deutsche Bank – 57 (1,0%), Algérie – 52 (0,9%), Russie – 34 (0,6%) et autres – 264 (4,6%)

Source : Bulletin Statistique de la Dette #36, MEF

# 4 | Position Madagascar as a key destination for biodiversity financing mechanisms

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Aspiration

**Position Madagascar as a key destination for biodiversity financing mechanisms and mobilise $150-220 million annually to fund conservation efforts ($600-850M over 4 ans)**

**Deploy a national programme to generate carbon credits**, in particular by consolidating jREDD+ programmes, concluding bilateral agreements under Article 6 and partnerships with private companies, and attracting private project developers.

**Negotiate bilateral debt-for-nature swaps (DNS)** with countries committed to combating climate change, such as France and Japan.

**Launch the Lemur Bond and mobilise new green bonds in commercially viable sectors** such as ecotourism and value chains, through agreements that guarantee the environmental integrity and bankability of private projects.

**$40M-$60M**

**Establish a payment programme for ecosystem services (PES)** to generate more private funding annually.

**Obtain funding from GEF, GCF, international donors, NGOs, and philanthropic organisations** with the aim of raising funds for conservation.

**Increase the endowment fund of the FAPBM and Tany Meva** in order to generate more interest in the management of protected areas.

**Mobilise public and private funding** by combining blended finance, corporate CSR budgets, and environmental taxes such as the carbon tax on maritime transport.

**Develop Madagascar as a premium biodiversity destination in Africa**, attracting ~170k eco-tourists and contributing $380-460 million to GDP by 2030.

# 4 | Supported by guarantees of $15-$20M, the Lemur Bond could potentially unlock ~$5-10M for conservation

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Key information about the Lemur Bond

| | |
|---|---|
| **Mechanism** | **Obligation of results,** with reimbursements tied to **measurable gains in lemur populations,** supported by a **philanthropic guarantee** for payments upon success |
| **Zone** | **6 priority landscapes with robust lemur monitoring data** and research infrastructure: Ranomafana, Andasibe, Andrafiamena-Andavokoera, Beza Mahafaly, Antrema, Tsimembo. |
| **Key stakeholders** | THE WORLD BANK, gef, International Monetary Fund, Ministère de l'Environnement et du Développement Durable, MEF |
| **Principal value and payments for conservation** | **To be determined** |
| **Grant guarantee value** | **$15-$20M, including $9.6M from GEF and $5-$10M in co-financing** |
| **Status and timeline** | **Concept approved by GEF in June 2025**, detailed design and budgeting still to be done<br>Issuance planned for October 2026 with the first repayment 5 years later |

## Key information on other impact bonds

| Impact bond | Rhino Bond | Amazon reforestation |
|---|---|---|
| **Principal value** | **$150M** | **$225M** |
| **Payments for conservation** | **$10M** | **$36M** |
| **Guarantee value** | **$13.8M** | NA – carbon credits sold |
| **Timeline** | 2022-2027 | 2024-2033 |
| **Key stakeholders** | World Bank, GEF, Credit Suisse & Citibank | World Bank, HSBC |

Based on a subsidy guarantee similar to the Rhino Bond, the Lemur Bond could unlock a comparable level of principal funding and payments for conservation from the World Bank

Source: GEF PIF 11694, World Bank

# 4 | Commercial bonds could mobilize private capital to finance profitable projects that serve conservation

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025 NON-EXHAUSTIVE

**A type of loan** where the funds raised are exclusively allocated to projects with measurable environmental benefits

## Types of obligations applicable in Madagascar

| | Sustainability-linked Bond | Green Bond | Blue Bond | Biodiversity Bond |
|---|---|---|---|---|
| Historical commercial issuers | SOCIETE GENERALE, enel, NOVARTIS | Unilever | Ørsted, MOL, DP WORLD | BANK OF CHINA, BBVA |
| Description | A bond whose financial conditions (interest rate) are linked to **the achievement of key performance indicators in environmental or social matters** | A bond whose funds are exclusively allocated to **projects with measurable environmental benefits** | A bond whose funds are intended to finance **projects related to the protection and management of marine and coastal resources** | A bond whose proceeds are intended to finance **projects related to biodiversity conservation** |
| Examples | **IFC and Société Générale (BRED)3** : 3-year SLB to facilitate SME financing with KPIs to be achieved in Madagascar – value: **$37M** | **Unilever1:** a 4.5-year green bond to support projects related to water and waste management – value: **$300M** | **Orsted2:** a 5-year blue bond to finance projects related to marine biodiversity – value: **$100M** | **IFC and BBVA Colombia:** first biodiversity bond in the financial sector - value: **$70M** |

**Key findings:** Bonds can **engage commercial issuers** to finance profitable projects (e.g., tourism, agricultural value chains, aquaculture) given the limited issuance of sovereign bonds

Source: 1 DNV, 2014: Unilever Green Bond; 2 Orsted, 2023: Ørsted becomes world's first energy company to issue blue bonds; 3 FMO, 2024: Green Bond in Madagascar

# 4 | A taxonomy, a financial market, and project selection standards are necessary to unlock the green bond market in Madagascar

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Current situation in Madagascar

### First green bond in Madagascar

| | |
|---|---|
| **Bond issue date** | **October 2024** |
| **Bond financiers** | **DFIs**, including: IFC FMO PROPARCO GROUPE AFD |
| **Issuer** | BRED BANQUE POPULAIRE |
| **Size of the green bond** | **$37M** (equivalent in ariary):<br>$11.5M by IFC; $10M each by FMO and Proparco; <$5.5M by private investors |
| **IFC interest rate** | **9.75%** |
| **Use of the bond** | **50%** for renewable energies and **50%** for SMEs |

1 Source: Interview with a BRED representative on August 20, 2025

Top 3 factors highlighted by BRED

## Necessary factors to unlock the green bond market[1]

- Development of a **green taxonomy system**
- Establishing standards for **the selection, monitoring, and reporting** of projects
- Development of a **financial market** (*Currently under development*)
- **Involvement of DFIs** such as IFC
- **Interest rates lower** than those of traditional bonds
- **Operationalization of the process** of bond issuance

# 4 | Green bonds can be tailored to various sectors related to nature and biodiversity

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

In-depth analysis of the more commercially viable projects to follow

## Examples of potential projects by bond type in Madagascar

| Type of obligation | Proposed thematic domain | Potential KPIs | Potential partners | Potential bond size[1] |
|---|---|---|---|---|
| **Sustainability-linked Bond** | **Deforestation-free value chains** (e.g., vanilla, cocoa, cloves, etc.) | • % of the supply chain traceable<br>• % of purchased volume verified as deforestation-free | **Issuer:** DANONE<br>**Bond subscribers:** BRED BANQUE POPULAIRE | **$40-60M** |
| **Green Bond** | **Development of ecotourism infrastructure** | • % of tourism revenue allocated to conservation and local communities | **Issuer:** BRED BANQUE POPULAIRE<br>**Bond subscribers:** FMO | **$30-50M** |
| **Blue Bond** | **Protection and restoration of mangroves** | • Ha of mangroves restored or protected<br>• % of fishermen registered in LMMAs | **Issuer:** WWF<br>**Bond Subscribers:** THE WORLD BANK | **$10-30M** |
| **Biodiversity Bond** | **Species conservation** (under development: Lemur Bond) | • Protection of target species and their habitat<br>• % increase in their population | **Issuer:** Wildlife Conservation Society<br>**Bond subscribers:** gef | **$10-30M** |

Source: Climate Bonds: Sustainability-linked and Green bonds to build a high-quality market
Size ranges of hypothetical bonds based on similar bonds issued in other countries

# 4 | Ecotourism and value chains could be financed through green bonds, given their potentially high returns

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Example of potential future obligations to implement

| | Sustainability-linked bond | Green bond |
|---|---|---|
| **Thematic domain** | **Development of traceable and deforestation-free value chains** (e.g., vanilla, cocoa, coffee, cloves, fisheries/aquaculture), including farmers and local communities, **to ensure the sustainability and profitability necessary for bond repayment** | **The development of nature-friendly infrastructure**, such as eco-lodges in the concession areas, trails, walkways, park access, and security checkpoints, with the aim **of increasing the number of tourists to repay the bond loan** |
| **Issuer** | Bank, private sector (e.g., agrifood company) | |
| **Main donors / IFI** | | |
| **Potential structure of the bond** | SLB with **progressive, decreasing coupon** based on the performance of key performance indicators (KPI); **5 to 7 years** | **Fixed coupon in MGA**; **5 to 10 years** (aligned with tourism development and repayment) |
| **Potential size of the bond** | **$40-60M** (equivalent in Ariary) | **$30-50M** (equivalent in Ariary) |

# 4 | Position Madagascar as a key destination for biodiversity financing mechanisms

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Aspiration

**Position Madagascar as a key destination for biodiversity financing mechanisms and mobilise $150-220 million annually to fund conservation efforts ($600-850M over 4 years)**

**Deploy a national programme to generate carbon credits**, in particular by consolidating jREDD+ programmes, concluding bilateral agreements under Article 6 and partnerships with private companies, and attracting private project developers.

**Negotiate bilateral debt-for-nature swaps (DNS)** with countries committed to combating climate change, such as France and Japan.

**Launch the Lemur Bond and mobilise new green bonds in commercially viable sectors** such as ecotourism and value chains, through agreements that guarantee the environmental integrity and bankability of private projects.

**Establish a payment programme for ecosystem services (PES)** to generate more private funding annually.

$40M-$60M

**Obtain funding from GEF, GCF, international donors, NGOs, and philanthropic organisations** with the aim of raising funds for conservation.

**Increase the endowment fund of the FAPBM and Tany Meva** in order to generate more interest in the management of protected areas.

**Mobilise public and private funding** by combining blended finance, corporate CSR budgets, and environmental taxes such as the carbon tax on maritime transport.

**Develop Madagascar as a premium biodiversity destination in Africa**, attracting ~170k eco-tourists and contributing $380-460 million to GDP by 2030.

# 4 | Three potential PES programs could be replicated in Madagascar to generate $40M to $60M in revenue by 2030

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**Payment for ecosystem services** | Private agreements in which the beneficiary of an ecosystem service contracts directly with providers for the improvement of ecosystem services

## Examples of PES programs to implement in Madagascar

| | PES fund for watershed protection | | PES fund for forest protection and reforestation |
|---|---|---|---|
| **Ecosystem service** | Protection and restoration of watersheds | Protection and restoration of watersheds | Protection and reforestation of forests near roads |
| **Payers** | Hydroelectric dams downstream | Breweries, water bottling, etc., downstream | Road users, stakeholders in road maintenance downstream |
| **Providers** | Upstream communities and farmers | Upstream communities and farmers | Upstream communities and farmers |

# 4 | A PES scheme where hydroelectric dams finance the protection and restoration of watersheds could be implemented

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Proposed PES program operation

**Upstream,** e.g., communities and farmers

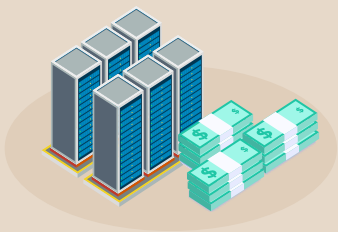
**Protection and restoration of watersheds**

***Ecosystem service***

**Downstream water users** e.g., hydroelectric dams

**Water quality and quantity are improved by a reduction in sedimentation, consequently lowering maintenance costs through upstream protection**

**Payments to a PES fund** to remunerate the provision of ecosystem services



***PSE Fund***
*Financing intermediary for processing payments*

**Funds received to support these programs,**

e.g., by an NGO, direct technical assistance to communities

1 Based on an example in Ecuador (2000)
2 Details next page

Source : Nature4Water – The Nature Conservancy, TNC: Ecuador Water Fund (2000)

## Opportunity in Madagascar[1]

**Ecosystem service:**
Protection and restoration of watersheds

**Payers:**
Hydroelectric dams (e.g., JIRAMA, AXIAN, EDF)

**Providers:**
e.g., upstream communities and farmers

**Estimated fund size:**

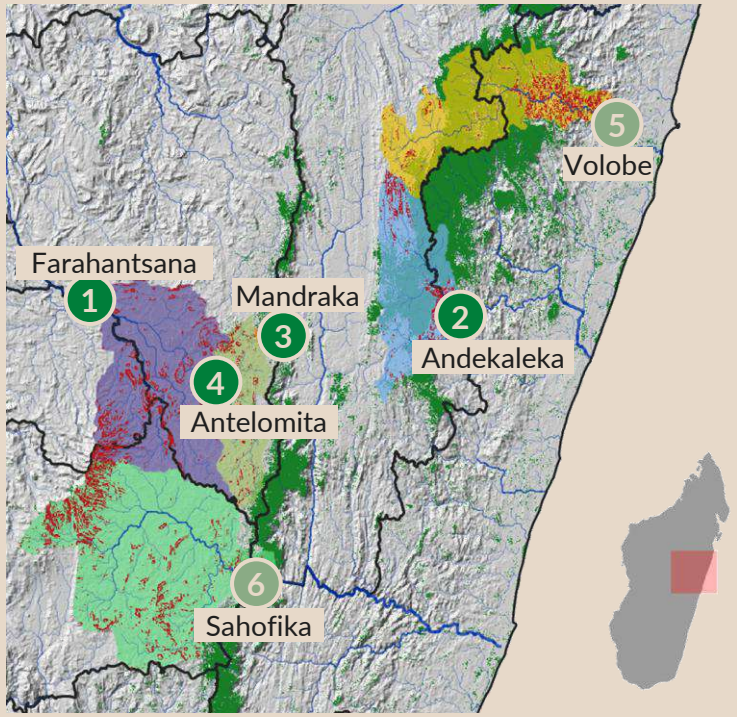
**$6-10M**[2] per year

**$24-40M** in 2030

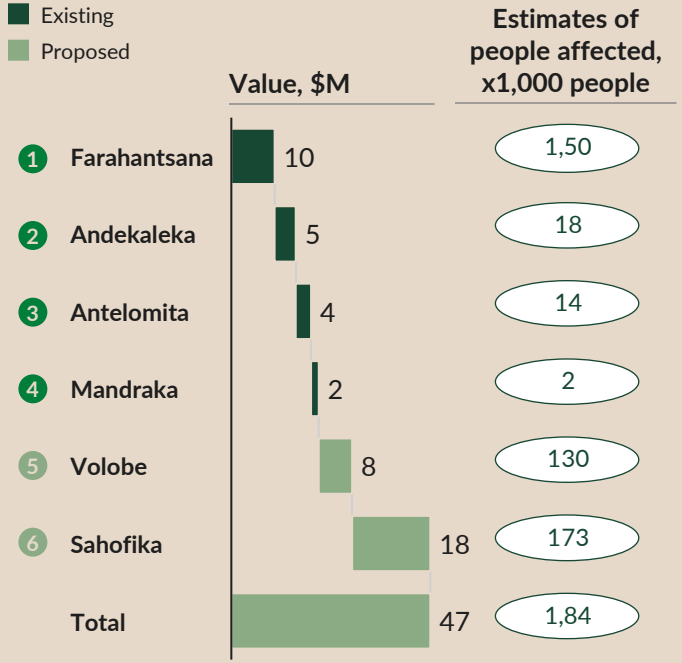
# 4 | Up to $20M in savings could be achieved by private actors, of which $6-10M could be channeled into restoration

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## The largest hydroelectric dams and their catchment areas[1]




## Estimates of potential savings and individuals affected[2]




1 Soil loss and export to watercourses under current and potential land cover were modelled using the InVEST® tool. The C factor values for the USLE equation were obtained from several scientific publications on soil erosion in Madagascar. The potential reduction in erosion rates is defined as the difference between the modelled export under current land cover and the modelled export in a 10% restoration scenario. A dredging cost of $4.5 to $9.4 per tonne is assumed. The current lifespan of the turbines is estimated at 65 years and is assumed to decrease proportionally to sediment loads according to Archard's wear law.

2 Hydrology in hydroelectric dam basins was modelled using the InVEST® tool with the 'seasonal water yield' module. The relative impact of reforestation on dry season flow was estimated as the relative change in base flow. The impact was only considered relevant for hydroelectric dams where capacity is reduced in the dry season (e.g., the Andekaleka and Volobe hydroelectric dams).

3 The population is derived from CIESIN, assuming 5 persons per household. The proportion of rural households relative to urban households was derived from the THIRD GENERAL POPULATION AND HOUSING CENSUS (RGPH-3).

## Preliminary insights

**Reforestation of 10% (~150kha) of the watersheds upstream of hydroelectric dams would offer the most potential benefits for electricity companies** — mainly by reducing the dredging costs required to remove sediment that accumulates in reservoirs due to upstream erosion.

**This could generate up to $20 million per year in operational savings for existing hydroelectric dams.**

A portion of these avoided costs could be **directly channeled towards restoration efforts**, benefiting the 360k[3] rural households living in these watershed areas.

# 4 | Another PES scheme to protect key watersheds could be implemented with water companies and breweries

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Operation of the proposed PES program

*Ecosystem service*

**Upstream,** e.g., communities and farmers

**Protection and restoration of watersheds**

**Downstream water users** e.g., water company, breweries

**Improved water quality, and consequently, a reduction in treatment costs due to upstream protection**

**Payments to a PES fund** to compensate for the provision of the ecosystem service

***PES Fund***
*Financing intermediary to route payments*

**Funds received to support these programs,**

e.g., through an NGO, direct technical assistance to communities

1 Based on an example in France - Vittel (1994)

Source : Nature4Water – The Nature Conservancy, Ponderful – Vittel PES

## Opportunity in Madagascar[1]

**Ecosystem service:**
Protection and restoration of watersheds

**Payers:**
Water companies (e.g., JIRAMA), Brewery industry (e.g., STAR)

**Providers:**
e.g., upstream communities and farmers

**Estimated fund size:**

**$3-5M** per year

**$12-20M** in 2030

# 4 | Road users and maintenance providers could benefit from a PES for forest protection near roads

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Operation of the proposed PES program

**Upstream,** e.g. local communities, NGOs

**Protection and reforestation of forests near road infrastructures, which prevents water runoff and soil erosion**

***Ecosystem service***

**Upstream,** road infrastructure suppliers, e.g., the Malagasy local government

**Reduction of road maintenance costs through upstream forest protection**

**Downstream,** road users

**Better road infrastructure, resulting in reduced vehicle wear and tear, and better fuel tax management through proactive road maintenance**

***Revenues from the fuel tax and donors such as the World Bank, the EIB, and the European Union to the Road Fund***

***Road Fund***

*Financing intermediary for processing payments*

**Funds received to support protection and reforestation efforts** carried out by the communities

Source: Example based on the research of Porto et al. (2010) on the impact of reforestation on soil erosion protection and water runoff for land use management in Italy

# 4 | The road fund in place in Madagascar could redirect part of the financing towards reforestation to reduce maintenance costs

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Example of a fund for road rehabilitation in Madagascar

**Fund:** Road Fund

**Vision:** Ensure a stable and predictable source of funding for the rehabilitation of Madagascar's road network

**Implementation:** The Ministry of Public Works and the Madagascar Roads Agency

**Size:** two projects aimed at rehabilitating two roads received funding of $250M and $400M from:

- **RN13 Road:**
  - EU grant of **116M euros**
  - EIB loan of **115M euros**
  - **5M euros** from the Malagasy government
- **Route RN12A:**
  - **Financing package (World Bank, 2022):**
  - **$400M** ($200M in credit and $200M in IDA grants)

**Donors:**

THE WORLD BANK · European Investment Bank

## Possibility of PES by a Road Fund in Madagascar

**Ecosystem service:**
Protection and reforestation of forests near road infrastructures

**Payers:**
Providers (e.g., local government) and road users (paid via fuel tax)

**Providers:**
e.g., Local communities, farmers

**Current fund size:**
**$95M**[2] equivalent in ariary

**Potential partners:**

FAPBM · Fondation Tany Meva · THE WORLD BANK · European Investment Bank

1 Source: EIB - Rehabilitation works on the national road funded by the European Union, the EIB, and the African Development Bank Group
2 Publication 2424: PUBLIC TREASURY – Over 432 billion ariary in the accounts of the Road Fund

# 4 | Position Madagascar as a key destination for biodiversity financing mechanisms

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Aspiration

**Position Madagascar as a key destination for biodiversity financing mechanisms and mobilise $150-220 million annually to fund conservation efforts ($600-850M over 4 ans)**

**Deploy a national programme to generate carbon credits**, in particular by consolidating jREDD+ programmes, concluding bilateral agreements under Article 6 and partnerships with private companies, and attracting private project developers.

**Negotiate bilateral debt-for-nature swaps (DNS)** with countries committed to combating climate change, such as France and Japan.

**Launch the Lemur Bond and mobilise new green bonds in commercially viable sectors** such as ecotourism and value chains, through agreements that guarantee the environmental integrity and bankability of private projects.

**Establish a payment programme for ecosystem services (PES)** to generate more private funding annually.

**Obtain funding from GEF, GCF, international donors, NGOs, and philanthropic organisations** with the aim of raising funds for conservation.

**$400M-$500M**

**Increase the endowment fund of the FAPBM and Tany Meva** in order to generate more interest in the management of protected areas.

**Mobilise public and private funding** by combining blended finance, corporate CSR budgets, and environmental taxes such as the carbon tax on maritime transport.

**Develop Madagascar as a premium biodiversity destination in Africa**, attracting ~170k eco-tourists and contributing $380-460 million to GDP by 2030.

