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USAID MIKAJY ACTIVITY
ANNUAL PERFORMANCE REPORT
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Photo: Members of the FOSA youth association caring for young trees to be planted in dry forests of Menabe
Credit: USAID Mikajy

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ACRONYMS AND ABBREVIATIONS

AFAFI	*Nord Programme d'Appui au Financement de l'Agriculture et aux Filières Inclusives dans le* Nord (de Madagascar)
APCLFA	*Aire Protégée Complexe Lac et Forêt d'Ambondrobe* (Protected Area Lakes and Forests Complex Ambondrobe)
APGL	Locally Managed Marine Protected Areas (equivalent of LMMA)
APMA	*Aire Protegee Menabe Antimena* (Protected Area Menabe Antimena)
AVAMA	Union of the Communes of Ambinanitelo, Voloina, Ankofabe and Mahalevona
AVG	Alliance Voahary Gasy
BNGRC	*Bureau National de Gestion des Risques et des Catastrophes*
CBNRM	Community-Based Natural Resources Management
CDGRC	District Risk and Disaster Management Committee
CF	Conservation Farming
CIRAEP	Regional Directorate of Livestock
CLP	Local Patrol Committee *(Comité Local de Patrouilles*)
CNFEREF	*Centre National de Formation, d'Etude et de Recherche en Environnement et Foresterie*
COBA	*Communauté de Base* (equivalent of VOI)
COGE	Community Management Committees
COP	Chief of Party
COSAP	Committee for the Monitoring of the Protected Area
COVID-19	Coronavirus Disease 2019
CPO	Collection Point
CRL	Local Recognition Commission
CSO	Civil Society Organization
DGM	General Director of Meteorology (*Direction Générale de la Météorologie)*
DRAEP	Regional Directorate of Agriculture, Farming, and Fisheries
DREDD	Regional Directorate for Environment and Sustainable Development
ES	Ecosystem Services
FIVE	Instrumental Force to Value Together
FOSA	*Fo Sarotiny amin 'ny Ala*
FY	Fiscal Year

GPPM	Menabe Professional Fishermen Group
GPS	Global Positioning System
Ha	Hectare
IOM	International Organization for Migration
KMCC	Kew Madagascar Conservation Center
KMMFA	Community conservation and monitoring agents *(Komity Miaro sy Miady amin'ny Famonoana Afo*)
KR	Key Result
LEAP	Learning, Evaluation and Analysis Project
LMMA	Locally Managed Marine Area
M&E	Monitoring and Evaluation
MAEP	Ministry of Agriculture and Animal Husbandry
MaMaBay	Makira-Masoala-Bay of Antongil
MATP	Ministry of Land Use Planning and Public Works
MEDD	Ministry of Environment and Sustainable Development
MEL	Monitoring, Evaluation, and Learning
METT	Management Effectiveness Tracking Tool
MGA	Malagasy Ariary
MNP	Madagascar National Parks
MODIS	Moderate Resolution Imaging Spectroradiometer
MoU	Memorandum of Understanding
MSIS	Multi-Sector Information Service
MSME	Micro, Small, and Medium-Sized Enterprises
NCBA-CLUSA	National Cooperative Business Association Cooperative League of the USA
NGO	Nongovernmental Organization
NP	National Park
NPK	Nitrogen-Phosphorus-Potassium
NRM	Natural Resource Management
OCAT	Organizational Capacity Assessment Tool
OIM	International Organization for Migration
OPCI	*Organismes Publiques de Cooperation Intercommunale*

OPJ	Judicial Police Officer (*Officiers de Police Judiciaire)*
ORTANALA	Regional Tourist Office of Analanjirofo
OTIV	Micro-finance organization (*Ombona Tahiry Ifampisamborana Vola)*
P&R	Pause and Reflect
PA	Protected Area
PCDDBA	Development Plan for the Fisheries of Antongil Bay (*Plateforme de Concertation pour le Développement Durable de la Baie d'Antongil*
PAG	Management and Development Plan (*Plan de Aménagement et Gestion)*
PAP	Fisheries Management Plan (*Plan d'Aménagement des Pêche*s)
PEM	Participatory Ecological Monitoring
PES	Payment for Ecosystem Services
PGS	Participatory Guarantee System
PLOF	Local Land Use Plan (*Local Plan d'Occupation Foncière)*
RA	Rainforest Alliance
RAMEX	Ramamandraibe Export
REAP	Responding to Threats to Peace and Social Cohesion Linked to Uncontrolled Migration Program
SA	Strategic Approach
SBCC	Social and Behavior Change Communication
SAC	Communal Development Schemes *(Scheme d'Aménagement Communaux)*
SMART	Spatial Monitoring and Reporting Tool
TGRN	Natural Resource Management Transfer
ToR	Terms of Reference
USAID	United States Agency for International Development
USFS	United States Forest Service
VIIRS	Visible Infrared Imaging Radiometer System
VOI	*Vondron'Olona Ifotony* (or COBA see above)
VSLA	Village Savings and Loans Association
WCS	Wildlife Conservation Society
WWF	World Wide Fund for Nature
ZOC	Controlled Settlement Zone (*Zone Occupation Contrôlée)*

ZUC	Controlled Use Zone (*Zone d'Utilisation Contrôlée*)
ZUD	Sustainable Use Area (*Zone d'Utilisation Durable*)

ACTIVITY OVERVIEW

The United States Agency for International Development (USAID) Mikajy Activity is a five-year activity (2018–2023) in Madagascar that will advance biodiversity conservation in forest and coastal ecosystems, strengthen natural resource management and land tenure security among vulnerable populations, and promote sustainable economic growth in rural communities. The USAID Mikajy Activity fosters partnerships with communities, civil society, government and the private sector to reinforce capacity for conservation, improve livelihoods through conservation-friendly enterprises and empower communities to advocate for and participate in the governance of land and natural resources.

Madagascar is a hotspot of global biodiversity with a high proportion of endemic plant and animal species. Despite the expansion of Madagascar's protected area system and a robust legal framework for environmental protection, Madagascar's biodiversity is threatened by habitat loss, unsustainable harvesting of fisheries, timber and wildlife, and the breakdown of both traditional and government resource governance. In the last decade, political instability and stagnant economic growth have exacerbated these threats. Working closely with the national level USAID Hay Tao Activity, the USAID Mikajy Activity works on the ground with communities and park managers in the MaMaBay and Menabe regions to promote biodiversity conservation through linkages with inclusive economic growth and sustainable development while strengthening local civil society and governance, and empowering stakeholders.

To accomplish these goals, USAID Mikajy works along five strategic approaches to implement activities in the Menabe and MaMaBay landscapes:

1. **Nature:** Work with communities, nongovernmental organizations, and government to improve protected area and natural resource management;
2. **Wealth:** Support community-based conservation-friendly enterprises and livelihoods;
3. **Synergy:** Interface and synergize with development programs delivering services to target communities;
4. **Action:** Operationalize community-based land and resource tenure policy on landscape/seascapes; and
5. **Power:** Strengthen community capacity, civil society organization, private sector, and government capacity to advocate for and engage on improved community-based land and natural resource management.

EXECUTIVE SUMMARY

The USAID Mikajy Activity Annual Report covers the reporting period of October 1, 2019 to September 30, 2020. During the second full year of operation (FY20), Mikajy made progress in all five Strategic Approaches, laying the foundation for achieving and scaling up results in FY21. A summary of technical achievements is presented below by Strategic Approach.

Strategic Approach 1 (Nature): Improving Protected Area and Natural Resource Management

Management Effectiveness Tracking Tool (METT) assessments for six protected areas (Masoala, Makira, Menabe Antimena, Ambondrobe, Allées des Baobabs, and Kirindy Mitea) in the two landscapes revealed strong scores and improvements and helped to identify areas where management needs to be strengthened. Notably, Makira received a strong management effectiveness score (78.38%)—an increase of 9% from FY19—while the park management effectiveness score for Masoala increased by 4% to 78.95%. Menabe Antimena improved its score by 6%, although management effectiveness is still weak at 54%.

Patrols and surveillance – **Patrols and surveillance** – Over the course of FY20, USAID Mikajy supported a total of 10,833 person days of patrolling (7,907 days in Menabe and 2,926 days in MaMaBay), covering a total of 24,662 km. Patrols used the spatial monitoring and reporting tool (SMART) to collect and report observations of infractions, and a total 2,018 persons applied improved conservation law enforcement practices during FY20.

Restoration – Based on the restoration plans of the protected areas in the two landscapes, and in support of the government's goal of restoring 40,000 ha, USAID Mikajy supported the restoration of 504 hectares of active and passive restoration during FY20 (384 ha in MaMaBay and 20 ha in Menabe). Reforestation activities were undertaken in collaboration with protected area managers, grantees, local communities and the decentralized agents of the MEDD.

Improved Biophysical Conditions – An assessment of biophysical conditions in biologically significant areas revealed a total of 551,049 ha have improved biophysical conditions as a result of USAID Mikajy interventions (including 511,011 in MaMaBay and 40,038 in Menabe). The methodology included an analysis of forest cover change, SMART infraction rate encounters for marine and coastal areas as well as sites of active restoration. For forest cover, the analysis compared forest cover loss in each management area for a period before and after USAID Mikajy support. For marine and coastal areas, the change in encounter rate of infractions (such as observation of use of disallowed fishing tackle such as nets with small mesh and seine nets dragged along the beach), was used to assess change.

Locally Managed Marine Areas (LMMAs) – To support marine and coastal resource management, USAID Mikajy initiated the creation of eight new LMMAs in Antongil Bay. This action aims to reduce unsustainable fishing practices, strengthen local community ownership to promote sustainable resource management, ensure protection of sensitive habitats, support good governance and institutional structuring, and build capacity at local level, as well as improve sustainable livelihoods.

Fire control – Through a grant to Fanamby, 22 people (six technicians and 16 community fire workers) were trained on fire management by South African experts in Q1. They then conducted cascade training in Q2 for 284 additional community fire workers on active fire control. Then in Q3, Fanamby and the fire workers conducted other training sessions on fire control for 1,348 community members in 25 Menabe Antimena villages. To facilitate fire prevention and control activities, 10 local fire control

management committees were established in ten villages, and 50 fire workers received firefighting equipment. The facilitators of the fire control committees were provided with smart phones to enable data collection at the local level after training on the use of SMART patrol data collection and MODIS fire alert systems.

Strategic Approach 2 (Wealth): Supporting community-based conservation-friendly enterprises and livelihoods

Vanilla – In MaMaBay, following a rigorous on-site audit, five vanilla cooperatives comprised of 1,791 members achieved Rainforest Alliance certification. This certification, which is valid for three years, attests to the cooperatives' compliance with the standards and principles of the sustainable agriculture network. In addition, USAID Mikajy's support made it possible for six cooperatives to initiate organic certification. McCormick Spices, through Ramanandraibe Export (RAMEX) habitually provides US $100,000 to support the development and strengthening and monitoring of their partner cooperatives. In FY20, the Rainforest Alliance and organic certification enabled the cooperatives to benefit US $223,200 from RAMEX for price premiums in addition to an investment of $4,291 for certification costs, and $36,624 for equipment for organic vanilla transformation. Magasin Espérance invested $6,322 in vanilla certification and $48,881 in purchase of vanilla from cooperatives.

Diversified revenue generating activities – In Menabe, USAID Mikajy implemented activities to provide alternatives to the slash-and-burn cultivation of maize and peanuts starting in Q4 of FY20, and the results are already promising especially for market gardening and rearing of small livestock. A total of 106 women from seven producer groups benefited from USAID Mikajy's support for the development of market gardening activities in Menabe and 45 women in four producer groups were able to achieve a turnover of 1,447,700 Ariary ($1,448) in just over two months. While this is a modest sum, the women are enthusiastic and pleased to have generated additional income to strengthen the economic and food resilience of their households. USAID Mikajy expects that results will be even better when the regional market for these products picks up with the return of tourists and with the input support (seeds, fertilizers) that will be provided by USAID Mikajy. Ninety-nine persons in seven producer groups benefited from USAID Mikajy's support on improved breeding of the local chickens, which enabled them to raise nearly 1,000 chickens with an average of 10 chickens per farmer. In addition, three producer organizations, involving 75 members (25 in each) in Menabe, have benefited from training on fish processing techniques and building of smokehouses. USAID Mikajy will encourage youth to make additional fish-smoking equipment, which women's groups will use to expand their fish smoking operations. In summary, 17 producer groups, including 280 members, have initiated alternative revenue generating activities which will be further developed and expanded in FY21.

Cooperatives and conservation actions – In MaMaBay, three cooperatives set up nurseries with USAID Mikajy's support to supply seedlings for the next reforestation and restoration campaign. USAID Mikajy also provided support on managing and allocating income from the nursery. In addition, the Miray Cooperative of Morafeno Commune allocated 30% of profits from certified vanilla sales to conservation actions led by four local *communautés de base* (COBAs). This contribution will fund patrol activities, ecological monitoring, and restoration and reforestation. This is a first example of a local sustainable financing mechanism for conservation action (see Miray Morafeno Success Story).

Marine value chains – In partnership with the private sector company Ocean Farmers, USAID Mikajy identified six potential seaweed production sites in MaMaBay covering an area of approximately 125 ha and potentially benefiting 250 farmers. In Menabe, ten sites for expanding seaweed farming were identified by USAID Mikajy in FY20, and joint actions will be implemented with World Wide Fund for Nature (WWF) and Blue Ventures in FY21.

Peanuts and maize – In Menabe, eight conservation agriculture demonstration plots were established with leader farmers in four villages. The results for peanuts showed an average increase in yield of

around 44% (57% for basins and 31% for furrows) compared to traditional practices. Although the work of preparing the seedbeds requires significant input in terms of labor, the costs are offset by the significant increase in output with a gross margin of 26% to 70% compared to traditional practices. As a result of USAID Mikajy's support, 110,291 tons of conservation-friendly peanuts were sold at an average price of 1,401 Ariary (US $0.36) per kilo generating $34,255 in sales value.

Private sector partnership – Memoranda of Understanding (MOUs) were signed with Ocean Farmers, Moringa Wave, and The Bee Keeper to promote value chains, which are expected to generate positive results for conservation and communities, including a honey and Moringa oleifera value chain in Menabe and a seaweed value chain in MaMaBay.

Strategic Approach 3 (Synergy): Interface and synergize with development programs delivering services to target communities

Vanilla cooperatives mutual health insurance – USAID Mikajy continued to promote mutual health insurance schemes with USAID Mahefa Miaraka for the Voloina and Ankofabe Cooperatives in MaMaBay. Membership and subscription to mutual health insurance offers many advantages for cooperative members and their families, including permanent access to quality health care services for the whole family for only 30% of the total cost of care after paying the annual subscription fee.

Partnership with OTIV – The microfinance institution OTIV (*Ombona Tahiry Ifampisamborana Vola*) has enabled the Village Savings and Loans Associations (VSLA) established with the support of USAID Mikajy to access various financial products, including credit, lease-purchase of equipment, and direct debit of the group's savings. OTIV also grants advances to farmers, repayable at the next vanilla harvest season in July with a competitive interest rate of 4%. Thanks to this partnership, 121 members of the VSLA groups in Voloina in MaMaBay have benefited from a loan of 46,000,000 Ariary ($11,690).

Access to climate information – Mikajy contributed to the dissemination in both landscapes of climate information from the General Directorate of Meteorology (DGM) and the dissemination of a climate smart agricultural calendar for the 2020 Menabe agricultural campaign in collaboration with the Regional Directorate of Agriculture, Farming, and Fisheries (DRAEP).

United States Forest Service (USFS) – USAID Mikajy signed a letter of intent (LOI) with the United State Forest Service (USFS), and began planning mangrove forest restoration and management actions in villages near Belo sur Mer in Menabe.

Mahefa Miaraka – An MoU with USAID Mahefa Miaraka established a partnership to improve the well-being and resilience of communities in Mikajy landscapes through better access to community health services provided by Mahefa Miaraka (health insurance, reproductive health and mother and child health, nutrition, hygiene, etc.).

District Risk and Disaster Management Committee – An MoU with the District Risk and Disaster Management Committee of Maroantsetra establishes a collaboration that aims to strengthen the resilience of local communities, conservation of natural resources, and livelihoods in MaMaBay.

Medair – An MoU with Medair is coordinating field activities in five communes where both projects are operating in Menabe. The collaboration will help reduce risks and impacts from weather uncertainty in disaster-prone areas through community capacity building, planning, and early action response.

Strategic Approach 4 (Action): Operationalize community-based land and resource tenure policy in landscape/seascapes

Rights and rules for natural resource protection – USAID Mikajy supported stakeholder

validation of the *Dina Be*[1] across 15 communes in Antongil Bay. Official validation of the *Dina Be* will help provide fishing communities with the power and authority to protect and sustainably manage their marine natural resources. The regional validation and approval by the Court in Maroantsetra is planned for Q1 of FY21.

Land tenure rights – In both landscapes, USAID Mikajy held workshops to integrate land tenure governance and natural resource management into the Communal Management Plans (SAC) in the Districts of Morondava, Belo sur mer, Belo sur Tsiribihina, Maroantsetra, Andapa, and Antalaha. USAID Mikajy also supported the participatory process for development of a Local Land Use Plan (PLOF) and the establishment of a Land Tenure Office in Voloina Commune, which will enable farmers to obtain certificates for land they cultivate as an important step towards land tenure security. As part of the PLOF process, 2,241 hectares were analyzed in Voloina, including 1,771 plots belonging to 2,968 beneficiaries (men, women and children). During the census, each household's legal representative (a total of 1,037 people) signed a letter of commitment to defend the protected areas and work for conservation.

Finally, in Menabe, USAID Mikajy extended activities to Manja District in southern Menabe, which includes the four communes adjacent to the Kirindy Mitea National Park where the SAC development process will start in Q1 of FY21.

Strategic Approach 5 (Power): Strengthen local capacity to advocate for and engage in improved community-based land and natural resource management

Reporting of environmental crimes – In collaboration with USAID Hay Tao, 172 park management agents from Makira, Masoala, Menabe Antimena and Ambondrobe PAs and COBAs in Menabe benefited from training on reporting of environmental crimes. This includes 156 persons from MaMaBay and 16 from Menabe. In addition, SMART data from community patrols conducted in both landscapes indicate a total of 5,830 infractions observed (see Tables 5-8 below).

Organizational Capacity Assessment Tool (OCAT) – Civil society organizations are critical to ensuring accountability and transparency and empowering local actors to take responsibility for sustainable natural resource management. In FY20, USAID Mikajy provided organizational capacity building training to 64 civil society organizations (CSOs) and COBAs including 36 in MaMaBay and 28 in Menabe, giving priority to women and youth associations, to conduct self-assessments of their organizational capacity. This provided valuable insight into their capacity and building needs. During the year, five training sessions were organized in each landscape based on the priority themes identified during the self-evaluation. A second round of assessments was conducted for 64 organizations in FY21 of which 56 (91%) showed an improvement in institutional capacity(see Annex V for details).

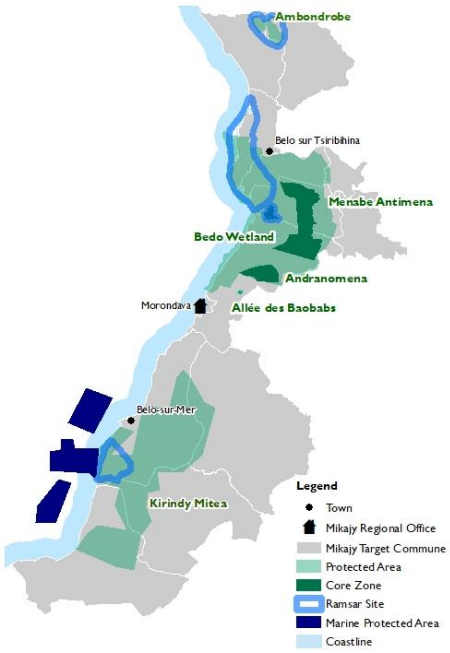
[1] A '*dina*' is a by law or a set of rules and sanctions agreed by community members to regulate use and management of resources or behavior of community members. A '*dina be*' is a larger scale or regional *dina*.

YEAR 2 PROGRESS AND ACCOMPLISHMENTS BY LANDSCAPE

MENABE

Menabe has exceptional biodiversity and very high levels of local endemism, containing one of the largest remaining tracts of western dry forest - the most threatened ecosystem in Madagascar, extensive areas of mangroves and three Ramsar sites - wetlands of international importance. USAID Mikajy implements activities in 18 communes in the Menabe landscape. These communes surround the four protected areas, and the existing TGRN and LMMA areas that are under creation.

FIGURE 1: USAID MIKAJY AREAS OF INTERVENTION IN MENABE



More specifically, this includes two communes for the Ambondrobe protected area (Aboalimena and Andimaky-Manambolo), four communes around Kirindy Mitea National Park (Soaseranana, Befasy, Andranopasy, and Belo sur mer), one commune where the Allée des Baobabs is located (Bemanonga), and seven communes surrounding the Menabe Antimena protected area (Marofandilia, Beroboka, Tsimafana, Delta, Tsaraotana, Kiboy, and Antsoha). In addition to these communes, two others with influence on the Menabe Antimena protected area are included—Ankilivalo and Analaiva. Finally, it includes the two communes where partners Fanamby and Durrell's offices are located—Morondava and Belo sur Tsiribihina.

Key achievements for Menabe in FY20 included:

For terrestrial landscapes, support for conservation of the Menabe Antimena protected area was a priority, as well as conservation activities in the Ambondrobe protected area, and TGRNs across the landscape. These were achieved through:

- A grant to Fanamby for fire control actions in the Menabe Antimena Protected Area by establishing local fire control committees and building the capacity of these community structures;
- A grant to Durrell Wildlife Conservation Trust to support community patrols in the two protected areas of Menabe Antimena and Ambondrobe by mobilizing community conservation and monitoring agents (KMMFA);
- A grant to Voahary Association for restoration of the core protected zone in management transfer (TGRN) areas within the Menabe Antimena Protected Area enabled 11.15 hectares of active restoration and the protection of 100 hectares for passive restoration.
- A grant to Kew Madagascar Conservation Centre (KMCC) for restoration of degraded areas of the core protected zone and community managed forest areas and to provide community training on agroforestry enabled 8.70 hectares of forest restoration and 66.7 hectares of agroforestry.

In parallel, USAID Mikajy supported community development activities that are sustainable, resilient to climate change, and reduce communities' dependencies on natural resource use. These include: (i) conservation farming trials of maize and peanuts which improved soil conditions, yields, and incomes; (ii) support for other income-generating activities (chicken farming and market gardening) to reduce communities' dependence on natural resources; and (iii) promotion and trial of agroforestry activities

combined with timber and fruit tree plantations.

USAID Mikajy also developed partnerships and collaborations with other players to promote coordinated and complementary interventions. This included the signing of an MoU with Mahefa Miaraka to promote resilience sustainable through community health insurance and an MoU with Medair for risk and disaster management.

With respect to governance, several activities were conducted related to commune development, land tenure, and enforcement of environmental crimes. These included:

- Initiation of the process related to commune's development plan for four communes including Kirindy Mitea Protected Area in the southern Menabe landscape;
- Provision of capacity building to CSOs after the first OCAT assessment in 2019, then reassessment of these organizations in Q4 of FY20 to see how they have improved; and
- Initiation of the establishment of a legal clinic to facilitate and improve reporting and addressing of grievances related to environmental crimes in the two landscapes in collaboration with USAID Hay Tao.

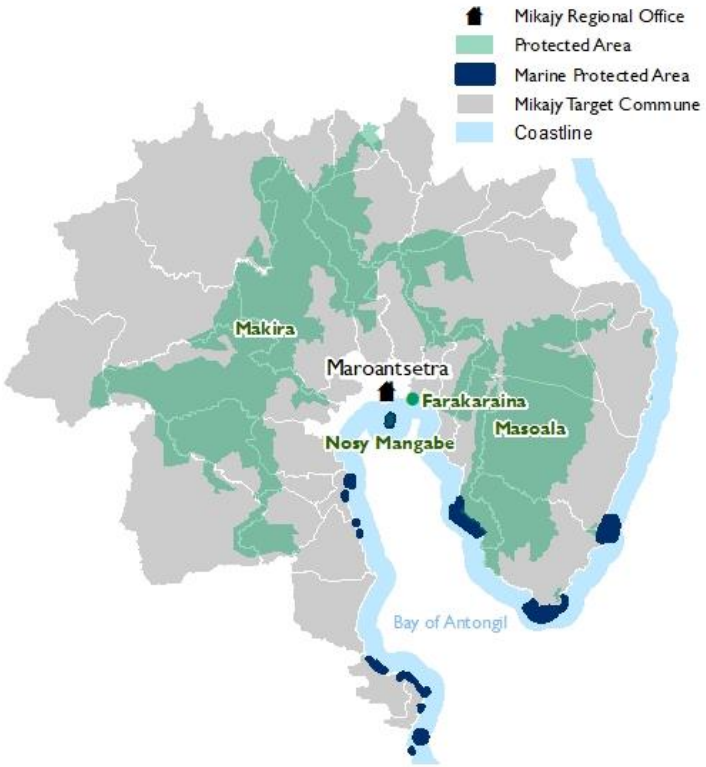
For marine and coastal areas, activities started this year for mangrove conservation and restoration and support for sustainable management and exploitation of fishery resources. Examples include:

- Coordination of marine stakeholders to better organize joint actions in the landscape;
- Collaboration with regional players (WWF, MNP, and Blue Ventures) to implement SMART patrols in their areas of intervention (training of MNP and Blue Ventures staff and training of community patrollers in WWF areas);
- Identification of two sites for establishment of nurseries to restore mangroves in southern Menabe in collaboration with USFS;
- Launch of multi-stakeholder development process for the fisheries management plan (PAP) for Menabe Region in collaboration with USAID Hay Tao;
- Initiation of grants to support marine value chains; and
- Training in fish product processing (smoking) for women in southern Menabe.

MAMABAY

MaMaBay is an epicenter of biodiversity and includes the largest intact stands of medium- and low-lying forests, the largest diversity of lemurs, half of Madagascar's remaining coastal forest and a quarter of its lowland forest, coral reefs, mangroves, and wetlands. During FY20, USAID Mikajy worked in 26 communes in MaMaBay, including eight where activities had been initiated already and 18 new communes (see Figure 2).

FIGURE 2: USAID MIKAJY AREAS OF INTERVENTION IN MAMABAY



MaMaBay achievements **in terrestrial landscapes** during FY20 include:

- Support to METT evaluations for Makira and Masoala which demonstrated improved management efficiency compared to FY19;
- Creation of three TGRNs in the District of Maroantsetra;
- Evaluations of five COBAs around Masoala NP;
- Restoration of 384 ha of degraded habitat (184 ha in Makira and 200 ha in Masoala);
- Achievement of Rainforest Alliance certification and introduction to organic certification for six vanilla cooperatives working with the RAMEX, benefitting 1,655 farmers;
- Generated $163,529 in value of sales for nine Mikajy-supported vanilla cooperatives;
- Creation of four new vanilla cooperatives;
- Adoption of a sustainable financing mechanism between the Miray cooperative and the COBAs;
- Development of a partnership agreement with District Risk and Disaster Management Committee (CDGRC) to revitalize and build the capacity of local risk and disaster management committees to increase community resilience;
- Integration of resource rights and tenure into the SACs and *dinas* of Andapa, Antalaha; and Maroantsetra,
- Support for the development of a PLOF and establishment of a Land Tenure Office in the Voloina Commune;
- Organizational self-assessments and training for COBAs and COBA platforms in Antalaha, Andapa, and Maroantsetra; and
- Training to COBAs on environmental crime reporting techniques.

Achievements for marine and coastal areas include:

- Initiation of eight new LMMAs in the Bay of Antongil and training of 38 members of 27 LMMAs.

- Support to participatory ecological monitoring of three marine parcels around Masoala NP on coral bleaching, phanerogams, mangroves and sea birds.
- Development of a strategy for settling disputes between traditional fishermen and industrial fishermen around Antongil Bay; and
- Validation of the Antongil Bay Dina Be by 15 communes and awareness-raising concerning the Antongil Bay Fishery Management Plan at six sites.

Fiscal Year 2020 (Year 2) Impacts

Nature

727,363 hectares under improved management, and **551,049 hectares** with improved biophysical conditions.

10,833 person days of patrolling covering a total distance **of 24,662** kilometers.

Action

24,998 people participated in planning, management and enforcement for improved natural resource management
1,073 people with secure tenure right to land

Synergy

Six Memoranda of Understanding signed and under implementation with private, public and non-governmental partners

Wealth

Supported **$204,044** worth of sales of conservation- friendly products and leveraged **$139,128** of private sector investment

Power

5,728 people trained in sustainable natural resource management and/or biodiversity conservation
6,123 people using climate information or implementing risk-reducing actions to improve

1.0 STRATEGIC APPROACH 1: WORK WITH COMMUNITIES, NGOS, AND GOVERNMENT TO IMPROVE PROTECTED AREA AND NATURAL RESOURCE MANAGEMENT

Strategic Approach 1 posits that if knowledge, skills and abilities are improved among target actors for natural resource management (NRM), coordination and planning are enhanced, and information is more readily available and used for decision making, then stakeholders will adopt conservation-friendly practices and conditions will be in place for NRM to be successful, thus reducing key threats to biodiversity.

1.1 ACHIEVEMENTS

Key Result 1: Target Actors have Improved capacity for NRM and PA Management to Support Conservation

Protected area management effectiveness evaluations

During FY20, USAID Mikajy supported management effectiveness assessments for six protected areas in both landscapes (Masoala, Makira, Menabe Antimena, Ambondrobe, Allée des Baobabs, and Kirindy Mitea). The Management Effectiveness Tracking Tool (METT) assessment is used to measure the level of effort by managers and achievements in implementing the annual protected area action plan. The assessment results helped managers identify actions to be taken to strengthen management. Stakeholders involved in the assessment are comprised of the protected area's (PA's) delegated managers, government representatives, local stakeholders like the community associations with management transfer contracts (COBA) surrounding and within the protected areas, and private sector partners. Assessment scores by protected area are summarized in Table 1 below:

TABLE 1: SUMMARY OF METT EVALUATION RESULTS IN SIX MENABE AND MAMABAY PROTECTED AREAS

Protected Area	Manager	METT 2019	METT 2020	Change
Menabe Landscape				
Menabe Antimena	Fanamby Association (Fanamby)	47.80%	54%	+6.20%
Ambondrobe	Durrell Wildlife Conservation Trust (Durrell)	No METT conducted	55%	n/a
Allée des Baobabs	Fanamby	69.30%	62.38%	-6.92%
Kirindy Mitea	Madagascar National Parks (MNP)	73.01%	73.17%	+0.16%
MaMaBay Landscape				
Makira	WCS	78.38%	69.00%	+9.38%
Masoala	MNP	74.56%	78.94%	+4.44%

Except for the Allée des Baobabs, all other protected areas saw an increase in their FY20 METT score. The decrease in management effectiveness at the Allée des Baobabs is explained by the fact that the delegated management authority (Fanamby) directed more resources in FY20 towards addressing fires and other pressures in Menabe Antimena protected area. Given the seriousness of fires and forest clearing in and around the Menabe Antimena, USAID Mikajy worked with the managers of the protected area (Fanamby and the DREDD), in collaboration with conservation actors Durrell, WWF and the *Centre National de Formation, d'Etude et de Recherche en Environnement et Foresterie* (CNFEREF) to strengthen patrols and surveillance, improve firefighting techniques and strategies, and advance co-management of the protected area. USAID Mikajy's support contributed to a 6% improvement in the management effectiveness scores of Menabe Antimena. USAID Mikajy support also contributed to improved METT scores for both Makira and Masoala protected areas.

Protected area management plan updates

It was not possible to make progress on the updates to the protected area management plans (PAGs) planned in FY20 because the guide for the development and updating of the PAG supported by USAID Hay Tao had not yet been validated by MEDD. The updates of the PAGs of Masoala, Makira, Menabe Antimena, Ambondrobe, and Allée de Baobabs will begin in Q1 of FY21, as soon as the PAG update guide has been validated by MEDD.

Evaluations of community managed areas

In terms of evaluating community-managed areas, during FY20 in the MaMaBay Landscape, USAID Mikajy supported the evaluation of ten natural resource management transfers (TGRNs) around Masoala National Park: five in the Maroantsetra district were evaluated by the DREDD Analanjirofo team and five in the Antalaha district were evaluated by the DREDD SAVA team (see Tables 2 and 3 below). Currently each DREDD uses a different evaluation approach. This will be addressed with the MEDD approved TGRN evaluation tool currently undergoing testing and development with support from Hay Tao.

TABLE 2: RESULTS OF THE TGRN/COBA EVALUATIONS IN MASOALA NATIONAL PARK: MAROANTSETRA DISTRICT

Principles	COBA Mamy Rano Anjinjakoho	COBA Ambonivato Miray Ambanizana	COBA Tsara Vohitra Rantabe-Ambanizana	COBA TSARA ALA Nandrahanana	COBA ALA MAITSO Iharaka
Community life	8.89	11.00	10.64	11.60	12.22
Respect/use of NRM tools	21.54	24.75	33,81	34.35	32.70
Conservation/management of NRM	10.50	8.45	5.00	5.00	5.00
Socio-economic impacts	12.50	8.75	5.00	5.00	5.00
Score/20	**8.91**	**8.83**	**9.08**	**9.33**	**9.15**

TABLE 3: SUMMARY OF THE RESULTS OF THE TGRN/COBA EVALUATIONS IN MASOALA NATIONAL PARK: ANTALAHA DISTRICT

Principles	COBA Vonona Manakambahiny	COBA Tsinjolavitra Ampoankafo	COBA Firasabe Anjanazana	COBA Akanga Miaradia Fampotabe	COBA Ravinala Ankotsoko
Community life	7.50	10.00	10.17	5.50	4.80
Respect/use of NRM management tools	2.50	5.00	6.65	5.10	3.80
Socio-economic impacts	2.50	2.00	1.65	5.00	1.90
Score/20	**4.50**	**6.00**	**6.35**	**5.20**	**3.50**

In the Menabe Landscape, four TGRNs were evaluated in collaboration with the DREDD Menabe and Fanamby, (see Table 4 below).

TABLE 4: SUMMARY OF THE RESULTS OF THE TGRN/COBA EVALUATIONS IN MENABE ANTIMENA PA

Themes	Max Score	*FASM (Beroboka)*	Mahavelo (*Lambokely*)	Lovanay (*Kiboy*)	Mamelombahoaka (*Tsianaloky*)
Community life	20	13.5	12	14.5	14
Contract compliance	20	12	6.5	10.5	10.5
Compliance with specifications	20	12	7.5	9.5	9.5
Respect for multiple use area	20	12.5	12	13	12
Respect for conservation area	20	12	9	11	11
Respect for cultivation zone	20	13	9	11	11
Respect for reforestation zone	20	11	5	7	9
Socio-economic impacts	20	11	11	14	14
Average	**20**	**12.13**	**9.00**	**11.31**	**11.38**

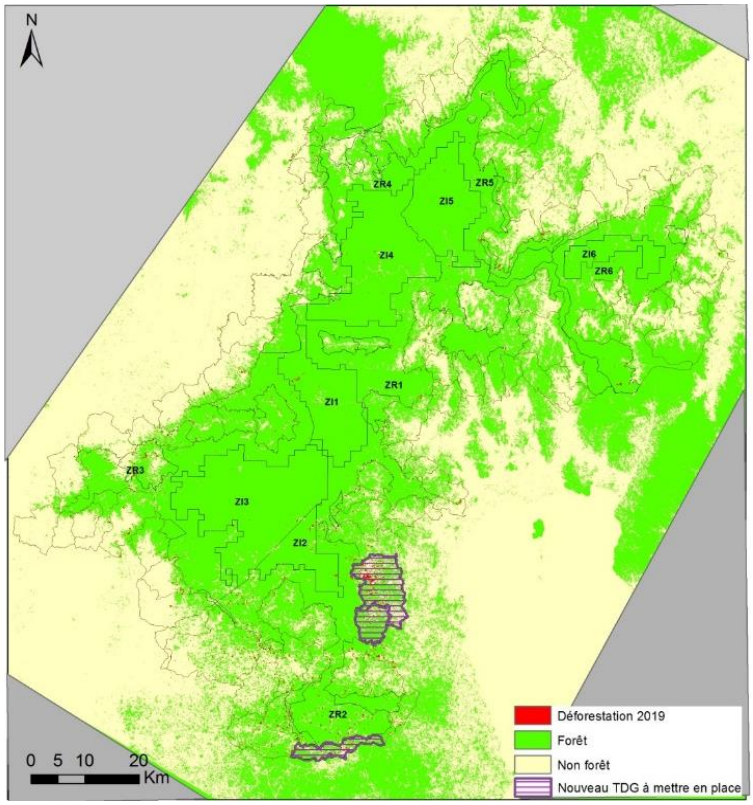
Based on the results of these assessments, the COBAs will be supported to revise their management plans and will be provided with management tools such as a cash journal, copy of *dina*, logging permit log and report templates.

Establishment of new community managed areas

During FY20, the creation of eight new locally managed marine areas (LMMAs) were initiated in the Bay of Antongil (in Ambanizana, Nandrahanana, Rantabe, Andakatombaka, Antanambao-Anandrivola, Anoromby, Fontsimaro, and Mahasoa). Their officialization is planned for Q1 of FY21. USAID Mikajy also trained 38 members from 27 LMMAs in the Bay of Antongil on the rules of marine resource management and the attributions of the LMMAs in resource management. The strengthening of the management capacity of the offices of the Monitoring and Surveillance Committee will be continued during FY21.

In Menabe, in order to strengthen community participation in the governance of the Ambondrobe Lake and Forest Complex Protected Area and the Ambondrobe Ramsar site, USAID Mikajy supported the process of creating three TGRNs surrounding the protected areas (in the villages of Andimaky-Manambolo, Belobaka and Aboalimena). Interventions initially focused on the first stage of the TGRN implementation process, including information collection and awareness meetings in each village. Subsequently, Durrell and DREDD proceeded with the structuring of the COBA and management committees for each TGRN. In total, 81 people participated in meetings to structure the associations, 80 participated in meetings for delimitation and zoning of the forest areas and 48 people participated in meetings to develop the community forest management plan. The establishment of COBAs led to the formalization of a structure capable of managing natural resources in a sustainable manner. The development of management tools and plans for each TGRN are the next steps planned for FY21.

FIGURE 3: MAP OF THREE NEW TGRN AROUND MAKIRA



In MaMaBay, USAID Mikajy supported the creation of three TGRNs in the District of Maroantsetra located in the Communes of Mariarano (Tanambao Nandranasana), Voloina (Sahamalaza) and Morafeno (Sahamanganana). The formalization of the three TGRNs and strengthening of COBA management capacity is planned for Q1 of FY21.

Participatory ecological monitoring (PEM)

During FY20, USAID Mikajy initiated PEM in MaMaBay to assess the status of biodiversity and the biophysical conditions of resources in the MaMaBay Landscape, specifically in Masoala and Makira PAs and in the TGRNs. PEM committees were established at the COBA level, and a series of trainings were conducted to ensure the rigorous collection of biodiversity data. Forty-two Park Management Agents (AGPs) and sector chiefs from Masoala Natural Park were trained on PEM through a training of trainers approach so that they could conduct cascade training of PEM committee members among the COBAs surrounding Makira. The cascade training was conducted in Andapa by Sector 4 and 5 AGPs and sector chiefs for the COBAs of the Districts of Andapa Befandriana Nord.

In addition, marine ecological monitoring was conducted at three Masoala marine parks (Tanjona, Masoala, and Tampolo) over a total area of 11,000 hectares. The data collected was compared to the results from previous years to understand trends in fishery resources and marine biodiversity. Results revealed a reduction in the bleaching rate of reefs and corals, and growth of mangrove species in the coastal area of Andomoka and an increase in seagrass cover compared to FY19.

In Menabe, USAID Mikajy grantee Voahary conducted PEM across 100 hectares (ha) of dry forests in

Lambokely and Beroboka Nord core protected zone of Menabe Antimena PA where passive restoration efforts were underway. Twelve members of the Lambokely community benefited from training on ecological monitoring and regeneration measurement techniques in the protected areas' observation plots.

Menabe fisheries management plan

Finally, for the development of the Fisheries Management Plan (PAP) in Menabe, a PAP working group led by the Regional Directorate of Agriculture, Farming, and Fisheries (DRAEP) was set up in Menabe to support the development of the PAP road map. The committee is composed of Ministry of Agriculture and Animal Husbandry (MAEP), DRAEP, USAID Hay Tao, USAID Mikajy, WWF, Blue Ventures, CRGIZC, and MIHARI. Because of restrictions due to COVID-19, the PAP development process was postponed until the beginning of FY21.

Key Result (KR) 2: Improved coordination and engagement among/by target actors

In general, the activities under this KR are related to implementing training and/or plans that were conducted or developed under the previous KR (KR1).

Community Patrols

In Menabe, community patrol activities in Menabe Antimena and Ambondrobe were conducted through a grant to Durrell. The patrols began in the second quarter of FY20 in Menabe Antimena where they have been using the Spatial Monitoring and Reporting Tool (SMART) approach since August 2018, following training and provision of equipment by USAID Mikajy. A summary of the recorded infractions is provided in Figure 4.

Caption: KMMFA agents from Lambokely village, Menabe

SMART, a suite of best practices and a powerful software application aimed at helping protected area and wildlife managers in terrestrial and marine ecosystems to better monitor, evaluate and adaptively manage patrolling activities. SMART helps to improve anti-poaching efforts and the overall effectiveness of law enforcement by supporting the collection, storage, communication and evaluation of data on patrol efforts (e.g. time spent on patrol, areas visited, and distances covered), patrol results (e.g. traps destroyed, arrests made) and threat levels.

The SMART patrol data was used to identify infraction hot spots, and joint missions were then organized with local authorities, law enforcement officers, DREDD, and grantees Durrell and Fanamby. In addition, information from SMART patrols is now shared systematically with local authorities, and the

DREDD has organized follow-up awareness meetings with local villagers in high crime rate areas.

IMPACT
2,018 people applied improved conservation law enforcement practices during FY20 as a result of assistance from USAID Mikajy

Menabe Antimena

As in FY19, illegal logging, fires, and land clearing were the main problems for Menabe Antimena, especially during Q2 and Q3 (see Figures 4 and 5 below).

Based on patrolling reports, infractions appear to be concentrated mainly in the community managed TGRN zones where forests have been largely cleared over the last 15 years since the TGRNs were established. There are also significant pressures encroaching into the core protected zone detected by the patrols, which is increasingly fragmented, creating real risks of extinction for an exceptional number of species that are endemic to this remaining patch of forest in Madagascar. These include the smallest primate in the world—Berthe's mouse lemur Microcebus berthae, the giant jumping rat (*Hypogeomys Antimena*), the flat-tailed tortoises (*Pyxis planicauda*), and the narrow-striped mongoose (*Mungotictis decemlineata*).

FIGURE 4: PRESSURES OBSERVED BY QUARTER IN MENABE ANTIMENA

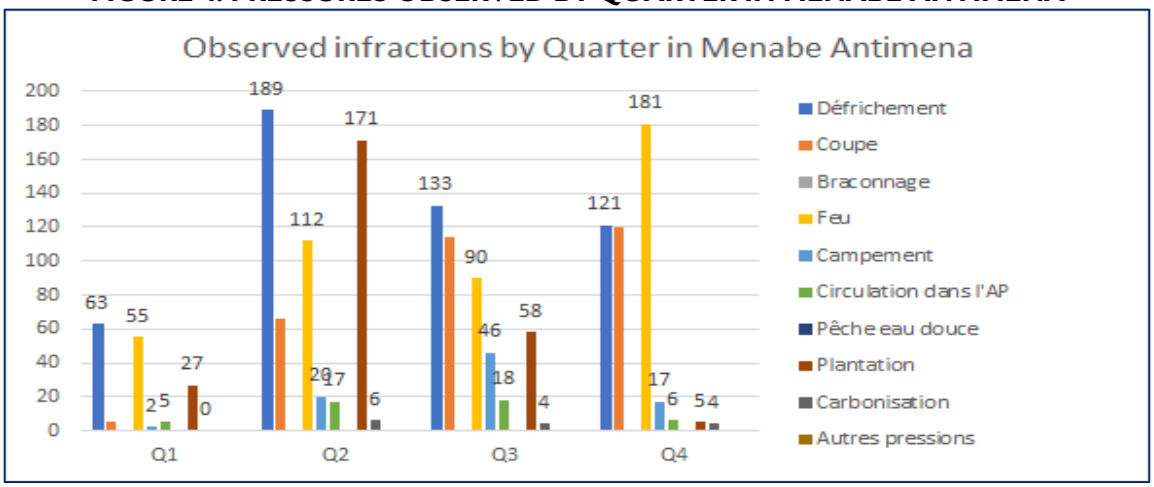
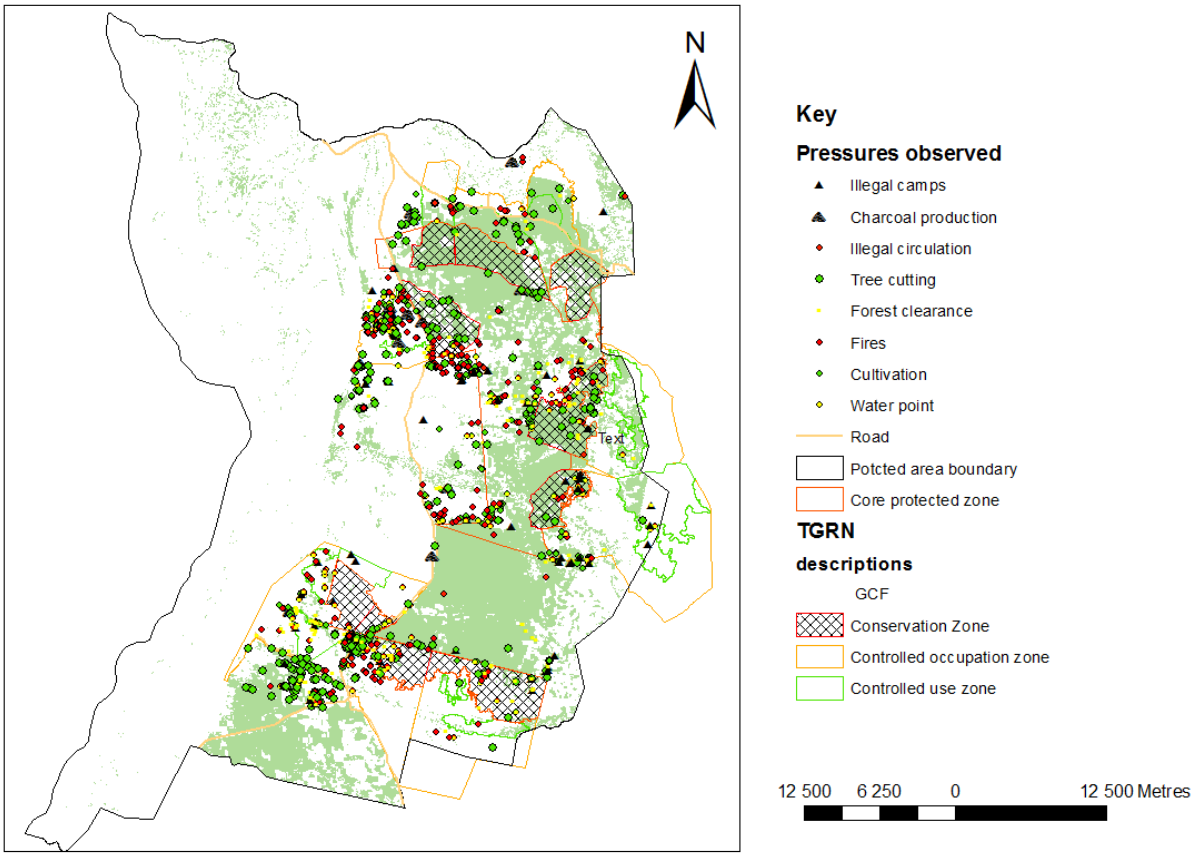


FIGURE 5: SPATIAL DISTRIBUTION OF PRESSURES OBSERVED IN MENABE ANTIMENA

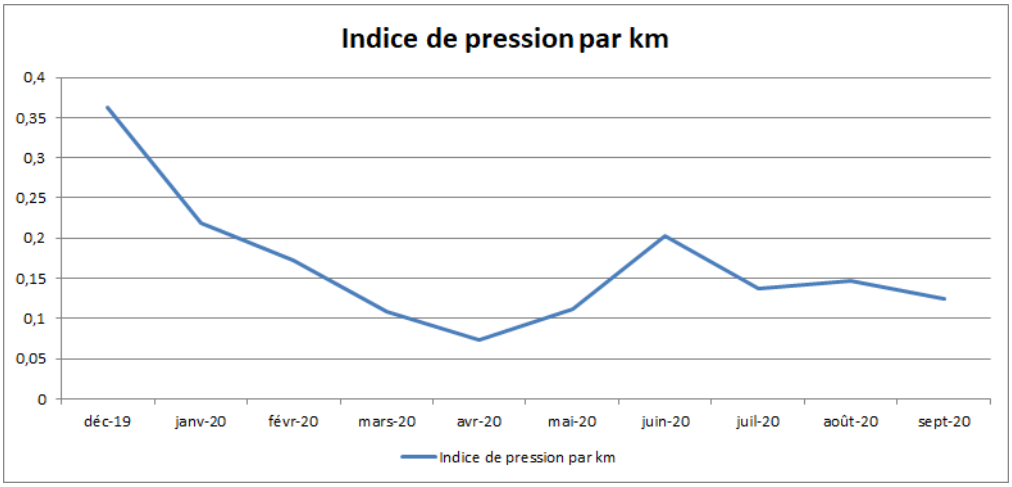


The significant level of patrolling conducted this year in Menabe involving 5,921 person days and covering 10,268 km is an important way to both monitor and deter pressures. Despite an increase in the rate of pressures observed in June, there has been an overall trend of reduction in pressures over the year, down from 0.36/km in December 2019 to 0.13/km in Sept 2020 (see Table 5 below).

TABLE 5: MENABE ANTIMENA PATROL EFFORTS IN FY20

	dec-19	jan-20	feb-20	mar-20	apr-20	may-20	june-20	july-20	aug-20	sept-20	total
# of person days	178	356	547	559	552	725	667	777	774	786	5,921
Distance covered (km)	433	761	1,205	1,110	1,005	1,177	1,181	1,210	1,004	1,183	10,268
# of infractions reported	157	166	208	120	74	131	240	167	139	148	1550
Infraction index per km	0.36	0.22	0.17	0.11	0.07	0.11	0.20	0.14	0.14	0.13	0.15

FIGURE 6: MONTHLY CHANGE IN RATE OF INFRACTIONS OBSERVED IN MENABE ANTIMENA



Ambondrobe

In Ambondrobe, although fewer infractions have been observed and reported, the situation is still worrying, particularly the higher level of illegal cutting and poaching. Fewer cases of land clearing have been recorded since this forest is not an established cultivation area. Ambondrobe also shows an overall reduction in the rate of infractions observed over the year from a high of 0.40/km in May to 0.12/km in September 2020 (see Table 6). Since SMART was not implemented in Ambondrobe until March 2020, the data for this PA are provided from Q2. In order to reduce these pressures, USAID Mikajy has supported increased patrolling intensity and also the establishment of three TGRNs (in addition to one evaluated and renewed by Durrell with other funding, making four in total covering all the forest area of Ambondrobe) and awareness raising sessions have been held with the local population.