# 4 | GEF and GCF raised ~$120M during the last cycle for biodiversity in Madagascar and are key donors for the program

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025 NON-EXHAUSTIVE

## Financing profile in Madagascar

### GEF – 8[1] (2022 - 2026)

Total allocated: **$56.7M**

Total allocated to biodiversity: **$50.7M** for 4 years

**Examples of projects:**

- *11694: Strengthen the integrated management of terrestrial and marine landscapes and improve the livelihoods of local beneficiaries:* **~$20M** — 2024 – ongoing
- *11139: Strengthen investments in ecosystem restoration in Madagascar:* **~$14.4M** — 2024 – ongoing

### GCF – 22 (2024 - 2027)

Total allocated: **$129.2M**

Total allocated to biodiversity[3]: **$69M** for 3 years

**Examples of projects:**

- *FP026: Sustainable landscapes in eastern Madagascar:* **~$15M** — 2018 - 2030
- *FP227: Climate resilience enhancement project benefiting program services "Agricultural value chains":* **~$54M** — 2016 - 2025

The current potential financing for Madagascar is **$75-100M** under **GEF-9** (to be confirmed in June 2026)

**FAPBM** begins the process **of accreditation** which spans 3 years, **Tany Meva is considering this process** (not yet implemented)

1 Source GEF-8 STAR: Madagascar; 2 Source: GCF-2: Republic of Madagascar; 3 GCF-2 Biodiversity-related projects: FP227 ($53.8M) + FP026 ($15.2M)

# 4 | Bilateral and multilateral donors are key to supporting Madagascar's conservation efforts

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025 NON EXHAUSTIVE

| Main donors | Financing Details | Examples of supported projects | Partners | Total project value[1] |
|---|---|---|---|---|
| THE WORLD BANK | >$200M in loans, plus $50M conditioned on emissions avoided due to the REDD+ program | (2023-2028) Project on productivity and resilience of rural livelihoods | AFD, FAPBM, MINISTERE DE L'AGRICULTURE ET DE L'ELEVAGE | $225M ($200M from a World Bank loan and $25M from the AFD) |
| AFD | >$25M of co-financing with the World Bank for an ongoing project (+$9M from FAPBM in 2020) | | | |
| KFW | ~$33M pledged by 2028 to support Madagascar national parks and ~$100M already disbursed to the FAPBM fund | Fund for Protected Areas and Biodiversity of Madagascar (FAPBM) (2005) | THE WORLD BANK, WWF, gef, AFD, CONSERVATION INTERNATIONAL, HEMPEL FOUNDATION, re:wild | >$150M ($100M from KfW) |
| | >$70M allocated to conservation efforts as part of the EU-Madagascar program (2021-2027) | FAMINDRA – Support for 75 protected areas through the FAPBM (2024-2029) | KFW, FAPBM | $40M |
| | >$9M in grants to strengthen natural capital protection systems and ecosystems | Project on strengthening the resilience of value chains (2024-ongoing) | N/A | >$10M |

1 Total co-financing included
2 Source: 2. World Bank - Climate Financing for Fiscal Year 2024; 3. Nature News Africa - AfDB Commitments
3 The distribution in 2024: World Bank – 44% ($42.6B) vs 56% ($54.4B); AfDB – 49% ($5.5B) vs 51% ($5.8B) to the environment compared to socio-economic development

## Distribution of financing by development banks

- Development banks allocate approximately the same amount to **environmental financing as to socio-economic development**
- In 2024, the average allocation by development banks to the environment compared to socio-economic development was **47% vs 53%**[3]
- ~30% of environmental financing is allocated to nature
- Development financing is **~4x higher than that dedicated to biodiversity** and constitutes an additional source for activities combining conservation and development, particularly with communities

# 4 | NGOs present in Madagascar and Africa are key technical partners to be mobilized further

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## The largest environmental NGOs in Madagascar

| | ONG[1] | Non-public source revenues, M $ | % total revenue | Potential available for Madagascar, M $ |
|---|---|---|---|---|
| | World Wide Fund for Nature (Madagascar) | 2.8 | ~20% | 2.75 |
| | Conservation International | 125 | ~45% | ~6[2] |
| | Wildlife Conservation Society | 150 | ~40% | ~0.5 - 3[3] |

1 Source: WWF Madagascar - Annual Report 2024; Conservation International - Annual Report 2024; WCS - Annual Impact Report 2024
2 45% ($125M) of the revenues come from the private sector (non-public funding/foundations); 17% of expenditures ($21.25M) are dedicated to field programs in Africa; An estimated 30% of revenues from non-public sources are allocated to Madagascar
3 Estimated 40% ($150M) of revenues come from non-public sources; 45% of expenditures are allocated to global programs; Estimated 1 to 5% ($0.675M to $3.3M) from non-public sources are allocated to Madagascar

# 4 | Many private institutions support biodiversity in Africa and could be involved to increase funding

Key private donors committed to promoting biodiversity and conservation efforts in Africa

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025 NON-EXHAUSTIVE

Low investment | Moderate investment | Significant investment

| Institution | Subsidies, $M | Bio & Cons | Example of countries | In Madagascar |
|---|---|---|---|---|
| BEZOS EARTH FUND | $670M | ● | | ✓ |
| WALTON FAMILY FOUNDATION | $650M | ● | | ✗ |
| GORDON AND BETTY MOORE FOUNDATION | $450M | ◑ | | ✓ |
| Postcode Lottery Group | $900M | ◔ | | ✓ |
| The David & Lucile Packard Foundation | $320M | ◑ | | ✗ |
| William & Flora Hewlett Foundation | $600M | ◔ | | ✗ |
| OAK FOUNDATION | $470M | ◔ | | ✓ |
| RAINFOREST TRUST | $28M | ● | | ✓ |

| Institution | Subsidies $M | Bio & Cons | Example of countries | In Madagascar |
|---|---|---|---|---|
| THE HOWARD G. BUFFETT FOUNDATION | $350M | ◔ | | ✗ |
| Margaret A. Cargill PHILANTHROPIES | $330M | ◔ | | ✗ |
| | $160M | ◑ | | ✓ |
| ZOMA | NA | ◑ | | ✓ |
| THE WYSS FOUNDATION | $170M | ◔ | | ✓ |
| arcus FOUNDATION | $35M | ◑ | | ✓ |
| HEMPEL | $28M | ◑ | | ✓ |
| MacArthur Foundation | $350M | ◔ | | ✓ |

1 Annual amount allocated to biodiversity and conservation initiatives, based on the latest financial report

Source: Individual financial reports and websites

# 4 | Position Madagascar as a key destination for biodiversity financing mechanisms

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Aspiration

**Position Madagascar as a key destination for biodiversity financing mechanisms and mobilise $150-220 million annually to fund conservation efforts ($600-850M over 4 years)**

**Deploy a national programme to generate carbon credits**, in particular by consolidating jREDD+ programmes, concluding bilateral agreements under Article 6 and partnerships with private companies, and attracting private project developers.

**Negotiate bilateral debt-for-nature swaps (DNS)** with countries committed to combating climate change, such as France and Japan.

**Launch the Lemur Bond and mobilise new green bonds in commercially viable sectors** such as ecotourism and value chains, through agreements that guarantee the environmental integrity and bankability of private projects.

**Establish a payment programme for ecosystem services (PES)** to generate more private funding annually.

**Obtain funding from GEF, GCF, international donors, NGOs, and philanthropic organisations** with the aim of raising funds for conservation.

**Increase the endowment fund of the FAPBM and Tany Meva** in order to generate more interest in the management of protected areas.

**$20M-$30M**[1]

**Mobilise public and private funding** by combining blended finance, corporate CSR budgets, and environmental taxes such as the carbon tax on maritime transport.

**Develop Madagascar as a premium biodiversity destination in Africa**, attracting ~170k eco-tourists and contributing $380-460 million to GDP by 2030.

1 Current interests of the FAPBM and Tany Meva funds until 2030, without considering potential increases

# 4 | To ensure the sustainability of efforts beyond the program, sustainable management could require up to $2B in endowment

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

| | | | |
|---|---|---|---|
| **Organization** | FAPBM | FAPBM | Fondation Tany Meva / FAPBM |
| **Funds** | **Terrestrial institutional management** | **Marine institutional management** | **Managing thriving communities** |
| **Description** | Funding for the **management of protected areas and other zones under protection** with endowment interests | Funding for the **management of marine protected areas and other protected zones** with the interests from the endowment | Funding for **the management of thriving communities** |
| **Annual need starting from 2030**, $M | 90 | 40 | 50 |
| **Part covered by funds** | *50%* | *50%* | *100% of the management need* |
| **Endowment needed in 2030** | **$900M** | **$400M** | **$1B** |

Source: interviews, TGRNR / LMMA workshops, co-creation workshop

# 4 | Position Madagascar as a key destination for biodiversity financing mechanisms

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Aspiration

**Position Madagascar as a key destination for biodiversity financing mechanisms and mobilise $150-220 million annually to fund conservation efforts ($600-850M over 4 ans)**

**Deploy a national programme to generate carbon credits**, in particular by consolidating jREDD+ programmes, concluding bilateral agreements under Article 6 and partnerships with private companies, and attracting private project developers.

**Negotiate bilateral debt-for-nature swaps (DNS)** with countries committed to combating climate change, such as France and Japan.

**Launch the Lemur Bond and mobilise new green bonds in commercially viable sectors** such as ecotourism and value chains, through agreements that guarantee the environmental integrity and bankability of private projects.

**Establish a payment programme for ecosystem services (PES)** to generate more private funding annually.

**Obtain funding from GEF, GCF, international donors, NGOs, and philanthropic organisations** with the aim of raising funds for conservation.

**Increase the endowment fund of the FAPBM and Tany Meva** in order to generate more interest in the management of protected areas.

**Mobilise public and private funding** by combining blended finance, corporate CSR budgets, and environmental taxes such as the carbon tax on maritime transport.

**$10M-$15M**

**Develop Madagascar as a premium biodiversity destination in Africa**, attracting ~170k eco-tourists and contributing $380-460 million to GDP by 2030.

# 4 | Local stakeholders with a CSR plan could be encouraged to redirect part of their CSR towards biodiversity

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## CSR examples in Madagascar

### Telma with Bondy[1]

**Project:** "1 phone = 1 tree" designed in 2020

**Results:** 50,000 trees in Analamanga

**Next steps:** Planting 100,000 trees in 2022 in the regions of Toamasina, Morondava, and Mahajanga

### BNI with Bondy[2]

**Project** : Mangrove restoration program in the Boeny region (2024)

**Results** : 3,000 propagules planted in the fokontany of Maromiandra, mobilizing >100 villagers for the restoration effort, ~0.5 ha reforested.

### Estimated revenues related to CSR in Madagascar

**~$500K-$1M**

Average annual amount allocated to CSR by the 15 largest companies in Madagascar

**~$100K-$200K**

Potential revenues mobilized for nature annually related to CSR

## Potential opportunity with largest local companies

| | |
|---|---|
| Ambatovy | Mining |
| QQM | Mining |
| Telma | Telecommunications |
| Orange Madagascar | Telecommunications |
| Air Madagascar | Aviation |
| Jovena | Food industry |
| STAR | Food industry |
| DHL Madagascar | Logistics |
| Total Madagascar | Energy |
| AXIAN Madagascar | Financial services |

1 Source: Midi Madagasikari - Telma & Bondy; Bondy - BNI Madagascar
2 Hypothesis: ~1% allocated annually to CSR. Assume that 20% of CSR expenditures are allocated to nature and conservation

# 4 | A carbon pricing mechanism could redirect funds from shipping towards nature protection

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

As part of the **Africa Sovereign Carbon Registry**, governments are implementing carbon tax mechanisms, applied for example to maritime transport:

### Djibouti

- Implementation of a sovereign service fee in March 2023
- **$17tCO2e**, **capped at $7,500** per trip

### Gabon

- Implementation of a sovereign carbon tax in March 2025
- **$17tCO2e**

The carbon contribution is calculated as representing **50% of the total carbon footprint of a ship's journey** to or from Djibouti/Gabon

## How could this be replicated in Madagascar?

### Steps to implement a carbon tax in Madagascar:

**Partnership with the Africa Sovereign Carbon Registry** to develop a carbon registry in Madagascar applied to maritime transport

**Define sovereign service fees corresponding to the carbon tax**, which will apply to maritime transport, with a benchmark price of $17/tCO2e

Implementation of a **royalty management system by Malagasy port authorities**, with a pricing mechanism per tCO2e estimated based on IMO's CII rankings

**Creation of a sovereign fund** to which revenue from the collected carbon tax will be allocated and identification of beneficiaries

### Potential opportunities

- **Launch the project** in the largest port of Madagascar, namely **Toamasina**
- Once the project is implemented, **expand its scope to air transport** and register this program with the Africa Sovereign Carbon Registry

### Potential revenues[1]

**$4M-$6M[2 3]**

in annual revenue from billed fees

1 Hypotheses: service fee of $17 per tCO2e, cap of $7,500 per trip, CO2 emissions of 25 g/tkm (standard: 10-40 g) ; 2 Calculations: Cargo per call (tons): 7.87 Mt (annual tonnage reported by the port of Toamasina)/~750 calls per year = ~10,500 t/call; CO2 emissions per call: 10,500t/call x 25 g/tkm (g of CO2 per ton-kilometer) x 2,000 km (average distance)/1,000,000 (g in tons) = 525 tCO2e/call; Fees per call: 525tCO2e/call x $17 = $8,925 ; 3 Lower limit: fees of $17, cap of $5,000 per trip; upper limit: fees of $17, cap of $7,500 per trip

Source: Autonomous Management Port Society of Toamasina - Annual Data 2023

# 4 | Position Madagascar as a key destination for biodiversity financing mechanisms

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Aspiration

**Position Madagascar as a key destination for biodiversity financing mechanisms and mobilise $150-220 million annually to fund conservation efforts ($600-850Mn over 4 years)**

**Deploy a national programme to generate carbon credits**, in particular by consolidating jREDD+ programmes, concluding bilateral agreements under Article 6 and partnerships with private companies, and attracting private project developers.

**Negotiate bilateral debt-for-nature swaps (DNS)** with countries committed to combating climate change, such as France and Japan.

**Launch the Lemur Bond and mobilise new green bonds in commercially viable sectors** such as ecotourism and value chains, through agreements that guarantee the environmental integrity and bankability of private projects.

**Establish a payment programme for ecosystem services (PES)** to generate more private funding annually.

**Obtain funding from GEF, GCF, international donors, NGOs, and philanthropic organisations** with the aim of raising funds for conservation.

**Increase the endowment fund of the FAPBM and Tany Meva** in order to generate more interest in the management of protected areas.

**Mobilise public and private funding** by combining blended finance, corporate CSR budgets, and environmental taxes such as the carbon tax on maritime transport.

**Develop Madagascar as a premium biodiversity destination in Africa**, attracting ~170k eco-tourists and contributing $380-460 million to GDP by 2030.

**$50M-$60M**

# 4 | Madagascar could become a leading destination for biodiversity and ecotourism in Africa through targeted actions

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**Continue to develop and diversify ecotourism circuits** through parks, connecting flagship and emerging destinations, offering a range of tourism products and themed experiences with star products, supported by safe and modern eco-designed infrastructure

**Mobilise $3–5 million per year through the extension of the PPP concession model**, with secure land tenure and a clear legal framework, to attract local and international investors and generate positive impacts for communities and biodiversity

**Align park fees with those in other African countries**, reflecting tourists' willingness to pay, while ensuring that the quality of services offered is improved, thereby generating $5-12 million in additional revenue per year

**Train and support local communities** through a skills framework (guiding, hospitality, commerce, multilingualism) to professionalize and develop community-based ecotourism

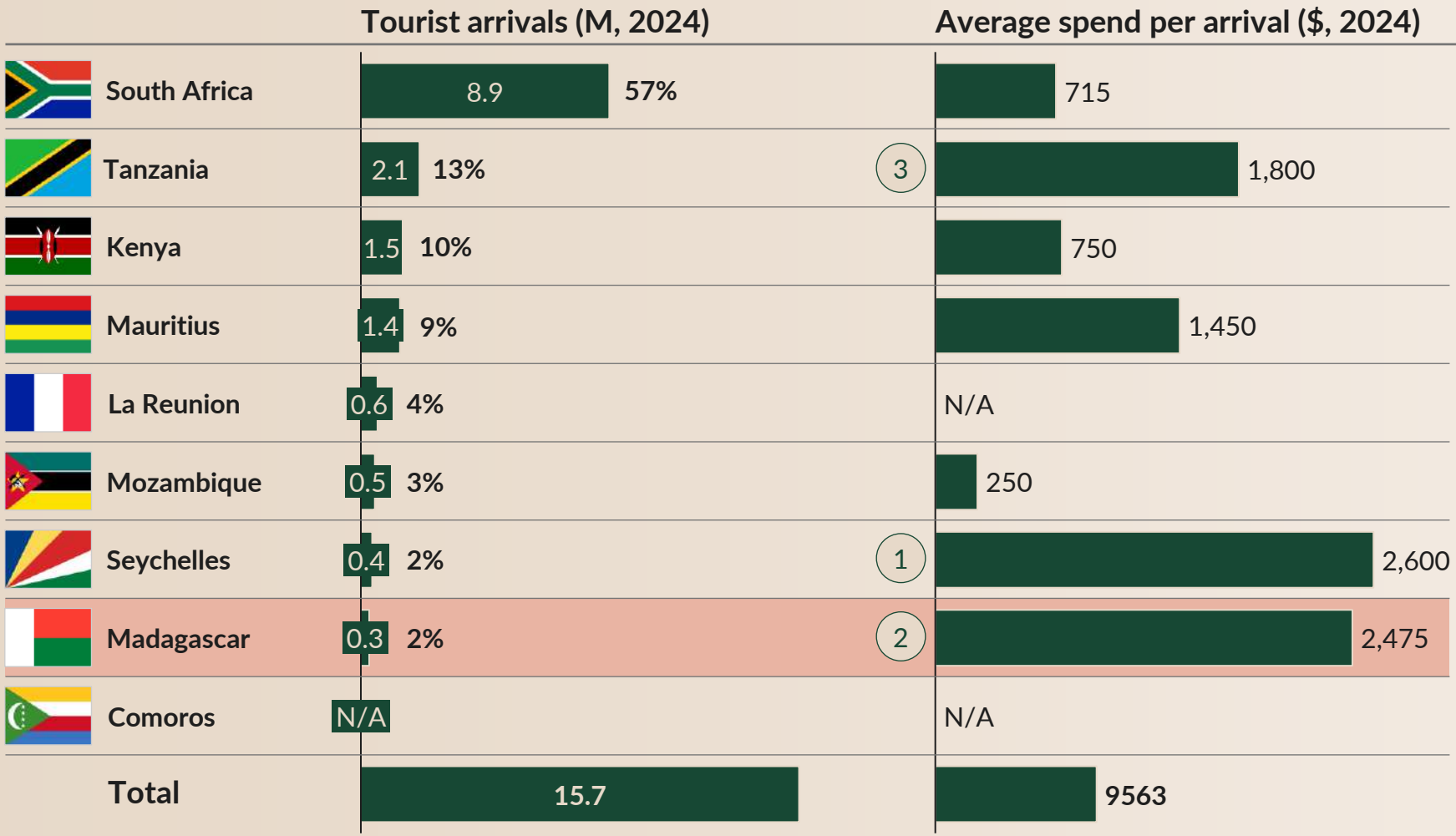
**Launch a holistic effort to position and promote Madagascar** as a premium biodiversity destination in Africa, targeting repeat travelers and responsible tourists, leveraging digital platforms, global partnerships, and eco-standards and certifications

These actions could be encouraged by **a coordinated effort between the MEDD and the MTA to develop a strategy for ecotourism** at the national level and an operational framework for the governance of ecotourism in Madagascar

# 4 | Madagascar attracts only 2% of tourist arrivals in the western Indian Ocean, representing a significant opportunity for growth

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

(X) Top 3 of the countries




## Key learnings for Madagascar

**Madagascar records the lowest number of arrivals despite having the second highest income per tourist.**

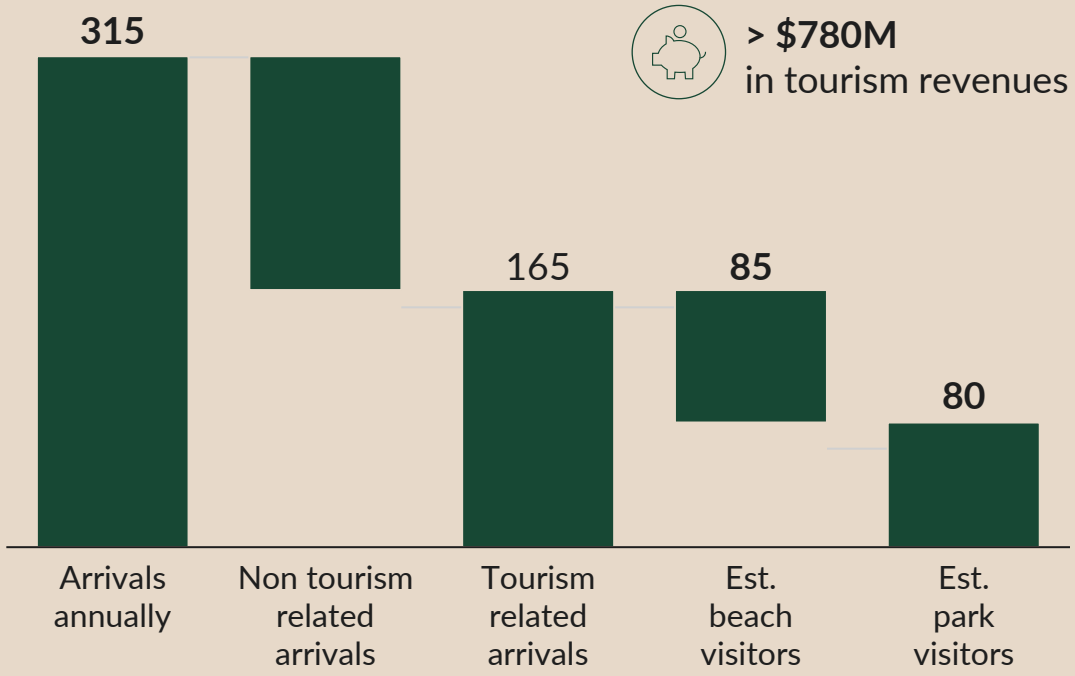
**Madagascar can increase the number of tourists interested in coastal and marine tourism** (which accounts for approximately 70% of all tourism[2] in the western Indian Ocean)

1. UN Tourism Data Dashboard: 2024
2. WWF 2024: REVIVING THE WESTERN INDIAN OCEAN ECONOMY
3. Moyenne pondérée du revenu par arrivée, calculée en faisant la moyenne du revenu par arrivée pondérée par le nombre d'arrivées dans chaque pays

# 4 | The growth rate of eco-tourism in Madagascar could be similar to that of Botswana, at 5.7%

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Current view on tourism in Madagascar, '000, 2024




1 Assuming that 47% of 315,000 represents an estimate of the figure (of which 19% are related to business and 28% to visits to family/friends)
2 Assuming that 53% of 315,000 people travelled for leisure or honeymoon purposes.
3 Assuming that park visitors who visited marine parks (Nosy Tanihely, Lokobe) also visited beaches. Beach visitor figures were calculated from marine park data.
4 The total number of visitors was calculated by subtracting the number of marine park visitors from the total number of visitors. It is assumed that the remaining visitors visited only the parks and reserves.
5 Source: Botswana Tourism Statistics, second quarter 2022
6 Assuming an annual growth rate similar to that of Botswana of 5.7% applied to annual arrivals and a share of ecotourists of 40%, or 170K
7 Estimate based on continuity from 1995 to 2018, without taking into account the Covid years

Source : MTA & MNP – Internal document (Vision du secteur touristique à Madagascar)

## Potential growth of ecotourism in Madagascar

**170K**[6]

Total annual visitors for ecotourism by **2030**

**1.3M6**

Total annual visitors for ecotourism by **2050**

**X4**

Number of ecotourism visitors in the next **25 years**

**420M**

2030 GDP based on 170,000 ecotourists, spending an average of $2,475 per trip

### Benchmark used: growth rate of ecotourism in Botswana

**1,8 M**

Tourists in 2018 (from <500,000 in 1995)[5]

**5.7%**

Annual growth rate since 1995

**+300%**[7]

Total number of visitors in 25 years

### Ambitious benchmark: the current tourism profile of Réunion

**630K**

Tourists in 2024 (from <500,000)[5]

**+12%**

Annual growth rate of tourists coming for leisure, including ecotourism, since 2020

# 4 | Case study: Botswana's success in increasing the number of ecotourists is an achievement from which Madagascar could draw inspiration.