TABLE 6: AMBONDROBE PATROL EFFORT IN FY20

	dec-19	jan-20	febr-20	mar-20	apr-20	may-20	jun-20	jul-20	aug-20	sept-20	Total
# of person days	45	108	94	177	206	202	236	293	328	297	1986
Distance covered (km)	N/A	N/A	N/A	200	200	115	253	248	286	309	1610
# of infractions reported	2	11	13	59	68	47	60	68	34	38	400
Infraction index per km	N/A	N/A	N/A	0.29	0.34	0.40	0.23	0.27	0.11	0.12	0.24

FIGURE 7: TYPES OF INFRACTIONS OBSERVED BY QUARTER IN AMBONDROBE

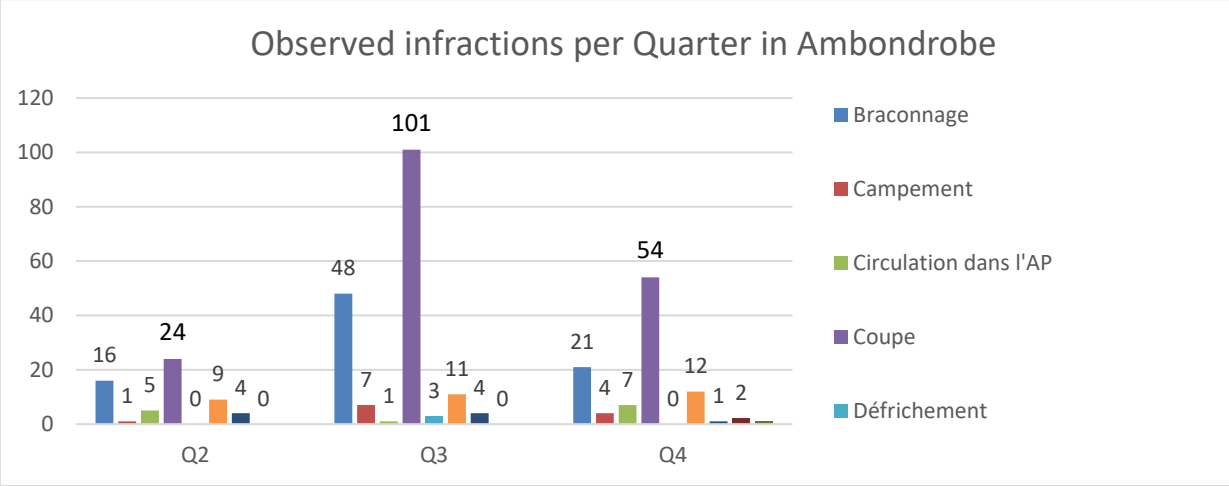
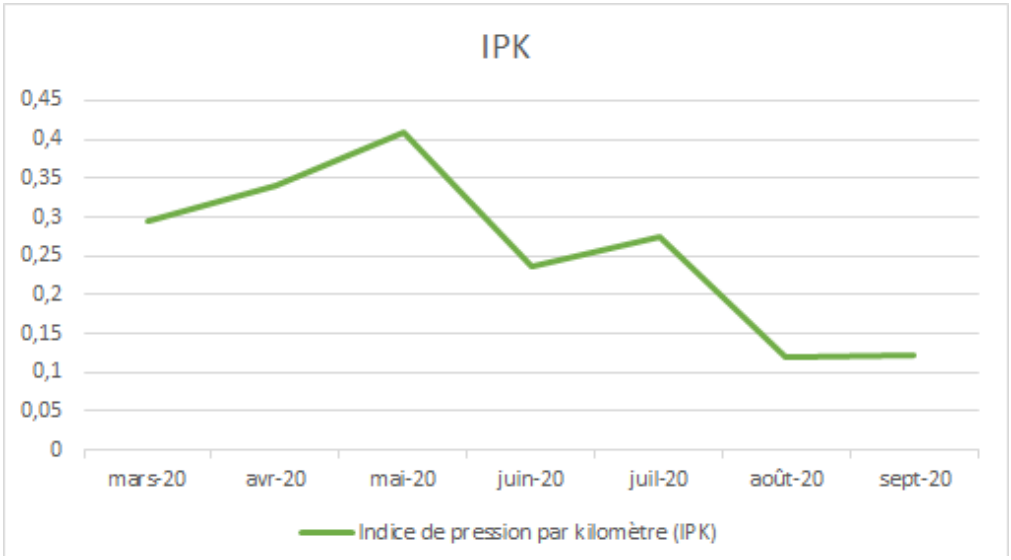


FIGURE 8: MONTHLY CHANGE IN RATE OF INFRACTIONS OBSERVED IN AMBONDROBE



Masoala

The pressures on Masoala PA are clearly lower than those observed in the Menabe protected areas, with an average of 0.03 infractions observed/km. The main pressures in Masoala are illegal logging and to a lesser extent poaching of wildlife, mostly lemur traps set to catch food, and illegal cultivation and camps in the protected area.

TABLE 7: MASOALA PATROL EFFORT IN FY20

	mar-20	apr-20	may-20	june-20	july-20	aug-20	sept-20	Total
# of person days	245	218	188	185	216	172	234	1458
Distance covered (km)	620	705	614	557	778	591	889	4753
# of infractions reported	22	20	30	49	25	19	18	183
Infraction index per km	0.004	0.003	0.006	0.008	0.004	0.003	0.003	0.031

FIGURE 9: TYPES OF PRESSURES OBSERVED BY QUARTER IN MASOALA

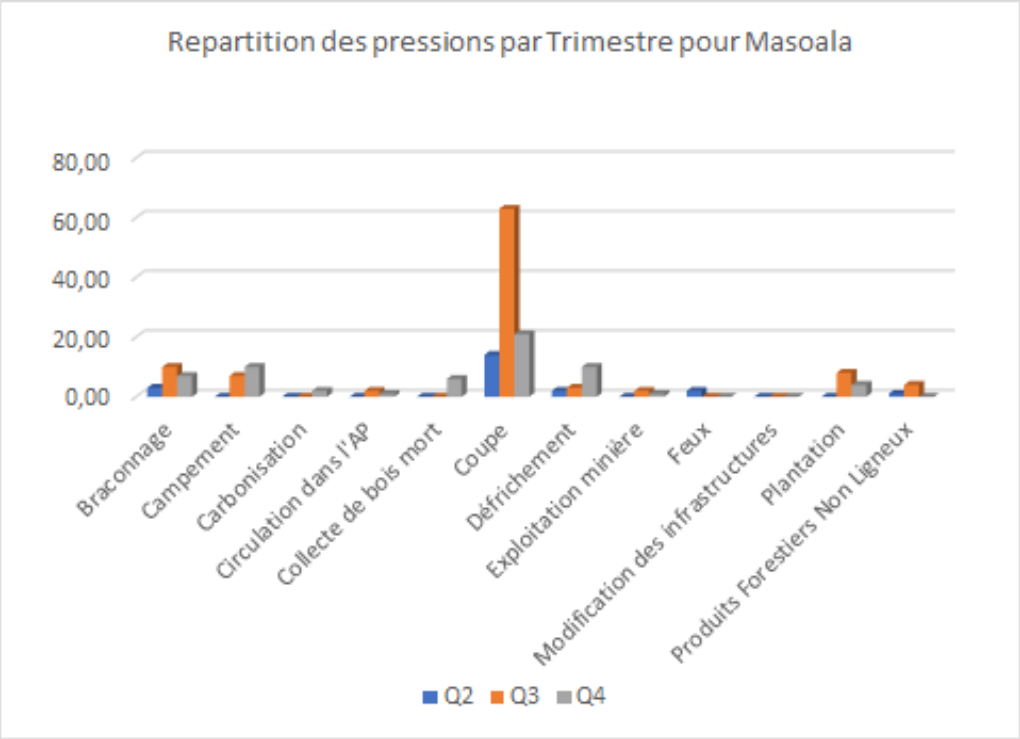
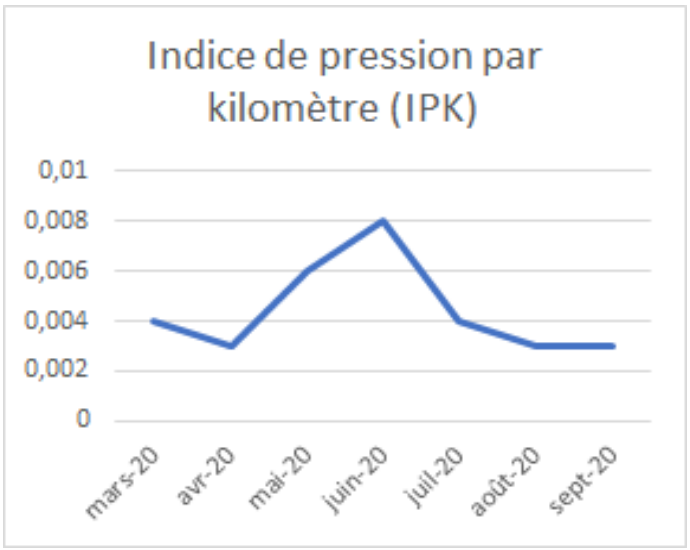


FIGURE 10: MONTHLY CHANGE IN RATE OF PRESSURES OBSERVED IN MASOALA



Makira

The rate of pressures observed in Makira is significantly higher than those in Masoala, ranging from 0.03 to 0.06/km, but also much lower than observed in the Menabe protected areas. Results also show a similar downward trend through the year, despite an increase in May. The main pressures observed were illegal logging, deforestation, cultivation, camps and circulation in the protected area, with collection of non-timber forest products and lemur traps also quite frequently observed.

TABLE 8: MAKIRA PATROL EFFORTS IN FY20

Patrol data	oct-19	nov-19	dec-19	jan-20	febr-20	mar-20	apr-20	may-20	jun-20	jul-20	aug-20	sept-20	Total
# of person days	87	94	90	84	124	105	136	182	131	126	129	180	1468
Distance covered (km)	564	561	517	444	697	611	636	896	673	580	602	891	7671
# of infractions reported	444	392	274	219	349	326	309	494	220	231	191	248	3697
Infraction index per km	0,056	0,05	0,034	0,027	0,044	0,041	0,039	0,063	0,028	0,03	0,024	0,032	0.468

FIGURE 11: PRESSURES OBSERVED BY QUARTER IN MAKIRA

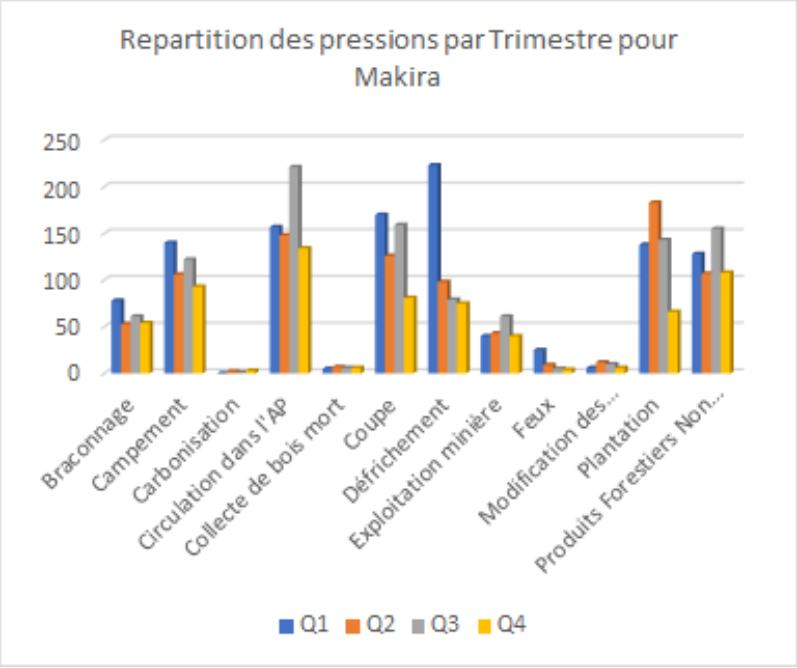


FIGURE 12: MONTHLY CHANGE IN RATE OF INFRACTIONS OBSERVED IN MAKIRA

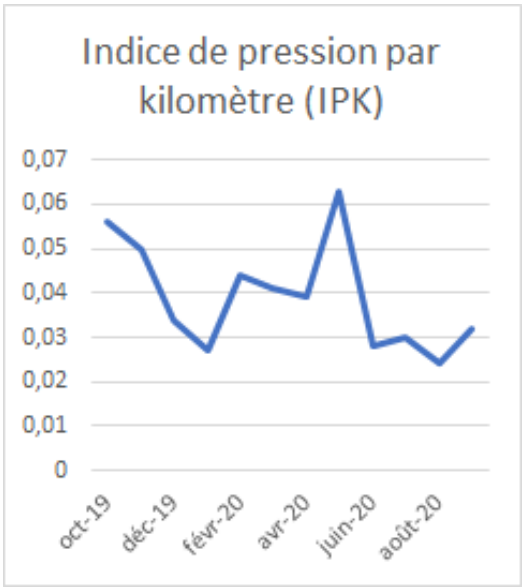
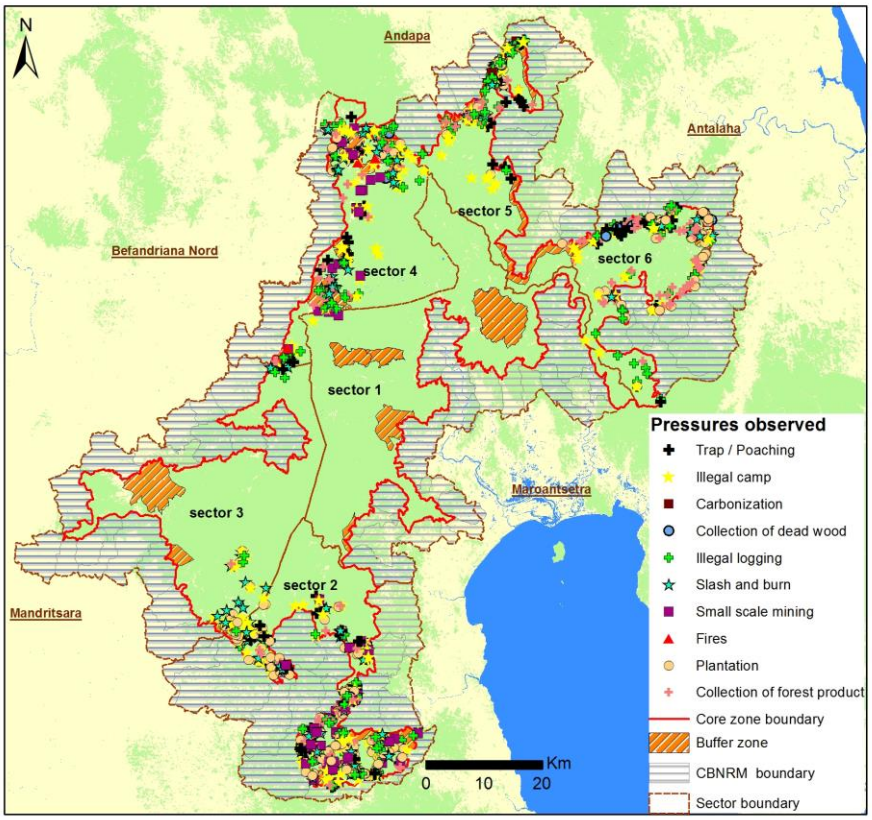


FIGURE 13: MAP OF PRESSURE DISTRIBUTION IN MAKIRA IN MIKAJY'S FOUR INTERVENTION SECTORS (SECTOR 2: EXTREME SOUTH, SECTOR 4, 5, AND 6: NORTH ZONE OF THE PARK).



Joint Patrols

In MaMaBay, USAID Mikajy supported the adoption of the SMART approach in November 2019 and from January 2020, WCS (the Makira PA manager) started using the data to submit a monthly infraction report to the forest administration (DREDD and CEF) as a basis for the organization of joint patrols with the forest administration which are the only means to ensure prosecution. The SMART data is used to inform the planning for the joint patrols which are designed to investigate infractions with known perpetrators identified by the community patrollers. Twenty joint patrols were conducted in MaMaBay, of which 16 were in Makira Natural Park, two in Makira TGRN and two in Masoala, leading to 39 environmental crimes being reported to the justice system (32 for Makira Park, five for Makira TGRN and two for Masoala). For example, three people were caught clearing forest in Makira NP during a joint patrol mission carried in the Andranomadio valley of Lohan'Androaka, Andrakata Commune, Andapa District, and transferred to the court in Antalaha on July 30, 2020 and then sentenced to three months imprisonment on September 7, 2020. Also, in August 2020, a joint patrol mission to investigate reports of illegal mining at Nanoharana in Makira NP in the Commune of Androndrona, District of Maroantsetra found ten miners, of which four were referred to the Maroantsetra court and six others fled.

In Menabe, seven joint patrols were conducted, which led to the official recording and reporting of 11 environmental crimes. Due to COVID-19 measures, only one joint patrol was carried out with the DREDD, COBA, Committee for the Protection and Surveillance of the Protected Area Komity Mpiaro sy Mpanara-maso ny Faritra Arovana - KMMFA, Fanamby, Commune and Fokontany authorities and

Durrell on April 30, 2020. Four abandoned camps and two illegal forest clearances were found in the Lambokely-Antanandava area of Menabe Antimena PA and transferred to the justice system. In addition, the CEF of Belo-sur-Tsiribihina made six joint patrols with Voahary and the village monitoring committee members between June to September, which resulted in seven cases in the Lambokely area of Menabe Antimena PA (four fires and 41 logs of illegal high-quality timber) being verbalized and reported to the DREDD.

In relation to the application of the law and management rules of protected areas in Menabe, independently of direct support from USAID Mikajy, the DREDD Menabe verbalized and prosecuted 44 observed infractions committed by 22 delinquents in the core protected zone of Menabe Antimena protected area (CNFEREF concession, Andranomena Special Reserve). All of these offenses which involved land clearing followed by incineration, fires, and charcoal production were transferred to the court and all 22 of the offenders were imprisoned.

In both MaMaBay and Menabe, a total of 39 prosecutions were made with direct support from Mikajy out of 360 infractions with a known perpetrator identified by SMART patrols supported by Mikajy (10.83%)

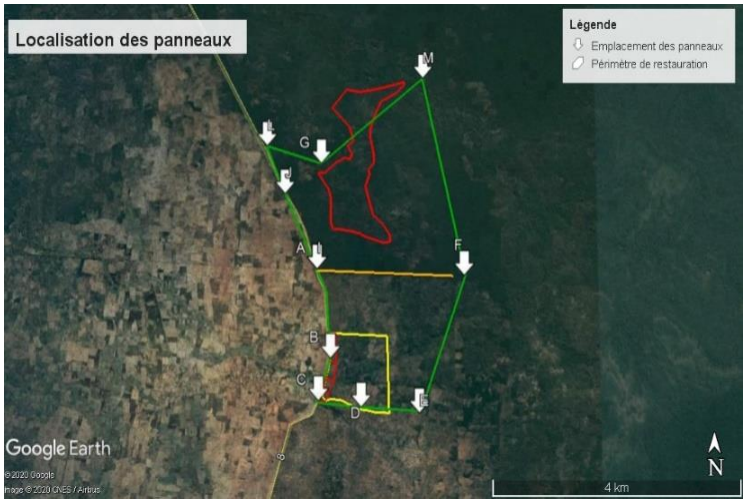
Updates to agreements for community occupation and use zones in Masoala and Makira

In Masoala and Makira, agreements for controlled occupation zones (ZOC) and sustainable use zones (ZUC) in both PAs need to be renewed annually. During FY20, meetings were held to discuss and clarify the process for the update with stakeholders including the Analanjirofo and SAVA DREDDs, CEFs, PA managers (MNP and WCS), Committee for the Monitoring of the Protected Area (COSAP) representatives, COBA representatives, mayors, and the Maroantsetra Topography and Domains Service. The process and the framework for the charter of responsibilities for the Makira and Masoala parks' ZOCs and ZUCs were validated with the forestry administration. USAID Mikajy supported the Masoala PA managers to identify 176 users of the Marofototra and Ankazofotsy ZOCs and ZUCs to date (Ambanizana Commune). Stakeholder consultation and finalization of the charter of responsibilities for each unit of ZOC/ZUC will be continued for FY21

Active and passive forest restoration

Madagascar is participating in the initiative for the restoration of 100 million of forest landscapes in Africa (AFR100) with an initial commitment of four million hectares by 2030. Madagascar is meeting its commitment through a series of activities including protected area system maintenance, REDD+ programs and a target of 40,000 hectares (ha) of reforestation per year.

FIGURE 14: RESTORATION AREAS IN THE LAMBOKELY BEROBOKA CORE PROTECTED ZONE OF THE MENABE ANTIMENA PA: ACTIVE



During FY20, USAID Mikajy,in collaboration with PA managers, grantees local communities and DREDDs, was able to achieve 504 ha of active and passive restoration, including 484 ha in MaMaBay and 20 ha in Menabe (see details in Table 9 below and Annex VI).

TABLE 9: RESTORATION EFFORTS SUPPORTED BY USAID MIKAJY IN FY20

Zone	FY20 Achievement
MaMaBay Landscape	484 hectares
Makira	174 ha
Masoala Marine	10 ha
Masoala Terrestrial	300 ha
Menabe Landscape	19.85 hectares
Menabe Antimena PA (Terrestrial)	11.15
Menabe Antimena TGRNs	6.29
Menabe Antimena LMMAs	2.41
TOTAL	**504 hectares**

In MaMaBay, restoration in Makira led by WCS focused on two forest bridges aimed at strengthening ecosystem connectivity and genetic exchange in the park. 93,610 young plants were planted in an area of 184 ha, including a formerly deforested savoka degraded area in the forest bridge of Lokaitra, Morafeno Commune, and an area in the forest bridge of Vohitaly, Antsirabe Sahantany Commune.

Restoration in Masoala led by MNP totaled 300 ha including degraded habitat in Andravimbe Sahavary in the Mahalevona sector of Masoala with 20,000 seedlings planted and the participation of 175 people; 200 ha of degraded areas in Andranoanala detached parcel of the Park in the Ambohitralanana sector Masoala with 100,000 young plants planted and the participation of 798 people; 10 ha of mangroves in Antsabobe in the Ampanavoana sector of Masoala with 10,000 propagules and the participation of 147 people; 40 ha in Sahavary and 50 ha delimited and secured for passive restoration of formerly cleared areas spread over six plots in Marofototra in the Ambanizana sector of Masoala to assist the natural regeneration of the forest.

In Menabe, USAID Mikajy supported the restoration of 19.85 ha, which was less than originally planned. This was in part due to the delay in starting the Voahary and Kew Madagascar Conservation Centre (KMCC) grants, which delayed the production of seedlings. Voahary was able to complete 11.15 ha active restoration and 100 ha passive restoration of the core protected zone in the Menabe Antimena PA near Lambokely with 13,750 seedlings of indigenous species planted by 621 community members. Voahary also raised awareness of community members in eight villages on the importance of restoration (371 people in Lambokely, Tanambao, Mahasoa, Tanambazaha, Ampihamy, Tanandava, Beroboka Nord, and Belamoty).

Due to the limited season when rainfall is sufficient for planting, KMCC only planted 6.85 ha ha of restoration of the core protected zone, and 1.85 ha in peripheral zones (in addition to 66.7 ha of agroforestry which is not counted in our restoration data). However, Kew was able to produce 22,435 seedlings in eight community nurseries working with the youth association Fo Sarotiny amin'ny Ala (FOSA). In addition, 100 ha of cleared areas in the core zone have also been identified and secured for passive restoration. To ensure the long-term monitoring of these restoration efforts, a local restoration monitoring committee was created at the community level. A series of photographs from documenting the different phases of restoration in Menabe Antimena are provided in Annex IV.

KMCC also provided training on forest restoration and agroforestry techniques (classroom training and field practice) for 400 households in the eight villages surrounding Menabe Antimena. A technical sheet was distributed to provide a reminder of the techniques covered during the training. Training was also provided on composting to support the agroforestry. After these training sessions, 8.2 ha were planted in each village out of the planned 10 hectares with agroforestry involving moringa, banana, mango, manioc, sweet potato, maize, mungo bean, blackeyed peas, and citrus.

Marine ecological monitoring

Marine ecological monitoring was conducted in the three marine parcels of Masoala National Park (Tanjona, Masoala, Tampolo) to assess the level of coral reef bleaching, and the diversity of phanerogams and seabirds. Coral bleaching monitoring showed a reduction of 3% from 2018 to 2019 and 1% from 2019 to 2020. Overall, monitoring results show an improvement in reef health in Masoala, due in part to increased marine patrols (which help to deter illegal activities) supported by USAID Mikajy. Seagrass beds are an important habitat for reef fish, so improving seagrass health is likely to lead to an increase in fish populations. The results of the FY20 monitoring for Masoala and Marofototra indicate an increase in seagrass cover compared to FY19, in part due to increased marine patrols. Seabird monitoring results indicate that Andomboka was the most diverse of the three sites compared to Ambodilaitry and Marofototra. These three sites constitute an important refuge for seabirds on the Masoala Peninsula as the mangroves and small islands provide food and serve as nesting sites. The tides, associated with the sandy and muddy lagoons, also attract many endemic and migratory bird species. Data collected during monitoring activities indicate the need for protection of these three marine sites, particularly Nosy Bekaka, Nosy Behentona, and Nosy Nepato, which have been observed as critical habitats for seabirds.

Terrestrial ecological monitoring

The data from the forest ecological monitoring of Makira Natural Park, conducted in intact forest, intermediate forest and disturbed forest, are still being processed. The large amount of data collected from 46 monitoring plots in six representative sites requires further data entry and compilation before analysis. This analysis will enable us to assess the state and structure of the forest in Makira. USAID Mikajy also initiated the recruitment of team leaders and research assistants for monitoring of lemur populations using photographic trapping methods, and necessary planning and trainings have been completed in order to conduct the wildlife ecological monitoring missions in Q1 of FY21.

Ecological monitoring of natural regeneration in the dry forest of the protected core zone of Menabe Antimena PA

Local restoration monitoring committees trained by USAID Mikajy and Voahary conducted regeneration inventories (see image below) in six monitoring plots where restoration activities had taken place. Examining plots 50 x 20 m in size, they found that 90.3% included pioneer species that grow fast including Amaninomby, Kabokala, Mandakolahy, Manitratoraky, Matsaky, Papila, Rifeko, and Ripiky but have low regeneration rates (0.17%). On the other hand, 9.7% of the plots were composed of indigenous and slower growing forest species such as Monongo (Xanthoxylum sp.), Farafatsy (Givotia sp.), Anakaraka (Cordylia sp.) and Arofy (Commiphora sp.).

Caption. Conducting regeneration inventories.
Photo Credit: USAID Mikajy

Firefighting control measures (outreach, preparation and implementation)

As part of fire prevention and control measures implementation for Masoala, USAID Mikajy supported an awareness raising campaign, and the creation of firebreaks, including the following activities:

- Installation of firebreak around the detached parcels of Masoala (20 km);
- Operationalization of fire brigades for each of the Masoala detached parcels;
- Provision of equipment for Masoala fire brigades; and
- Elaboration and dissemination of awareness-raising tools on firefighting.

FIGURE 15: MAP OF MASOALA NATIONAL PARK SHOWING THE DETACHED PARCELS

The implementation of fire prevention and control measures for Masoala National Park was focused in the three detached parcels of the park (see Figure 15), mostly composed of coastal forests that are very vulnerable to fires. The areas are Detached Park I Andranoanala, Detached Park II Andranomainty, Detached Park III Beankora.

A 7.12 km firebreak was cleared for the Andranoanala Detached Park, 7.35 km for the Andranomainty Detached Park II, and 5.30 km for the Beankora Detached Park III. These cleared strips serve as fire protection and demarcate the park the boundary. The 19.77 km of firebreaks in the three sites make it possible to protect 2,980 ha of threatened coastal forest ecosystems. The fire brigades will be operational from September 2020 to March 2021 for the three detached parks of Masoala NP. They will raise awareness of the surrounding population by using posters and flyers on fire prevention and fire control. The awareness raising is done at the start of the fire season (September to January, and sometimes until March). USAID Mikajy also provided 15 plastic drums of 250 liters to the 13 fire brigades of the three detached parks of Masoala NP for which the community fire brigades manage as water tanks installed at strategic points around the detached parks.

In Menabe, Fanamby's actions related to firefighting including awareness raising and the installation of 11 information panels along the main road that transects the protected area (see Figures 16 and 17). These

panels are installed in places near villages at high risk of wildfires.

FIGURE 16: INFORMATION PANELS INSTALLED IN MENABE ANTIMENA

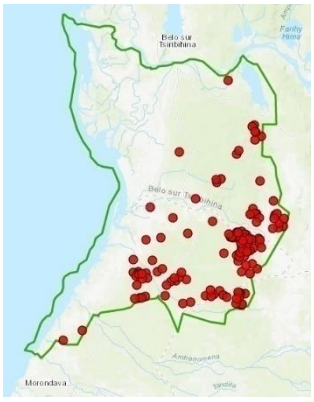
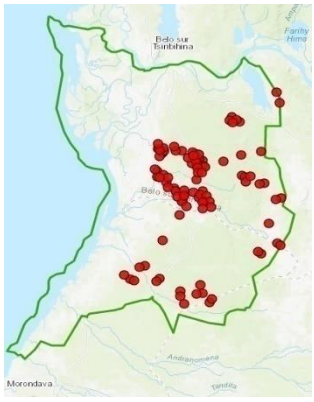
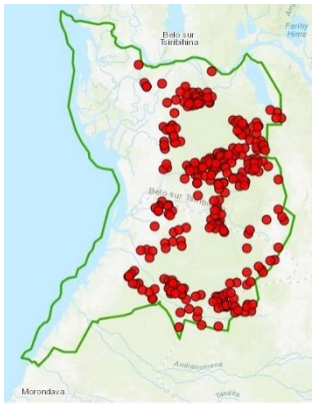
Only two fire alerts were received from the MODIS system for Menabe Antimena in April 2020 and thirteen in May 2020. However, during the month of June 2020, MODIS recorded 65 fires in the protected area, compared to only 25 fires in June 2019. The Visible Infrared Imaging Radiometer System (VIIRS) identified 311 points in June 2020 compared to 84 points in June 2019. This represents a threefold increase in the number of fires for Menabe Antimena between June 2019 and June 2020. The incidents were concentrated on the national road axes (Marofandilia, Kirindy, Berobok,a and Lambokely) and in the east of Menabe Antimena. Fires were also reported in the protected center and in the restored areas supported by Voahary. According to Fanamby, 56 hectares of forest (80% of the area reforested by the DREDD in January 2020) and eight hectares of the area reforested by Voahary were destroyed by fire.

FIGURE 17: INFORMATION PANELS INSTALLED AT FIRE PRESSURE POINTS IN MENABE ANTIMENA

The fire alert analysis for Menabe Antimena shows the area was threatened by fires except during the wet season in Q2 (January/February/March 2020), when MODIS only detected three fire points.

To prevent fires from destroying even more of the Menabe Antimena core protected zone, Fanamby with USAID Miakjy's support, installed 15.2 km of 10 to 12 m wide firebreaks at the main hotspots working with 330 community members (see Figure 18). Fanamby estimates that 11,200 ha of forest will be protected with the installation of these firebreaks. It was noted that two fires reported in the south of Beroboka were blocked by these firebreaks.

FIGURE 18: MAPS OF FIRE POINTS DETECTED BY FIRECAST/MODIS IN MENABE ANTIMENA PA

Oct 19 to Dec 19	Jan 20 to Mar 20	Apr 20 to June 20	July 20 to Sept 20
			
Q1: 129 fire points identified by Firecast/MODIS	**Q2**: 03 fire points identified by Firecast/MODIS	**Q3**: 95 fire points identified by Firecast/MODIS	**Q4**: 318 fire points identified by Firecast/MODIS

Key Result 3: Information for decision making is available and used for NRM

Capacity building for forest cover analysis

USAID Mikajy technicians and protected area manager partners were trained by USAID's Geocenter team on the use and analysis of Google Earth Engine satellite images to track changes in forest cover in the Mikajy landscapes. The skills learned during the training are currently being applied by USAID Mikajy for monitoring deforestation in the MaMaBay Landscape. The 2018–2019 deforestation map for Makira is currently available, as well as the data analyzed on the biophysical condition improvement indicator for Makira Natural Park (see Annex VI for details and maps). This analysis of deforestation in 2018 and 2019 showed a 0.02% decrease in the deforestation rate with an average 0.04% decrease for the four sectors where USAID Mikajy deployed regular patrol missions, including 0.88% increase in the deforestation rate in Sector II (southern part of the park). In the TGRN areas surrounding Makira, the analysis showed a 0.12% decrease in deforestation.

Capacity building for analysis of community patrolling data

To promote information sharing and improved enforcement, a SMART focal point was designated for the primary conservation institutions in the Menabe landscape, including: DREDD, WWF, DURRELL, Fanamby, CNFREF, MNP, USAID Mikajy, and Blue Ventures. To facilitate harmonization, management, data analysis and decision making, SMART data has been centralized at the level of the DREDD who organized meetings of the SMART Focal Points from each institution. To support this coordination, USAID Mikajy provided material support (a laptop) to the DREDD Menabe and plans to provide further materials (desktop computers, smartphones, and powerbanks) in Q1 of FY21.

SMART training for community members in Belo sur Tsiribihina (Collaboration USAID Mikajy/WWF-MTB) Photo Credit: Rivo Lucien ANDRIAFANOMEZANA

Mikajy mobile platform

The Allo Mikajy mobile platform has been upgraded to support field activities. The main themes addressed in Mikajy's activities are now included on the platform, including forests, mangroves, marine and coastal issues, agricultural practices, cooperatives, land tenure and civil society organizations. A total of 52 messages have been prepared on the following themes:

- Allo Ala – for wildlife crime, forest management and reforestation;
- Allo Honko – for mangroves, their restoration, ecosystem services and fisheries;
- Allo Riaka – for the sea, key marine habitats, fisheries and aquaculture;
- Allo Fambolena – for agriculture, agricultural commodities, climate smart agriculture;
- Allo Velontena – for conservation-friendly enterprises and cooperatives;
- Allo Tany – on land rights, land and resource access rights; and
- Allo Tafita – governance, empowerment, dialogues, shared vision.

The messages were developed in consultation with staff from the two regions Menabe and MaMaBay. From now on, by calling the free number 034 44 800 35, anyone can access this information, available in the main dialects of the two regions (Betsimisaraka, Sakalava, Antandroy) and official Malagasy. The platform recorded 87,185 interactions during FY20 with 156,992 key messages listened to, accessed by 57,164 phone numbers.

The most listened message is on gender and inclusion: "*Ny fandrindrana sy ny fiarovana ny harena voa-janahary sy ny faritra arovana dia mitaky fandraisana andraikitra feno ny tsirairay avy na ny lahy, na ny vavy ary ny tanora. Ary zon'ny tsirairay no misitraka ny soa azo avy amin'izay harena voa-janahary izany*" (The management and conservation of natural resources requires everyone's participation; men, women and youth. Everyone has the right to benefit from these resources). The following topics also figured among the messages most listened to (in no specific order): advantages of rainforests, importance of mangroves, conservation farming and cultivation of cloves.

In order to promote the platform, as well as to reach areas where the telephone network is not available, a synergy between radio programs and the Allo Mikajy platform has been developed. A series of seven episodes of radio dramas have been developed that will be broadcast on local radios in both landscapes in FY21. The radio dramas address the themes included on the platform and encourage listeners to call the mobile platform Allo Mikajy to get more information and to denounce environmental crimes using the Mikajy alert system.

Voice messages in the form of a push campaign were also sent this year, targeting specific recipients in both landscapes. Recipients were identified from Mikajy's participants' database. Three push message themes were developed and disseminated, including: i) fire fighting for COBAs, ii) land tenure office for

the Voloina rural commune inhabitants, and iii) denunciation of environmental crimes for commune officials and COBAs.

1.2 CHALLENGES ENCOUNTERED AND SOLUTIONS

- SMART patrol data provides detailed information about the different types of pressures found in the protected areas and can also be used to assess the change in the encounter rates over time. USAID Mikajy believes that the significant increase in community patrolling and SMART data collection has not only helped with monitoring but also helps to deter infractions. The project saw an overall reduction in the rate of infractions observed after SMART patrolling was scaled up. However, the number of infractions prosecuted is not proportional to the high number of infractions observed during patrols. The low number of prosecutions is due in part to the fact that perpetrators are not known or identified for most infractions, and violations by unknown perpetrators are not prosecuted. In addition, there are insufficient follow up missions on the part of the law enforcement officers, and even when the cases are transferred to the courts there are sometimes interventions that reduce or eliminate the penalties. Accordingly, USAID Mikajy plans to encourage the forest service to conduct more joint missions to investigate the findings of the community patrollers, to strengthen awareness campaigns conducted with local authorities, and to strengthen collaboration between park managers and peripheral communities (including COBAs, local park committees, and fire brigades).
- The number of law enforcement officers (OPJs) capable of managing infractions in the parks is insufficient (approximately ten OPJs for the entire MaMaBay landscape). The OPJs at the DREDD level are too far away from the parks and the TGRNs and access is difficult, especially during rainy periods. The solution will be to increase the number of OPJs assigned to the parks and/or in the cantons affected by the parks. They will be added in the list of the OPJs for Leahy vetting for FY21.
- The Allo Mikajy platform is still not very well known by the public. USAID Mikajy will promote the mobile platform especially at the local community level including through radio broadcasts.
- Fires in Menabe Antimena continue to pose a major challenge. USAID Mikajy will scale up efforts by involving the communities and the DREDD more in preparing for, mitigating, and managing fires. After, USAID Mikajy will also provide firefighting equipment to eight villages which are in high risk areas around the hard core of the APMA, so they have the sufficient supplies to fight fires. Finally, USAID Mikajy is planning to support the OPJs of DREDD Menabe in order to sensitize, energize, and mobilize the riparian communities to participate in the active fight against fires (in addition to the roles of the OPJ to conduct general patrols and prosecute environmental crimes).

2.0 STRATEGIC APPROACH 2: SUPPORT COMMUNITY-BASED AND CONSERVATION-FRIENDLY ENTERPRISES AND LIVELIHOODS

Activities under Strategic Approach 2 this year focused on creating conditions for sustainable natural resource use that promotes livelihoods, and reduces the ecological impact of illegal exploitation of natural resources. Actions also focused on the promotion of high-potential and market-oriented value chains (vanilla, cloves, honey, moringa) by linking producers to private enterprises. We also continued efforts to find impact investors committed to building a sustainable environmental future.

2.1 ACHIEVEMENTS

Key Result 1: Conservation friendly private sector investment increased in target areas

In order to support and scale up sustainable vanilla and clove production in the MaMaBay Landscape, USAID Mikajy provided technical support to cooperatives that are partnering with members of the private sector to implement certification processes. These certifications help the cooperatives to secure better prices for their products and more favorable contractual arrangements. The partners McCormick and Ramanandraibe Export (RAMEX) covered the costs of Rainforest Alliance certification for four founding member cooperatives of the AVAMA Union (in the Communes of Ambinanitelo, Voloina, Ankofabe and Mahalevona). This investment was reinforced by also covering the costs of Organic (BIO) certification for all six cooperatives of AVAMA, including the two new ones (Fitaratra in Antsirabe Commune and Mevasoa in Mahalevona and Anjahana Commune). Likewise, partners Madagascar Consulting and Magasin Espérance have invested in and covered the costs of organic certification standards for vanilla and the organization of the collection of cloves, helping to diversify and increase revenues for farmers at four sites (Ambinanitelo, Voloina, Mahalevona, and Anandrivola Communes).

The Rainforest Alliance compliance audit took place after the green vanilla campaign in November 2019 and involved 119 representatives of cooperative members and a visit to 19 vanilla plots. This certification audit reinforced the relevance of complementary activities such as Village Savings and Loan Associations (VSLAs) and the promotion of mutual health insurance schemes within the cooperatives to help achieve compliance with Rainforest Alliance sustainability requirements. However, the audit findings included reservations on documentation of waste management and nursery activities, which must be improved to maintain compliance during the second year of certification.

As part of the partnership with Magasin Espérance and Madagascar Consulting to promote certified Fair Trade organic vanilla in the MaMaBay landscape, USAID Mikajy participated in a training of trainers session on the use of the Metajua tool—a supply chain software for sourcing aimed at private sector operators promoting sustainable supply chains. Metajua is useful for digitizing and recording producer data (number of plots, area, crop type, farming method, site geo-referencing for producer organizations or cooperatives). This training session will be followed by further training of the Mikajy team and Magasin Espérance company agents, who in turn will provide cascade training at the cooperatives level.

In addition to the investment linked to the costs of certification and the purchase of green vanilla from

the six member cooperatives of the AVAMA Union, McCormick through RAMEX also invested in support and coaching activities to help the cooperatives to comply with certification requirements and contributed to the costs of setting up tree nurseries for each cooperative in order to honor their commitment to reforestation. In total, McCormick provides RAMEX with an annual investment of US $100,000 to support the development and strengthening of the cooperatives that they partner with.

IMPACT
To date, the value of annual sales from farms and firms receiving assistance from USAID Mikajy totals $1,098,868.

Sustainable crab and seaweed value chain promotion is a key part Mikajy's marine strategy. It aims to provide a regular source of income for fishing communities by rewarding them for adopting sustainable practices, thereby reducing pressure on marine resources caused by unsustainable harvesting and fishing practices. The activities in support of these value chains were carried out in coordination with WCS for MaMaBay and Blue Ventures for Menabe. For seaweed farming, USAID Mikajy signed a memorandum of understanding with the company Ocean Farmers for a village seaweed farming project in MaMaBay and supported the training of six technicians during Q3 on the technical aspects of seaweed farming. USAID Mikajy also facilitated a joint mission with Ocean Farmers in the Masoala and Mananara area which identified six sites to develop seaweed farming with a potential of 250 farmers. For Menabe, although the potential for seaweed farming development is more limited, WWF and Blue Ventures proposed ten villages that are interested in this activity in the southern part of Menabe. These are the villages of Antsatsabo, Belanora, Menaky, Antanimanimbo and Belo sur Mer for Blue Ventures and Manahy sur Mer, Ankoba sur Mer, Ambalahonko, Marohata, and Andranopasy for WWF.

For the crab value chain in Menabe, USAID Mikajy and Blue Ventures agreed to collaborate on business plan implementation for a sustainable crab collection project involving 397 members of crab fishing communities around Belo sur Mer. However, due to the COVID-19 restrictions which reduced the demand for crabs for the tourism sector combined with the measures taken by MAEP, requiring 75% of duties to be paid in advance to MAEP by crab collection and export operators, the crab market collapsed and no connection of fishers to private sector operators could be established during FY20.

In addition, in MaMaBay, USAID Mikajy initiated the process of developing economic activities in three LMMAs in Anandrivola and 20 LMMAs in Mananara. The prospecting mission carried out by Mikajy's team in Mananara indicated a significant potential for the sustainable production of sea cucumbers, octopus, lobster, and squid in the area. Ten seafood collectors and a large Chinese collector currently exist to ensure the flow of seafood products to the Provincial capital of Toamasina, whence they can supply demand in Antananarivo or internationally. The establishment of a cooperative structure within the LMMA groups and prospecting private sector operators seeking sustainable value chains are the next step in USAID Mikajy's support to better involve fishing communities in the value chains. In the same vein, USAID Mikajy, in collaboration with the PCD/KFW project, launched a feasibility study for the development of an aquaculture value chain business plan in the Bay of Antongil. The mission started in September 2020, and the results of the study will feed into Mikajy's support strategy for the development of marine value chains in MaMaBay. For Menabe, prospecting and securing the commitment of private sector operators to work with fishing communities to promote a sustainable crab value chain is a major goal for FY21. This will be advanced in collaboration with Blue Ventures and through a grant to the Group of Professional Fishers of Menabe (GPPM).

USAID Mikajy's support to maize and peanut value chains in Menabe is aimed at reversing the continued degradation of dry forests, particularly in the Menabe Antimena protected area, caused by slash-and-burn cultivation of maize and peanuts. USAID Mikajy's activities in FY21 included:

- The promotion of conservation agriculture of maize and peanuts as an alternative to slash-and-burn agriculture in Menabe Antimena. Eight demonstration plots were established of 1,000 m²

each, divided into two lots of 500 m² each for peanuts and maize. The identification and validation of the sites for these plots was done in collaboration with Fanamby as the PA manager and the DREDD and DRAEP.

- The structuring of producer groups into Collection Points (CPOs) to serve as a basis for the dissemination of conservation agriculture techniques and to facilitate producers' access to markets. In terms of results, USAID Mikajy's commercial support facilitated the sale of 110,291 kilograms of peanuts at an average price of 1,401 Ariary (US $0.36) per kilo. Six producer organizations were organized in three collection points to participate in these commercial operations in the villages of Lambokely (Fitamalaky and Fianakaviana Miray) and Kirindy (Fandrosoana).

Conservation Agriculture is a production system based on the conservation of soils and the improvement of their natural productive potential in order to obtain optimum and regular yields. It is based on the simultaneous application of three principles at the plot level, including minimum tillage, crop associations and rotation, and permanent soil cover. This technique constitutes an alternative to the unsustainable production systems of slash-and-burn cultivation currently practiced in the Menabe, which leads to the degradation of soil fertility and the continual clearance of forest to create new areas for cultivation.

- The prospecting of private sector operators in the peanut value chain and the organization of business meetings with producers. At the national level, the companies JB and Sahanala expressed their interest in collaborating with the peanut producer organizations of Menabe Antimena. At the local level, four major collectors in Morondava (Andry, Rovasoa, Tsimanavaka, and Christian Bourgade) also expressed their interest in engaging with sustainable peanut producer organizations. All four collectors are interested in working with the project, but price instability (particularly in the face of the current COVID-19 pandemic) has made trade negotiations difficult.

Also in FY20, USAID Mikajy supported alternative livelihood activities targeting women and youth in particular, with the objective of strengthening target communities' social and economic resilience, promoting sustainable and resilient livestock farming practices, and reducing the communities' dependence on natural resources. In Menabe, peanut and maize crops are grown in a single cycle (December through April), exposing households to a long period of under-activity and precarious food availability. During the long lean season, which lasts almost eight months, the population focuses mainly on the exploitation of natural resources such as forest wood, wild animal hunting, and mangrove exploitation.

In total, around Menabe Antimena and Kirindy Mitea National Park, USAID Mikajy supported 205 producers grouped in 13 women's associations to practice small-scale animal husbandry and market gardening. This activity was coordinated with protected area managers Fanamby and MNP, and partners WWF and Blue Ventures, particularly regarding the choice of intervention sites and targeting of beneficiaries.

IMPACT
To date, USAID Mikajy has catalyzed a total of $396,309 of investment in conservation-friendly enterprises by the private sector

Two training workshops on the technical aspect of market gardening were held in Ambararata and Marofandilia with 26 women participating. In addition, a chicken rearing and technical management capacity building session was provided by USAID Mikajy for 30 participants from Marofihitra, Ambararata, Kirindy, Marofandiia, and Lambokely. To address animal health problems in these villages, USAID Mikajy collaborated with the Regional Directorate of Livestock (CIRAEP) and the Veterinary Officer in charge of livestock health to organize a training session in Morondava in August 2020 for ten village vaccination agents (five men and five women) previously identified by target communities to take care of poultry health at the community level. Following the training, five of these agents were certified

by the CIRAEP and the Veterinary Officer and the others received a certificate confirming that they had completed their training. After signing a tripartite agreement with the CIRAEP and the Veterinary Officer, the agents were immediately operational in their respective Fokontany and vaccinated 402 head of livestock in one month.

In terms of marketing, the aim was to satisfy demand from local hotels for market garden products and small livestock. However, the cessation of tourist activities due to the COVID-19 pandemic reduced demand, so the producers turned to the local market to sell their products. Thus, for market gardening activities, a sales value of only 1,448,700 Ariary (about $376) was recorded for four producer organizations, but the members now have skills and are well organized to be able to scale up their revenues when the market picks up.

Key Result 2: Communities have skills, resources and certification to participate in sustainable value chains

In FY20, USAID Mikajy supported Rainforest Alliance certification for the four member cooperatives of Union AVAMA while developing new organic certification for vanilla on the initiative of McCormick/RAMEX also Magasin Espérance. To this end, two training sessions were organized with RAMEX and Magasin Espérance's support:

- With RAMEX, a training of trainers session was organized for RAMEX agents and the USAID Mikajy team who will provide technical support to producers on the implementation of the standards required for organic certification. A total of 18 people participated in this session. Following this, 218 producers from six cooperatives have benefited from support on organic farming methods from the USAID Mikajy and company agents were trained.
- Within the scope of the new partnership established with Magasin Espérance, a training workshop on the Metajua traceability tool was organized in Antalaha with the participation of Mikajy and other private sector operators operating in the vanilla value chain such as Prova, Sahanala, Agri Resources and Virginia Dare.

For Rainforest Alliance certification, Union AVAMA member growers must now comply with the 119 Sustainable Agriculture Network criteria as a result of being granted Rainforest Alliance certification under the November 2019 audit mission. Of these criteria, 32 so-called "critical" criteria must be achieved in the first year of certification and 82 improvement criteria will be verified during surveillance audits in the coming years.

With respect to conservation agriculture in MaMaBay, USAID Mikajy organized a training session on dynamic agroforestry for cash crops such as vanilla, cloves, and cocoa. This system is based on a mixture of plants (legumes, fruit trees, forest species, etc.) respecting well-defined standards (linear, spacing, stratification) in the same plot. This practice allows the farmer to harvest various products during the season on the same plot while improving soil fertility by providing nutrients. The training took place in Voloina, which was chosen because of its accessibility and the existence of a demonstration plot in cocoa agroforestry previously established by WCS. Following this training, USAID Mikajy supported the establishment of two demonstration plots to serve as training fields for vanilla and clove producers. These will be monitored to assess results in FY21, and training materials will be developed to support wider adoption.

For the implementation of conservation agriculture in Menabe, USAID Mikajy supported the following actions during FY20:

- Provision of international expertise on management of conservation agriculture to design training modules for Mikajy field agents and support them in the implementation of test plot protocols in the Menabe;

- Identification, delimitation, and validation of demonstration sites in villages of Menabe Antimena (four in Lambokely, two in Kirindy, and two in Marofandilia) with Fanamby the PA manager, DREDD, and DRAEP;
- Identification and recruitment of eight leader farmers;
- Training on conservation agriculture techniques and biological control for integrated pest management for the leader farmers and their assistants; and
- Support for the installation of eight demonstration plots (peanuts and maize).

In addition, Mikajy provided the inputs (Nitrogen-Phosphorus-Potassion [NPK], Urea, seeds) and equipment (spade, ripper, rope, and decameter) needed to set up the test plots. In all, 240 kg of NPK, 120 kg of Urea, 128 kg of peanut seeds, and 32 kg of maize seeds were provided for the eight test plots.

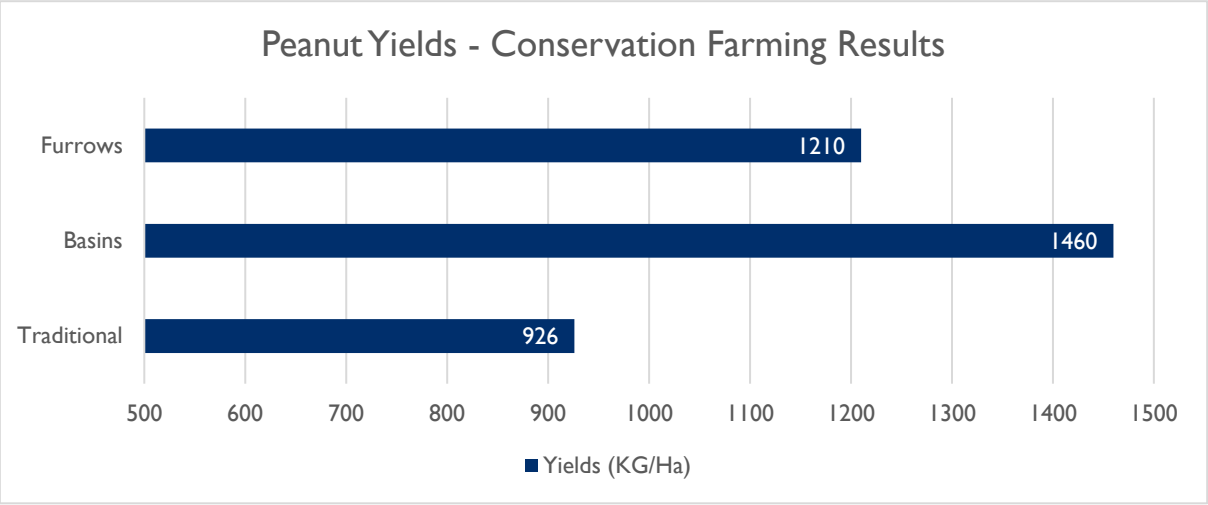
The results of conservation agriculture on peanuts have been promising in terms of both yield and productivity. An average increase in yield of around 44% was recorded (57% for basins and 31% for furrows) compared to traditional practices. Although the work of preparing the seedbeds requires significant input in terms of labor, the costs are offset by the significant increase in output with a gross margin of 26% to 70% compared to traditional practices (see Table 10).

Traditional farming techniques are characterized by plowing the entire field with oxen-pulled plows completely turning the soil; using dry cow dung as fertilizer, dispersed over the entire field, and seeds kept from the previous harvest. The basin technique includes sowing beds within basins dug by hand with spades or hoes and cow dung-based compost, NPK and urea fertilizer applied to each basin, improved seeds as well as mulching. The practice of creating furrows with an animal-drawn ripper involves the same techniques as the basin method, but instead of basins the farmers make trenches with a ripper pulled by an ox.

TABLE 10: COST-BENEFIT ANALYSIS OF LEAD FARMERS PRACTICING CONSERVATION FARMING

Technique	Return (MGA/Ha)	Investment (MGA/Ha)	Gross Margins (MGA/Ha)
CF furrows	1,563,000	794,000	769,000
CF basins	1,944,000	1,389,500	554,500
Traditional	1,434,000	992,500	441,500

FIGURE 19: PEANUT YIELDS BY TECHNIQUE USED



For maize, the combination of armyworms and locusts and a delay in rainfall resulted in minimal yields. Eight lead-farmers each sowed maize on 2000m² (500m² sample, 500m² CF-basins, 1000m² CF-furrows). Unfortunately, due to the late rain and the locust attack, only eight plots (four using basins and two each for furrows and controls) out of the 24 yielded crops. For the two control sites, the yields were 200 and 280 kg/ha. For the conservation farming plots the average yields were 565 and 570 kg/ha. For reference, the national average is around 1000 kg/ha so despite the better yield with conservation farming the results were not sufficient for the farmers to be convinced to use these techniques again. Note that financially, these low yields generated losses of over US $185/ha for the basins and controls and almost $50/ha for the furrows (the profitability thresholds are respectively $265/ha for the controls, $370/ha for ponds and $210/ha for furrows).

In relation to the maize value chain, USAID Mikajy proposes to stop supporting conservation agriculture of maize around Menabe Antimena for two reasons: (i) implementation of ecologically friendly and climate change resilient agricultural practices does not guarantee commitment from stakeholders to stop extensive agricultural practices such as slash-and-burn agriculture in the core protected zone of the protected area, (ii) conditions enabling promotion of a sustainable maize value chain cannot be fulfilled as long as private operators committed to the purchase of sustainable or 'deforestation-free' maize in Menabe have not been identified, and until political and economic leaders in the region fulfill their responsibilities related to combatting destruction of dry forests for lucrative illegal maize cultivation on the other hand. However, in the border regions of Kirindy Mitea, upon solicitation by MNP and after consultations with the communities, USAID Mikajy proposes to promote conservation agriculture for both maize and peanut cultivation in FY21. Maize is the primary crop upon which these communities depend for meeting food security and livelihood needs. Thus, supporting the maize value chain in the South Menabe region aims to promote sustainable and resilient agricultural practices with a goal of improving the food security of these local communities

The creation and accompaniment of VSLA groups is part of the capacity building process for financial education and household cash flow management provided to producers by USAID Mikajy. The VSLA is also a tool for strengthening members' financial resilience, particularly in the case of Menabe where access to financial services institutions for credit is very limited.