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## The National Ecotourism Strategy[1]

**Implemented in 2002**

Based on **five principles**:

1. **Minimise the negative impact** on the environment and society
2. **Maximising participation and the equitable distribution of economic benefits** to local communities
3. **Maximising revenue** to reinvest in conservation
4. **Raise awareness** among **visitors and locals** about the importance of preserving natural and cultural resources.
5. **Offering a high-quality tourist experience** to ensure long-term benefits

**Examples of actions taken by Botswana as part of the National Ecotourism Strategy[1]**

- **Stimulate FDI for tourism development** using policies (e.g., a minimum of $200,000 or $100,000 if it is a joint venture with locals)
- **Introducing high fees** that provided sources of revenue for the government, local communities and tour operators
- **Market ecotourism** and conservation as a key attribute to international visitors
- **Launch a comprehensive programme of environmental standards** for lodges and tour operators to promote sustainability
- **Limiting camping sites** to direct tourists towards high-income lodges

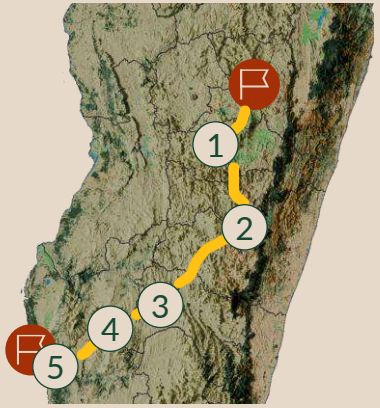
1 Source: Botswana National Ecotourism Stategy 2002

# 4 | Continuing to develop iconic circuits could inform investments and enhance the visitor experience

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025 ILLUSTRATIVE

Circuit Start / Finish






| Name | From Reef to Rock | Lemur Trails | Discovery of the South |
|---|---|---|---|
| **Themes and key offering**[1] | Wonders of Northern Madagascar, **combining terrestrial and marine biodiversity** (including bird watching), island charm and volcanic landscapes | A circuit rich in biodiversity focusing on **endemic wildlife**, encounters with lemurs and community-managed conservation areas. | Dynamic overland circuit showcasing the **changing landscapes of Madagascar**, from highlands and rainforest to canyons and coastal reefs |
| **Emblematic places** | ① Nosy Be (Lokobe)<br>② Nosy Tanikely<br>③ Ankarana<br>④ Montagne d'Ambre | ① Andasibe-Mantadia<br>② Forêt de Maromizaha<br>③ Réserve du Palmarium | ① Antsirabe<br>② Ranomafana<br>③ Isalo<br>④ Zombitse-Vohibasia<br>⑤ Ifaty / Toliara |

1 The ONTM has already developed several circuits as part of a national tourism plan, which will be fully implemented by 2026.

## Why are circuits important?

**Inform investments** in infrastructure and connectivity by identifying priority areas for development

**Improve the visitor experience** by diversifying the offering

**Redistribute tourist flows** by promoting lesser-known parks

**Increase the average length of stay** of tourists

**Eco-friendly tours are currently being developed by the Madagascar National Tourist Board** (ONTM) as part of a national plan, which will be fully operational by 2026.

# 4 | Case study: PPPs have enabled SANParks to invest in service diversification and infrastructure improvements

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

South African NATIONAL PARKS

**In 2000, SANParks introduced PPPs**

**More than 60 PPPs spread across 20 parks enrich the SANParks offering**

**PPPs have produced positive results across several indicators.**

## Background

*South African National Parks* (SANParks) is the state authority that manages more than **4 million ha of protected areas spread across 20 national parks in South Africa.** In 2000, it implemented a commercialisation strategy to reduce its dependence on public funding in areas where PPPs had been launched

## Strategy objective

To generate additional revenue to fund conservation and leverage private capital and expertise to reduce the costs of providing tourist facilities

## How it works

Private parties finance, build and operate tourism products under a long-term concession agreement (approximately 10 to 20 years) and pay a monthly royalty (the higher of the minimum royalty or a percentage of gross revenue) to SANParks.

NON EXHAUSTIVE

### Accommodation

| | |
|---|---|
| Lodges, chalets, cottages | Campings |
| Houseboats | |

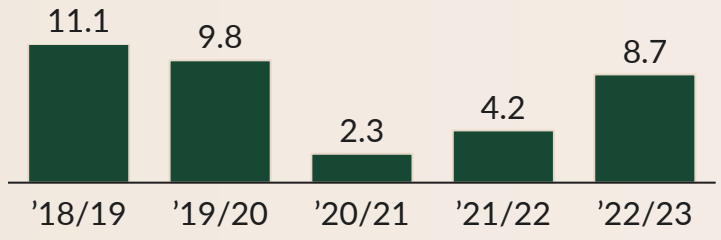
### Activities

| | |
|---|---|
| Horse riding | Abseiling |
| Mountain biking | Paragliding |
| Spa | Guided walks |
| Nautical sports | Cultural visits |

### Restaurants, commerce, installations

| | |
|---|---|
| Restaurants | Picnic |
| Cheese and wine tastings | Artisanal shops |
| Conference installations | |

## Concession revenue, $M[1]




**$60M+**

**Invested in infrastructure development through PPPs**

**647**

**Extra beds introduced in the 5-star segment**

**2 200**

**Permanent direct jobs created**

Etat actuel à Madagascar : Des projets PPP sont en cours avec **6 parcs prévus pour des projets de concession,** Deux de ces projets seront **pilotés à Lokobe et Nosy Hara**

1 Including concession fees and facility rental. Average USD-ZAR exchange rates for each year

Source : Annual report of SANParks 2022-2023

# 4 | Entrance fees could be raised to align with comparable African parks

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Context

**The entrance fees** for parks in Madagascar were last updated on 1 November 2015 and **apply to MNP protected areas**

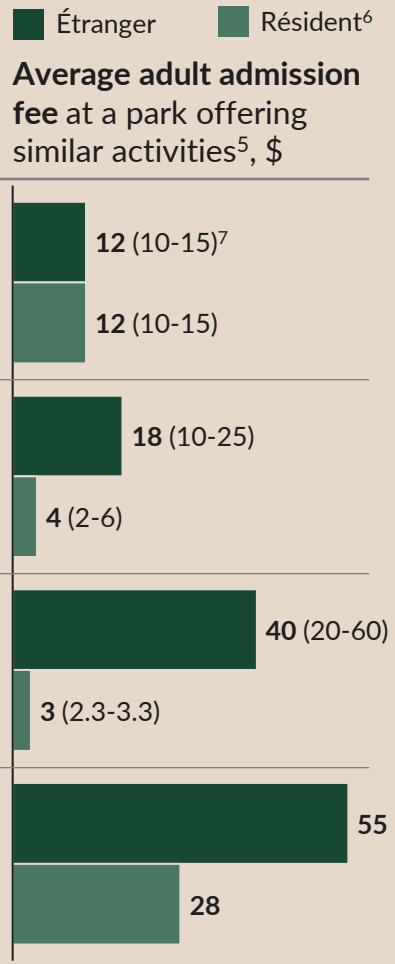
**The fees** depend on:

- 1. **Park category**: Exceptional parks, flagship parks, natural parks
- 2. **Visitor category**: Local Malagasy visitors vs non-local visitors

Prices range from 2,000 Ariary for **Malagasy** adults to **65,000 Ariary for foreign adults**

Most parks in Madagascar are mainly dedicated to hiking and wildlife viewing

| Country | Fee difference based on PA | National discount | Local discount | Seasonal fee |
|---|---|---|---|---|
| Madagascar[1] | ✓ | ✓ | ✗ | ✗ |
| Afrique du Sud[2] | ✓ | ✓ | ✓ | ✗ |
| Kenya[3] | ✓ | ✓ | ✓ | ✓ |
| Tanzanie[4] | ✓ | ✓ | ✓ | ✓ |




1 Information on Madagascar National Park applicable since 1 November 2015, exchange rate 1 USD = 4,500 MGA | 2 Information on Table Mountain National Park and Golden Gate Highlands National Park, exchange rate 1 USD = 18 ZAR | 3 Information from Mount Kenya National Park, Aberdare Mountains National Park and Hell's Gate National Park, exchange rate 1 USD = 130 KES | 4 Information from Udzungwa Mountains National Park and Mahale Mountains National Park, exchange rate 1 USD = 2700 TZS | 5 Parks with hiking and wildlife viewing activities, but no vehicle safaris | 6 Resident, usually higher than nationals | 7 Rate valid until 31 December 2025 | 8 Lower assumption based on current visitor numbers and price increase; higher assumption based on increase in visitor numbers and price | 9 Average of new DEAP non-resident adult rate (updated: 14 August 2025)

**The increase in MNP access charges was approved on 14 August 2025 and will come into effect on January 1st 2026.**

**~$2M**

MNP fee revenue in 2024

**~$5-12M[8]**

Potential revenue from increased fees and visitor numbers

### Key assumptions for potential revenue

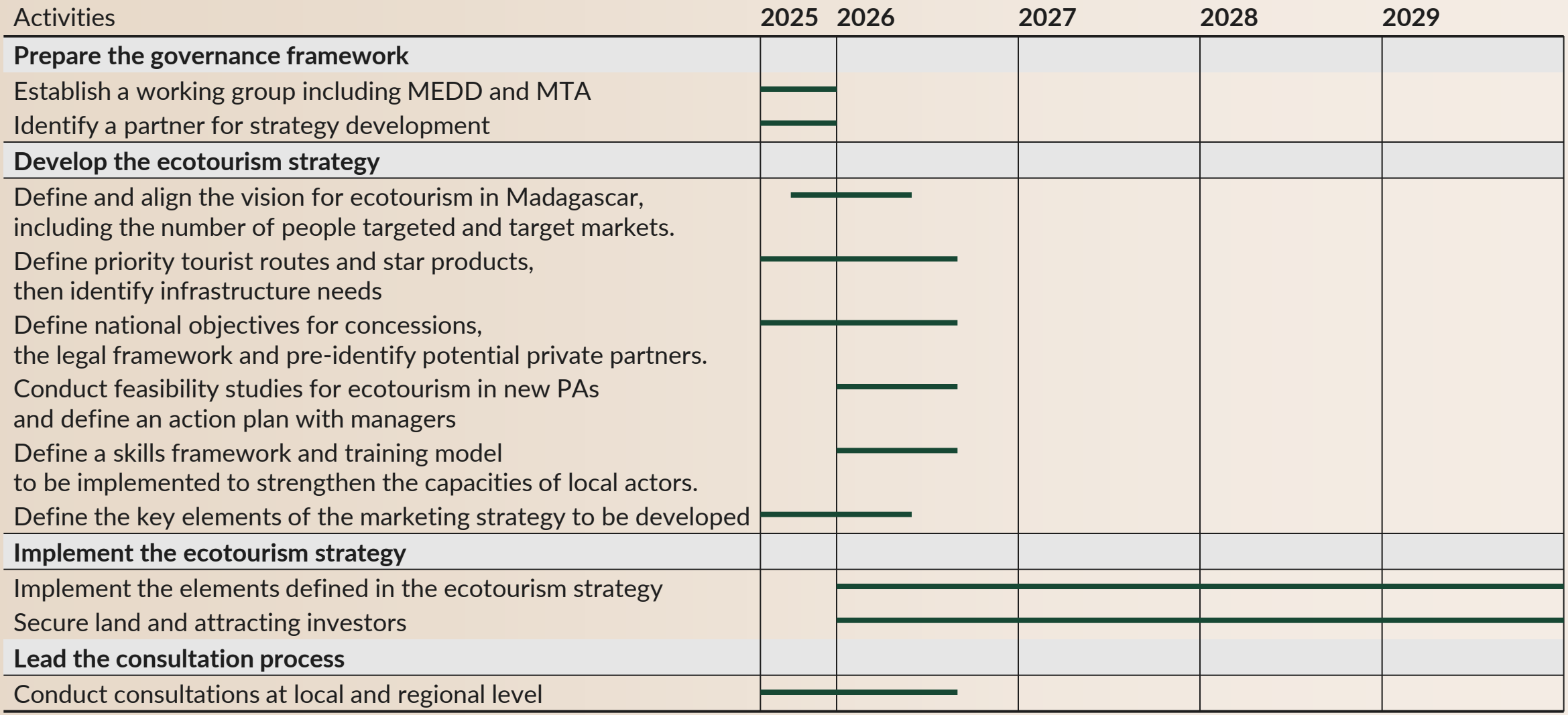
**170,000** ecotourists per year

**3 parks** visited per ecotourist

Entrance fees for new visitors: average of $**22**[9]

# 4 | Preliminary roadmap towards 2030

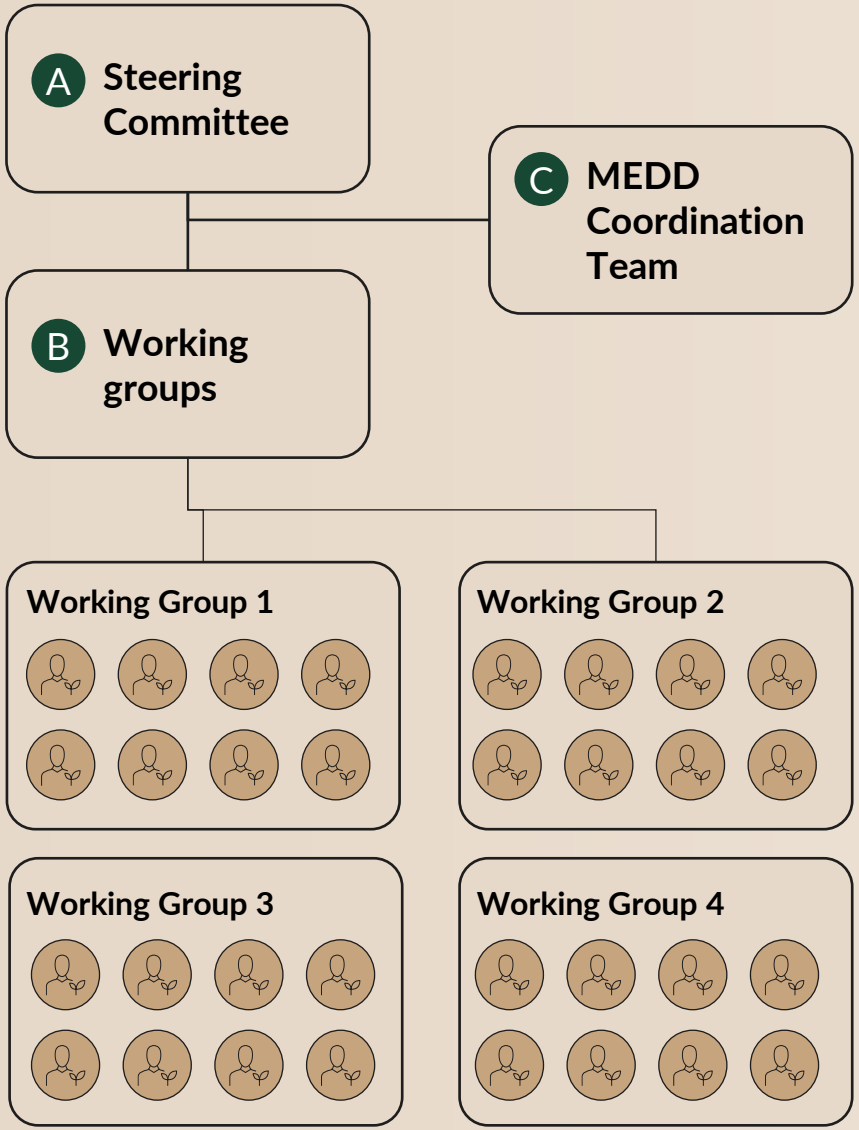
PRELIMINARY VERSION DATED SEPTEMBER 16, 2025



# Content

# To move forward, it is important to establish strong governance for the program

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025




**A Steering Committee**

- Minister of Environment and Sustainable Development
- Other relevant ministries, local and international conservation organizations, key donors
- Define the strategic vision of the program, review progress against priorities, remove obstacles
- Monthly

**B Working Groups**

- For each working group – representative of the MEDD + representative of key organization
- Stakeholders across the government, local communities, NGOs, donors, and the private sector
- Drive program implementation, set priorities, review progress, resolve issues
- Every 2 weeks

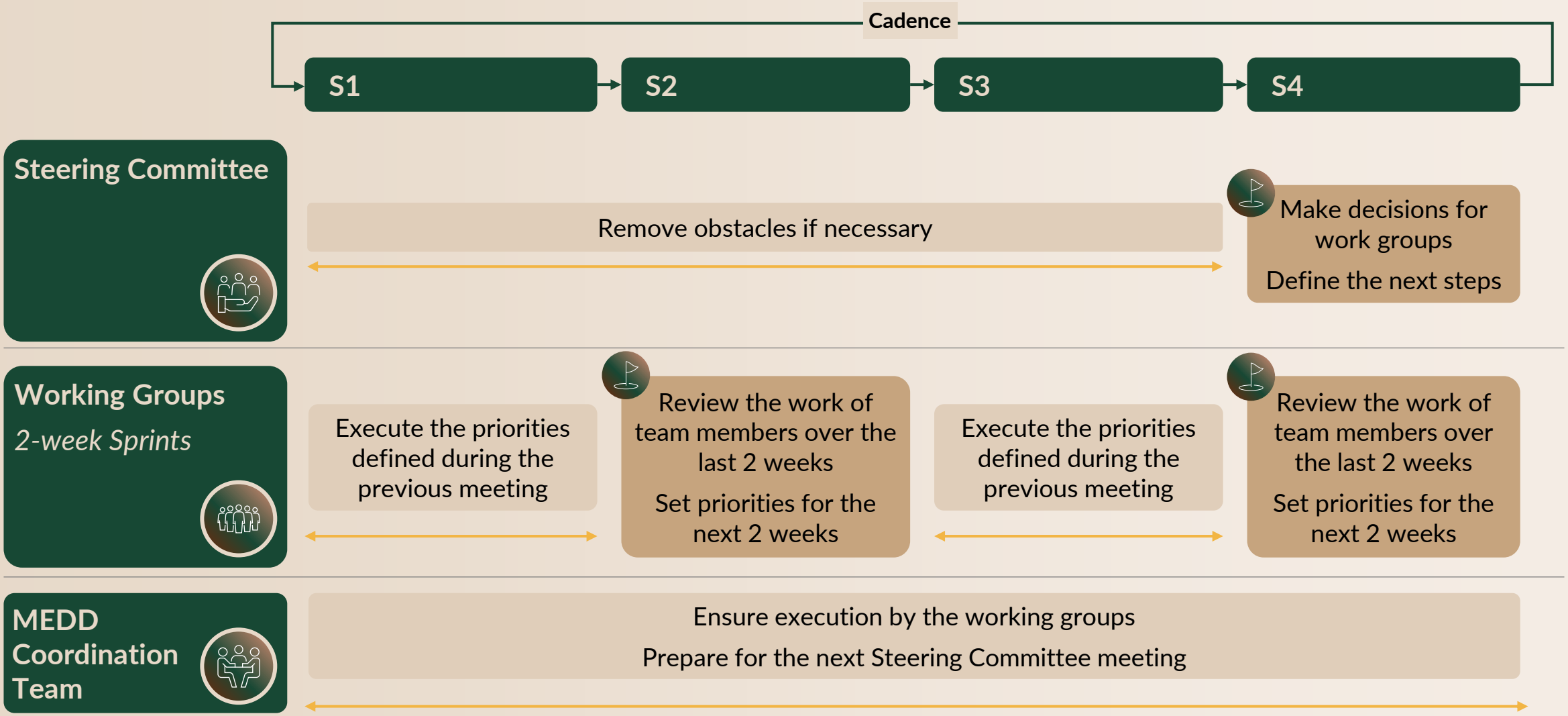
**C MEDD Coordination Team**

- DGGE
- 5 members of the MEDD team + 4 integrated coordinators
- Coordinate implementation, ensure progress of working groups, prepare Steering Committee meetings
- Meeting frequency: regularly

# Each of the governance bodies will meet frequently to effectively drive implementation

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

End of sprint | Key meetings | Ongoing work



# Steering Committee Members

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Steering Committee

| Government | Conservation NGOs | Scientific research | Donors | Civil society | Private Sector |
|---|---|---|---|---|---|
| SG / DG | Country Director | Africa Manager | Technical Manager | Director | General Manager |