In MaMaBay, 19 VSLA groups with a total of 255 members were established with USAID Mikajy's support. In Menabe, 23 VSLA groups comprising 461 members were supported by USAID Mikajy.

Almost 70% of the members are women. Fifteen of these groups are already saving to improve their resilience. The total savings is currently Ar 2,259,000 (US $443).

To support VSLAs in implementing income-generating activities to complement vanilla and clove cultivation, USAID Mikajy facilitated the establishment of cooperation between VSLA groups, RAMEX, and OTIV, a microfinance institution in Maroantsetra. Members have already provided credit and repayments to their groups, which was especially helpful for them during the lean season. Thus, at the end of FY20, the credit already granted to members amounted to 1,374,800 Ar (US $500). These funds are mainly used by the members for purchasing market gardening seeds and for the start-up or extension of small business activities (e.g. subsistence products and fish farming).

In addition to material support (cash boxes, calculators, notebooks, pens, ink pads, scissors, etc.), USAID Mikajy provided technical support and training to the VSLA groups, all of which benefited from six training modules given by USAID Mikajy field agents.

During FY20, Mikajy also supported capacity building and restructuring actions for the six cooperatives of Union AVAMA and the two other newly created cooperatives. The training themes concerned leadership and administrative management, compliance with Rainforest Alliance and organic certification requirements, management of commercial operations and partnerships with private sector operators. In terms of planning and administrative management, the Mirary Soa cooperative of Voloina has initiated an internal self-assessment of its organization and developed a business plan with support from USAID Mikajy.

The six RAMEX partner cooperatives (Mirary Soa, Liam-pivoarana, Ambinanitelo, Mahalevona, Fitaratra, and Mevasoa) organized their management structure renewal including office members and coordination committees. The next step is to update the list of producers within each cooperative to facilitate monitoring and evaluation of their participation in cooperative activities. In addition, USAID Mikajy supported the restructuring of two new Magasin Espérance partner cooperatives (Taratra in Antakotako Commune and Miray in Morafeno Commune). Thirty-four members of the management committee of these two cooperatives benefited from a capacity building session on the themes of foundation and governance of the cooperative structure led by the USAID Mikajy team.

Key Result 3: Improved income for target communities and local government

The promotion of cooperative structures within local communities aims to promote conservation-friendly enterprises while supporting the greater involvement of small producers in value chains, thereby improving access to market opportunities and increasing income.

MaMaBay

In MaMaBay, five new cooperatives were established in FY20 (100% of the number planned), including:

- Two cooperatives resulting from the split of two former cooperatives of the AVAMA Union: Fitaratra cooperative in Antsirabe (resulting from the Liam-pivoarana cooperative) and Mevasoa cooperative in Mahalevona & Anjahana (resulting from the Mahavelona cooperative of the Mahalevona commune);
- Two new cooperatives formed mainly by COBAs: Taratra cooperative in Antakotako Commune which includes members of four COBAs, and Miray cooperative in Morafeno Commune which also includes four COBAs and is located southeast of Makira NP; and
- One LMMA cooperative called "Fiavotana" in Anandrivola in the Bay of Antongil.

TABLE 11: COOPERATIVES SUPPORTED BY USAID MIKAJY IN MAMABAY

Cooperative Name	Main Office	Number of Members	Grouping structures
Kajivola	Ambinanitelo	158	AVAMA
Mirary Soa	Voloina	499	
Liam-pivoarana	Ankofabe	419	
Mahavelona	Mahalevona	385	
Fitaratra	Antsirabe	204	
Mevasoa	AnjahanaMahalevona	126	
Miray	Morafeno	148	
Taratra	Antakotako	111	
Fiavotana	Anandrivola	100	
TOTAL		**2,150**	

Regarding the promotion of environmentally friendly enterprises within the COBAs, it is noteworthy that the cooperatives created during FY20 are composed of COBA members. COBA's are key actors in the promotion of environmentally friendly enterprises since they are responsible for conservation of their local forest area and for sustainable natural resource management. For example, members of the Taratra cooperative in the Antakotako Commune are made up of four COBAs whose management transfer zones border both the Makira NP and the Masoala NP. The same is true of the Miray cooperative of Morafeno whose members are made up of four natural resource management COBAs in the southeast of the Makira NP. With USAID Mikajy's support, these two cooperatives are working in partnership with the company Magasin Esperance on vanilla value chain with organic certification. For the communes of Mahalevona and Anjahana, awareness raising carried out by USAID Mikajy with the COBAs of Fizono and Anjiahely convinced COBA members to join the two existing cooperatives, respectively the Mahavelona cooperatives for the COBA of Fizono and the Fitaratra cooperative for the COBA of Anjiahely.

Alongside the support provided by USAID Mikajy to priority value chains such as vanilla, clove, and marine value chains in MaMaBay, USAID Mikajy has supported the promotion of alternative activities with a view to diversifying target communities' productive activities. The promotion of these alternative activities aims to generate additional income while improving the beneficiary household's food security and nutritional situation.

Four types of alternative activities were chosen for MaMaBay, namely (i) market gardening, (ii) fish farming, (iii) tree nurseries, and (iv) poultry farming. The targets are COBAs, cooperatives, VSLA groups, and LMMAs in the communes where there are integrated interventions of Mikajy's strategic approaches, namely Morafeno, Antakotako, Voloina, Ankofabe, Antsirabe, Mahalevona, Anjahana, and Ambinanitelo.

Regarding ecotourism, given the COVID-19 pandemic context, there has been no tourism during the latter half of FY20. USAID Mikajy is exploring opportunities to support the two ecotourism projects (the Farankaraina Forest Concession and the Chez Arol Marine Protected Area) through its grant mechanism, both of which aim to generate benefits for local communities by providing jobs and a share of collected revenues from visiting tourists.

Menabe

In light of land tenure problems in Menabe Antimena protected area and the lack of sustainable production models, Mikajy reassessed its plans to help establish cooperative producer associations focused instead on development of conservation farming sustainable production. To support market access and farmer cooperation for the initial set of farmers involved in conservation farming, USAID Mikajy supported the creation of two Collection Point Organizations (CPOs) for peanuts in Menabe

Antimena. Once the sustainable production is established at a larger scale in FY21, USAID Mikajy will support development of cooperatives. In FY20, two CPOs were created with support from USAID Mikajy in Lambokely and one association is in the process of creating a cooperative in Kirindy village where the community members wanted to use this structure to help them organize collaborative peanut marketing.

USAID Mikajy will integrate the COBA of Ampataka in the peripheral areas of the Special Reserve of Andranomena, among the sites for the extension of conservation agriculture for the FY21 season. In addition, the Local Park Management Committee at Marofihitra has established a VSLA with support from USAID Mikajy in order to increase their economic resilience and strengthen their cohesion in carrying out their activities.

Four alternative activities were also identified for the economic development of conservation actions in Menabe, including (i) breeding of local breed chickens, (ii) market gardening, (iii) fishery products processing, and (iv) beekeeping. These alternative activities target women and youth associations from the communities surrounding the protected areas of Menabe Antimena, Kirindy Mitea and the fishing communities of Belo sur Tsiribihina District. These activities were initiated in FY20 and seem promising in terms of uptake. However, the actual revenue generated was modest due to the lower demand because of the lack of tourists. USAID Mikajy plans to continue and scale up these activities so that they can make a greater contribution to boosting revenues and livelihoods of the participants.

MNP expressed its interest in collaborating with USAID Mikajy for ecotourism development in the Fokontany of Ambararata, in Belo Sur Mer Commune. MNP has already supported the construction of solar guest houses and provided training and material support to women from surrounding communities to provide hospitality services, plus a committee comprising 200 households has been established. Discussions were held with MNP and the communities to identify potential collaboration to support community-led ecotourism. No further action was taken in FY20 due to the COVID-19 restrictions and the halt of tourism activities but support will be planned in FY21 to help the local communities to prepare for the resumption of tourism.

Key Result 4: Communities and private sector operators adopt and implement conservation friendly practices

To support the adoption of conservation-friendly business practices, USAID Mikajy organized a competition for the best conservation farming producer to encourage and motivate the most deserving leader farmers. The evaluation and assessment criteria were defined together with the DRAEP team. USAID Mikajy team and DRAEP Menabe jointly evaluated the eight leader farmers and seven were selected for further support. These seven lead farmers will act as TSPs (Tillage Service Providers) in their respective zones and will act as local advisors for the new adopters. In addition, bonuses in kind such as seeds and agroforestry seedlings will be allocated to these deserving leaders.

Regional business roundtable meetings which had been planned in support of conservation-focused value chains could not be held due to the COVID-19 restrictions.

Memoranda of Understanding (MOUs) were signed with Ocean Farmers, Moringa Wave, and The Bee Keeper to promote value chains which are expected to generate positive results for conservation and communities, including a honey and *Moringa oleifera* value chain in Menabe and a seaweed value chain in MaMaBay. However, the next steps were delayed for the implementation of these partnerships due to the COVID-19 restrictions, so they will be revived and pursued in FY21.

Key Result 5: Sustainable Finance Mechanisms Established for NRM

Three potential sustainable financing mechanisms for conservation were identified during FY20:

Payment for Ecosystem Services (PES) agreement for the Voloina hydroelectric power plant in partnership with Tozzi Green Company, who manages the unit.

The Vodiriana watershed in the Voloina Commune supplies water to the Vodiriana hydroelectric power plant that in turn supplies electricity to the town of Maroantsetra, as well as providing other ecosystem services to the surrounding territory. The design of the innovative conservation financing mechanism based on this unit was developed in partnership with USAID Hay Tao/URI. A joint site visit was planned for March 2020, but due to the border closure because of COVID-19, the mission could not take place. In addition, the decision-makers at Tozzi Green Company had to leave Madagascar so no further progress has been made because exchanges and communication have been difficult. Contact will be made with Tozzi Green again in FY21 to advance this opportunity.

PES for mangroves in Menabe

Initial ideas for this mechanism were developed jointly with USAID Hay Tao/URI CRC during Q4 of FY20. The main stakeholders benefitting from the protection and sustainable management of mangroves are the shrimp fishing companies and local fishers due to the mangrove protection of fish and shrimp nurseries and their importance to maintain productivity. Since the industrial shrimp fishers rely on maintenance of the mangroves across the entire Menabe region, and not isolated patches of mangrove, In FY21, USAID Mikajy will explore linking the mangrove PES with the Menabe Fisheries Management Plan (PAP) and the ongoing study by URI CRC on natural capital valuation of mangroves in Menabe. USAID Hay Tao/URI CRC will prepare a presentation clarifying and quantifying where possible the services provided by mangroves for the Menabe shrimp fisheries, then USAID Mikajy will collaborate with USAID Hay Tao to present this information to the Group of Aquaculture and Shrimp Fishers of Madagascar (GAPCM) to encourage their engagement in a scheme to pay for mangrove protection and restoration.

The financing of COBA conservation activities by a cooperative

This innovative financing mechanism involving four COBAs, the Miray Cooperative, and the Morafeno Commune was established in FY20 with support of USAID Mikajy. The tripartite agreement between the parties stipulates the allocation of 30% of the profit margins recorded by Miray Cooperative to COBA-led conservation actions (patrol activities, ecological monitoring, restoration, and reforestation). The convention has been signed and will start implementation in FY21 (see Miray Success Story).

2.2 CHALLENGES ENCOUNTERED AND SOLUTIONS

- The vanilla price dropped significantly during the 2020 campaign. At the campaign opening, the green vanilla price was set at 25,000 Ariary per kg when it was more than 180,000 Ariary per kg the previous year.
- There was a decrease in the number of vanilla producers in the landscape due to several factors. Producers are having difficulties repaying advances because of economic losses due to successive floods this year. Many cooperative members were forced to sell their property and change their place of residence after the floods that affected the region.
- Another challenge was the appearance of a new disease on the vanilla plants: fusariosis (Corona vanilla) whose vector is the fungus called Fusarium oxysporum. Research suggests that agrochemical treatments are not very effective, and biological treatments are also not promising. The best approach seems to be prophylaxis cultivation techniques to ensure a strong and healthy plants combined with ongoing removal of the affected parts of the plants. These measures were discussed with the Regional Agriculture, Livestock and Fisheries (DRAEP)

service and were taken into consideration in the official reference guide for planters and preparers of vanilla.

- Activities that were planned activities under MoUs with private sector operators (Océan Farmers, Moringa Waves, The Bee Keeper, etc.) were delayed or could not be implemented because of the COVID-19 restrictions.

Solutions to address these challenges include:

- Coordinate lobbying actions with private sector actors on the maintenance of producer premiums (preferably to be released during back-to-school period to lighten the burden on producers) and solicit private sector actors to invest in social actions, including support for community health insurance;
- Study the possibility of partnership with banking institutions to set up revolving funds in exchange for guarantee funds based on contributions from private sector operators and the government;
- Strengthen social development and community resilience-building activities such as VSLAs and financial education, health insurance, support for alternative revenue generating and livelihood activities;
- Identify partners for the establishment of rice supply stores for cooperatives; and
- Leverage private sector investment in vanilla preparation processes by providing some in-kind support for equipment through the USAID Mikajy grant mechanism.

3.0 STRATEGIC APPROACH 3: SYNERGIZE WITH DEVELOPMENT PROGRAMS DELIVERING SERVICES TO TARGET COMMUNITIES (*RESILIENCE*)

This year, USAID Mikajy focused on engaging with partners to promote an integrated approach in order to strengthen community resilience in both landscapes. USAID Mikajy secured engagements for this purpose by signing memoranda of understanding (MOUs) with various partners including public entities, non-governmental organizations, the private sector, and other USAID funded entities and projects. The partnerships cover multiple areas such as risk and disaster management, actions to promote health at the community level, mangrove restoration and actions to develop income-generating activities for communities in conservation-friendly value chains.

3.1 ACHIEVEMENTS

Key Result 1: Stakeholders adopt an integrated approach to conservation

USAID Mikajy continues to make contacts and identify new partners to strengthen the interventions synergy and interaction at local level. In MaMaBay, exchanges were initiated with PADAP (Sustainable Agriculture Project according to the Landscape Approach) and AFAFI Nord (Support for Agricultural Financing and Inclusive Finance) to strengthen synergies in support of conservation actions.

In Menabe, contacts have been established with REAP/IOM (Responding to threats to peace and social cohesion, supporting the empowerment and promotion of women in Madagascar project implemented by the International Organization of Migration) to jointly address migration issues in order to secure the Menabe Antimena PA.

A list of partners that signed MoUs with USAID Mikajy is provided in Table 12 below.

TABLE 12: LIST OF PARTNERS THAT HAVE SIGNED A MOU WITH USAID MIKAJY

Institution	Scope	Site	Themes of the Partnership
Project/Program			
Mahefa Miaraka	Integrated community health program in all Fokontany of 34 districts in 7 regions: Analanjirofo, Boeny, DIANA, Melaky, Menabe, SAVA, and Sofia in support of the Ministry of Public Health.	MaMaBay and Menabe	• Strengthening access to maternal and child health services and other health service packages at community level • Promote and disseminate community health services among USAID project-supported cooperatives and producer groups. • Promote the adoption of healthy behaviors for community health at community level • Promote gender- and youth-sensitive approaches through actions related to the gender-based violence program • Capitalize and disseminate good practices for an integrated approach to Population Health Environment (PHE) in the two landscapes and at national level.
Institutions/International Organizations/NGOs			
Medair	Humanitarian Risk and Disaster Management Project	Menabe, Districts of Mahabo and Morondava	• Put in place tools and mechanisms to anticipate and reduce the impacts caused by climatic uncertainties in the intervention sites • Coordinate actions to strengthen the capacity of local structures (Communes, Fokontany and local risk and disaster management committees, grassroots communities and producers' organizations) to develop risk and disaster management capacities (GRC) and mechanisms to improve their resilience. • Promote GRC within local communities and local authorities • Consider the problems of fire, clearing and degradation of dry forests and mangroves as major disasters that are the object of risk and disaster reduction measures; • Integrate all stakeholders in all actions related to the implementation of GRC mechanisms (Early Warning System, evacuation plans) • Coordinate information, communication and education actions (Push Campaign, Mikajy Mobile Platform, GRC, etc.).
Public national organizations			
CDGRC (*Comité de District de Gestion des Risques et Catastrophes*)	Collaborative management of disaster prevention and preparedness actions at District level	District of Maroantsetra	• Set up a program for the re-identification of local risk and disaster management committee (CLGRC) members from each concerned Fokontany in the intervention Communes involving COBA members

Institution	Scope	Site	Themes of the Partnership
			• Ensure the revitalization of local structures in charge of risk and disaster management for the Communes of intervention. • Provide a training guide and model tools for Risk and Disaster Management awareness raising. • Train CLGRC members at the Commune level and make them operational. • Provide assistance/advice and technical support to Commune level CLGRC members
Private sector			
Moringa Waves	Production, distribution and use of Moringa oleifera and its derivatives	National	• Promote sustainable moringa value chain in the Menabe region, particularly in the areas bordering the Menabe Antimena Protected Area. • Promote the Moringa plant to fight against malnutrition and improve food security at local level. • Promote moringa plants in agroforestry systems for restoration of degraded soils and establishment of a green belt for the protected area core protected zone. • Support establishment of community structures to help them to seize partnership opportunities with the private sector to facilitate market access for their products. • Technical and organizational support for producers in the promotion of sustainable economic activities that respect conservation and natural resources.
The BeeKeeper	Sustainable breeding of honey bees, exploitation and sale of beekeeping products in Madagascar and for export.	Menabe	• Develop partnerships and coordination with stakeholders at the landscape level on beekeeping value chain promotion. • Community training and monitoring on beekeeping: techniques for beekeeping activities, financial management, monitoring and maintenance of hives, harvesting etc. • Contribute to actions for forest ecosystem protection and restoration (dry forests and mangroves) as sources of nectar and pollen with the specific qualities of the Menabe landscape. • Accompany traditional beekeepers to become model beekeepers and champions of biodiversity conservation at community level. • Facilitate beekeepers' access to inputs and equipment to improve sustainable production techniques and improving productivity. • Facilitate access to national and international markets for honey and other products.

Institution	Scope	Site	Themes of the Partnership
Ocean Farmers (COPEFRITO Group)	Promoting village algoculture	Atsimo- Andrefana Region, Menabe Bay of Antongil	• Initiate village seaweed farming in the MaMaBay Landscape

Synergy between USAID Mikajy and USAID Health Programs

The MOU between USAID Mikajy and USAID Mahefa Miaraka serves as a reference frame for joint actions in the two landscapes. In MaMaBay, the community health mutual currently benefits the two cooperatives supported by USAID Mikajy: the Mirary Soa cooperative in Voloina Commune and the Liam-pivoarana cooperative in Ankofabe Commune. Mikajy supported the two cooperatives to modify their internal rules and establish a partnership agreement with the CSBs (Basic Health Centers) of the two Communes in which they are located for provision of health services. The partnership agreement signed with the two CSBs has been approved by the SDSP (District Public Health Service) of Maroantsetra District. In addition, the RAMEX company, as a commercial partner of the two cooperatives, contributed to the operationalization of these two mutual health insurance schemes with a financial contribution of 1,000,000 Ariary (approximately $264) per mutual. The scaling up of the mutual health insurance scheme will target other cooperatives as a priority and then the COBAs. For FY20, Mikajy has begun to raise awareness about mutual health insurance establishment for the Mahavelona cooperative in Mahalevona Commune and the Kajivola cooperative in Ambinanitelo Commune. In Menabe, the partnership between Mahefa Miaraka and Mikajy is primarily targeting producer organizations working on the peanut value chain, market gardening and small livestock farming in the Menabe Antimena PA (Lambokely, Kirindy and Marofandilia) and in villages surrounding Kirindy Mitea and Belo sur Mer (Marofihitra, Ambararatata).

Partnership with the REAP/OIM project in the Menabe region

The REAP project managed by IOM started in Menabe in Q2 2020 and has three activity programs to address the threats to peace and social cohesion related to uncontrolled migration phenomena. These are (i) the program to support the migrants' voluntary return to their areas of departure, (ii) pilot program of livelihood diversification and eco-sustainable income generating activities in Menabe and (iii) the establishment of a government-led Observatory of Internal Migration to accompany the capacity building of authorities and other stakeholders, including partners concerned with internal migration management issues. USAID Mikajy is working with REAP/IOM on the coordination of activities related to the integration of lead structures for natural heritage territorial defense in the process of setting up the migration observation supported by REAP, support activities related to the promotion of value chains and the promotion of income generating activities in the protected area of Menabe Antimena with special attention to the gender dimension. The census and inventory of land parcels carried out by USAID Hay Tao will be invaluable for the targeting and prioritization of beneficiaries. REAP/IOM is part of the Menabe Antimena task force which facilitates coordination of interventions around Menabe Antimena PA.

Partnership with USFS on mangrove conservation and restoration in Menabe

Due to international travel restrictions related to COVID-19, USFS technical assistance could not be provided in the field during FY20. Collaboration was limited to virtual exchanges. USFS planned to support USAID Mikajy with the conservation and management of the mangrove ecosystems in southern Menabe and this will be continued in FY21 through establishment of trials for different techniques in two villages. The two parties have also agreed to extend collaboration to include technical support for the restoration of Menabe dry forests, the management of forest fires and support for scientific research actions on the exploitation and management of mangroves that will feed the strategy for a mangrove PES in Menabe.

Capacity building of local Risk and Disaster Management Committees

Actions to strengthen local risk and disaster management capacity are included in the FY21 work plan and will be carried out within the framework of the MOU with Medair for Menabe and CDRGC for MaMaBay.

3.2 CHALLENGES ENCOUNTERED AND SOLUTIONS PROPOSED

Two major challenges have been identified to ensure effective interface and synergy with partners at landscape level:

- **Mikajy's commitments and support under the private sector engagement strategy.** The exchanges and dialogue initiated with private sector actors revealed the private sector's interest in collaborating with the project to develop sustainable and responsible businesses that benefit conservation and communities. However, given the risk factors related to many communities' capacity to integrate value chains and meet market demands on the one hand, and the economic constraints related to the logistical aspects of entrepreneurship in areas close to protected areas on the other hand, many private sector operators are seeking support that the project cannot meet directly. For example, they would like financial support for the installation of operating infrastructure at production sites, or for the cost of remunerating specialized technical agents to support the beneficiary communities. USAID Mikajy will need to carefully consider the myriad of means we can partner with the private sector including through technical assistance, capacity building, grants and communication products that increase awareness and promote social and behavioral changes.
- **Insufficient human resources for implementation and monitoring of joint actions.** USAID Mikajy's organizational chart assigned the prospecting and management of partnerships to the SA2/SA3 specialist in Antananarivo, with support from the two landscape coordinators. However, we found that the implementation of site-based partnerships and actions requires a significant time investment so that the target communities can benefit from the added value of these partners. To address this, USAID Mikajy will explore recruiting a community liaison officer in FY21.

4.0 STRATEGIC APPROACH 4: OPERATIONALIZE DECENTRALIZED NATURAL RESOURCE GOVERNANCE IN TARGET LAND AND SEASCAPES (ACTION)

This year, USAID Mikajy extended our areas of intervention under Strategic Approach 4 to include 26 communes in MaMaBay (out of a total of 42), and all 18 communes in Menabe. As in FY19, Mikajy continued to work closely with local stakeholders organizing workshops at the District level in both landscapes to address various issues, including improved co-management, advocacy for integration of land and resource rights and tenure, integration of land and resource rights and tenure in the *dina*s, resolution of conflicts between traditional and industrial fishermen in the Bay of Antongil, and development of a strategy for resolving land conflicts between protected area managers and producers. USAID Mikajy was also able to make progress on land tenure security which is an important foundation for sustainable natural resource management and biodiversity conservation in both landscapes.

4.1 ACHIEVEMENTS

Key Result 1: Land and seascape strategies to strengthen land and resource tenure developed based on shared vision

During FY20, USAID Mikajy conducted an analysis of the shared vision results developed with stakeholders last year. The analysis focused of identifying the roles and attributions of a structure for territorial defense of natural heritage (DTPN). The objective of Mikay's DTPN strategy is to improve communities' ability to access, manage, and defend their rights to land and natural resources by establishing local structures capable of ensuring these roles. In MaMaBay, the analysis revealed the following points:

- Community participation in the planning process is still too low. Discussions during shared vision workshops have revived community participation, but there is still a need to boost motivation and ownership;
- Community participation in biodiversity conservation is limited to resource management with the establishment of community structures (COBA, LMMA, COBA platforms or federations). The co-management aspect is not yet well understood or valued;
- A platform for promoting sustainable fishing has been established in the marine and coastal areas of Bay of Antongil and should play a mediator role in the resolution of conflicts between the actors. However, its actions are still too limited and thus far has only involved small-scale fishers.

In Menabe, USAID Mikajy undertook a comparative analysis of shared visions and contexts for the northern and southern Menabe regions. The analysis highlighted the very different contexts of the two zones. For example, it was found that in the northern Menabe zone, communities (and management transfer zones or TGRNs), including migrants, reside within the protected area (IUCN Category V, harmonious landscape). Their development activities and access to land are therefore regulated by the PA management plan and the Protected Areas Act - thus confirming that the communities (resident and migrant) and the PA's future are integrally linked. In contrast, in the southern zone around Kirindy Mitea National Park (which is a IUCN Category II National Park), communities reside outside the protected area, and are therefore only bound by TGRN contracts (where they exist) and general law which is less constraining, so they are freer to direct their own sustainable development.

The results of these analyses allowed us to develop strategies to improve the role of target communities in land and resource tenure rights and natural resource protection. The strategies focus on five themes, namely:

1. Improving co-management;
2. Advocating for the integration of land and resource rights and tenure into Commune Management Plans (SACs) and other land-use planning documents; and integrating land and resource rights and tenure in regional bylaws or *dina*s (the *Dinan'i Menabe*, and the *Dina Be* of the Bay of Antongil);
3. Resolving conflicts between traditional and industrial fishermen in the Bay of Antongil; and
4. Resolving land conflicts between protected area managers and producers (specifically for Makira and Masoala).

Consultations for improvement of co-management. Co-management workshops were held for the PAs of Kirindy Mitea, Ambondrobe, Menabe Antimena, Makira and Masoala to discuss rights-based land and resource tenure using tools such as PAGs, management transfer contracts and planning processes. The workshops reviewed the current situation of co-management and identified obstacles for better co-management at different levels. Key outputs included:

- Clarified the current status of the PA co-management mechanisms and the division of roles and responsibilities between managers, communities and other co-managers;
- Clarified the involvement, roles and responsibilities of decentralized local authorities (including how Fokontany should be included);
- Revitalized and/or integrated the local community, COBAs, commune-level civil society platforms and COSAP—in the case of PA's managed by MNP, as active participants in PA co-management; and
- Resolutions for rules and principles of co-management were validated by regional administrative authorities, managers and COBAs.