# THANK YOU

# **Appendix:**
Diagnostic results

# Our diagnostic covered three key areas

**Terrestrial ecosystems**

Marine ecosystems

Nature financing

# Terrestrial: challenges & opportunities

**Half of forests have disappeared in the last 50 years**, with forest fragmentation increasing across all regions

**A lack of sustainable livelihoods is the root cause of deforestation**, with >80% caused by slash-and-burn agriculture and fuel extraction

Protected areas cover 10.8% of Madagascar's land, **protecting 57% of Key Biodiversity Areas** - an additional 7.3% of land is proposed for protection

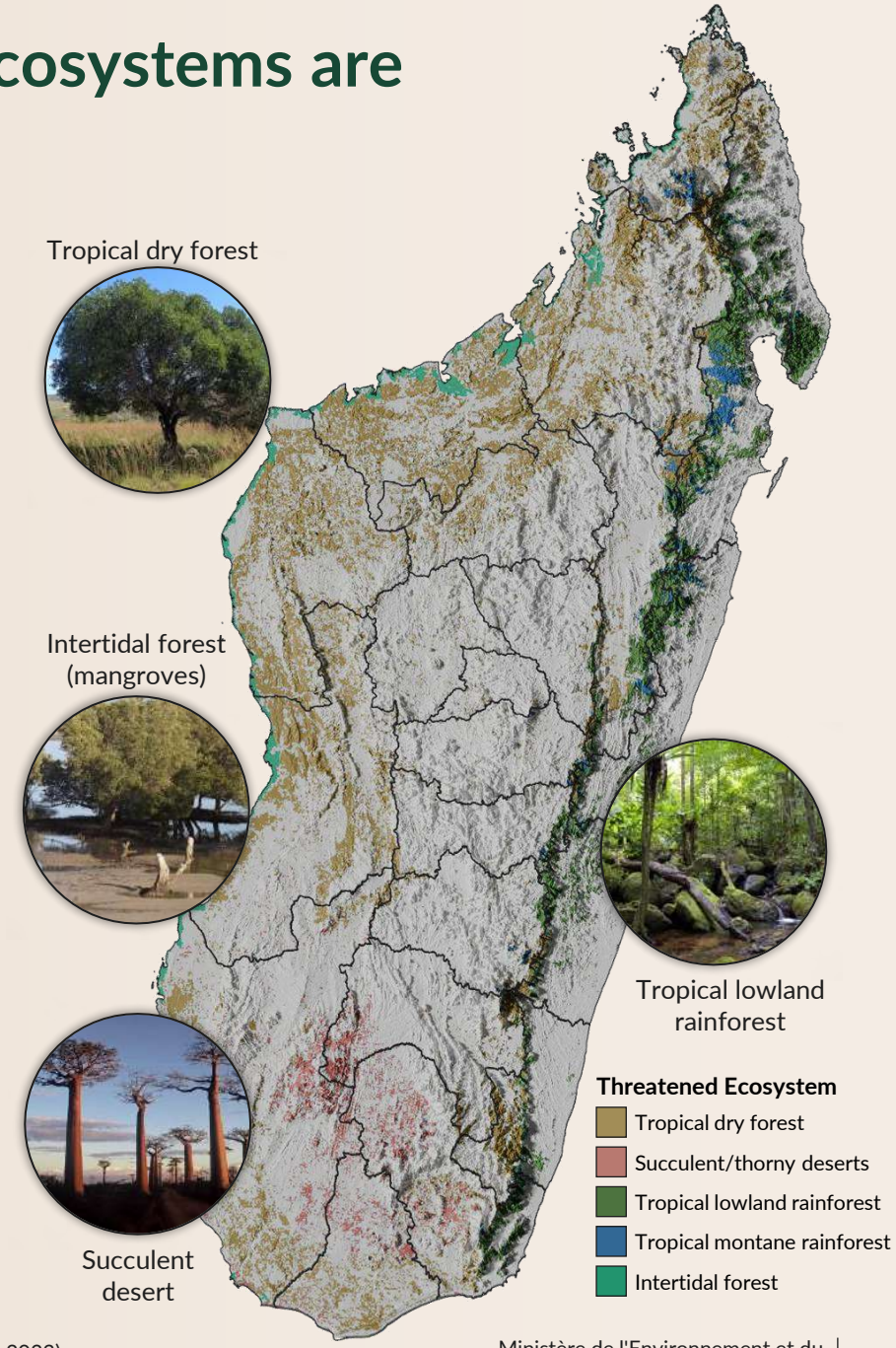
**Deforestation is still happening in PAs**, although protection clearly reduces the risk of forest loss. Moist tropical forests have the highest rate of protection, highlighting **targeted conservation efforts** in critical ecosystems.

# Terrestrial: Majority of Madagascar terrestrial ecosystems are considered threatened

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

Threathened

| Redlist ecosystem[1] | IUCN category[2] |
|---|---|
| Pyric tussoc savanna | Data deficient |
| Seasonal dry tropical shrublands | Least concern |
| Flooded peat forests | Data deficient |
| Tropical montane rainforests | Endangered |
| Tropical lowland rainforests | Near threatened or vulnerable |
| Tropical dry forests | Endangered |
| Intertidal forests | Vulnerable or endangered |
| Succulent/Thorny deserts | Endangered |
| Rocky pavements | Not evaluated |




1 An ecosystem is a local unit of interacting organisms and their environment, like a Tapia forest
2 Ecosystems are assigned categories (from Least Concern to Critically Endangered or Collapsed) based on whether they meet specific numerical thresholds in one of five criteria: 1) range loss, 2) restricted distribution, 3) abiotic degradation, 4) biotic disruption, or modeled collapse risk

Source: Contributions of the IUCN Red List of Ecosystems to risk-based design and management of protected and conserved areas in Africa (Keith et al., 2023); WWF ecoregions

# Terrestrial: 70%+ of terrestrial species in Madagascar experience a population decrease

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025


| Terrestrial species population trends[1] | | | | | Total |
|---|---|---|---|---|---|
| Amphibians | 79% | 11% | | 11% | 309 |
| Reptiles | 45% | 22% | | 33% | 379 |
| Birds | 57% | 28% | | | 152 |
| Mammals | 66% | 4% | | 30% | 227 |
| Plants | 83% | 6% | | 11% | 3,904 |
| Others | 31% | 3% | | 65% | 836 |
| **Total** | 71% | 8% | | 21% | **5,807** |
| **Endemic[2] species** | | | | | |
| **Total** | 52% | 10% | | 38% | **2,005** |

1 Per IUCN RedList spatial database, accessed October 2024

Source: IUCN; WDPA; IBAT (2025)

## Insights

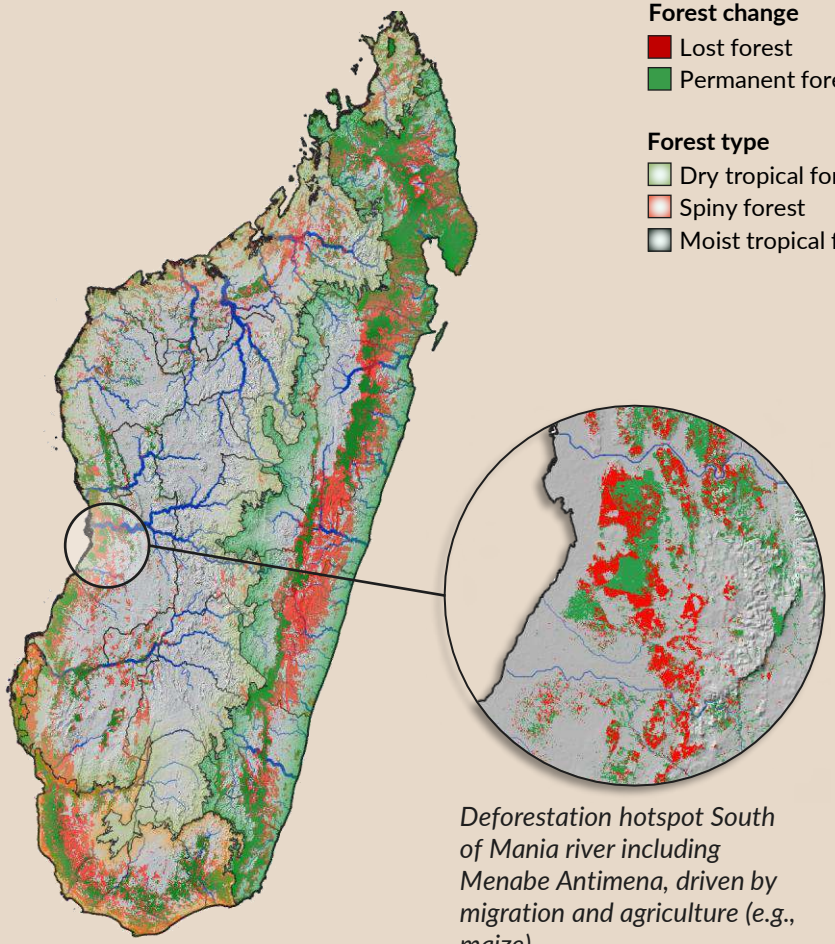
**At least 70% of species has a declining population trend** notably plants and amphibians

| Select iconic species | Population trend |
|---|---|
| Ring-tailed lemur | ↘ Decreasing |
| Indri | ↘ Decreasing |
| Parson's chameleon | ↘ Decreasing |
| Madagascar Pochard | → Stable |
| Ploughshare tortoise | ↘ Decreasing |
| Renala | ↘ Decreasing |

# Terrestrial: Half of forests have disappeared since the 1970s

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Loss of forests between 1973-2019

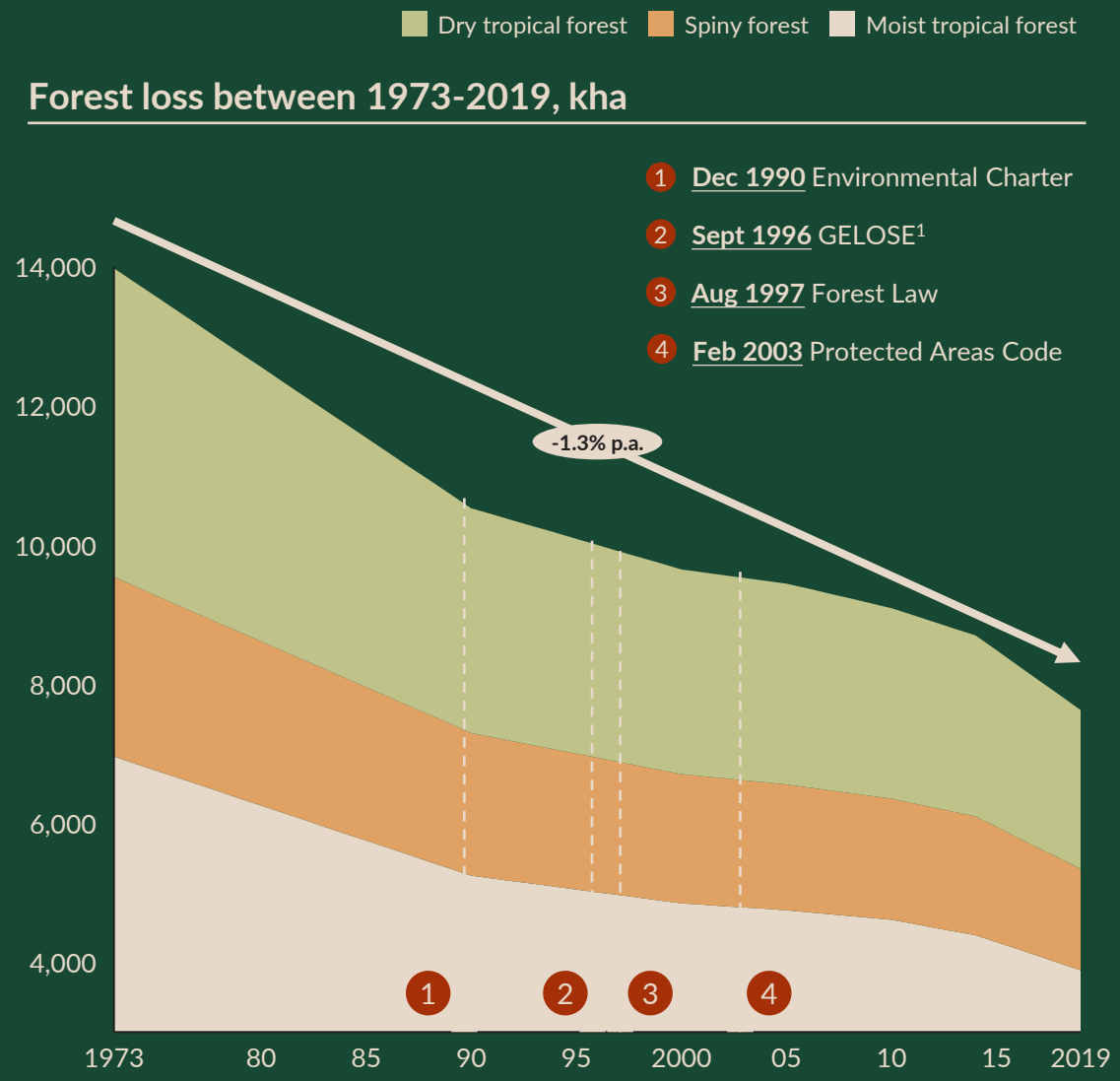



*Deforestation hotspot South of Mania river including Menabe Antimena, driven by migration and agriculture (e.g., maize)*

1 Gestion Locale Sécurisée

Source: BNCCREDD+

## Forest loss between 1973-2019, kha



# Terrestrial: Deforestation is primarily driven by lack of sustainable livelihoods for local communities

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**Impact on deforestation** Dominant | Significant | Moderate | Negligible

| Driver | Share[1] | Impact on deforestation |
|---|---|---|
| **Slash-and-burn agriculture ("tavy")** | **40-60%** | • **Main driver of deforestation**<br>• Particularly prevalent in **moist forests** in the East |
| **Firewood and charcoal production** | **20-30%** | • Pressure on **all forest types**<br>• In **easily accessible forests, near urban areas** |
| **Urbanization** | **~3-10%** | • Pervasive in the **moist forests of the East** |
| **Plantation logging** | **5%** | • Targets plantation forests, and therefore has a **lower impact** |
| **Illegal logging** | **~1%** | • Threat particularly to **moist forests** including protected areas |
| **Mining** | **<1%** | • Most impact on moist and dry forests **in the East** |

1 Slash-and-burn is responsible for ca. 100-120 kha of forest loss per year, while total annual loss is ca. 220 kha. The annual wood biomass demand is ca. 10 million Mt, corresponding to a CO2 equivalent of 18 million tCO2e (out of a total gross emission of ~80 million tCO2e). On average, 70,000 logs/year are exported illegally, corresponding to 2.1 kha (assuming a crown area of 300 m2 per tree). Pine, covering 100,000–150,000 hectares, is harvested on a 25-year cycle, with annual harvests reaching 7,000–10,000 hectares. Urbanization was assessed by comparing forest loss maps between 2010-2020 from GFW against urban land identified by Potapov et al. (2020). Similarly, mining areas were compared against areas of forest loss, whereby current mine extents were derived from © Google Earth and a global-scale data set of mining areas

2 Environmental impact assessments

Source: Madagascar Protected Area Outlook 2024 - Madagascar Protected Area consortium partners, Timber Island: The rosewood and ebony trade in Madagascar – TRAFFIC Report (2016), Across Madagascar, treeless grasslands characterized by erosion gullies are named after forest and trees (2024), WWF, FAO, UNDP, SEForALL

# Terrestrial: Unsustainable use of natural capital is creating a negative spiral for rural livelihoods

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Key risks of deforestation in Madagascar

### Food and water security

**Soil erosion and loss of agri-cultural productivity,** impacting over 85% of the population[1]

**Falling rainfall and rising heat drive famine** — South faces worst drought in 40 years, over 1M people food insecure

**Reduction in ground water recharge**— Land cover changes can reduce runoff by up to 5% and limit soil infiltration, ultimately decreasing freshwater availability

### Climate resilience

**Loss of natural protection against cyclones** especially for mangroves— 47 cyclones since 2000, with 5 in 2022 displacing 145 000 people

### Biodiversity and economic loss

**Loss of habitats for endemic species, threatening future tourism revenues**

1 85% agrarian population

Source: Madagascar Protected Area Outlook 2024 – Madagascar Protected Area consortium partners, Climate change is threatening Madagascar's famous forests – University of Bristol, Madagascar: Severe Drought Causes Hunger Crisis – Action Against Hunger, Madagascar: cyclone exposure and vulnerabilities – ACAPS, UN - WFP

# Terrestrial: PAs cover 11% of the total land area, with an additional 7% proposed

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

IUCN category:[1] Designated PAs: IUCN I-II, IUCN III-VI, Other; Proposed; LMMA

## Existing and proposed PAs

**Protected area per IUCN category[1], kha**

| | | % total area |
|---|---|---|
| IUCN I-II | 2,417 | 4.1% |
| IUCN III-VI | 3,510 | 5.9% |
| IUCN Other | 456 | 0.8% |
| LMMA[2] | 254 | 0.4% |
| Proposed[3] | 4,326 | 7.3% |
| Total | 10,963 | 18.5% |

1 IUCN protected area categories range from strict nature reserves (I) and national parks (II), to natural monuments (III), habitat/species management areas (IV), protected landscapes/seascapes (V), and areas managed for sustainable use of natural resources (VI). "Other" includes areas not formally classified under these categories.
2 Locally Managed Marine Areas. These areas sometimes overlap with terrestrial areas, particularly in mangrove forests
3 Proposed PAs are provided by 1) the Integrated Biodiversity Assessment Tool (IBAT) and 2) stakeholders

Source: IBAT (2025); Madagascar's Protected Area System (SAPM), FAPBM, LLandDev; MEDD

## Preliminary insights

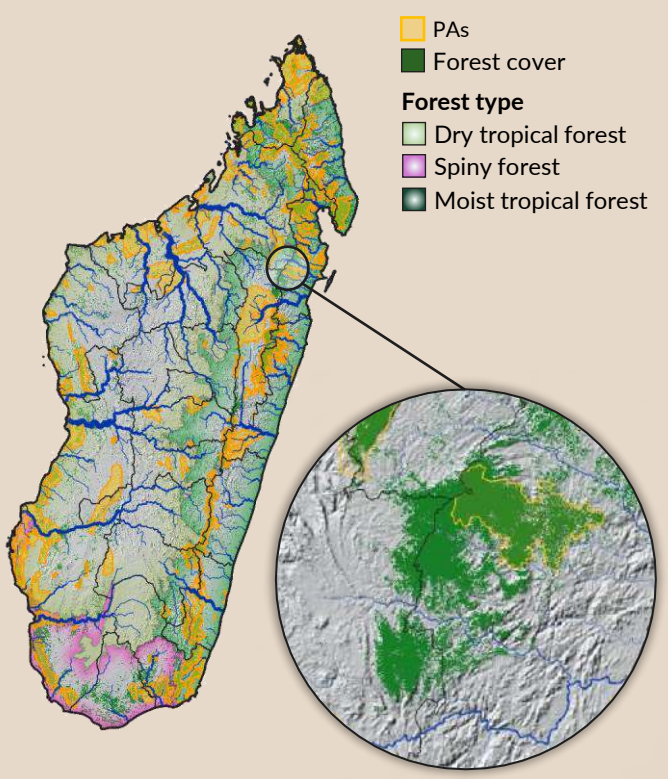
- **11% of the land** is under **official protection**, with an additional **7% proposed for future protection**
- **>120 Designated PAs** are reported on terrestrial areas and **>30 over marine areas**

# Terrestrial: Protection covers all important ecosystems

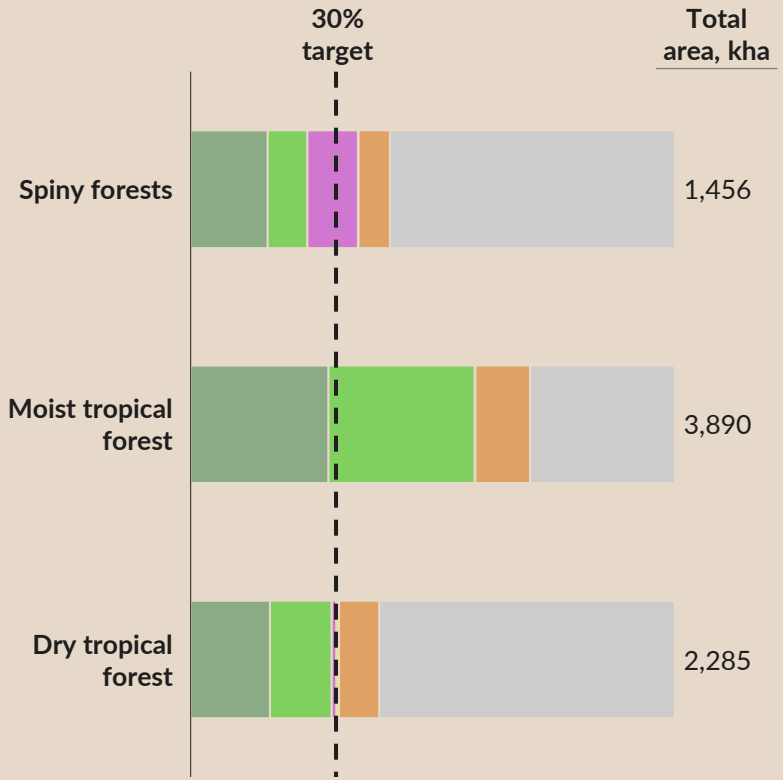
PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

IUCN category:[1] Designated PAs: IUCN I-II, IUCN III-VI, Other; Proposed; LMMA; Not protected

## Distribution of remaining forests, 2019




## Management of remaining forests




## Preliminary insights

**Moist tropical forests** have the **highest protection** rate of all forests, with **58% of remaining forests officially protected.** Nearly 30% of tropical moist forests is strictly protected (IUCN I-II)

**Spiny forest protection stands at 35%,** though not all of these areas have a designated IUCN status

**Dry tropical forests** have an effective PA coverage of **30%**

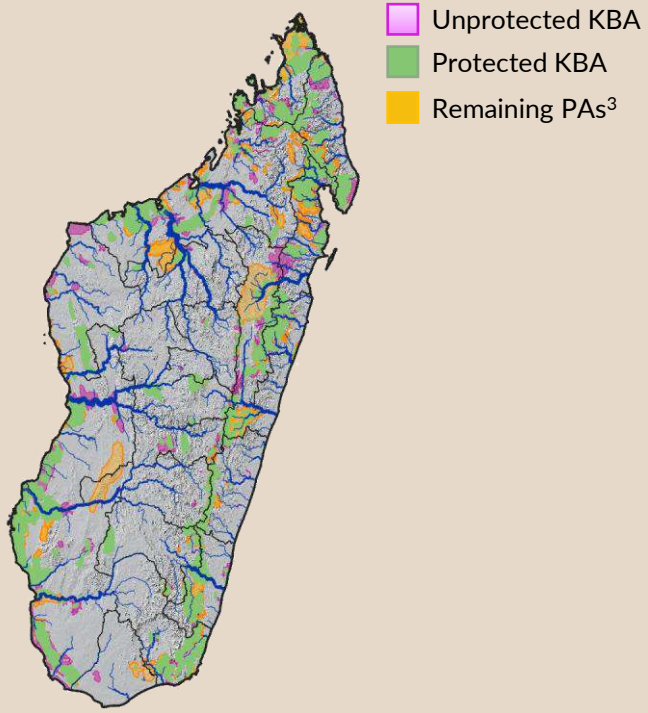
Source: BNCCREDD+; CIRAD; MEDD; SAPM (2017)

# Terrestrial: ~30% of KBAs are not protected or planned for protection

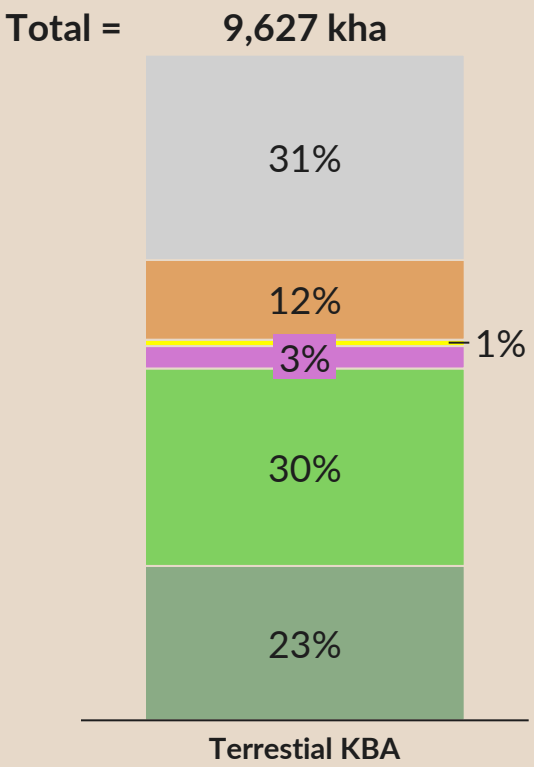
PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

IUCN category:[1] Designated PAs: IUCN I-II, IUCN III-VI, Other | Proposed | LMMA | Not protected

## Map of terrestrial KBAs[1]




## Protection status of terrestrial KBAs (%)




1 Key Biodiversity Areas, regions that are recognized by the IUCN as being of international importance for biodiversity
2 KBAs are designated based on globally standardized criteria defined by IUCN through intensive consultation within the conservation community. A KBA may be designated based on more than 1 criterion
3 PAs not protecting a hitherto identified KBA

Source: Integrated Biodiversity Assessment Tool (IBAT, 2025); SAPM (2017); MEDD; GEF

## Preliminary insights

**16% of the terrestrial territory** is considered to be a **Key Biodiversity Area (KBA)**

**57% of the surface within KBAs** is already **officially protected or managed as an LMMA**

The **current proposed expansion** of the PA network **would raise protection of KBAs to 69%**

### Key Biodiversity Areas

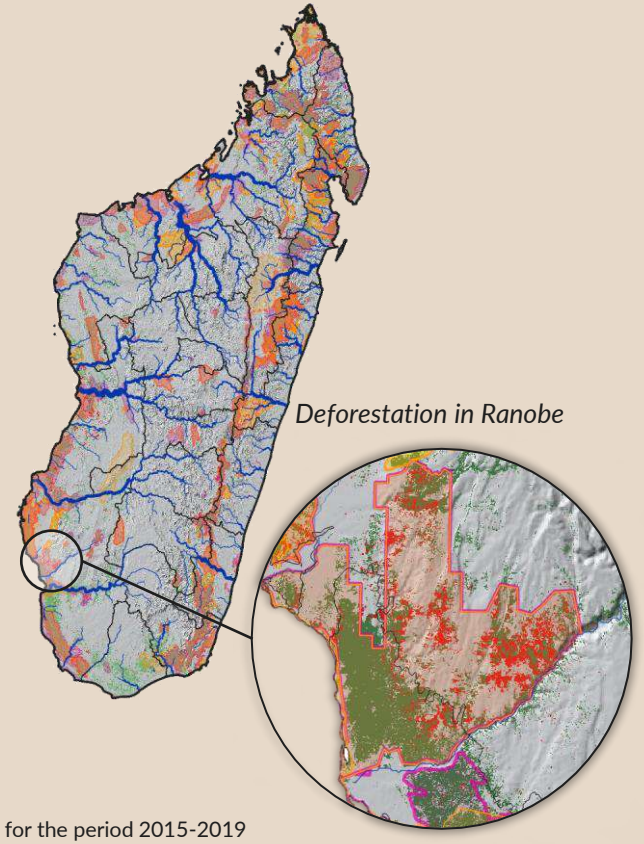
Key Biodiversity Areas (KBAs) are critical sites for species and habitats worldwide, spanning terrestrial, freshwater, and marine ecosystems.

# Terrestrial: PAs do still experience significant deforestation

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

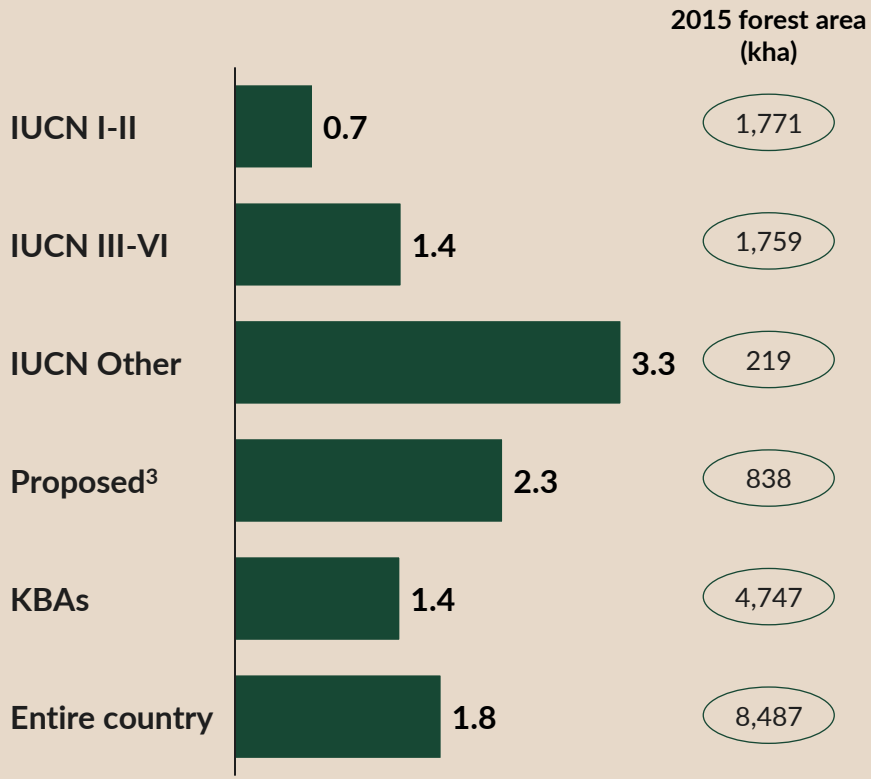
PA KBA Forest Loss

## Forest cover change; KBAs and PAs[1]



*Deforestation in Ranobe*

## Loss rates[1] per PA type and in KBAs, %




1 Calculated for the period 2015-2019
2 Locally Managed Marine Areas. These areas sometimes overlap with terrestrial areas, particularly in mangrove forests
3 Proposed PAs are provided by 1) the Integrated Biodiversity Assessment Tool (IBAT) and 2) stakeholders

Source: BNCCREDD+; CIRAD; MEDD; SAPM (2017)

## Preliminary insights

**Deforestation in strictly protected PAs is 0.7%** forest loss per year, or 2-3 times lower compared to the national average

**Deforestation rates generally decrease with the level of protection**, with the highest rates observed in proposed PAs or PAs with no reported IUCN category

### GBF 30x30 target

Loss of habitats in protected areas should be minimal, and ideally reduced to 0%

# Terrestrial: Many challenges tied to the effectiveness of protection within terrestrial PAs have been signalled

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Pressure from lack of sustainable livelihoods

- **Surrounding communities rely on forests for subsistence** (e.g., firewood, agriculture)
- **Limited alternatives** increase pressure on protected areas

## Law enforcement and implementation gaps

- Protected areas face **high deforestation rates and illegal activities** such as migration, mining, and wildlife trafficking
- **Lack of judicial police officers** (OPJs) able to enforce the law
- **Very few cases are brought to court** (~14%), and even fewer lead to convictions

## Management and staffing limitations

- "**Orphan sites**" lack managers due to capacity issues (e.g., MNP had to abandon sites)
- **Only 800 patrollers under MEDD for MNP** across the country

## Insufficient and inconsistent funding

- **Current budget of $5-6/ha** for PAs vs. need of $10+/ha
- Unsustainable funding from **projects** (e.g., from KFW, AFD, GEF) representing **~30% of MNP's PAs budget and ~60% of NPAs**

## Insufficient fire response capacity

- **Lack of adequate human resources, equipment and training** to respond to wildfires
- Fires regularly **destroy large forest areas** before containment is possible

Source: Interviews

# Terrestrial: Several regions of focus have already been identified for expansion of the PA network

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025 FOR DISCUSSION

## Preliminary regions of focus for PA expansion[1]

| | Description | Habitat type | Why |
|---|---|---|---|
| A | Conserve and restore threatened mangroves of the Midwest | Mangrove | Mangroves provide breeding grounds for commercial fish and reduce coastal flood risk, but face threats from logging, agriculture, and sedimentation. |
| B | Expand PAs to cover pristine mangroves in the North | Mangrove | |
| C | Connect and expand PAs around Antongil bay | Moist tropical forest | Tropical moist forests provide a vital habitat for many of the 2000+ endemic species, but are declining rapidly due to shifting agriculture and logging. Only few forests remain in the Northeast of the country and the eastern escarpment |
| D | Increase connectivity of the escarpment by restoring corridors | Moist tropical forest | |
| E | Reduce anthropogenic pressure around Montagne d'Ambre NP | Moist tropical forest | |
| F | Gazet additional Ramsar sites | Wetlands | Wetlands are key habitats for birds, but face threats from rice farming |
| G | Protect hotspots in the Western region and Central Highlands | Diverse habitats | Many habitats – often the last refuge for endemic species – lack protection |
| H | Increase PA network along the southwestern coast | Spiny thickets | A unique type of woodlands, threatened by agriculture |

1 Included in 30x30 Roadmap coordinated by RainForestTrust
2 PAs identified in the IBAT dataset, but absent in the current official database of designated PAs

Source: 30x30 Roadmap from Rainforest Trust, Interviews

# Terrestrial: Organized community-led efforts contribute to conservation across more than 3 M ha in Madagascar, sometimes overlapping with PAs

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## TGRNR (Transfert de Gestion de Ressources Naturelles Renouvelables) Framework in Madagascar

**3.4 M HA**

- **Legal contract** under GELOSE that transfers **partial rights and responsibilities for management renewable natural resources** (e.g., forests, fisheries, wetlands etc.) **from state to local communities**
- Backed by simplified management plans (PAGS) and local laws (Dina)
- Empowers communities to **sustainably manage and protect their natural resources**, while also supporting livelihoods and local governance through activities such as sustainable agriculture, restoration, patrolling, ecological monitoring
- Implemented across diverse contexts:
  - Within Protected Areas
  - Around Protected Areas, serving as ecological buffer zones or green belt
  - Outside Protected Areas, in isolated landscapes critical for biodiversity and local resource use

**Established national network of community-based natural resource managers**

TAFO MIHAAVO

**23** regions

**1.7 M HA**

of TGRN in TAFO MIHAAVO network (forests, lakes, mangroves) from which 2/3 are forests

Source: MEDD – DAPRNE, Interviews

# Our diagnostic covered four key areas

Terrestrial ecosystems

**Marine ecosystems**

Nature financing

# Marine: challenges & opportunities

Madagascar's **1.2 million hectares of critical marine habitats**, including mangroves, coral reefs, and seagrasses, face significant pressure from overfishing, sedimentation and plastic pollution

Marine Protected Areas (MPAs) cover 0.6% of Madagascar's marine area, and **19% of marine Key Biodiversity Areas are protected by MPAs**. Most critical habitats, such as seagrasses, lack adequate protection

**LMMAs are the dominant form of marine resource management** in Madagascar, providing an effective foundation for community-based conservation and sustainable use of marine resources

**Commercial shipping activities are lowest in MPAs**, indicating effective management and implementation of conservation efforts

# Marine: Madagascar has 1.2 million ha of critical marine habitats

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**Critical habitats:** Mangrove forests | Coral reefs | Saltmarshes | Seagrasses

## Marine critical habitats[1]


| Habitat | Area, kha | IUCN Category[2] |
|---|---|---|
| Seagrass | 578 | Unknown, vulnerable |
| Mangrove | 391 | Vulnerable, endangered |
| Corals | 245 | Endangered, critically endangered |
| Saltmarshes | 5 | Unknown |

1 Mangrove (or intertidal forests) habitat extent is reported by the government. Accurate spatial data was not obtained for the following RedList Ecosystems: "River deltas" and "Coastal shrublands and grasslands"
2 Some habitats display different IUCN categorizations in different regions, e.g., coral reefs in the west are "endangered", while coral reefs in the east are "critically endangered"

Source: UNEP-WCMC (2021); Global Mangrove Watch; Vulnerability to collapse of coral reef ecosystems in the Western Indian Ocean (Obura et al., 2021); Red List of Ecosystems (IUCN); Stratégie Nationale de Gestion Integrée de l'écosystème des Mangroves à Madagascar Horizon 2022-2032; Marine Regions (EEZ boundaries)

## Preliminary insights

There are ~**1.2 million ha of critical marine habitats**, notably seagrasses, mangroves, and coral reefs

Critical habitats are **concentrated mainly along the western coastline**, potentially as a result of the large continental shelf and this coastline being more sheltered from high-energy waves

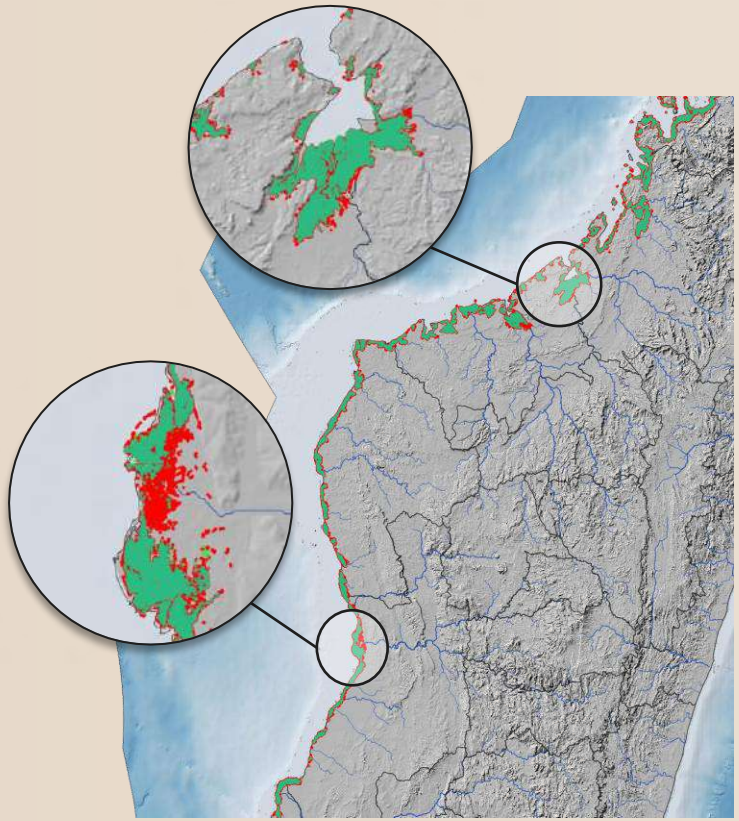
# Marine: Recognized as biodiversity hotspots, mangroves, corals, and seagrass are threatened in Madagascar

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

## Mangroves are facing a yearly loss of 1.5%

Loss of mangrove,1995-2018

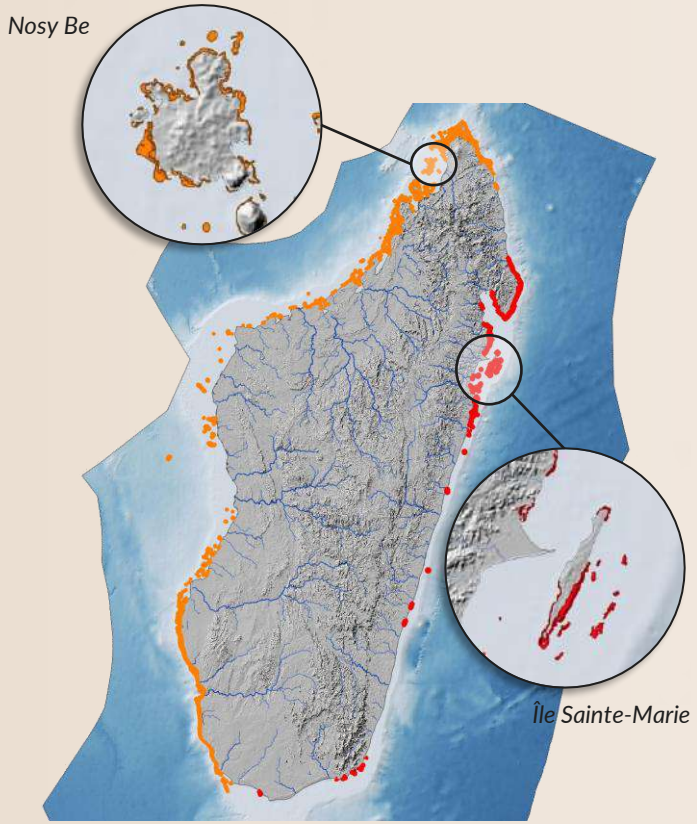
Permanent Loss Gain



## Coral reefs are at the risk of collapse, especially in the East

IUCN status of corals

Endangered corals Critically endangered corals




## Seagrass is a threatened biodiversity hotspots

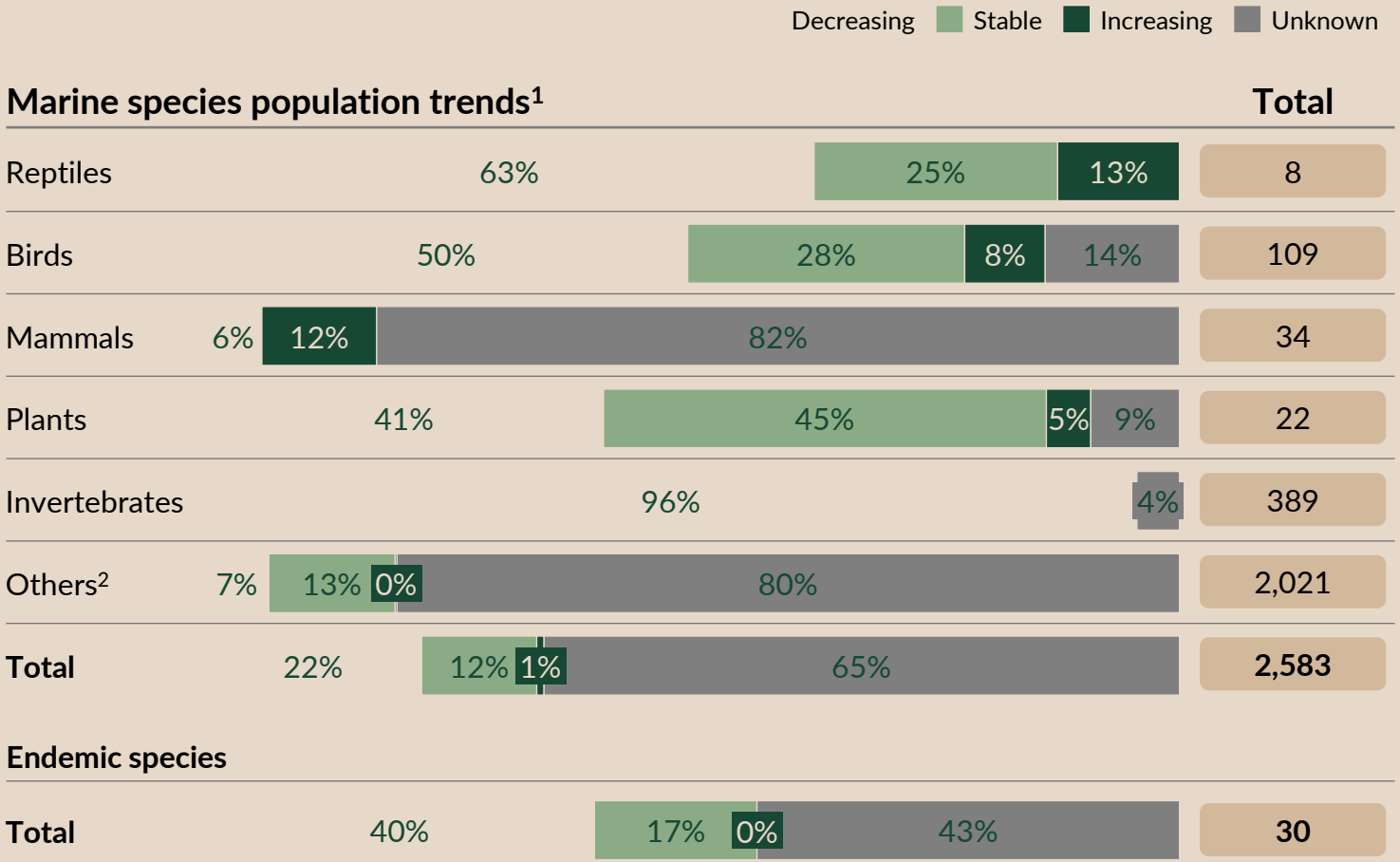
IUCN status of seagrass

Vulnerable Data deficient

Source: Global Mangrove Watch; Assessing mangrove cover change in Madagascar (1972–2019): Widespread mangrove deforestation is slowing down (Bardou et al., 2024); Measuring the role of seagrasses in regulating sediment surface elevation (Potouroglou et al., 2017); Long-term carbon storage in shelf sea sediments reduced by intensive bottom trawling (Zhang et al., 2024); Stratégie Nationale de Gestion Integrée de l'écosystème des Mangroves à Madagascar Horizon 2022-2032; Coral reef status report for the Western Indian Ocean (GCRMN, 2017); Vulnerability to collapse of coral reef ecosystems in the Western Indian Ocean (Obura et al., 2022); Our protected areas are vital to our development (FAPBM, 2022); Red List of Ecosystems (IUCN); Marine Regions (EEZ boundaries