Consultation to advocate for integration of land and resources right and tenure in the SACs (Districts of Morondava, Andapa, Antalaha, Maroantsetra). For MaMaBay, the inventory and analysis of existing territorial planning documents identified the management plans (PAG) for Makira and Masoala, and the correspondence with the Antongil Bay fisheries management plan (PAP). Consultations organized by USAID Mikajy contributed to the development of strategies to improve the integration of resource and land use considerations into existing land use and seascape plans, specifically strategies for communities to protect their land and resource tenure rights.

For Menabe, consultations with stakeholders resulted in the following conclusions:

- PA managers should be more involved in SACs development in Communes surrounding the PAs;
- For Category II protected areas (such as Kirindy Mitea), the plots to be secured for communities are eligible for the status of private property without title outside the PA boundaries and their 2.5 km protection zones;
- Land security in the Communes around a Category II PA protected zones involves the creation of a land tenure office (guichet foncier) and collaboration with the Domain and Topography Services for the realization of the Local Land Occupation and Tenure Plan (PLOF). The PLOF will be the basic tool for any form of land security for the communities, and the land tenure office can issue land certificates for private land without title located more than 2.5 km from the Kirindy Mite protected area border; and
- For Communes located in Category V PAs (such as Menabe Antimena), land tenure security depends on the zoning that will be delineated when the PAGs are updated. The form of tenure security will be the development of controlled occupation zones (ZOCs) and sustainable use zones (ZUDs) with well-defined specifications approved by the PA manager.

Consultations on land and resource rights and tenure integration into the *dina*s (Districts of Morondava, Andapa, Antalaha, Maroantsetra). USAID Mikajy is assisting local structures to advocate for and integrate land rights and natural resource governance into existing *Dina*. In fact, *Dina* are composed of locally agreed and enforced by-laws and is therefore more relevant to local communities and can help to avoid and address possible conflicts at the local level. Consideration of land tenure rights or use rights with the *Dina* helps to provide security to the local community and more particularly, agricultural producers. Thus, advocacy activities were undertaken to include land tenure concerns in the *Dina*, including the development of a mechanism for resolving land conflicts. The power of the *Dina* and community governance structures to resolve land tenure conflicts is essential to maintain harmony by resolving tensions between communities living in or around protected areas. The workshops were conducted at District or Regional level. Participants in these workshops were technicians relevant to *Dina*, land, natural resources and governance issues.

In Menabe, the workshop on the integration of land rights in the Menabe *Dina* resulted in the following outcomes:

- Population censuses are needed to understand who currently occupies the buffer zones in Category V protected areas, and a plan for resolving disputes must be developed;
- For Category II protected areas, including protected areas, the Opération Domaniale Concertée (ODOC) approach (see text box) will be used in collaboration with the Ministry of Land Management and Public Works; and
- IOM/REAP will conduct a survey to carry out a parcel census in selected localities in Menabe Antimena, building on and completing a plot census undertaken by USAID Hay Tao/SIF in FY19. The aim is to determine the identity of occupants of the buffer zones. These zones are indicated in the PAG.

For MaMaBay, USAID Mikajy supported meetings for the validation of the *Dina Be* for the Bay of Antongil in 15 Communes. Official validation of the *Dina Be* is a means of providing fishing communities with the power and authority to protect and sustainably manage their marine natural resources. Preparatory meetings were held in each commune involving a total of 172 people (166 men and 6 women) and provided an opportunity to present to the Mayors and Communal Councilors the different processes already carried out for the Dina Be development. Copies of the Dina Be were also sent to each of the mayors and Communal Councilors, along with a memorandum explaining steps already taken. Communal Councilors' general assemblies were subsequently conducted to validate the *Dina Be*

in all 15 Communes and the next step in FY21 will be to submit the Dina Be to the relevant courts to ensure its officialization.

Elaboration of a conflict resolution strategy between traditional fishermen and industrial fishermen in the Bay of Antongil

A workshop was organized for stakeholders in the Bay of Antongil to identify a conflict management strategy to protect the resource rights of traditional fishers whose activities are disrupted and fishing equipment damaged due to encroachment of industrial shrimp fishers in the zone used by the small-scale fishers. The workshop aimed to strengthen negotiations and lobbying processes by developing strategies more adapted to the local, regional and national context.

The different conflict factors identified are:

- Overlap between traditional and industrial shrimp fishing areas;
- Weak enforcement of laws and regulations governing fisheries;
- Lack of collaboration between traditional fishers and fishing companies;
- Lack of contribution by industrial fishing to local development and community management of marine resources;
- Strategies proposed for the protection of traditional fishers' rights to resources;
- Improve cohabitation between traditional and industrial fishing;
- Strengthen the enforcement of laws and regulations governing fishing;
- Improve collaboration between traditional fishers and fishing companies; and
- Strengthen the industrial fishing contribution to local development (Commune and Region) and to community management of marine resources.

Approaches for securing land tenure in Madagascar

Madagascar law sets out different formal legal categories of land. These include state lands made up of the public domain of the State and the private domain of the State (DPE); private properties including titled private properties and untitled private properties (PPNT); land with special (or specific) status. A Local Plan of Occupation and Tenure (PLOF) identifies and validates, through a participatory process, the status of all parcels within a commune. For untitled private property, a Land Tenure Office can issue land tenure certificates that are easier to obtain that full land titles and are an important means to strengthen land tenure security. For DPE state lands, it is possible to achieve land security through a Concerted Domain Operation (ODOC). This involves making a collective registration based on a request from a community group or associations, then community members can apply for individual land title from the government Domains Service. The purpose of ODOC is to make the land titles available to those who have participated in the community action to request them.

Development of a strategy for resolving land conflicts between protected area managers and producers (for Makira and Masoala NPs)

There are clear and longstanding land tenure conflicts between different local stakeholders, particularly between managers and producers/farmers in terrestrial protected areas and TGRNs. In fact, for Masoala and Makira Parks, the practices of shade-grown vanilla cultivation and slash-and-burn or *tavy* for rice cultivation are still widespread, threatening the viability of biodiversity because of forest clearing. In addition, agricultural plots that were supposedly established prior to protected area establishment are still included within the boundaries of protected areas, creating conflicts between the population and managers.

Conflict factors identified include:

- The lack of agricultural infrastructure to grow crops other than cash crops ;
- Population growth and large families resulting in a greater need for agricultural land ;
- Some agricultural plots of the population surrounding PAs are still included within the PA boundaries ;
- PA boundaries were marked with paint many years ago, most of which are no longer visible, and local populations claim they do not to know where the boundaries are; and
- Ignorance of laws and regulations governing land tenure and natural resource management.

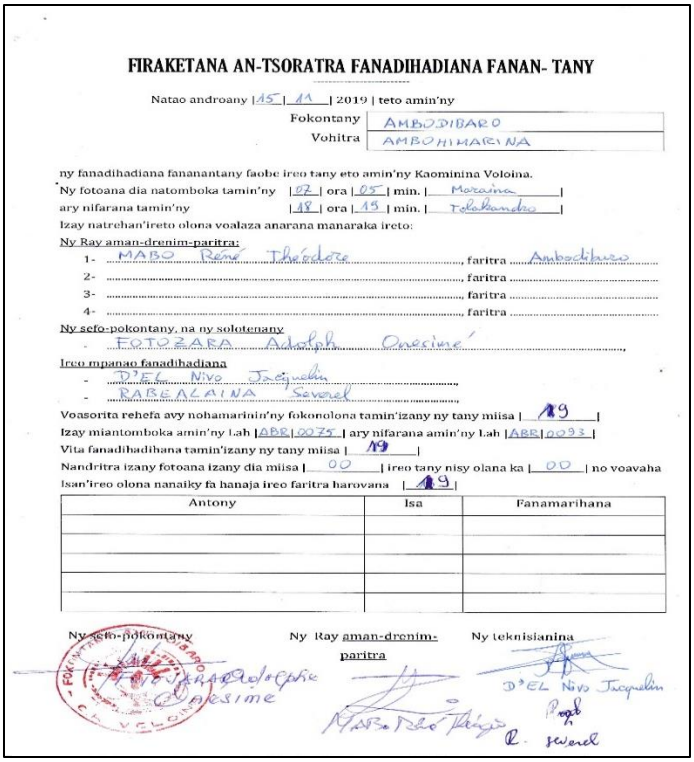
USAID Mikajy worked with stakeholders to identify the following solutions and actions to be taken to resolve these conflicts*:*

- Reconcile between conservation/protection of natural resources and agricultural development. Agricultural techniques that support (or are not incoherent with) the conservation and management of natural resources are developed and disseminated in the surrounding areas of the PAs and TGRN. For example, training on agroforestry techniques;
- Support mechanisms for the construction of small agricultural infrastructure.
  - Identification and contact of potential partners to support the construction and/or rehabilitation of agricultural infrastructure (e.g. with the Agricultural Development Fund);
- Strengthen local governance of natural resources and land
  - Structures for conflict resolution at the local level are strengthened;
  - Establish conflict resolution committees at the Fokontany and village level.

Key Result 2: Land and seascape plans for strengthened land and resource tenure implemented

In October 2019, USAID Mikajy signed a subcontract with GeoSystems to conduct socio-tenure studies, and to develop a PLOF to secure land for at least 2,500 inhabitants of the Voloina Commune (Maroantsetra District). The results are as follows:

- 2,241 hectares were analyzed in Voloina, including 1,771 plots belonging to 2,968 beneficiaries (men, women and children). During the census, each household's legal representative (a total of 1,307 people) signed a letter of commitment to defend the protected areas and work for conservation (see image).
- Types of land security for the identified parcels are identified in the table below:



FIRAKETANA AN-TSORATRA FANADIHADIANA FANAN- TANY

Natao androany | 15 | 11 | 2019 | teto amin'ny

Fokontany: AMBODIBARO

Vohitra: AMBOHIMARINA

ny fanadihadiana fananantany faobe ireo tany eto amin'ny Kaominina Voloina.

Ny fotoana dia natomboka tamin'ny | 07 | ora | 05 | min. | Maraina |

ary nifarana tamin'ny | 18 | ora | 15 | min. | Tolakandro |

Izay natrehan'ireto olona voalaza anarana manaraka ireto:

Ny Ray aman-drenim-paritra:

1- MABO René Théodore ..., faritra Ambodibaro

2- ..., faritra ...

3- ..., faritra ...

4- ..., faritra ...

Ny sefo-pokontany, na ny solotenany

- FOTOZARA Adolph Onesime'

Ireo mpanao fanadihadiana

- D'EL Nivo Jacquelin

- RABEARIVONY Samuel

Voasorita rehefa avy nohamarinin'ny fokonolona tamin'izany ny tany miisa | 19 |

Izay miantomboka amin'ny l.ah | ABR | 0075 | ary nifarana amin'ny l.ah | ABR | 0093 |

Vita fanadihadihana tamin'izany ny tany miisa | 19 |

Nandritra izany fotoana izany dia miisa | 00 | ireo tany nisy olana ka | 00 | no voavaha

Isan'ireo olona nanaiky fa hanaja ireo faritra harovana | 19 |

Antony	Isa	Fanamarihana

Ny sefo-pokontany | Ny Ray aman-drenim-paritra | Ny teknisianina

Caption: Example of signed letter of commitment

TABLE 13: TYPES OF POTENTIAL LAND TENURE SECURITY BY PARCEL AND FOKOTANY (VOLOINA COMMUNE)

Fokontany	Type of possible land security			
	ODOC	Surface [ha]	Land tenure Certificate	Surface [ha]
Ambinanindrano			9	11.4
Ambodibaro	3	2.2	83	80
Ambodihazomamy	282	799		
Ambodipaka			53	28.5
Mahasoa	41	21	115	80
Nandrasana	36	35	140	93
Tanantsara			71	34.5
Vodiriana	242	135	190	114
Vodivohitra	32	40.5	25	9
Voloina			11	1.4
TOTAL	**636**	**1042.7**	**697**	**451.8**

Parcels that are part of TGRNs are not listed in this table.

USAID Mikajy supported the creation of a Land Tenure Office (Guichet Foncier) that will be operational in November 2020, and whose first certificates will be issued in early December 2020. USAID Mikajy provided desktop computer equipment, printers, inverters, solar panel kits, hard drives and GPS units) to equip the Voloina Land Tenure Office.

In the Menabe Landscape, the land tenure context differs from that of MaMaBay and the approach to helping communities secure land rights is different. In Menabe, the level of economic wealth is much lower than in the vanilla-growing areas of MaMaBay. Societies are more traditional, there is a large migrant population (themselves from traditional communities in the south) and knowledge of land ownership systems is much less developed. In addition, for Menabe Antimena PA, the populations reside in a Category V protected area whose land status has not yet been defined by law. It is therefore expected that more collective and traditional approaches to land tenure will be needed, supported by regional *dina* agreements.

For Menabe, the aspect of integrating land rights and natural resource management will be part of the SAC development process for the four communes around Kirindy Mitea Protected Area building on the outputs of a preliminary workshop. The NGO Ravintsara was then sub-contracted for the SAC elaboration in these four communes (scheduled to start in Q1 FY21).

4.2 CHALLENGES ENCOUNTERED AND SOLUTIONS

Beginning in March 2020, the activities carried out under SA4 were the most affected by COVID-19 measures because many of the planned activities involved meetings of communities and larger groups of people. As such the pandemic slowed down USAID Mikajy's governance interventions in both landscapes but progress was still made by organizing meetings with no more than 15 people.

Additionally, challenges were encountered on the operational aspect of governance during FY20. Regarding co-management (Menabe Antimena, Makira, Masoala), there is still an ineffective involvement of grassroots communities, a lack of support (or confidence) on the part of some managers of protected areas, weak responsibility of local authorities in natural resource management, and a lack of

coordination between decentralized services. As a solution, the following points are proposed for better co-management:

At the community level:

- Improvement of the representation of the local population in the COBAs.
- With the creation of COBAs, ensure genuine involvement of the local population.
- Establish effective supervision, control and monitoring system for COBAs and management transfers.
- Strengthen technical and financial resources for the implementation of development and management plans.

At the level of local authorities (Commune and Fokontany):

- Strengthen collaboration, communication and coordination between managers and local authorities, in particular with COBAs.
- Improve knowledge on natural resource management, laws and regulations governing the management and sustainable use of natural resources and land, as well as PA framework documents and management transfers.
- Intensive training of local authorities to fulfill their roles and responsibilities in the management of natural resources and land.

In terms of decentralized technical services:

- Facilitate coordination and collaboration between services.
- Establish a clear plan or roadmap for collaboration and coordination of actions related to the co-management of natural resources and land.
- Identification and improvement of gaps in communication between services.
- Fight against corruption among the agents of technical services by providing support and training to civil society to hold officials to account. For example, by introducing the commune- and regional-level CSO platforms into the national CSO platform ROHY to strengthen their capacity in environmental governance, denunciation of crimes including corruption and illegal trade in natural resources.

5.0 STRATEGIC APPROACH 5: STRENGTHEN COMMUNITY, CSO, PRIVATE SECTOR, AND GOVERNMENT CAPACITY TO ADVOCATE FOR AND ENGAGE IN IMPROVED COMMUNITY-BASED LAND AND NATURAL RESOURCE MANAGEMENT(POWER)

This year, Mikajy continued to work to enhance the capacity of various key players in land tenure, natural resource management to strengthen relationships between key players and to promote collaboration and trust between these players to reduce conflicts and tensions. Due to the COVID-19 pandemic, some SA5 interventions were postponed but some activities were able to continue to strengthen COBAs, CSOs, and local government officials and decentralized technical services to promote better accountability.

5.1 ACHIEVEMENTS

Key Result 1: Capacity of community-based land and natural resource management actors strengthened and empowered

At the beginning of FY20, USAID Mikajy conducted evaluations using an organizational capacity assessment tool (OCAT) adding to evaluations already conducted in FY19 for a total of 64 civil society organizations (CSOs), community-based management associations (COBAs) and others; in total 36 evaluations were conducted in MaMaBay and 28 evaluations in Menabe (see Annex V). USAID Mikajy prioritized women's and youth associations when selecting CSOs to be evaluated. The capacity building themes evaluated were related to organizational development, technical development, financial management, land and natural resource governance, and advocacy techniques.

The original evaluations provided important information about organizational capacity needs and were used to develop specific training plans. During FY20, five training sessions were organized in each landscape according to the priority themes identified from the evaluations; 65 organizations were trained, 30 in Menabe and 35 in MaMaBay.

A second round of OCAT evaluations was then undertaken and results enabled us to measure the change in capacity after receiving training.

The detailed scores for all 64 organizations evaluated including the change in capacity can be found in Annex V and are summarized below. In general, the baseline (pre-training) score for Menabe (129) was somewhat higher as compared to organizations in MaMaBay (106). In both landscapes the impact of the trainings was positive, with MaMaBay organizations improving by 65 (62%) on average and by 72 (56%)

on average in Menabe. Overall, 58 out of 66 organizations improved in capacity, equivalent to 91% of all organizations evaluated twice.

The results of these self-assessments reflect the ability of organizations to assimilate technical and financial support to improve their capacity. However, in discussing the scores with the organizations it was clear that continued support is still necessary, particularly on the topics of financial sustainability, gender awareness, advocacy, communication, and development of human resources.

MaMabay

In MaMaBay, USAID Mikajy assessed 36 organizations including COBAs, COBA Federations and VOIs. The average baseline capacity score for these organizations was 106. After receiving training, the organizations were evaluated again in Q4. Results (see Annex V for details) indicate the average score increased to 172, representing an average increase of 66. The scores of only four organizations declined or did not improve during FY20.

Menabe

In Menabe, USAID Mikajy worked to organize and facilitate the assessment of 28 CSOs that were re-evaluated in Q4. The organizations evaluated included CSOs, Commune-level CSO platforms, District-level CSO platforms, COBA federations, COBAs, Public Organization of Inter-Communal Cooperation (OPCI), Commune and Fokontany.

The average baseline capacity score for these organizations was 129. After receiving training, the organizations were evaluated again in Q4. Results (see Annex V for details) indicate the average score increased to 201, representing an average increase of 72. The scores of only two organizations declined.

Key Result 2: Accountability of the judicial system and community-based structures strengthened

The COVID-19 restrictions limited the possibilities of organizing trainings for forestry and fisheries officers and community resource persons on emergency response measures, and the reporting of environmental crimes. However, a workshop on environmental justice was organized in MaMaBay by USAID Hay Tao/Alliance Voahary Gasy (AVG) and attended by the USAID Mikajy staff. This workshop was designed to build the capacity of the law enforcement officers and the prosecution of environmental crimes, as well as to raise awareness of the legal framework and the contents of the prosecution manual. The results of these exchanges enriched the content of the prosecution manual and will be used to feed into the capacity building module for reporting environmental crimes. There were two series of training sessions:

1. Training of Makira and Masoala Park agents on reporting to enable them to provide training to COBAs in their respective areas of intervention
2. Training of law enforcement officers and park management staff in MaMaBay for more effective prosecution of wildlife trafficking offenses.

USAID Mikajy shared the training tools with the Menabe team to inform capacity building for similar actors involved in protecting the Menabe Antimena PA.

Regarding the training of COBAs, park agents and LMMA managers on environmental infraction reporting techniques, a total of eight training sessions were facilitated in FY20, with 185 people attending (87% men, 13% women). Seven sessions were conducted in MaMaBay and one in Menabe which was organized as a training of trainers.

The themes addressed during the training sessions included:

- The importance and necessity of biodiversity protection;
- The different laws and texts governing environmental crimes;
- The different crimes or offenses against natural resources;
- The format and contents of a letter of denunciation;
- The different types of evidence that are necessary;
- The procedure for filing a complaint or denunciation letter.

IMPACT
USAID Mikajy trained a total of 5,728 persons in NRM and/or biodiversity conservation during FY20, including 4,782 men (83%) and 946 women (19%).

The sessions also promoted mechanisms for rapid reporting of various environmental crimes including the AVG toll-free number (512) and the USAID Mikajy mobile platform.

After the trainings, the participants committed themselves to share what they have learned during the training among their COBA/LMMA (and other membership structures) and to support the Heads of Sectors and Park Agents in the transmission of letters of denunciation issued by communities to the respective managers (DREDD, Cantons, and Fishing Services).

Capacity building at the grassroots community level (VOI, Communal Platform of CSOs) will be organized in Q1 FY21 through the organization of legal clinics to support the DTPN core groups to play their role in law enforcement.

In summary, USAID Mikajy strengthened local actors' knowledge and capacities on texts and laws related to natural resources, clarified processes for filing complaints, and improved citizen accountability for natural resource management. The beneficiaries of the trainings will inform their communities about their rights and duties in cases of environmental crimes and offenses. They will also be the key people in the implementation of the community-based legal clinic. As a result of this training and the establishment of legal clinic networks in both landscapes, it is hoped that there will be an increase in the number of environmental complaints submitted to the competent authorities.

Next steps for FY21include:

- Support and accompaniment of the COBAs in the drafting and compilation of necessary files for denunciation of environmental crimes;
- The establishment of local legal clinics in close collaboration with USAID Hay Tao/AVG;
- Monitoring how law enforcement officers and courts deal with the denunciations received.

5.2 CHALLENGES ENCOUNTERED AND SOLUTIONS

- **Participation of women:** The participation of women in the leadership of local organizations and structures remains a challenge. Women represent only 19% of all the people trained by USAID Mikajy during FY20. This reflects the patriarchal nature of Malagasy society and women's focus on household survival activities. To address this imbalance USAID Mikajy will conduct greater outreach to women when organizing trainings, facilitate women-only trainings so participants may feel more comfortable actively engaging, and we will ensure trainings are held at times and locations more practical for women to attend. We will also conduct an internal gender assessment during FY21 which will produce practical recommendations to increase women's participation and engagement.
- **Encourage community structures to be active agents rather than passive recipients:** For many communities, establishing an association or group is often done to receive a donation,

which in turn reinforces an expectation of assistance. Our continual challenge is therefore to find effective methods and tools to ensure these structures become active agents of change to safeguard natural resources and territories, rather than passive recipients.

- **COBA platforms in Makira and Masoala are not fully operational.** Until now, these platforms are highly dependent on WCS and/or MNP. They do not yet for example conduct their own planning. USAID Mikajy will therefore focus on moving these platforms towards managerial autonomy by supporting their organizational development, management and technical capacity, and finally their capacity in project design, research and building partnerships.
- **Literacy level of COBAs:** In general, we have observed that COBA office members have low literacy levels. They are chosen as board members, but they often lack the necessary literary and administrative to execute their responsibilities. For example, they are often not capable of completing the paperwork to legalize their offices or support their management. Mikajy needs to be more patient and help COBAs to become more administratively efficient.
- **Strengthening confidence and courage in denouncing environmental crimes.** In support of this, a collaboration with the Ministry of Justice and BIANCO and the Anti-Corruption System is already underway by the ROHY movement with the leadership of MSIS-Tatao and AVG at national level to establish procedures and assurances for witness protection.
- **Capacity of the COBAs and community members to denounce environmental crimes.** The capacity and willingness, especially among community members, to report environmental crimes remains a challenge due to intimidation by perpetrators, which raises fear of revenge against those who report environmental crimes. Further, ow levels of education and literacy may also prohibit some from effectively completing the denunciation process . This will be addressed through the next round of community-level capacity building interventions planned for FY21 and the establishment of local legal clinics.

6.0 CROSS-CUTTING ISSUES

6.1 CLIMATE

In both landscapes, USAID Mikajy's efforts to establish tree nurseries and conduct active restoration is intended to strengthen climate and community resiliency. A total of 504 hectares were reforested by USAID Mikajy during FY20. As these trees grow, they help stop climate change by removing carbon dioxide from the air, storing carbon in the trees and soil, and releasing oxygen into the atmosphere. Restoration activities this year also directly engaged over 1,700 local residents, providing them with a means to support positive changes for their economic and social well-being. Our promotion of agroforestry, which is a largely a new production system for beneficiaries, helps them to diversify their livelihoods and production systems which supports resilience to climate change, while also increasing woody biomass to sequester carbon and contribute to national climate change mitigation efforts.

During FY20, USAID Mikajy was able to engage 6,123 people in using climate information and in risk reduction actions to improve their resiliency. In particular: 2,690 people contributed to forest restoration and fire-fighting actions, 1,254 people adopted climate resilient agriculture and livestock techniques, and 538 people joined village savings and loans associations to improve their economic resilience. With respect to social resilience, 568 vanilla producers have benefited the health mutual insurance that USAID MIkajy promoted in collaboration with USAID Mahefa Miaraka, while 1,073 people have benefitted from improved land tenure security through the local land occupation plan (PLOF).In MaMaBay, on World Environment Day, USAID Mikajy distributed 224 flyers about climate change in Sambava District. The flyers clarified the links between reforestation and climate change as well as the need for reforestation practices to mitigate climate change and strengthen resiliency. During the restoration activity in Andranoala, Ambohitralanana Commune, Antalaha District, USAID Mikajy also raised awareness about the importance of restoration in helping to sequester carbon and mitigate climate change.

For the Menabe Landscape, climate prediction data are systematically sent by the regional Meteorology Department to be translated by USAID Mikajy into information that can be used to inform conservation (restoration, firefighting), and development activities (agriculture, fishing). USAID Mikajy held discussions about how to translate information from the DGM so that it is accessible to communities with regional state and non-state actors (including DRAEP and conservation organizations), but due to COVID-19 limitations on meetings no further progress has been made. This will be followed up in FY21.

6.2 GENDER

In FY20, USAID Mikajy took into account recommendations from the FY19 Pause and Reflect workshops to improve the integration and inclusion of women in its activities. USAID Mikajy used the gender mainstreaming tools and manuals provided by USAID Hay Tao, and tried to systematically mainstream gender into the activities of all strategic approaches. For example, the social enterprise model developed by USAID Hay Tao to support the inclusion of women and young people was used to help VSLA groups in defining economic activities to be undertaken.

In Menabe, USAID Hay Tao provided support and training to help the USAID Mikajy technical team consider gender balance in all interventions (meetings, workshops, training, conservation activities, human development activities, and decision making). As a result, there was improved participation of women in conservation activities. Nine women were involved in the restoration activities in partnership with Voahary, and five of the community animators are women. Among the 12 members of the FOSA

youth association involved in the nursery activities working with grantee Kew, four are women.

Women's participation is even more significant for the 761 producer organizations supported by USAID Mikajy, of which 60% are women. These women are involved in maize and peanut conservation farming, market gardening, chicken farming and fish processing (smoking). Finally, the livestock vaccinators' training in five villages involved 10 women, half of whom obtained a community vaccinator certificate.

As noted earlier, the number of women involved and engaged in conservation structures and organizations is still limited. For this reason, Mikajy also added a gender component to our organizational capacity building agenda, including the organizational strengthening of 30 organizations in July 2020. A gender approach theme was included part of these capacity building trainings organized in Morondava and Belo Tsiribihina.

In MaMaBay, support for women was increased through the development of community savings and credit systems, including Village Savings and Loan Associations (VSLAs). Ten new VSLA groups were established in the MaMaBay Landscape (eight in the Makira area and two in the Masoala area). In total, 255 new members (97% of whom are women) and participated in training meetings.

During development of the Local Plan for Occupation and Tenure (PLOF) in Voloina Commune, a gender and youth analysis was completed, which revealed that 69% of land users/owners are men and 31% are wome.n With respect to land status, it was noted that: 32% of Private Property without Title (PPNT) plot owners are women and 68% are men; 27% of plot users located in Private Domains of the State(DPE) are women and 73% are men; and 17% of the plot users in management transfer zones were women and 82% were men.

USAID Mikajy continues to face difficulties in integrating gender in our approaches: for example, we were not able to identify and promote female champions for USAID Mikajy's conservation and development actions as was planned. These champions were expected to participate in regional and national workshops to help to promote gender mainstreaming, but as a result of COVID-19, these workshops were postponed. While we were able to mobilize women in some of our activities during FY20 (see Table 14), more will be done to develop and implement a clear mobilization strategy in FY21.

TABLE 14. WOMEN'S PARTICIPATION IN ACTIVITIES SUPPORTED BY USAID MIKAJY IN FY20

Activity	Number of women participating in Mikajy activities		
	Menabe	MaMaBay	Total
Local committee for monitoring and restoration Voahary	9	0	9
Community restoration animators Voahary	5	0	5
Beneficiaries of Voloina PLOF	0	326	326
Members of Village Savings and Loan Associations (VSLAs)	182	240	422
Improved poultry husbandry activities	7	0	7
Vegetable gardening activities	62	0	62
Conservation farming of peanuts	9	0	9
Total	**274**	**566**	**840**

6.3 YOUTH

USAID Mikajy is improving outreach and engagement with youth in both landscapes. Efforts to target youth (defined as less than 30 years of age) during FY20 were made across strategic approaches and

interventions as well as our grants program, and communication efforts. This past fiscal year, youth represented 31% of all persons trained. Another indicator of youth engagement is how many young people gained improved economic benefits during FY20 from sustainable natural resource management and/or biodiversity conservation efforts supported by Mikajy. Data indicate that out of the 4,105 people who have increased economic benefits this fiscal year, 33% (1,343 persons) are under the age of 30. Finally, the Allo Mikajy platform, and specifically the 3-2-1 service, is heavily used by youth, with 32.5% of users being under the age of 18 (and an additional 45.5% of users falling between the ages of 25 and 34).

In the Menabe landscape, 20 of the 24 nursery agents supported by the Mikajy grantee Kew are members of the FOSA youth association. In addition, 100 members of the FOSA youth association were trained on nursery activities, seed collection and agroforestry, and they have participated in restoration and agroforestry activities. For their work on restoration of Menabe Antimena core protected zone, Voahary Association worked with 12 young people to raise awareness and mobilize community members, and for nursery activities, seed collection and ecological monitoring activities in the restoration areas. In celebration of International Youth Day, USAID Mikajy's collaboration with the FOSA youth association was featured on the USAID Medium blog. The article, entitled "Back from the Ashes" describes how youth in Menabe are actively engaged in reforestation and conservation efforts and was widely circulated across social media platforms.

We do note that in MaMaBay the participation of youth is still low given the high percentage of young people in the region. For example, participatory patrols in Makira Natural Park have a youth participation rate of only 24%. Greater efforts will be made in FY21 to target youth in MaMaBay.

6.4 HEALTH

In the MaMaBay Landscape, USAID Mikajy continues to collaborate with USAID Mahefa Miaraka project to implement a mutual health insurance program to ensure better access to community health services for target communities (Mirarisoa and Liampiovoarana). A feasibility study was conducted prior to initiating the mutual health insurance program in two cooperatives. It involves a tripartite partnership between the cooperatives, the local health facilities as service providers and a financial institution which provides an account dedicated to health insurance. Membership and subscription to mutual health insurance offer many advantages for the cooperative members and their families, including permanent access to quality health care services for the whole family for only 30% of the total cost of care after paying the annual subscription fee.

The mutual health insurance, locally called *Tahiry hoan'ny Fahasalamana* (THF), is working well in these two cooperatives and helping members to meet their medical care needs. For the Mirarisoa cooperative, 34 of the 101 THF members have already benefited from the medical care provided by the Health Center (CSB II) in Voloina, while 23 of the 34 THF members of the Liampiovoarana cooperative have already benefited from the CSB II health care in Voloina.

In addition, the establishment of the mutual health insurance also strengthens solidarity among community members, contributes to increasing attendance rate at health centers and thus improves community health. Cooperative institutional development is also improved by the diversification of services offered to members. Other cooperative members who have yet contribute to a health fund have expressed interest in starting a mutual health insurance scheme. This will be particularly important given the low vanilla prices and the economic impact of COVID-19 on the economy. In FY20, USAID Mikajy also raised awareness about mutual health insurance schemes with the Mahavelona and Kajivola cooperatives.

7.0 COLLABORATING, LEARNING AND ADAPTING

USAID Mikajy is a complex and multi-faceted activity being implemented in a rapidly changing environment with new threats to conservation, changing political priorities, shifting community perceptions and fluctuating economic dynamics. The impact of the COVID-19 pandemic only further emphasizes how quickly the operating environment can change, as well as the importance of the need to collaborate, learn and adapt our approaches.

7.1 COLLABORATING

Full and active engagement with key stakeholders including communities, governments, civil society and the private sector is critical to Mikajy's impact and success. During FY20, USAID Mikajy collaborated with a broad array of stakeholders in Madagascar. Specific collaborations include:

Memoranda of Understanding (MoU)

- Three (3) Memoranda of Understanding were signed with private sector partners, including: Moringa Waves to purchase products and invest in a processing unit for moringa leaves and seed drying in Menabe; Ocean Farmers to promote community-based seaweed and algae farming in MaMaBay and with The Bee Keeper for the purchase of forest friendly honey and related products from beekeepers in Menabe.In April 2020, a MoU was signed with Mahefa Miaraka to improve the well-being and resilience of conservation communities through better access to community health services provided by USAID's Mahefa Miaraka Project (health insurance, reproductive health and mother and child health, nutrition, hygiene, etc.). This led to the adoption of a mutual health insurance for cooperative members as an innovation for USAID Mikajy.
- MoUs were signed with the District Risk and Disaster Management Committee of Maroantsetra (BDGRC) and with Medair to strengthen local structures responsible for risk and disaster management. The objective of these collaborations is to help reduce preventable deaths from weather uncertainty and strengthen the resiliency of disaster-prone areas through community capacity building and early action. The focus of the BDGRC collaboration will be on the District of Maroantsetra in MaMaBay, and of the Medair collaboration will be on the districts of Morondava and Mahabo in the Menabe Region.
- An amendment to our MOU with Madagascar National Parks (MNP) expanded USAID Mikajy's support for additional protected areas including Ranomafana, Andringitra Ivohibe, Mikea, and Nosy Mangabe.

Menabe

USAID Mikajy leads numerous collaborations in Menabe including a task force comprised of the DREDD, DRAEP, CNFEREF, Fanamby, Durrell, Association Voahary, Kew and local civil society organizations including FIVOI, FIVE and regional authorities like the Prefecture, Governor's office and forces of order which monitors pressures on resources, shares information and coordinates interventions. USAID Mikajy also leads a support group for the Fisheries Management Plan for Menabe with DRAEP Menabe and other stakeholders including USAID Hay Tao/URI CRC, WWF and Blue Ventures.

In addition, USAID Mikajy collaborated this year with the United States Forest Service (USFS) to

support mangrove management and restoration activities. Due to the COVID-19 pandemic and associated travel restrictions, activities were delayed this year but are planned to resume in FY21. Nonetheless, virtual engagements were held in FY20 with partners on mangrove and fire management and forest restoration in order to gain an understanding of the current context and identifying means of supporting these efforts.

MaMaBay

SWIOFish 2, USAID Mikajy, Hay Tao and WCS collaborated to support the homologation of the Dina Be in the Bay of Antongil at the regional level.

Other Collaborations in FY20:

DOI-ITAP: USAID Mikajy supported the visit of a field-based assessment team examining the impacts of climate change in USAID-supported activities. The focus was on terrestrial and marine environments, human development (agriculture and livestock), and community health. The results were used to inform USAID Mikajy's climate risk management plan and interventions.

Household Baseline Survey: A household baseline survey was conducted in Q2 by an independent consulting firm hired by USAID Madagascar. The purpose of the survey was to measure changes over time in livelihoods, health access, knowledge/perceptions of governance, and conservation behaviors as a result of participation in the two USAID activity's interventions. The information provided by USAID Mikajy served as the basis for the selection of the Communes as intervention areas and for the sampling of households to be surveyed. In return, the results of the survey gave USAID Mikajy an appreciation of the characteristics, livelihoods and commitments of the communities in his intervention areas.

Cost Benefit Analysis: USAID Mikajy provided support to the Integra/Limestone Analytics consulting team, engaged by USAID to analyze the cost-effectiveness of biodiversity conservation and management of natural resources.

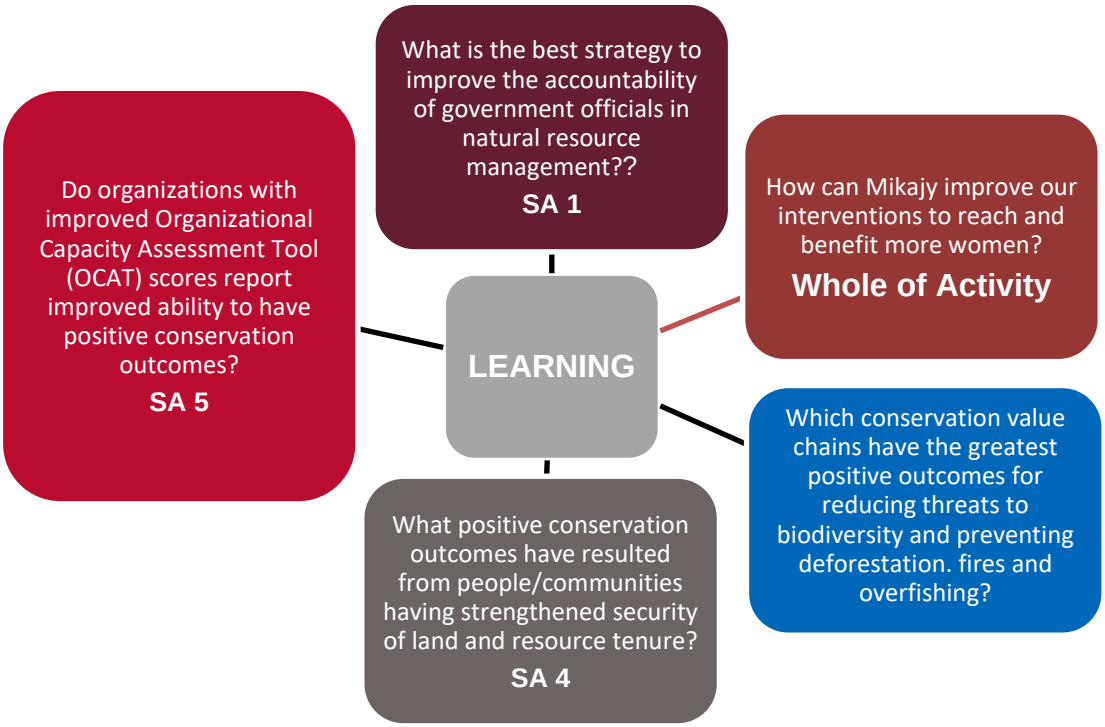
7.2 LEARNING

USAID Mikajy's Learning Agenda is rooted in best practices to ensure our work is coordinated, evidence-based and open to adaptation over the life of the activity. Annual Pause and Reflect (P&R) workshops are an integral part of USAID Mikajy's learning agenda. This year's P&R workshops enabled us to:

1. Review and assess the activities' key results, strategic approaches, and actions;
2. Review monitoring of progress on ten theory of change outputs and outcomes;
3. Make recommendations for the adaptation of strategic approaches, activities, and outcomes;
4. Gather inputs and update learning questions, and
5. Facilitate improved coordination and collaboration with our CCP partners and USAID Madagascar.

USAID Mikajy's updated learning questions are shown in Figure 20.

FIGURE 20: LEARNING QUESTIONS



Additional tools developed by Mikajy to inform our learning agenda this year included:

1. An operational M&E and Learning Manual which serves as a guide to MEL procedures for USAID Mikajy technicians and partners. This document provides descriptions of each contractual indicator, the types of activities contributing to the achievement of each indicator, data collection tools and evidence documents corresponding to each Mikajy contractual indicator to facilitate understanding of the PIRS. by our technicians.
2. To support information sharing and learning, a monitoring table of achievements was developed for each landscape and partner and presented on the last Friday of every month. This enables each stakeholder to assess their progress towards indicators, confirm results have been recorded and identify future actions. The table is also a tool for verifying whether the data is correctly recorded in the datasets and that the related documentation is archived on the file sharing and storage system Egnyte.
3. The Terms of Reference and Activity Report templates were updated to endure a procedural consistency between the workplan, the engagement of activities and the reporting of MEL data. From now on, the codes of the three-digit operational plan and the values of the targeted indicators must be mentioned in every Terms of Reference and associated reports.
4. The MEL team participated in a grant clinic to present Mikajy's contractual objectives and indicators to potential future grantees. This enabled them to understand how proposed activities contribute to Mikajy's objectives and targets and to present a complete dossier in conformity with Mikajy's expectations.

7.3 ADAPTING

As part of Mikajy's adaptive management strategy, both USAID Mikajy and USAID Hay Tao participated in individual and joint pause and reflect workshops in July 2020 during which participants revisited the theory of change, and the SA results chains in light of experience and learning during the year. The

results of those discussions were all then synthesized into a single set of harmonized results chains submitted to USAID in September in the form of the FY20 Annual Work Plan and the Activity Monitoring, Evaluation, and Learning Plan (AMELP).

The following high-level findings of the Mikajy pause and reflect workshops are highlighted:

- **Overall assessment** – More emphasis needs to be placed on coordination and engagement between protected area managers, state officials, NGOs and local communities with respect to understanding each other's roles in natural resource management.
- **SA1 (Nature)** – Regular and transparent access to information is essential for successful natural resource management and behavior change. To this end it was recommended that information (namely SMART patrol data, deforestation analyses and fire alerts) collected by Mikajy be shared not just with the DREDD but also protected area managers (MNP, WCS, TGRNs) as well as COBAs. The Allo Mikajy mobile platform-in combination with radio- should also be scaled up in both landscapes with updated content to increase information dissemination in support of behavior change.
- **SA2 (Wealth)** – Results under SA2 remain vulnerable to external factors for example falling market prices, the decline in ecotourism and the overall impact of the pandemic on local producers. More emphasis is needed to mobilize private sector investment into conservation-friendly enterprises. This will require Mikajy to clearly communicate what types of support and benefits we can bring to these partnerships, whether that be technical support, capacity building, grants or other mechanisms. It was also noted Mikay needs to identify how to support the private sector in the development of green business and market development opportunities, as well as value added products.
- **SA3 (Resilience)** – For Menabe, develop communities' commitment to take ownership of the development services provided under the partnerships entered into. Focus on communication tools and strengthen collaboration. Also improve coordination between SIF / Haytao on land tenure security and continue collaboration with the OIM / REAP project. In MaMaBay, focus on building resilience with existing and potential partners including, Mahefa Miaraka, Tozzy Green, Ocean Farmers, We are also considering collaboration with PADAP and AFAFI North if possible for the establishment of agricultural infrastructure. Finally, develop and implement a communications plan in order to become better known by other potential partners in our areas of intervention.
- **SA4 (Action)** – Adopt the concept of DTPN to coordinate interventions across strategic approaches. Undertake a Knowledge Attitude and Perception (KAP) survey in FY21 a way to verify the effectiveness of DTPN. Also ensure the recommendations from the shared vision workshops and action plans are widely shared with stakeholders. Finally, add to the dina, the renewal of specifications and contracts of TGRN and/or TGRH, and the update of the PAGs.
- **SA5 (Power)** – Discussion concluded that a lack of decision-making and action by local authorities hinders them from executing their legal responsibilities, including following up on infractions reported communities. It was recommended that the establishment of the legal clinic will help make it possible to strengthen the DTPN structures and sanctioning of infractions. It was also recommended to establish and operationalize support units / structures for grassroots communities to help them manage and monitoring environmental actions at the level of municipalities. The unit could be a commission within the SLC (Local Consultation Structure) to ensure the DTPN approach is adopted.

A key takeaway from the joint Pause and Reflect workshop with Hay Tao was that while communication has improved there is still a need to improve coordination, harmonization and timing of interventions

between the two activities. Proposed actions include: a matrix clarifying the roles of each partner will be updated for FY21 and shared with USAID for comment, COP and thematic group meetings between the two activities should resume in FY2, and Hay Tao should enable Mikajy to increase participation and engagement at the national level as appropriate.

8.0 COORDINATION

8.1 PARTNERSHIP WITH USAID HAY TAO

USAID Mikajy and USAID Hay Tao are both financed and implemented under USAID Madagascar's Conservation and Communities Program (CCP) and must work closely together and ensure good coordination on the implementation of actions. USAID Mikajy and USAID Hay Tao implemented the following joint actions during FY20.

- **Maize sector transformation in Menabe** (including maize traceability system) – This study was launched to help USAID Mikajy identify the best way to engage with the maize value chain, given its devastating impacts on the Menabe Antimena Protected Area. The main objectives of the study were to provide in-depth knowledge on the national and regional maize value chain, particularly in the Menabe region, focusing on (i) the competitiveness and performance of the value chain (ii) the quality of the relationships between these different actors with emphasis those on the buyer side (iii) the existing regional, national and export markets. The study confirmed the importance of national market demand for maize which creates significant economic incentive for the extension of illegal forest clearance and cultivation within the protected area. USAID Mikajy's further support for the maize value chain will depend on the willingness and clear commitment of private sector actors and local government to develop a sustainable value chain in the Menabe, which is not yet evident.
- **Chainsaw restrictions in MaMaBay** (with USAID Hay Tao AVG) - Chainsaws are used for illegal logging and to clear forest for slash and burn agriculture - both major drivers of deforestation in the MaMaBay Landscape. USAID Mikajy requested USAID Hay Tao's support to put in place a charter of responsibilities on the use of chainsaws to be validated by all actors and groups of actors, accompanied by a joint plan for implementation with a mechanism for monitoring its enforcement. The workshop did not take place in FY20 due to COVID-19, and USAID Mikajy recommends it be organized in FY21.
- **Management of migration in Menabe** (with OIM and government authorities) The clearing of dry forests in the core protected zone of the Menabe Antimena protected area is caused in part by the mass migration of Androy communities from the dry south of Madagascar to plant maize and peanuts. The International Organization of Migration (OIM) through its 'Responding to threats to peace and social cohesion, supporting the empowerment and promotion of women in Madagascar' project (REAP) is working to find a sustainable solution to reduce the impacts of migration on the protected area. With the support of the Menabe Regional authorities, IOM is planning to relocate 100 households from eastern part of Menabe Antimena (Mandroatsy). to the village of Ankilizato. USAID Mikajy and IOM/REAP are in discussion about how to provide sustainable alternative revenue generating activities for the relocated migrants and receiving community. USAID Mikajy requested the support of USAID Hay Tao on this strategy, but due to COVID-19 this work did not progress in FY20 and will be advanced in FY21.
- **Dry Forest World Heritage Initiative** (with WRI using SMART/Forest Watch) - This initiative aimed to analyze the feasibility of including dry forests in the World Heritage List. However, after consulting the eligibility criteria, we learned that Category V protected areas are not eligible for World Heritage status. As a result, the initiative to include Menabe Antimena PA in the heritage category was abandoned. The 'Dry Forests de l'Andrefana' dossier was submitted to UNESCO in December 2020 including six protected areas of western Madagascar, but none in Menabe.

- **Menabe regional fisheries management plan** (with URI CRC) – USAID Mikajy has been designated by the Fisheries General Directorate (DGPA) as the lead coordinator for the development of the Menabe PAP. The process is following the PAP development guide developed by USAID Hay Tao. USAID Hay Tao/URI CRC participates in the monthly PAP Steering Group meetings, and provides technical support on following the PAP guide as well as on the drafting of technical documents such as the terms of reference for the recruitment of consultants and concept notes related to stock assessment and economic viability analysis.
- **MaMaBay and Menabe Landscape Monitoring systems** (with WRI) – USAID Mikajy shares land and marine SMART data from community and joint patrols and surveillance conducted in both landscapes with USAID Hay Tao. USAID Hay Tao links the data to fire points and forest cover change data. The objective is to produce an updated map showing the forest cover evolution in the two landscapes as part of the national data portal under development by USAID Hay Tao. In addition, the marine patrol SMART data from Bay of Antongil will be analyzed in spatial maps by USAID Hay Tao to help USAID Mikajy the evolution of pressures on the marine ecosystem.
- **MaMaBay sustainability certification for vanilla and spices –** USAID Hay Tao developed a training reference framework on vanilla production and preparation in which representatives of cooperatives supported by USAID Mikajy participated.

During FY20, USAID Mikajy and USAID Hay Tao also collaborated on themes that were not included in the FY20 workplan, including:

- **Cost Benefit Analysis and household baseline studies** conducted by USAID to help to identify targeted interventions that generate the highest development returns and the least environmental costs, and to assess the cost-effectiveness of community-based resource management under various management scenarios.
- Joint participation in the **USAID Geocenter training** workshop on the use of geospatial data for monitoring of USAID project activities and impacts;
- **Natural capital valuation** – USAID Mikajy participated in the USAID Hay Tao workshop on natural capital valuation which focused on valuation methodology and tools – which could be useful for USAID Mikajy payment for ecosystem services opportunities two landscapes.
- **Integration of a gender approach into USAID Mikajy's Strategic Approaches** - In Menabe, USAID Hay Tao provided support and training to help the USAID Mikajy technical team consider gender balance in all interventions (meetings, workshops, training, conservation activities, human development activities, and decision making).
- **Plot census in villages in and around Menabe Antimena** - USAID Hay Tao/SIF conducted agricultural land plot surveys in communities affected by Menabe Antimena PA. These documents are awaiting finalization and validation by MATP and MEDD. They will later be used by USAID Mikajy and the PA manager (Fanamby) for the zoning renewal for the PA management plan (PAG) renewal and by the relevant ministries, regional and commune level actors for spatial management and planning. They will also be used as the basis for increasing land tenure security in plots that do not touch the protected zones
- **Private sector engagement strategy** – USAID Mikajy shared the results of the Conservation-friendly enterprise investment opportunity study to inform the private sector engagement strategy. USAID Hay Tao designed and shared the business model tool that will be the subject of joint action by both parties in the mobilization of private sector actors in conservation-friendly enterprises. This tool helps to facilitate business model conceptualization and planning. It is based on the analysis of the key factors that characterize the business model

of the communities (key activities, partners, key resources, cost structures) and those of the company (supplier - buyer relationship, market access conditions, infrastructure / logistics, income flow) to define the common values to be captured in the partnership.

- **Certification and labeling study** – USAID Mikajy contributed to the design and approval of a study on the agricultural product certification and ecotourism site labeling mechanism. The results of this study will help USAID Mikajy to promote sustainable value chains in landscapes and increasing investment in CFEs. This study also helped to define the appropriate certification option for peanuts produced in Menabe.
- **Regional consultations for the harmonization of TGRN frameworks and tools** – USAID Hay Tao supported MEDD by leading the stakeholder consultation process and testing of harmonized TGRN evaluation tools. USAID Mikajy will use the tools and guides for COBA strengthening activities.
- **National multi-stakeholder dialogue on conservation Menabe Antimena** – USAID Hay Tao led the organization of a meeting aimed at mobilizing the central state, technical and financial partners, as well as civil society organizations for better management and governance of natural resources especially dry forests in the Menabe Region in February 2020, with participation of USAID Mikajy.

8.2 UNITED STATES FOREST SERVICE

USAID Mikajy and USFS signed an agreement for the establishment of two pilot mangrove nurseries in two villages near Belo sur Mer (Andranolava and Manahy) in southern Menabe. The objective is to set up model nurseries that USAID Mikajy will be able to learn from and replicate the lessons learned to other coastal villages. A total of 20 hectares of mangroves should be restored under this initiative. Unfortunately, due to travel restrictions for COVID-19, USFS was unable to conduct a scoping mission as planned, and this activity is currently being revived for implementation in FY21.

9.0 GRANTS UNDER CONTRACT

During FY20, USAID Mikajy awarded two new grants. These included an award to Voahary ($87,430) for ecological restoration of the Lambokely and Beroboka forests in February 2020, and to Insight in Development ($114,640) in June 2020 to re-establish bee colonies and promote sustainable honey production in the Districts of Andapa and Antahala. This brought the total number of grants under implementation by USAID Mikajy to five during FY20 (see Table 15). In addition, an award to the *Groupement des Pecheurs Professionels de Menabe* (GPPM) in the amount of $129,087 was submitted for approval to USAID in Q4.

TABLE 15: SUMMARY OF USAID MIKAJY GRANTS UNDER CONTRACT FY20

Grantee Name	Grant Number	Landscape	Amount (USD)
Fanamby	001	Menabe	$134,795
Durrell	002	Menabe	$127,131
KEW	003	Menabe	$90,345
Association Voahary	004	Menabe	$87,430
Insight in Development	005	MaMaBay	$114,640
TOTAL			**$554,341**

The majority of grants awarded to date have focused on the Menabe Landscape, including NGOs Voahary, Durrell Wildlife Conservation Trust, Kew Madagascar Conservation Centre and Fanamby. At the end of the third quarter a grant was awarded to Insight in Development in support of beekeeping in MaMaBay. In total, USAID Mikajy has awarded $554,341 in grants to date (14% of the grants budget).

The slow implementation of the grants program can be attributed to several factors. First, the Grants Manager and the Grants Assistant both resigned from USAID Mikajy during FY20 to pursue other professional opportunities. A new Grants Manager was quickly recruited and trained, however this did result in the delay of reviewing, preparing, negotiating and drafting grant award packages. Second, local organizations have very limited capacity and experience in preparing proposals and budgets. As a result, USAID Mikajy staff spend significant amounts of time working with grantees to develop robust proposals, clear and justifiable budgets and to screen their activities against the EMMP. Finally, COVID-19 restrictions also caused delays in receiving revised proposals and budgets from grantees.

In September 2020, a revised USAID Grants Manual was submitted and approved. Changes included: 1) an option for In Kind Grants (IKGs) to be awarded to government entities; 2) additional detail regarding monitoring of grantees and 3) additional detail regarding procurement monitoring under Fixed Award Agreements.

A scaling up of the grants program is a priority for FY21, including increasing the number of grants reviewed and awarded, and reducing the time to prepare grant award packages. USAID Mikajy has also clarified internally the roles and responsibilities among technical and MEL staff with respect to the grants program. In addition to the GPPM grant already under review by USAID, six (6) additional grants are already in the pipeline and more are planned for FY21, including In Kind Grants to government entities such as MNP and DREDD.

10.0 TARGETS OF OPPORTUNITY

A target of opportunity is defined as a prospect in one or more target areas of high biodiversity value to apply the Mikajy approach and achieve similar impacts and sustainability. USAID Mikajy has determined that targets of opportunity should contribute significantly to the achievement of project indicators, demonstrate value for money and should not be undertaken to the detriment of priority interventions.