# Marine: >60% of marine species in Madagascar experience a population decrease

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025




1 Per IUCN RedList spatial database, accessed October 2024
2 Other groups include fish, molluscs, fungi. Marine invertebrates include corals

Source: IUCN; WDPA; IBAT

At least **70% of marine species are experiencing a population decrease**, notably amongst plant and amphibian species

| Select iconic species | Population trend |
|---|---|
| Green sea turtle | ↘ Decreasing |
| Sei whale | ↗ Increasing |
| Dugong | ↘ Decreasing |
| Humpback dolphin | ↘ Decreasing |
| Cape Dwarf-Eelgrass | ↘ Decreasing |
| Madagascar skate | ↘ Decreasing |

# Marine: The main drivers of marine biodiversity loss include climate change, fishing, sedimentation, and deforestation

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

**Impact on marine habitat degradation**

Dominant | Significant | Moderate | Negligible

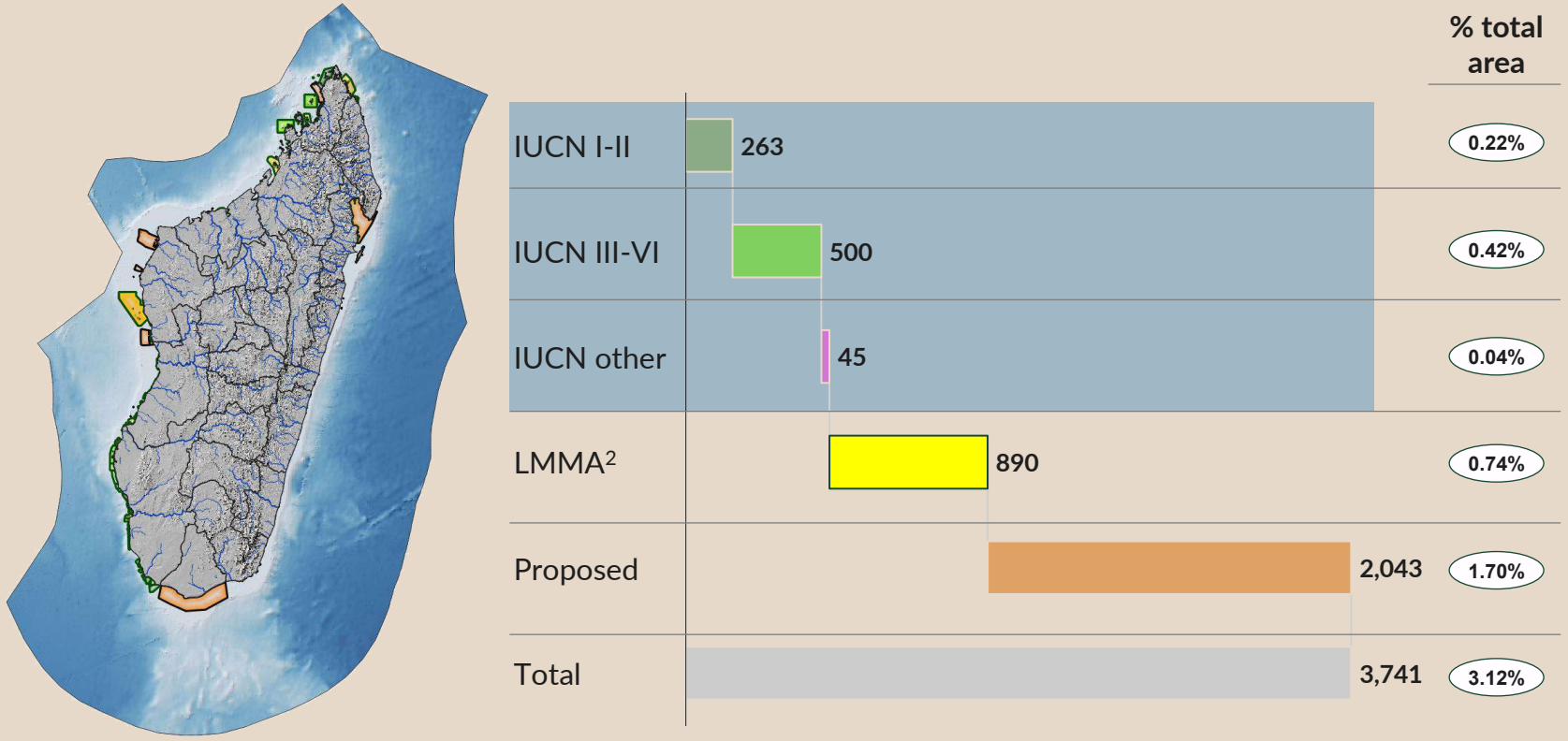
| Driver | Impact on marine habitats |
|---|---|
| 1 Climate change | • Coral bleaching<br>• Inundation of mangroves<br>• Thermal stress on seagrass |
| 2 Fishing | • Biodiversity loss<br>• Disrupting the natural prey-predator equilibrium<br>• Increased sedimentation |
| 3 Sedimentation | • Eutrophication<br>• Reduced sunlight<br>• Siltation of marine habitats |
| 4 Deforestation | • Loss of nursery habitats<br>• Reduced coastal protection leading to erosion |
| 5 Pollution | • Eutrophication<br>• Toxicity to marine species |
| 6 Traffic | • Noise pollution<br>• Whale strikes<br>• Invasive species introduction |

Dév

# Marine: ~1.4% of Madagascar's EEZ is protected or managed

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Protected area per IUCN category, kha




1 IUCN protected area categories range from strict nature reserves (I) and national parks (II), to natural monuments (III), habitat/species management areas (IV), protected landscapes/seascapes (V), and areas managed for sustainable use of natural resources (VI). "Other" includes areas not formally classified under these categories. Additional information on proposed protected areas (PAs) was gathered from local partners

2 Locally Managed Marine Areas – number of LMMAs is higher (~300) but data yet to be collected on Mihari

Source: IBAT (2025); MIHARI portal; FAPBM; LLandDev; MEDD; SAPM (2017); Marine Regions (EEZ boundaries

## Preliminary insights

**18 existing PAs** were reported, as well as 154 LMMAs

**0.7% of the total marine area is under official protection**, with an additional 0.7% managed as an LMMA

The inclusion of proposed PAs would bring the proportion of managed marine territory to **3.1%**

### LMMA

An **LMMA** stands for **Locally Managed Marine Area**. It refers to a coastal or marine area that is managed by local communities, often in collaboration with NGOs and government entities, to promote sustainable use of marine resources

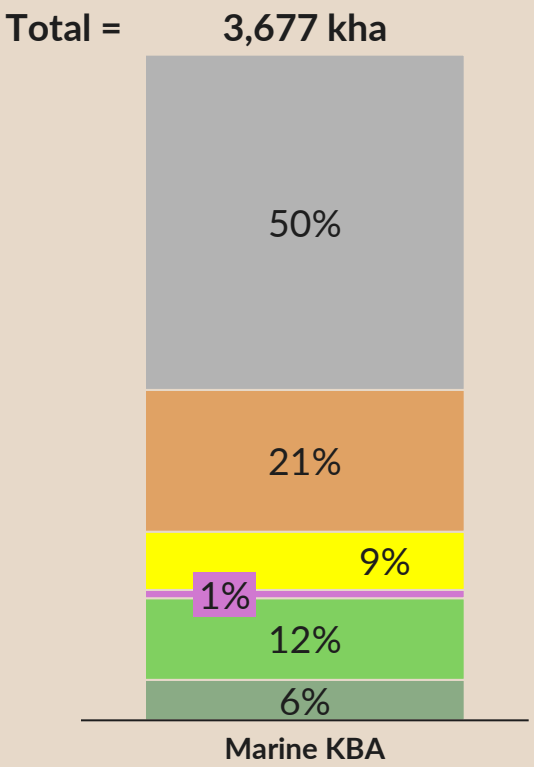
# Marine: 50% of marine KBAs are not protected or planned for protection

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025 NOT EXHAUTIVE

IUCN category:[1] Designated MPAs: IUCN I-II; IUCN III-VI; Other; Proposed; LMMA; Not protected

## Map of marine KBAs


## Protection status of marine KBAs, %




1 Key Biodiversity Areas, regions that are recognized by the IUCN as being of international importance for biodiversity
2 KBAs are designated based on globally standardized criteria defined by IUCN through intensive consultation within the conservation community. A KBA may be designated based on more than 1 criterion
3 PAs not protecting a hitherto identified KBA

Source: IBAT (2025); MIHARI portal; FAPBM; LLandDev; MEDD; GEF; SAPM (2017); Marine Regions (EEZ boundaries

## Preliminary insights

**3% of the marine territory** is considered to be a **Key Biodiversity Area (KBA)**

**19%** of the surface within marine KBAs is **already officially protected**

The **current proposed expansion** of the PA network, together with LMMAs, **would raise protection of KBAs to 50%**

### GBF 30x30 objective

Habitat loss in protected area should be minimal, and ideally reduced to 0%

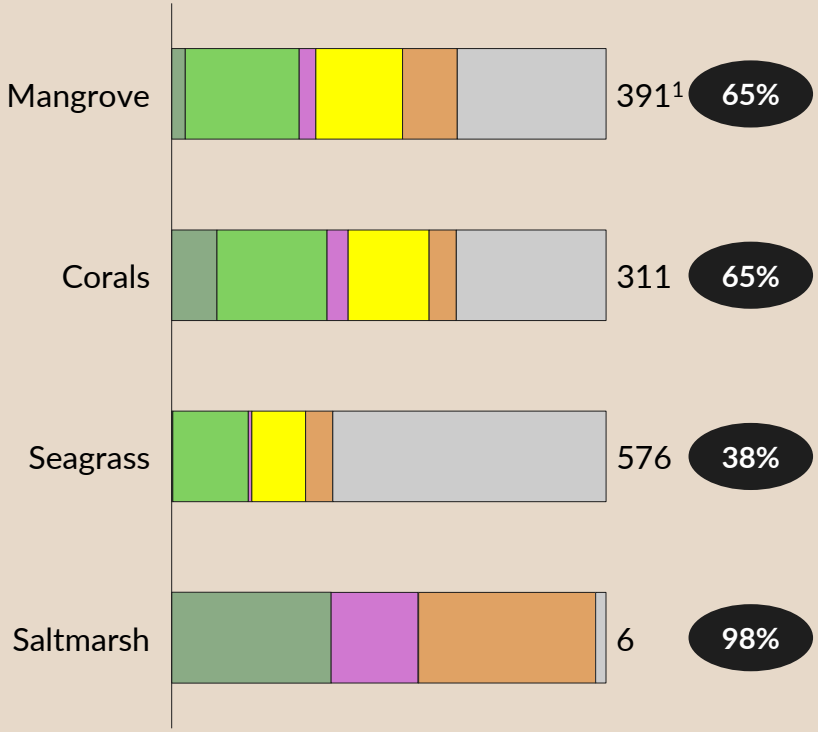
# Marine: Most critical habitats lack full protection, especially seagrasses

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

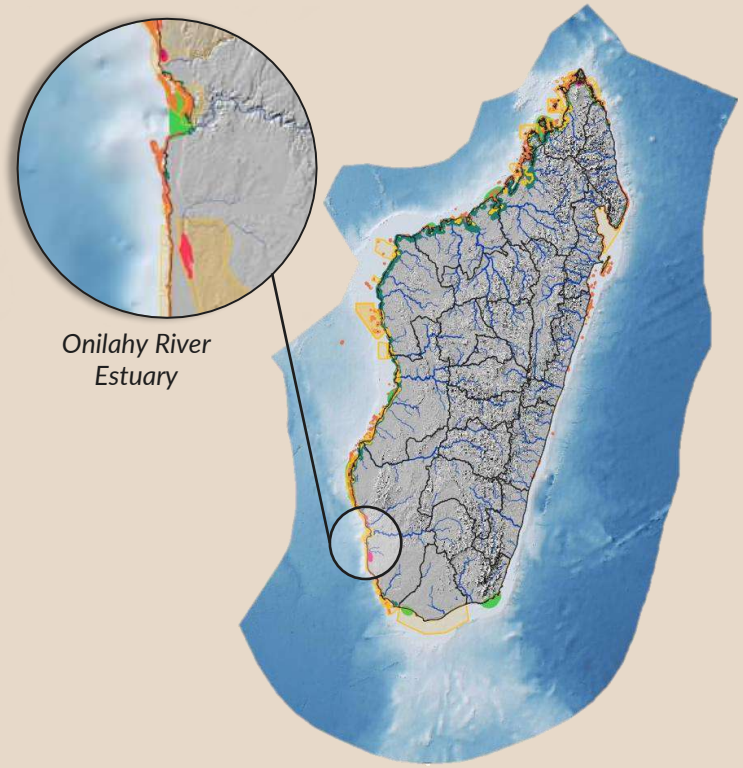
**IUCN category:** IUCN I-II, IUCN III-VI, Proposed, LMMA, Not protected, Other

**Critical habitats:** Mangrove forests, Coral reefs, Saltmarshes, Seagrasses, PA

## Conservation by marine critical habitat, % total




## Distribution of protected and critical habitats




1 Preliminary results; the protected proportions were calculated based on geospatial data from Global Mangrove Watch, while the total is reported by the government. Proportions can change upon receiving spatially explicit mangrove data from the government

Source: IBAT (2025); OceanPlus; GEBCO; Global Mangrove Watch; MIHARI portal; FAPBM; LLandDev; Stratégie Nationale de Gestion Integrée de l'écosystème des Mangroves à Madagascar Horizon 2022-2032; MEDD; SAPM (2017); Marine Regions (EEZ boundaries

## Preliminary insights

Overall, marine **protection is focused on** critical habitats, with 3 out of 4 critical habitats having a **protected area coverage over 30%**

### GBF 30x30 target

Target 3 of the GBF calls for all types of biodiversity – shown here as different habitats – to be adequately covered by protected areas

# Marine: Efforts have been ongoing for Madagascar to triple MPAs as committed as part of the Promise of Syndey in 2014

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## The Promise of Sydney

Commitment to **triple Madagascar's marine protected areas** at the 2014 IUCN World Parks Congress in Sydney

## KBA identification

Through GEF6, **identification of key biodiversity areas** (KBA) with objective to **expand MPAs / OECMs** to cover all KBAs

## New proposed MPAs

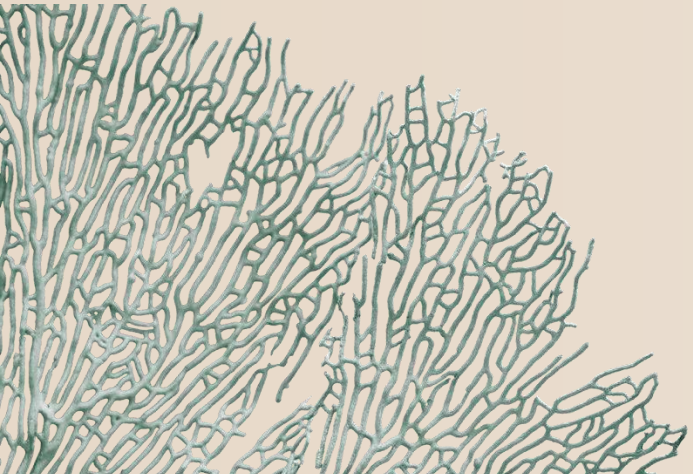
As part of the objective, **international NGOs** submitted additional areas to be **recognized as MPAs**, covering ~1.7 M ha

- Deep South, Antongil Bay, Tantavandriva by WCS
- Ile Sainte Marie, by GRET

## Committee for the Promise of Sydney

Creation of the **Steering Committee** for realizing the Promise of Sydney in 2021

Committee gathers MEDD, MEPB, MEF, MNP, international NGOs (CI, Blue Ventures, etc.), associations (e.g., Mihari network)

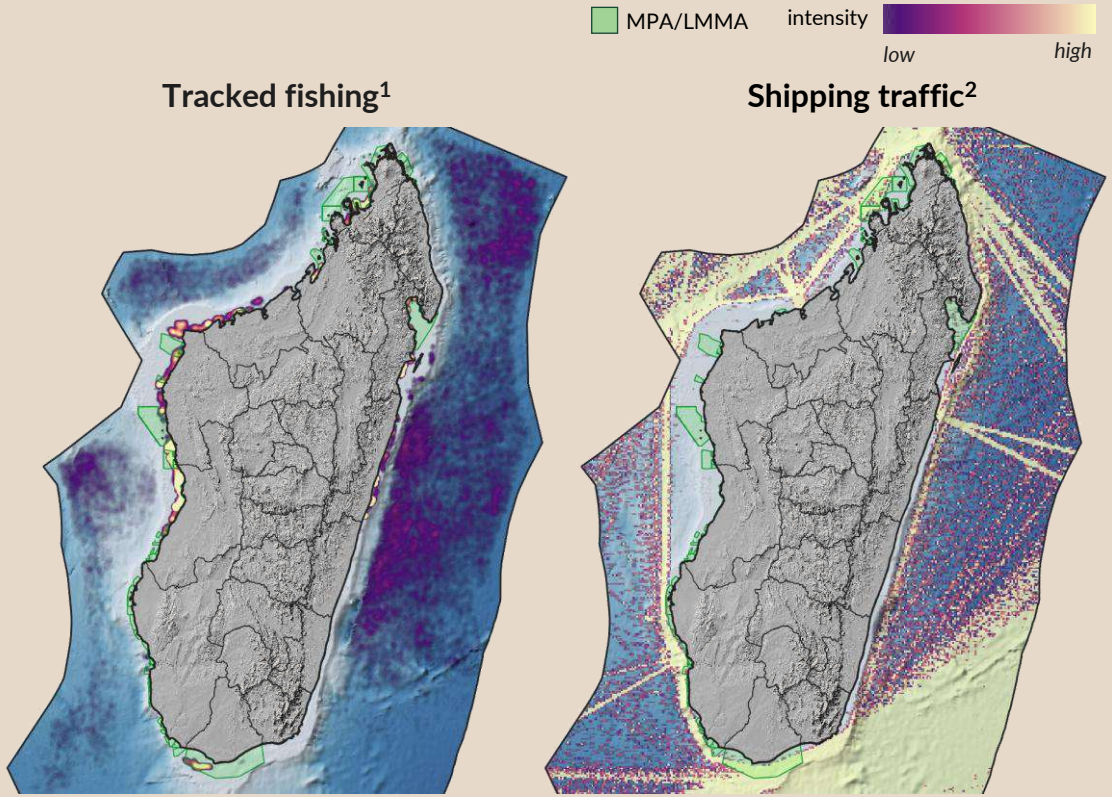


Source: interviews, FAOLEX

# Marine: MPAs still have fishing and shipping activity

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

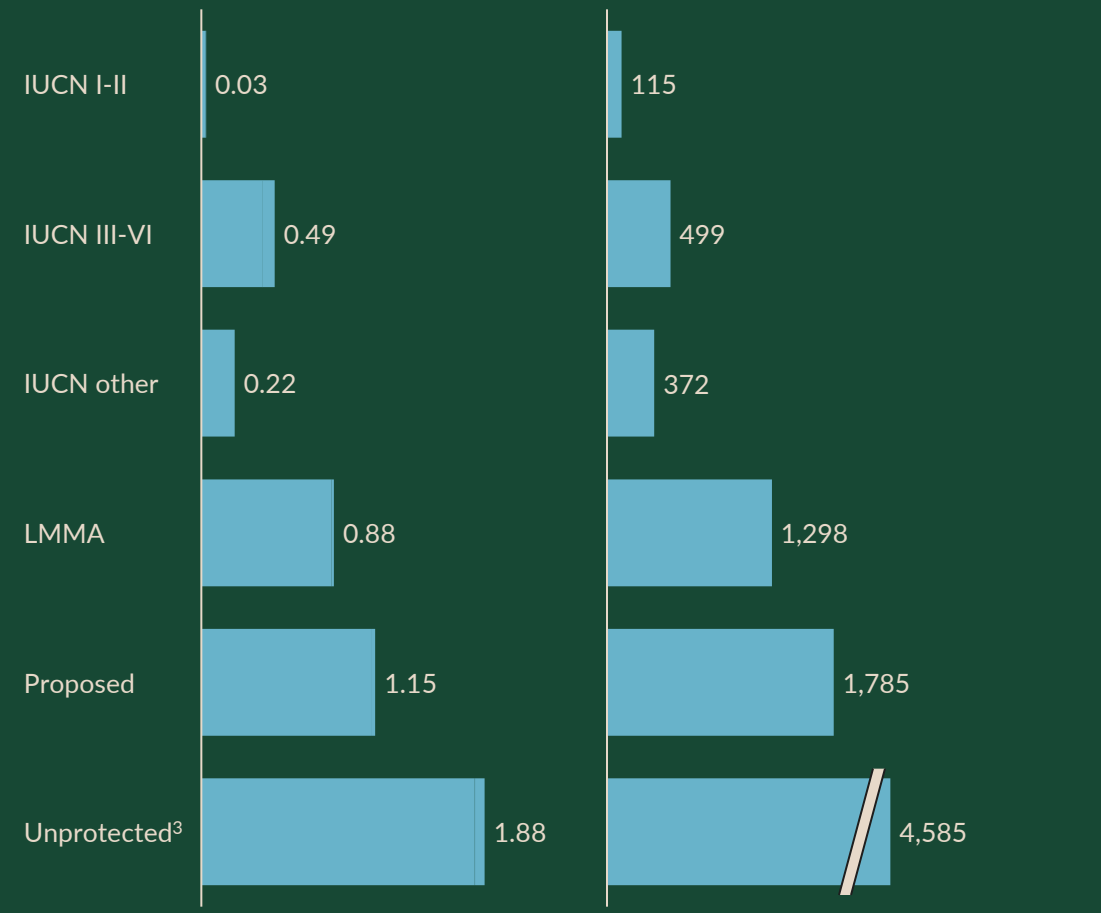
## Intensity of marine commercial activities in Madagascar




1 Based on fishing-vessel automatic-identification system (AIS). AIS adoption is significantly skewed towards larger vessels and vessels from upper and upper-middle income countries. It does not include artisanal/subsistence fishing
2 Based on automatic-identification system (AIS) positions (pings) of commercial shipping vessels transmitted between January 2015 and February 2021. The AIS positions may have been transmitted by both moving and stationary ships, therefore the resulting density is analogous to the general intensity of shipping activity
3 Since all marine protected areas are coastal, their fishing intensity was compared to the unprotected part of coastal waters up to 30 km from the shore

Source: Global Fishing Watch; IMF World Seaborne Trade monitoring system, data obtained from The World Bank Data Catalog; Marine Regions (EEZ boundaries

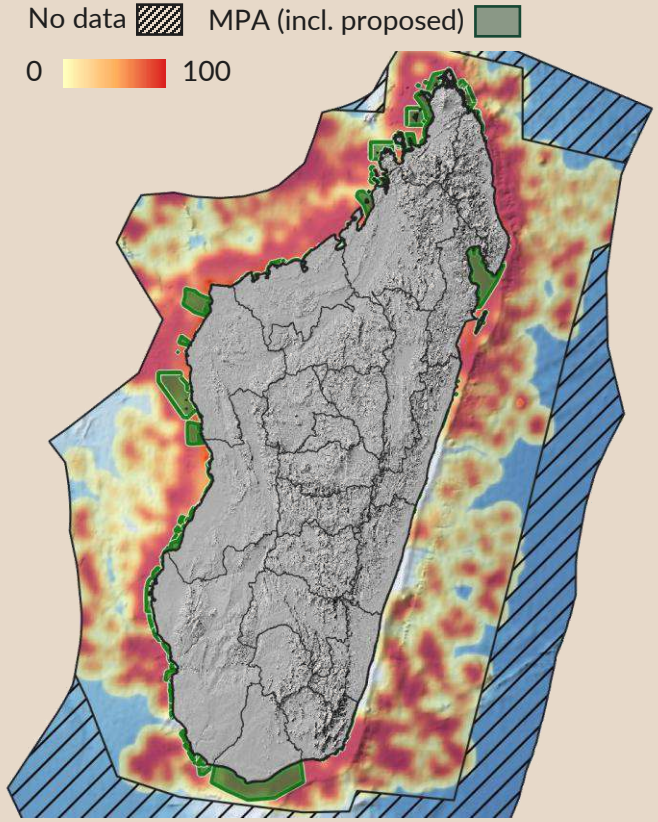
## Intensity of marine commercial activity per protection category



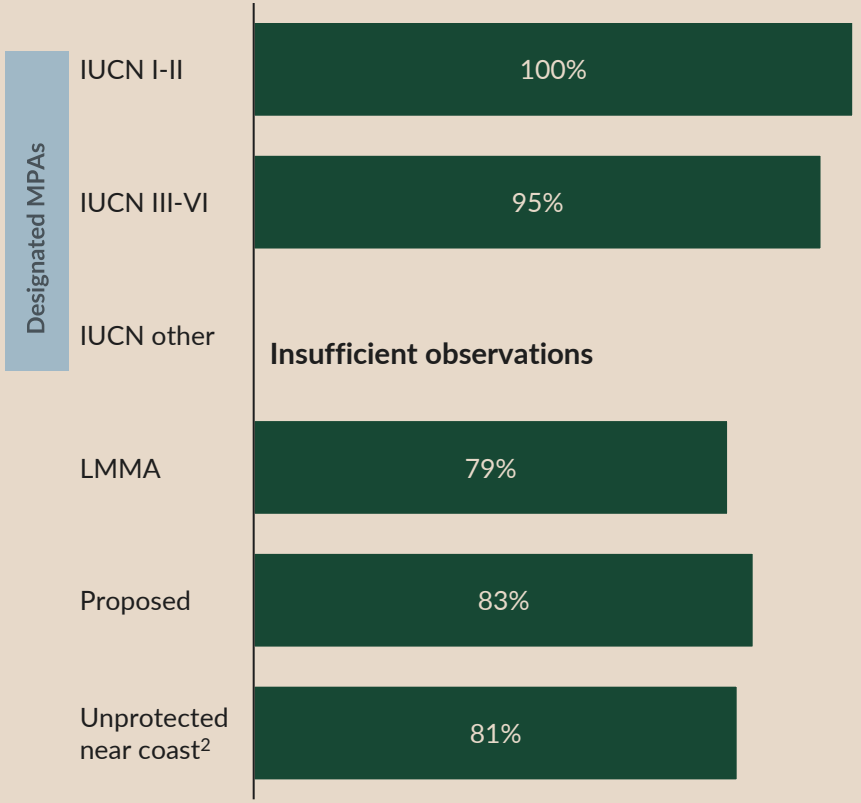
# Marine: Most fishing in MPAs remains untracked

**PRELIMINARY VERSION DATED SEPTEMBER 16, 2025**

## Dark fishing[1], % of total fishing effort




## Proportion of fishing that is untracked[1], %




## Insights

**Nearly all fishing activity in designated MPAs is untracked by AIS.** This is most likely artisanal and subsistence fishing

The share of untracked fishing is higher in **areas not designated as a PA and near the coast[2]**, where it constitutes **~80%** of all fishing effort.

1 Based on a study that utilizes satellite synthetic aperture radar (SAR) imagery to detect vessels, which were identified as fishing or not based on their movement patterns and behaviors. Vessels were then cross-referenced with automatic identification system (AIS) data to identify those broadcasting their positions. Vessels detected by SAR but lacking corresponding AIS signals were classified as engaging in "dark" fishing activities

2 Since all marine protected areas are coastal, we compare their fishing intensity to the unprotected part of coastal waters up to 30 km from the shore

Source: Paolo et al. (2024); Marine Regions (EEZ boundaries

# Marine: Multiple challenges related to the management of national marine parks have been identified

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Monitoring and law enforcement

Limited **human resources for patrols** despite community involvement, e.g., **against tourism agencies** bringing tourists in the marine part of Kirindy Mitea without approval from MNP

## Delimitation of the MPA

No **physical delineation in some MPAs** due to

- Limited funding available for marker buoys
- limited durability of buoys in place caused by meteorological conditions or human destruction)

## Ecological monitoring

Limited **equipment for marine habitats monitoring** (e.g., full diving equipment for sea grass or corals), and capacity of technicians in place for accurate monitoring

## Community awareness

**Limited awareness** within surrounding fishermen communities on **MPA's importance** (e.g., ian Lokobe, where one village agrees to protect forest due to tangible benefits but doesn't see marine area benefits)

## Community livelihoods

Often limited **alternative opportunities** for communities to **generate sustainable revenue**

Source: interviews

# Marine: LMMAs have emerged as key drivers of marine conservation in Madagascar, delivering measurable benefits

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

| Area type | Management type | Number[1] | Examples – *not exhaustive* |
|---|---|---|---|
| MPAs (Marine Protected Areas) | MNP (Madagascar National Park) | 8 | Nosy Hara, Nosy Tanikely, Nosy Ve Androka |
| | Co-management with NGOs (include some LMMAs) | ~10 | Ankivonjy (WCS), Velondriake (Blue Ventures), Ambodivahibe with CI |
| | Privately | 1 | Nosy Antsoha (Lemuria Land) |
| LMMAs (Locally Managed Marine Area) not MPAs | LMMAs with NGO support | ~200 | Ambakivao (WWF), Nosy Faly (Blue Ventures), Anove (wcs) |
| | Orphan LMMAs[2] | ~100 | Antamitarana (ADEA), Ambatozavavy (FMTA) on Nosy Be |

1 Estimated based on available information
2 Managed by local associations alone

## How they work

- **Community-based fishery management & ecosystem protection activities** including fishing restrictions, patrols, ecological monitoring, restoration efforts
- Governed by **Dina** and/or **TG** (management transfer) and/or **official MPA status**
- Managed by CBOs, often in collaboration with NGOs for capacity building, legal, financial & logistics support
- Represented by the **Mihari network**, offering technical support and unified voice at the national level

## Benefits

LMMAs often have multiple benefits for both communities and conservation

- **Increase in fish stocks** (e.g., octopus in Ambodivahibe, where the LMMA expanded from 4 to 16 villages due to tangible value)
- **Alternative to formal conservation**, protecting additional areas without heavy formalization process
- **Community-led**, securing sense of ownership and durability

Source: MIHARI network, FAPBM, Nairobi Convention – MPA Dashboard, interviews

# Marine: However, challenges to the effective protection of marine biodiversity in LMMAs remain

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Insufficient and inconsistent funding

- MPAs / LMMAs often **rely on NGO funding** with limited sustainability, e.g., **short-term, project-based funding** that doesn't allow for long-term and effective protection
- Resulting in **limited resources** for effective protection, e.g., 1 boat for 4 villages in the 7 Bays

## Limited resources for monitoring and law enforcement

- **Illegal / unmonitored activities** leading to pressure on MPAs effectiveness
- **Limited availability of "OPJ"** (police officers) and **effective mechanisms to ensure law enforcement** once defaulters are caught

## Limited recognition of long-term community rights

- LMMAs often don't have strong **legal status** – most of them are governed by TGRH (Delegation for the Management of Fisheries) to be **renewed every 2 years**, hindering opportunities for long-term planning

## Diverse stages of development across LMMAs

- **Notable disparities** are observed about **how LMMAs are structured and managed** between the different communities (e.g., presence of alternative activities, revenue sources)
- While local adaptation seems essential, some elements **could be standardized across contexts** (e.g., governance models, financing mechanisms)

Source: interviews

# Our diagnostic covered four key areas

Terrestrial ecosystems

Marine ecosystems

**Nature financing**

# Financing: challenges & opportunities

Madagascar allocates a budget share to conservation in line with the African average, but its **per hectare spending is significantly lower than that of its peers**, limiting the effectiveness of conservation efforts.

**Conservation funding in Madagascar heavily relies on foreign public donors**, with e.g., over $150 million contributed to the Madagascar Protected Areas and Biodiversity Fund (FAPBM).

**Madagascar attracts twice as much foreign public funding** per hectare as the African average, indicating strong international interest in supporting its conservation efforts.

**Madagascar leads Africa in direct private conservation funding** – 50% above the continental average – highlighting its ability to attract also private donors.

# Financing: To cover GBF 30x30 targets, Madagascar would likely need to capture additional funding and revenue sources

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

xx Average annual funding in $USD per 100 hectare, 2013-2023

Significantly below average | Below average | On average | Above average

## Madagascar's annual funding for conservation, $M USD

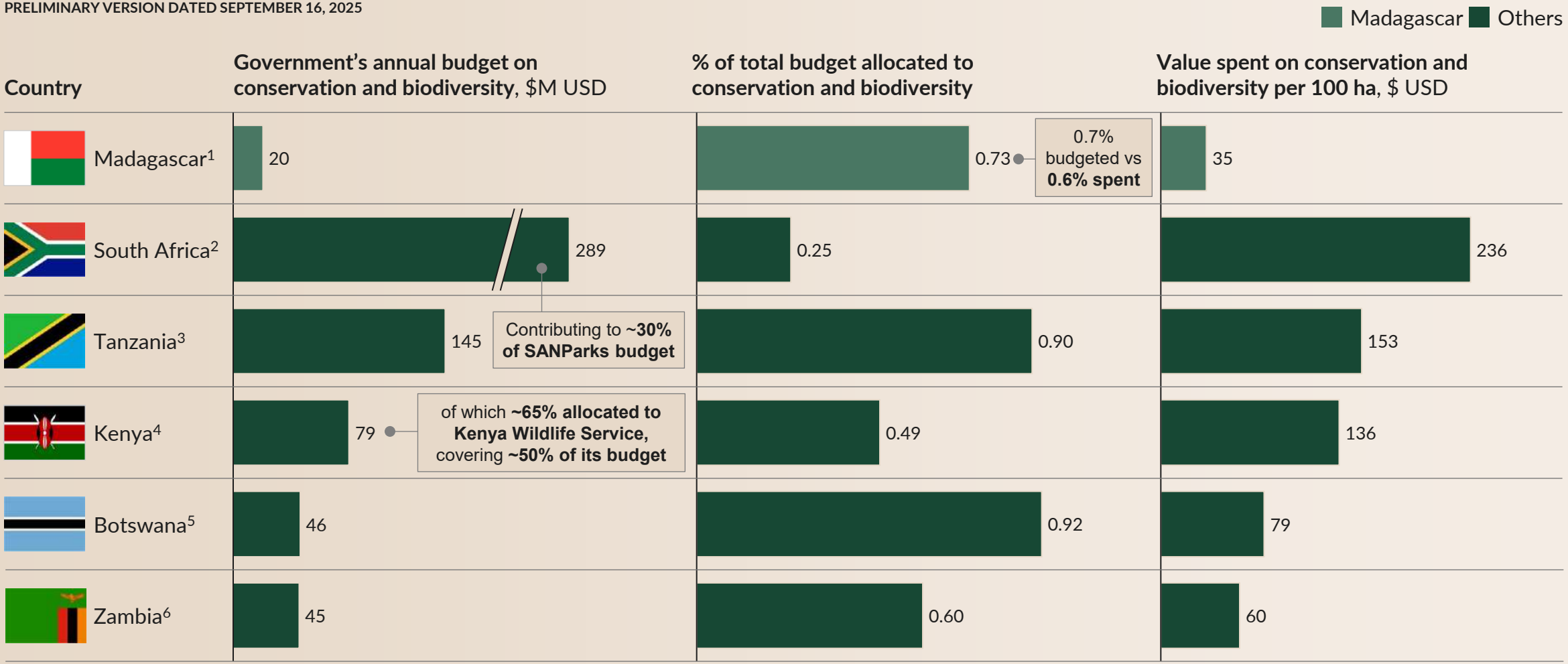
## Maturity vs. African peers

| | | | | |
|---|---|---|---|---|
| **Current funding** | 85-170 | | | |
| Government spending[1] | 15-30 | 25-50 | | Since 2020, Madagascar has allocated ~0.7% of its government budget to conservation, but this translates to a spending of just $35 per 100 ha —significantly lower than the $130 average of peers (South Africa, Zambia, Tanzania, Botswana) |
| Foreign public donors[2] | 60-120 | 100-200 | | Madagascar attracts a notably high level of public foreign donor funding, capturing over twice the African average per hectare - $107 compared to $47 per 100 ha |
| Private donors[3] | 2-6 | 3-10 | | Madagascar ranks among Africa's leaders in private donations per hectare, performing 50% above the continental average—though the average itself remains low |
| Carbon financing[3] | 8-10 | 14-17 | | Madagascar has secured $50 million over five years for a jurisdictional REDD+ project, placing it well above the African average, with only a few countries like Mozambique and Ghana securing nearly comparable support |
| Tourism[4] | 1-2 1 | 2-3 | | Madagascar draws fewer visitors (~300,000/year vs 2M in Kenya and Tanzania) and charges lower park entry fees ($12 vs ~$38 on average in Kenya, Tanzania, and South Africa for similar experiences) |

1 Madagascar's average budget expenditure for the period 2020-2024 includes all expenses related to environmental functions (MEDD)
2 OECD DAC database, 2013-2023, Project database from individual donors
3 OECD DAC database; reports from individual projects and interviews with major stakeholders in Madagascar, 2013-2025
4 2024 MNP revenues from national parks
Note: Public donors exclude recent commitments. The information is restricted to the data published from the OECD and can be limited. Considered allocations for environment, biodiversity and forestry.

# Financing: Madagascar allocates a budget share to conservation in line with the African average, yet spends far less per hectare than its peers

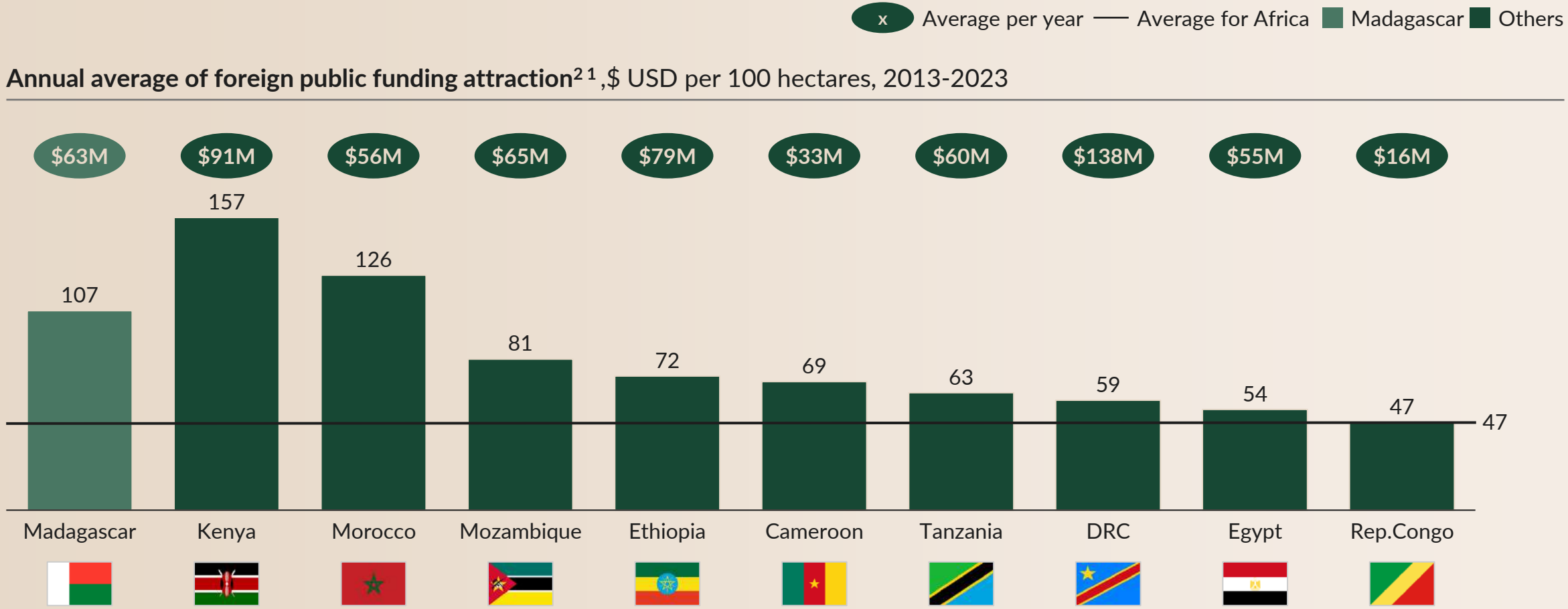
PRELIMINARY VERSION DATED SEPTEMBER 16, 2025




1 Madagascar's average budget expenditure for the period 2020-2022 includes all programs related to biodiversity conservation; 2 South Africa's 2022-2024 budget, calculated from all programs related to biodiversity conservation and their weighted average of general costs; 3 Tanzania's 2022-2024 budget, calculated from all programs related to biodiversity conservation and their weighted average of general costs; 4 Kenya's 2022-2024 budget, calculated from all programs related to wildlife conservation and management; 5 Zambia's 2022-2024 budget, calculated from all programs related to biodiversity conservation and their weighted average of general costs, although there are values allocated to biodiversity and conservation for each province, they were not included; 6 Botswana's 2022-2024 budget, considering only the programs related to biodiversity protection and conservation

# Financing: Madagascar supplements government funding by attracting more foreign public donations than African peers

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025




1 Top ten countries with highest average foreign public funding per square km with an area above the top half
2 allocations for environment, biodiversity and forestry.
3 OECD DAC database, 2013-2023
Note: Public donors exclude recent commitments. The information is restricted to the data published from the OECD and can be limited. Considered allocations for environment, biodiversity and forestry.

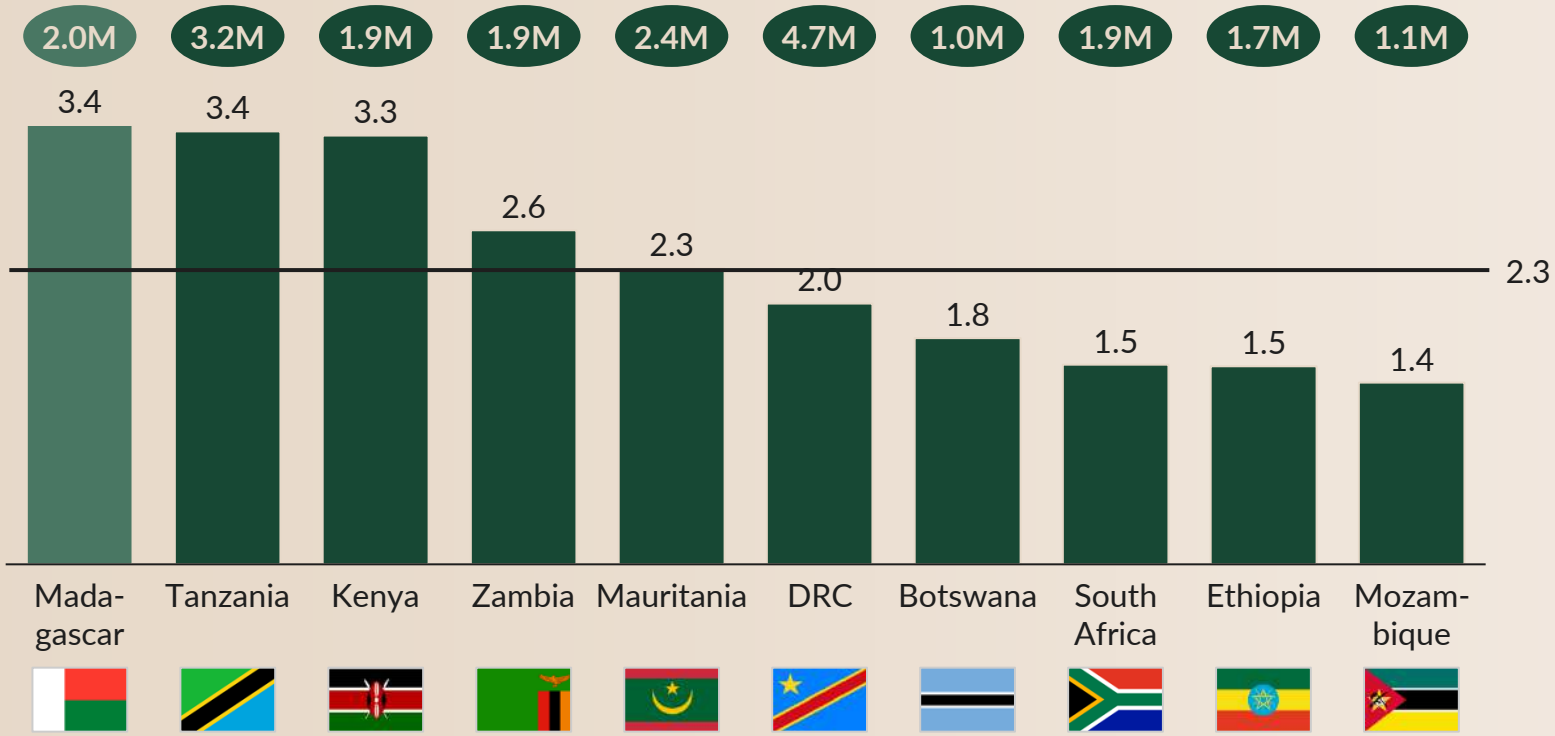
# Financing: As well as private conservation philanthropy

## Comparison of direct private donations from selected leading OECD private donors, from 2013-2023

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

x Average per year — Average for Africa Madagascar Others

**Annual average of private donations attraction for group of selected countries[1], $ USD per 100 hectares, 2013-2023**




1 Top ten countries with highest average foreign public funding per square km with an area above the top half
Note: Public donors exclude recent commitments. The information is restricted to the data published from the OECD and can be limited. Considered allocations for environment, biodiversity and forestry.

Source: OECD DAC database, 2013-2023, Interviews

### Insights

**Madagascar ranks among Africa's leaders in private donation per hectares**, performing **50% above the continental average**

**Key private donors** in Madagascar include but are not limited to:

- Arcadia fund
- The MacArthur Foundation
- The Packard Foundation
- The Hempel Foundation
- RainForest Trust

Beyond traditional donors, **private companies** are increasingly playing a role, e.g., **Rio Tinto, a global metals and mining company**, has invested $16 million in conservation-related efforts in the country

# Financing: Madagascar secured $50M in carbon financing via REDD+, a program which has since ended and a new decree marks the next phase

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## REDD+

**Definition:**

- **Reducing Emissions from Deforestation and Forest Degradation**
- Includes conservation, sustainable forest management, and enhancement of carbon stocks

**International Framework:**

- **Provides financial incentives** to developing countries, regions, or forest projects **to reduce carbon emissions** through the activities above

**Approaches:**

- **Jurisdictional REDD+:** National or regional scale (government-led strategies)
- **Project-based REDD+:** Localized, specific forest conservation projects

**Madagascar Context:**

- **Pre-2018:** REDD+ credits sold on the VCM[1]
- **2018-2024:** Credit sales on the VCM[1] prohibited due to AA-ERP[2] participation
- **2025 onwards:** Pre AA-ERP[2] credits can be sold, under the **new decree adopted in June 2025**

| Approach | Example | Potential revenue |
|---|---|---|
| **Jurisdictional**  | **Atiala-Atsinanana Emission Reduction Program (AA-ERP)**<br>• **Location:** Eastern region<br>• **Ecosystem:** Tropical moist forest<br>• **Area:** 6.9M ha | Up to **$50M** **from the World Bank's Forest Carbon Partnership Facility (FCPF)** contingent on the avoidance of 10 million tons of CO2e over2020-2024 (including **$8.8M** received in December 2023)<br><br>**Additional revenue** opportunities from emissions avoided beyond the initial 10 million tons of CO2e |
| **Project-based**  | **Makira Natural Park REDD+**<br>• **Location:** Northeastern region<br>• **Ecosystem:** Tropical moist forest<br>• **Area:** 372k ha | **$350,000** generated to support management of Makira National Park<br><br>**$800,000** contributed for community livelihood security projects<br><br>**$16M** **investment secured** with Rio Tinto, including an off-take agreement<br><br>**Additional revenue** opportunities from unsold pre-2018 credits |

1 Voluntary Carbon Market
2 Atiala-Atsinanana Emission Reductions Program

Source: World Bank, FCPF, WCS, Interviews

# Financing: Madagascar has launched a concession project in six national parks to boost tourism and generate revenue, with benefits for conservation

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Context

A **tourism concession tourism** allows private entities to develop and manage tourism in protected areas to support conservation and generate revenue through PPPs

In February 2025, **Madagascar launched a concession project for six national parks**[1] managed by MNP. The government plans to launch an investment call to attract private partners to build and operate eco-lodges in buffer zones, aiming to draw high-end tourists while minimizing environmental impact and addressing the hotel room shortage

The project involves **MEDD, MTA, and MDAT**[2], aiming to boost investment, create jobs, and support local communities

## Learnings from successful concession models

- Revenue model typically combines a **minimum fee and/or 10–20% of gross revenue**
- Revenue is **shared between government for conservation and local communities**
- Concessions are most often **awarded via open tenders**
- **Typical length** is **20-30 years**
- A **clear legal and policy framework** is necessary

*South Africa* *Namibia* *Tanzania* *Colombia* *Belize*

1 Lokobe, Analamazaotra Mantadia, Ankarana, Tsimanampesotse, Nosy Hara, and Bemaraha
2 Ministry of Environment and Sustainable Development (MEDD), Ministry of Tourism and Handicrafts (MTA), and Ministry of Decentralization and Territorial Planning (MDAT)
Note: Focus is on full concessions involving construction and operation, not just service management

Source: MEDD, Tourism Concessions in Protected Areas (2020), SANParks, PPP World Bank Kruger National Park, SADC Tourism Concession Guidelines, Tourism Concessions in Protected Areas: Namibia, Tourism Concessions in protected Areas in Mozambique, Press research

# Financing: Tourists' park fees in Madagascar are lower than African peers

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Context

**Park entrance fees** in Madagascar were last **updated on November 1, 2015**

**The pricing structure** is based on several factors:

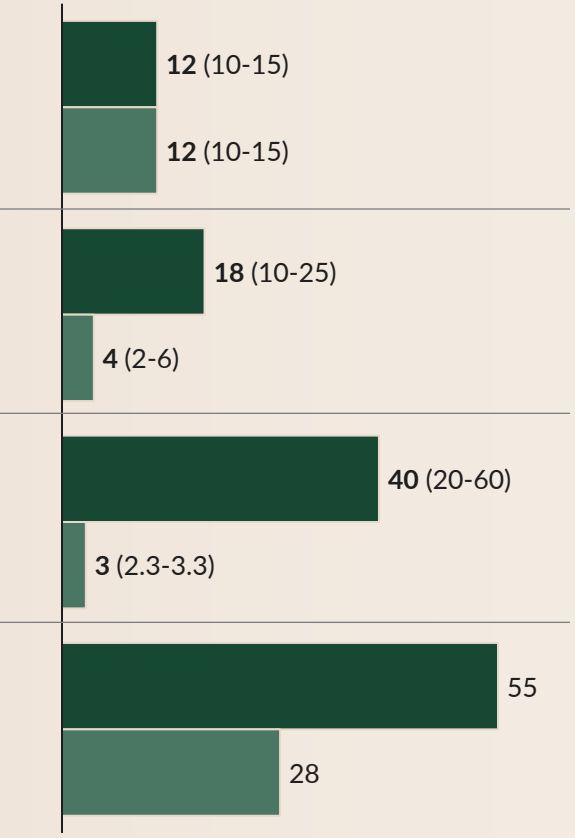
- **Park category:** Exceptional Parks, Flagship Parks, and Nature Parks
- **Visitor type:** Foreigners vs. Malagasy nationals
- **Age group:** Adults vs. Children

**Fees range** from 2,000 Ariary for Malagasy adults to 65,000 Ariary for foreign adults

Most parks in Madagascar are primarily dedicated to **hiking and wildlife observation**

| Country | Fee dif. across PAs | Nationals discount | Resident discount | Season dif. fee |
|---|---|---|---|---|
| Madagascar[1] | ✓ | ✓ | ✗ | ✗ |
| South Africa[2] | ✓ | ✓ | ✓ | ✗ |
| Kenya[3] | ✓ | ✓ | ✓ | ✓ |
| Tanzania[4] | ✓ | ✓ | ✓ | ✓ |

Average adult fee in park with similar activities[5], $ USD




## Preliminary insights

- Madagascar charges **lower fees for foreign tourists than other African countries** for hiking and wildlife viewing parks
- Unlike many countries that offer subsidies to both nationals and residents, Madagascar reserves discounts for nationals only—**residents pay the same as foreigners**
- Madagascar follows the common practice of **varying fees by protected area** but does **not adjust rates seasonally**, as others do

1 Information from Madagascar National Park applicable since 1st of November, 2015, exchange rate 1 USD=4500 MGA
2 Information from Table Mountain National Park and Golden Gate Highlands National Park, exchange rate 1 USD = 18 ZAR
3 Information from Mount Kenya National Park, Aberdare Mountain National Park and Hell's Gate National Park, exchange rate 1 USD = 130 KES
4 Information from Udzungwa Mountains National Park and Mahale Mountains National Park, exchange rate 1 USD = 2700 TZS
5 Parks with hiking and wildlife viewing activities but not safaris in vehicles
6 Resident, most often higher than nationals

# Financing: Entrance fees in Madagascar are lower than African peers and could be optimized to generate additional revenue

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Context

The "**vignette touristique**" is an accommodation tax updated most recently in 2023, aimed at financing the development and promotion of tourism in Madagascar

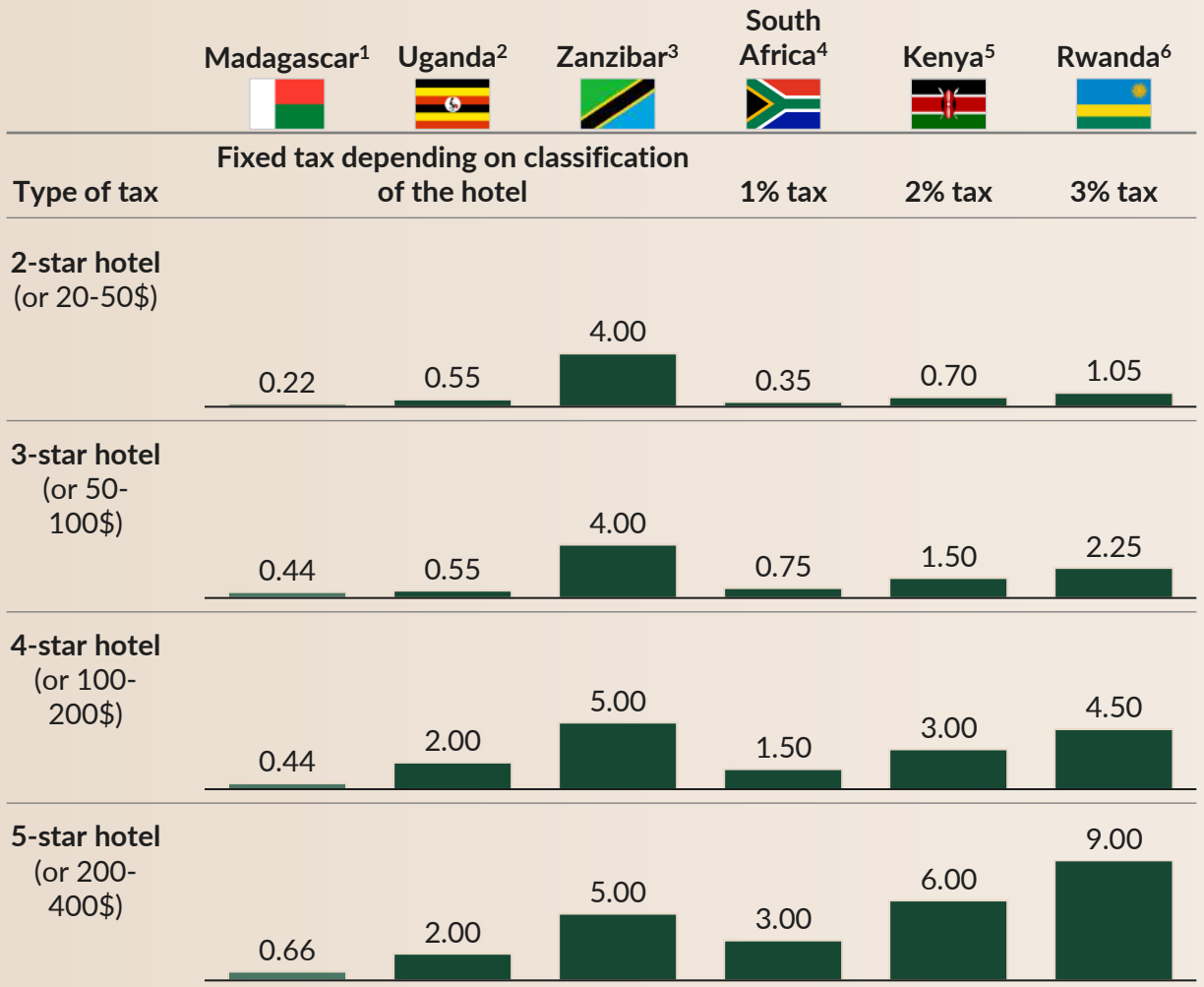
It applies to **all guests, including Malagasy nationals**, staying in tourist accommodation

The tax is **charged per person, per night**, with **rates depending on the classification of the establishment:**

- 3 000 Ariary – 5-star hotels
- 2 000 Ariary – 3- and 4-star hotels
- 1 000 Ariary – 1- and 2-star hotels
- 600 Ariary – Unclassified or Ravinala-category establishments (e.g., guesthouses, homestays)

Funds collected are distributed equally to support tourism at both national and regional levels:

- **50% to the National Tourism Office of Madagascar** (ONTM)
- **50% to Regional Tourism Offices**




## Preliminary insights

- Madagascar applies a **fixed accommodation tax** per night **based on hotel category**, but the rates are **lower than in many other African countries**
- Unlike some countries that exempt locals or apply higher rates only to foreigners, Madagascar currently applies this tax universally to all guests

1 Information from FHORM applicable since 2023, exchange rate 1 USD = 4500 MGA; 2 Information from KCCA (Kampala Capital City Authority) applicable since 2024, exchange rate 1 USD = 3650 UGX; 3 Information from amended Finance Act No. 9 of 2015 applicable since 2023, exchange rate 1 USD = 2700 TZS; 4 Information from TOMSA (Tourism Marketing South Africa); 5 Information from KRA (Kenya Revenue Authority); 6 Information from RRA (Rwanda Revenue Authority)

Source: FHORM

# Financing: Tourist visa fees in Madagascar are lower than African peers

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

## Context

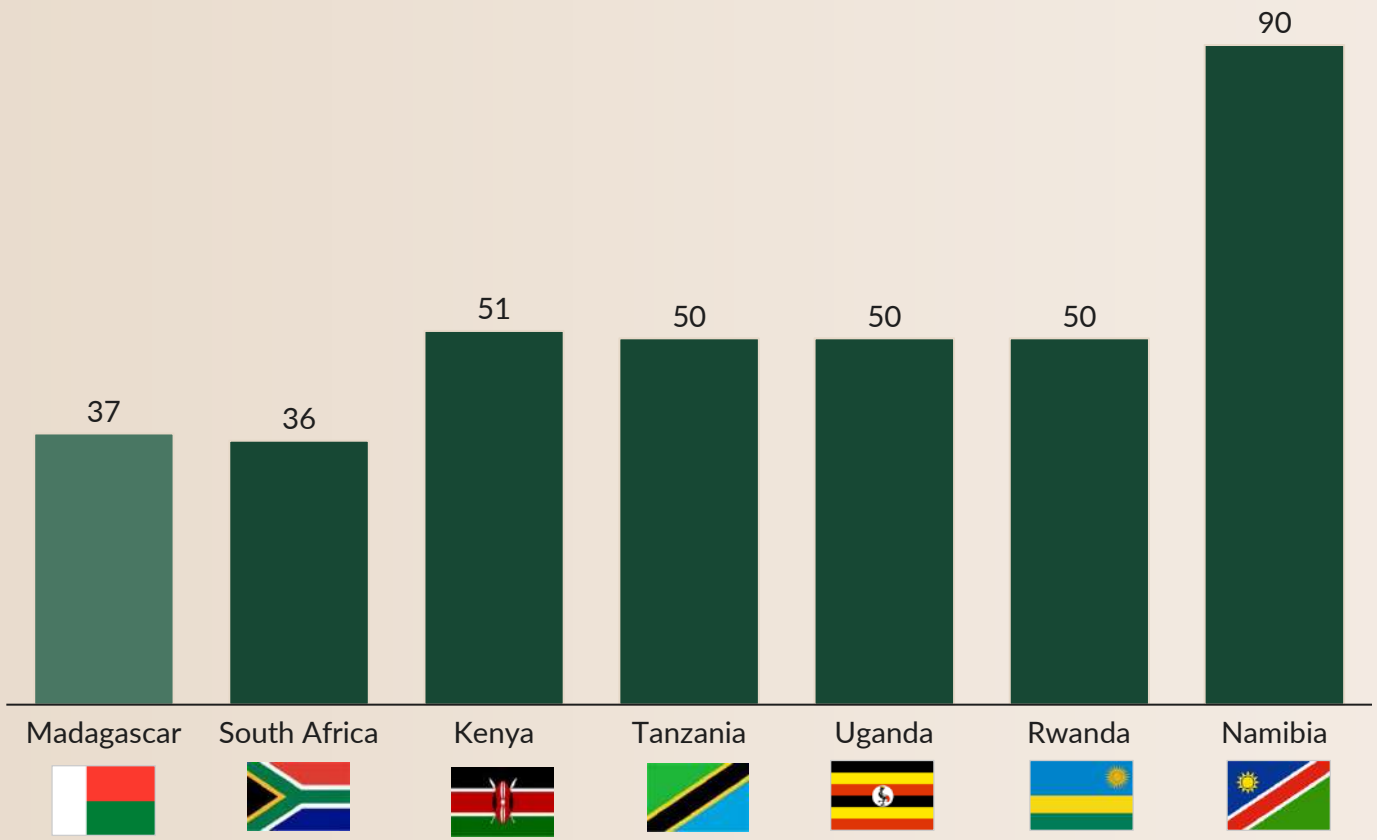
The **tourist visa fee,** last updated in 2023, is a mandatory charge **for foreign visitors entering Madagascar**, designed to support the country's administrative and tourism infrastructure

It **applies exclusively to non-resident foreign nationals**, with the **amount depending on the length of stay**:

- $10 for stays up to 15 days
- $37 for stays from 16 to 30 days
- $45 for stays from 30 to 60 days
- $55 for stays from 61 to 90 days

The fees are **collected at ports of entry** (airports and seaports) **or online**, and contribute to the national budget

**Average tourist visa fee in selected African countries for single entry 15-30 days visa**, $ USD




## Preliminary insights

- Madagascar applies **lower tourist visa fees than most African countries, especially for short stays**
- Unlike many nations with a **flat visa rate for stays up to 90 days**, Madagascar uses a tiered approach
- Madagascar's visa income currently goes into general public funds. **In** other countries positioned on ecotourism, **a portion is sometimes dedicated for environmental programs** could enhance support

Source: Official immigration sites

# Backup

# Reasoning related to the estimation of the potential of identified financing mechanisms

PRELIMINARY VERSION DATED SEPTEMBER 16, 2025

| Financing mechanisms | | Estimated amount 2026-2030 | Explanation |
|---|---|---|---|
| Source de financement  | | | |
| **Innovative financing mechanisms** | Carbon credits | **$100-120M** | Lowest value of $27M in revenue from credits generated by the extension of the jREDD+ program (Eastern rainforests) x4 years |
| | DNS | **$10-30M** | Estimated size of DNS agreements with France and Japan based on historical DNS agreements, which ranged from $11-30M |
| | Bonds | **$40-60M** | Lemur bond (~$5-10M for conservation) + new green bond (~$40-60M – estimated based on similar bonds already issued) |
| | PES | **$40-60M** | 2 PSE programs: Estimated size of the water fund paid by: 1. dams ($6-10M); 2. water companies ($3-5M) x4 years |
| | CSR | **$10-15M** | Funds coming from: 1. 1% dedicated to CSR of the top 15 local companies (~$100-200k); 2. environmental tax (~$4-6M) x4 years |
| **Ecotourism** | Ecotourism | **$50-60M** | Funds from: 1. concession agreements; 2. increase in rates and number of visitors (~$5-12M) x4 years |
| **Donors** | GEF | **$75-100M** | Current financing potential under GEF-9, exact amount to be confirmed in June 2026 |
| | GCF | **$75-100M** | Current funding under GCF-2 |
| | Bi/Multi-lateral Donors | **$170-200M** | Amount from donors, particularly development banks (e.g., World Bank, AFD, KFW, etc.) |
| | NGO | **$50-60M** | Estimated amount mobilized from NGOs with a significant presence in Madagascar (e.g., WWF, CI, WCS etc.) |
| | Philanthropic | **$50-75M** | Estimated amount from philanthropic organizations historically present in Madagascar |
| **Interests on current endowment funds** | FAPBM | **$20-25M** | 4 % of interest rate on existing FAPBM capital of $160M x 4 years |
| | Tany Meva | **$2-3M** | 4 % of interest rate on existing Tany Meva capital of $18M x 4 years |