Over the past five years, pressures in protected areas have continued to increase. Remaining natural habitats in protected areas are gradually disappearing under the effect of a growing, poor and mainly rural population that depends heavily on natural resources for survival. This situation has worsened during the COVID-19 pandemic. With each economic crisis in Madagascar, the population tends to rely more on natural resources, particularly those who are most vulnerable. This pandemic has also strongly affected the tourism sector in Madagascar. This has led to a significant reduction in income for Madagascar National Parks meaning that they will not have sufficient funds to operate some protected areas under their management.

During FY20, USAID Mikajy signed a Memorandum of Understanding with MNP to support conservation activities in three management units: Ranomafana, Andringitra and Ivohibe, which are target of opportunity areas for USAID Mikajy (see Table 16below). This is addition to the ongoing support that USAID Mikajy already provides to MNP in support of Masoala National Park in MaMaBay. This additional support to MNP contributes to USAID Mikajy's mission of conserving biodiversity and combatting pressures and threats on protected areas.

The main objectives of this collaboration are to:

- Strengthen MNP field agents' technical capacities so that they master effective methods for monitoring protected areas;
- Properly monitor protected areas and prosecute any observed pressures at the judicial level;
- Fight fires, the main causes of habitat degradation; and
- Restore degraded forests.

TABLE 16: FY20 TARGETS OF OPPORTUNITY

Protected areas	Region	Observations
Ranomafana National Park	Vatovavy Fitovinany and Haute Mahatsiatra	Included in the Corridor Fandriana – Vondrozo and in Ala Atsinanana World Heritage Site
Andringitra National Park	Haute Mahatsiatra and Ihorombe	Included in the Corridor Fandriana – Vondrozo and in Ala Atsinanana World Heritage Site
Ivohibe Special Reserve	Ihorombe	Included in the Corridor Fandriana – Vondrozo and in the same management unit as Andringitra

10.1 ACHIEVEMENTS

Control and monitoring missions of protected areas were carried in all of the targets of opportunity plus Mikea. The objectives of these missions were (i) to dissuade the local population from infractions by a maximum presence of park agents (AGP) and Local Patrol Committees (CLP) in the protected areas, (ii) to monitor biodiversity, and (iii) to observe the level pressures on the protected areas. The patrols were planned according to the monitoring plans of each management unit. The routes of these patrols

were then plotted using GPS and the data transferred to the SMART software to evaluate the efforts undertaken. To ensure a permanent presence in the protected areas, MNP patrols were alternated with local patrol committees.

TABLE 17: MNP AND LOCAL PATROL MISSIONS (AUGUST-SEPTEMBER 2020)

Patrol Data	Ranomafana	Andringitra	Ivohibe	Mikea
# of patrols by MNP agents	9	9	4	11
# of parcels (25ha) monitored by MNP park agents	242	213	56	615
# of MNP park agents involved	20	12	4	10
# of parcels monitored by local patrols	223	83	0	735
# of local patrollers involved	35	12	0	65

Major pressures recorded per site using the SMART approach during the patrols were:

- In Ranomafana National Park: four cases of illegal logging, four cases of illegal artisanal mining operations, two cases of collection of non-timber forest products
- In Mikea National Park: one case of poaching (bird trapping), five cases of illegal camping, 39 cases of illegal logging, three cases of fires
- No pressures were encountered in Andringitra and Ivohibe during the period under review.

Measures taken in response to the observed infractions include:

- An awareness raising meeting was held in August in Morarano and Sahanambo sectors, organized by the MNP team and the mayor of Vohitsaoka involving elders, opinion leaders, local authorities and local associations. This meeting led to the elaboration of a *dina* at the commune level and the constitution of village firefighting committees. Subsequently, it is expected that this *dina* will be approved at the District and court level and will be implemented by the local authorities.
- Two awareness raising sessions focusing on firefighting were held with the participation of the two mayors in the Ivohibe Sector, including a session in Ambatofotsiloha in Ivongo Commune and a session in Ambatovita Soaseragna in Ivohibe Commune. The topics covered included : 1) details and clarifications on the principles of collaboration at the local level for firefighting during the 2020 fire season, 2) the commitment of the villagers to maintain 7 km of firebreaks in each of the two Communes, and 3) the importance of the application of the *dina* in the fight against fires to protect the Ivohibe PA.
- Maintenance of firebreaks for the Ivohibe Special Reserve were conducted in Andoharano, Ivongo Commune. This included i) preventing wildfires from accessing the protected area and burning the conservation target for this PA which is about 1500 ha of low altitude dense humid forest, and ii) to avoid the disappearance of a 240 ha marsh. Participants established seven km of firebreaks including 3km at Andoharano, Betaretra and 4km at Ambalavakisiny, Antamboholava, and Ambavanala.

TABLE 18. CONTRIBUTIONS OF THE TARGET OF OPPORTUNITIES TO MIKAJY INDICATOR RESULTS IN FY20

Mikajy indicators	Andringitra AP	Ivohibe AP	Mikea AP	Ranomafana AP	Total
1.1 Number of people that apply improved conservation law enforcement practices as a result of USG assistance (EG.10.2-6)	11	8	101	81	**201**
1.2 Number of local people participating in planning, management, enforcement for improved NRM	90	45	101	80	**316**
1.3 Number of people using climate information or implementing risk- reducing actions to improve resilience to climate change as supported by USG assistance (EG.11- 6)	6	38	0	0	**44**
6.4 Number of people with improved economic benefits derived from sustainable natural resource management and/or biodiversity conservation as a result of USG assistance (EG 10.2-3)	36	10	101	80	**227**

10.2 CHALLENGES ENCOUNTERED AND SOLUTIONS

TABLE 19: CHALLENGES AND PROPOSED SOLUTIONS FOR MNP TARGETS OF OPPORTUNITY

Protected areas	Challenges	Solutions
Ranomafana	• Reducing pressures inside the park • Restoring degraded areas	• Integrate local communities including women and youth in conservation activities. • Use SMART effectively in patrolling, monitoring pressures, data collection and processing • Improve the enforcement of existing laws and regulations with the different stakeholders
Andringitra and Ivohibe	• Maintaining zero fire • Restoring degraded areas	• Acquire active fire-fighting equipment • Improve local community sense of ownership of conservation activities
Mikea	• Decreasing the number of fire points and the area burned • Reducing the levels of high to medium pressures	• Further integrate local communities into the firefighting strategy • Acquire firefighting equipment • Improve the enforcement of existing laws and regulations with the different stakeholders

11.0 BEST PRACTICES FOR SCALE

Learning from our experiences in FY19 when USAID Mikajy's strategic approaches were developed and initiated, and FY20 when they were rolled out and piloted, USAID Mikajy would like to highlight the following best practices that will be further developed and scaled up over the coming two years to have a significant and enduring impact.

These practices will be implemented and expanded through the implementation of the full range of USAID Mikajy's strategic approaches and activities, including our critical ongoing support for institutional structuring, good governance, and capacity building at community and other levels.

- Alternative revenue-generating activities (market gardening, small-scale farming, and fish farming) that can help to reduce the hungry period will be strengthened and expanded for greater impact. The future collaboration with the Regional Office of Nutrition will support these initiatives and stimulate their adoption by the community through various activities including awareness raising and demonstrations on culinary practices;
- More cooperatives will be encouraged to participate in 'local' sustainable financing mechanisms to fund conservation activities (patrols and restoration) to help replicate and scale up this mechanism to support longer term sustainability;
- The Population Health Environment (PHE) approach, helping communities to set up mutual health insurance, will be continued and expanded, working at the broader community level beyond the initial cooperative level;
- Training provided to local community members in the process and duty to make denunciations of environmental crimes empowers them to complain and make grievances to the relevant authorities about bad practices and mismanagement of natural resources. They are well aware of these cases but have been frustrated about the lack of government response. Providing them with legal understanding through the local clinics and strengthening the process through transparency with the support of local and national civil society, strengthens their sense of ownership and responsibility for the natural resources on which they depend and encourages them to better protect the resources. This type of training should be developed and expanded;
- Continue expanding communication efforts. For example, expanding the radio dramas that have just been initiated by USAID Mikajy to facilitate interest, understanding, ownership and even behavioral change. We will also continue to produce blogs, films, fact sheets and other communication materials.

ANNEXES

ANNEX I. INDICATOR PERFORMANCE TRACKING TABLE

Performance Indicator	Frequency	FY20 Q1	FY20 Q2	FY20 Q3	FY20 Q4	FY20 Total	FY20 Annual Target	% of FY20 Target Achieved	Life of Activity Results to Date	Life of Activity Target	% of Life of Activity Target Achieved	Remarks
1.1: Number of people that apply improved conservation law enforcement practices as a result of USG assistance (EG.10.2-6)	Annual	209	481	905	423	2018	500	404%	2018	4,000	**135%**	**FY20 target significantly exceeded and Life of Activity target exceeded.** The increased emphasis on patrols, and the addition of supporting MNP patrols in targets in opportunities resulted in exceeding the annual target
1.2: Number of local people participating in planning, management, enforcement for improved NRM	Quarterly	3,540	8,573	6,842	6,040	24,998	12,500	200%	30,980	55,000	**56%**	**FY20 target significantly exceeded** Increased interventions by grantees, subcontractors as well as SA2 and SA4 enabled Mikajy to exceed the FY20 target. We are now on track to meet the life of activity target
1.3: Number of people using climate information or implementing risk- reducing actions to improve resilience to climate change as supported by USG assistance (EG.11- 6)	Quarterly	1,132	1,841	1,382	1,768	6,123	23,598	26%	7,525	60,000	**13%**	**26% of FY20 target met** COVID-19 delayed dissemination and community use of climate information.
1.4: Number of information products shared and disseminated through Mikajy activities	Quarterly	0	1	3	2	6	10	60%	14	48	**29%**	**60% of FY20 target met** COVID-19 caused delays in information dissemination in Q4 as focus was on pandemic.

Performance Indicator	Frequency	FY20 Q1	FY20 Q2	FY20 Q3	FY20 Q4	FY20 Total	FY20 Annual Target	% of FY20 Target Achieved	Life of Activity Results to Date	Life of Activity Target	% of Life of Activity Target Achieved	Remarks
2.1: Value (USD) invested in conservation-friendly enterprises by private sector	Annual	$49,084	$30,471	$6,132	$53,439	$139,128	$200,000	70%	$400,918	$1,500,000	**27%**	**70% of FY20 target met** Due primarily to the drop in vanilla prices.
2.2: Number of MSMEs, including farmers, engaged with a private partner through USG assistance	Annual	0	0	536	196	732	500	146%	737	2,500	**29%**	**FY20 Target Exceeded:** Mikajy did not begin counting individual vanilla producers until FY20. We are now on track to meet our Life of Activity target.
2.3: Value of sales (US$) from new sustainably produced or value-added products	Annual	0	0	$34,118	$169,926	$204,044	$300,000	68%	$1,099,310	$4,200,000	**26%**	**68% of FY20 target met** Due to the drop in vanilla prices, and delays scaling up Menabe value chains due to COVID-19.
2.4: Number of individuals in the agriculture system who have applied improved management practices or technologies with USG assistance (EG.3.2-24)	Annual	1,199	2	62	13	1,276	2,500	51%	1,276	9,000	**14%**	**51% of FY20 target met** Delayed certification for new producers due to COVID-19 restrictions impacted ability to reach target.
4.1: Percent of actors that are part of shared vision who have action plans aligned with the NRM and land tenure shared vision	Annual	31.39%	31.70%	31.70%	32.46%	32.46%	15%	216%	32.46%	75%	**43%**	**FY20 target exceeded** Four TGRNs developed action plans aligned with the shared vision adding to the 70 organizations from last year out of 228 actors that are part of the shared vision.
4.2: Number of sustainable financing mechanisms developed for conservation	Annual	0	0	0	1	1	1	100%	1	3	33%	
4.3: Number of people with secure tenure rights to land, with legally recognized documentation, and who perceive their rights as secure, as a result of USG assistance	Annual	0	1,073	0	0	1,073	7,500	14.3%	1,073	40,000	**3%**	**21% of FY20 target met** Obtaining validation of Voloina PLOF took longer than expected. The FY21 workplan includes 4 SACs, and 3 BIFs to increase impact

Performance Indicator	Frequency	FY20 Q1	FY20 Q2	FY20 Q3	FY20 Q4	FY20 Total	FY20 Annual Target	% of FY20 Target Achieved	Life of Activity Results to Date	Life of Activity Target	% of Life of Activity Target Achieved	Remarks
(EG 10.4-6												in FY21
5.1: Number of forums/events completed with civil society engagement in policy and tenure rights discussions	Quarterly	2	8	7	13	30	10	300%	37	48	**77%**	**FY20 Target Exceeded** Increased focus on events about denouncing environmental crimes resulted in exceeding planned target
5.2: Percent of observed and verbalized offenses that are the subject of a judiciary prosecution	Annual	0%	0%	0%	10.83%	10.83%	20%	54%	8.52%	25%	**9%**	**54% % of FY20 target met** COVID-19 significantly impacted ability of authorities to identify, capture and prosecute offenders
5.3: Number of annual hotline calls reporting on infractions or issues related to conservation or land use	Annual	15				15	100	15%	18	1200	**2%**	**15% of FY20 target met** Limited communication about the hotline resulted in fewer calls – increased communication is planned for FY21
6.1: Number of ha of biologically significant areas showing improved biophysical conditions as a result of USG assistance (EG.10.2-1)	Annual	0	91	201	550,757	551,049	375,445	147%	551,111	624,658	**88%**	**FY20 Target Exceeded** In Q4 Mikajy developed a methodology to assess the number of hectares with improved biophysical conditions located in zones of biological significance
6.2: Number of ha of biologically significant areas under improved NRM as a result of USG assistance (EG 10.2-2)	Annual	0	718,266	0	9,097	727,363	307,526	237%	988,749	1,338,381	**74%**	**FY20 target significantly exceeded** Improved METT scores and finalization of management transfer contracts in MaMaBay resulted in exceeding target.
6.3: Percent of near shore area under sustainable management	Annual	0%	0%	0%	0%	0%	10%	0%	10%	70%	**0%**	**0% of FY20 target met.** Work began to establish 16 new LMMAs but COVID-19 prevented travel and meetings. This is a priority for FY21.
6.4: Number of people with improved economic benefits derived from sustainable natural	Annual	0	1,347	1,475	1,283	4,105	1,000	411%	4,105	5,000	**82%**	**FY20 target significantly exceeded.** Conservation farming and

Performance Indicator	Frequency	FY20 Q1	FY20 Q2	FY20 Q3	FY20 Q4	FY20 Total	FY20 Annual Target	% of FY20 Target Achieved	Life of Activity Results to Date	Life of Activity Target	% of Life of Activity Target Achieved	Remarks
resource management and/or biodiversity conservation as a result of USG assistance (EG 10.2-3)												reforestation interventions contributed significantly to this indicator in FY20
6.5: Number of innovations supported through USG assistance with demonstrated uptake by the public and/or private sector (STIR-11)	Annual	0	1	0	0	1	1	100%	1	3	**33%**	
6.6: Percent improvement in capacity of USAID Mikajy supported CBOs and local government.	Annual	0%	0%	0%	90.63%	90.63%	25%	362%	75.90%	80%	**114%**	**Target exceeded** 58 out of 64 organizations showed an improvement in capacity using OCAT tool, much higher than expected.
6.7: Number of people trained in sustainable NRM and/or biodiversity conservation (EG.10.2-4)	Quarterly	80	1,542	3,412	694	5,728	950	603%	8,137	14,000	**211%**	**FY20 target significantly exceeded and Life of Activity target significantly exceeded** Significant training on SMART, coupled with trainings provided by grantees and subcontractors, contributed to exceeding FY20 target (target was set in FY19 before grants were awarded).
6.8: Establishment and use of Viamo's 3-2-1 system for information exchange and training	Annual					1	1	100%	1	1	**100%**	Mikajy specific content added to 3-2-1 system in July 2019.

Notes:

Indicator 1.2:
Mikajy reported 2,184 in Q1. This table corrects those values to 3,540 in Q1.

Mikajy reported 8,450 in Q2. This table corrects those values to 8,573 in Q2.
Mikajy reported 6,475 in Q3 This table corrects those values to 6,842 in Q3.

Indicator 1.3.
Mikajy reported 59 in Q1. This table corrects the value to 1,132 in Q1.
Mikajy reported 2,730 in Q2. This tables corrects the value to 1,841 in Q2
Mikajy reported 1,286 in Q3. This table corrects the value to 1,382 in Q3.

Indicator 2.3
Mikajy reported $34,113 in Q3. This table corrects the value to $34,118 in Q3.

Indicator 5.2
FY19 was 13/250 infractions = 5.20%, FY20 was 39/360 infractions = 10.83%, Life of Activity results to date are (13+39=52)/250+360=610) = 8.52%

Indicator 6.6
FY19 was 5/19=26.32% and FY20 was 58/64=90.63%, Life of Activity results to date are (5+58)/(19+64)=75.90%

Indicator 6.7
Mikajy previously reported 90 in Q1. This table corrects the value to 80 in Q1.
Mikajy reported 1,508 in Q2. This table corrects the value to 1,542 in Q2.
Mikajy reported 3,287 in Q3. This table corrects the value to 3,412 in Q3.

ANNEX II. SUCCESS STORIES

Submitted separately

ANNEX III. ENVIRONMENTAL AND CLIMATE RISK MANAGEMENT COMPLIANCE

TABLE III-1: ANNUAL ENVIRONMENTAL MITIGATION AND MONITORING REPORT ON ACTIVITIES UNDER NEGATIVE DETERMINATION WITH CONDITIONS

Project/ Activity/ Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Status of Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring/Issues/ Resolution	Corrective measures to be taken/ Outstanding Issues
SA1 Key Result 1: Target actors have improved capacity for NRM and PA management and for support to conservation						
1.1.2 Support update of the Protected Areas Management and Business Plans for Makira, Masoala, Menabe Antimena, Ambondrombe and Allée des Baobabs	Conflict between communities over access to land and natural resources Disputes between local actors over zoning and delimitation of different land use zones Poorly planned or executed management techniques may threaten the stability of protected zones and lead to unintentional negative effects on endangered species or their habitats and potential negative social impacts (e.g., loss of income, exclusion from traditional lands, etc.)	USAID Mikajy will ensure that updated PA management plans: 1) Are completed alongside community sensibilization 2) Include mechanisms for stakeholder consultation 3) Include benchmarks to measure and monitor their progress, successes, inclusivity (gender and vulnerable peoples), and any negative effects on people and the environment for which adjustments/remedial actions will need to be taken 4) Include measures to ensure equitable benefit sharing	Stakeholder consultation held on the PAG update in coordination with USAID Hay Tao and DGRNE	Draft guide for updating PA management plans List of communities consulted during update process Updated PA Management plans include these measures	Consultation with PA managers and DREDD on the launch of the PAG update process Brainstorming meetings held with MEDDs, Hay Tao, and PA managers for the development of a guide and the PAG update	Consultation with the SAPM commission and validation of the guide at DAPGRNE / MEDD level Use of guide validated and recommended by the MEDD, implementation of the PAG update methodology Consultation of stakeholders and compliance with mitigation measures during the PAG update process

Project/ Activity/ Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Status of Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring/Issues/ Resolution	Corrective measures to be taken/ Outstanding Issues
		5) Require Management Effectiveness Tracking Tools (METT) 6) Include updates to the management protocol for *Zone Occupation Controlee* (ZOCs) in Masoala USAID Mikajy shall include an Environmental Review of each Management Plan that receives USAID Mikajy support to evaluate potential impacts and identify mitigation measures or alternative activities.				
1.1.3 Support evaluation and update of management transfer contracts around Masoala and in Menabe	Poorly planned or executed management techniques may threaten the stability of Community-Based Natural Resource Management (CBNRM) zones due to conflict over access to natural resources, inability to control the inflow of migrants, or zoning and delimitation disputes A successful CBNRM program may lead to	USAID Mikajy shall ensure that CBNRM management transfer contracts: 1) Are in compliance with PA Management Plans, Land Use Plans, and other Government of Madagascar planning guidance and documents. 2) Include measures for stakeholder consultation 3) Include benchmarks to measure and monitor	Creation of 3 TGRNs in Ambondrobe: Aboalimena, Andimaka, Belobaka (Durrell grant) Creation of 3 TGRNs around Makira: Sahamalaza, Sahamanganina, Ambodihazomamy Assessment of the impacts of management transfers on natural resources and biodiversity conservation	Management transfer contracts include adequate mitigation measures Evaluation reports demonstrating adherence to mitigation measures	Consultations with resource users and sensitization of local communities on TGRNs by Durrell in collaboration with DREDD Consultations with resource users in Ambondrobe and riverine populations to develop management tools (management plan, guidelines)	Validation of development plans and contracts for the 3 TGRNs Formalization of 3 COBAs in Ambondrobe Formalization and capacity building of all TGRNs around Makira Update of management

Project/ Activity/ Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Status of Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring/Issues/ Resolution	Corrective measures to be taken/ Outstanding Issues
	an in increase in employment opportunities, road improvement, or health care. While all positive impacts of CBNRM, it may also stimulate migration of people into the vicinity of the PA, an acute concern in Menabe overstressing the outlying areas and infringing upon the benefits to indigenous residents. In-migration may also result in increased production of solid waste	their progress, successes, inclusivity (gender and vulnerable peoples), and any negative effects on people and the environment for which adjustments/remedial actions will need to be taken. 4) Include measures to ensure equitable benefit sharing. 5) Communal approval of the COBA management plan and chart of responsibility. USAID Mikajy shall include an Environmental Review of each Management Transfer that receives USAID Mikajy support to evaluate potential impacts and identify mitigation measures or alternative activities. The Environmental Review shall consider effects of physical infrastructure, socio-cultural aspects, impacts from climate change, effects of	Evaluation of 10 COBA management transfers around Masoala in the district of Maroantsetra: Manakambahiny, Poakafo, Fampotabe, Ankotsoko and Anjanazana Antalaha District: Iharaka, Ambanizana, Anjinjako, Rantabe and Nandrahanana Stakeholder engagement with municipal authorities, forest administration, VOI, MNP Masoala, Fokontany and COBA on the forest management transfers.		Awareness raising conducted in three sites in Makira Establishment of ad hoc committees to follow up the TGRN creation process Consultations with local populations for the development of PAGs and zoning of the land to be transferred Consultation with neighboring communities to delimit the resources of new TGRNs District, Commune and Fokontany courtesy visit for information and outreach on the evaluation of TGRNs by a technical team of DREDDs, PA managers and USAID Mikajy Measured and monitored progress on mitigation measures and any negative effects on people and the environment for which adjustments/remedial	plans for 10 COBAs

Project/ Activity/ Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Status of Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring/Issues/ Resolution	Corrective measures to be taken/ Outstanding Issues
		increased visitation and/or use, and requirements of ecosystem restoration activities.			actions will need to be taken	
1.1.4 Support the development of management plans, for 12 LMMAs and creation of new community management structures for marine resources	Conflict between communities over access to marine and coastal resources and potential loss of income related to exclusion from traditional fishing grounds Difficulty in engaging small scale fishers Disputes between local actors over zoning and delimitation of use zones Poorly planned or executed management may threaten the stability of protected zones	1) Awareness and sensitization campaigns will be paired with trainings for new fisher groups or LMMAs to ensure community buy-in and support. 2) Communities will be consulted and engaged in the demarcation and placement of LMMAs. 3) Fishing zone surveillance patrols will be strengthened. 4) Dinas will be applied in collaboration with local authorities. 5) Ecological information will be used to determine best placement of LMMAs to support ecosystem conservation and regeneration of fish stocks. USAID Mikajy shall include an ER of each proposed LMMA that receives	Sensitization and consultation of communities and resource users Delimitation and zoning of LMMAs in adherence with mitigation measures Creation of 8 LMMAs in Antongil Bay: Ambanizana, Nandrahanana, Rantabe, Andakatombaka and Antanambao-Anandrivola in the District of Maroantsetra and Anoromby, Fontsimaro, Mahasoa in the District of Mananara North	Consultation report LMMA structuring report demonstrating adherence to mitigation measures	Sensitization of communities, groups of fishermen and resource users in the 8 villages on the management of fishing activities and the marine ecosystem. Training for LMMAs on the functions and responsibilities transferred to village associations and traditional fishermen User consultations on the definition of management structures and delimitation of LMMAs Consultations with fishermen and communities during the structuring of the 8 LMMAs, establishing Dina and tools	Biological inventories of resources Development of a simplified resource management plan with stakeholders and fishermen Finalization of management contracts Formalization of the 8 new LMMAs Capacity building and supervision of LMMAs

Project/ Activity/ Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Status of Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring/Issues/ Resolution	Corrective measures to be taken/ Outstanding Issues
		USAID Mikajy support to evaluate potential impacts and identify mitigation measures or alternative activities.				
1.1.8. Training COBAs on forest fire prevention and forest firefighting	Firefighting is an inherently dangerous activity and without appropriate safety measures can present unacceptable risk Fire prevention involves some level of habitat disruption which if poorly planned can lead to habitat destruction or impede wildlife corridors Fire prevention and firefighting also present social risks for the firefighters if not implemented alongside sensitization campaigns	1) Community stakeholders are consulted and engaged, and village firefighting committees will be reinstated 2) DREDD Regional Representative will work alongside the delegated management authority 3) Fire breaks to be established on boundaries of protected area to minimize impact, protected areas will not be fragmented, and core zones will not be impacted 4) No native trees or crops will be harmed in the trimming, only shrubs and grasses will be trimmed 5) Digging will not be used to establish firebreaks to protect soils	Environmental review conducted for the Fanamby grant Community firefighting training in Menabe Antimena led by Fanamby Identification of firefighting committee members Consultation and awareness raising conducted with local communities	Fanamby ERF Reports on training of 8 villages on firefighting	Cascade training delivered in accordance with the identified mitigation measures Community training on firewall techniques: width and weed stripping	Continued adoption of firefighting techniques by communities Continued engagement of stakeholders and authorities
1.1.9 Support development of	Conflict between communities over	1) Awareness and sensitization campaigns will	Consultation with regional stakeholders on	Meeting notes from	Regional stakeholders engaged	Engagement of PAP consultants

Project/ Activity/ Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Status of Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring/Issues/ Resolution	Corrective measures to be taken/ Outstanding Issues
Fishing Management Plans (PAPs) in Menabe	access to marine and coastal resources and potential loss of income related to exclusion from traditional fishing grounds Difficulty in engaging small scale fishers Disputes between local actors over zoning and delimitation of use zones Poorly planned or executed management may threaten the stability of protected zones.	be paired with trainings to ensure community buy-in and support 2) Communities will be consulted and engaged in development of the plan 3) Fishing zone surveillance patrols will be strengthened 4) Dinas will be applied in collaboration with local authorities 5) Ecological information will be used to determine best approach for ecosystem conservation and regeneration of fish stocks USAID Mikajy shall include an ER of the fishing management plan to evaluate potential impacts and identify mitigation measures or alternative activities.	engagement in the PAP development process	stakeholder engagement with all partners in Menabe on the PAP process (WWF, Blue Ventures) Road map for the development of the Menabe PAP	PAP road map developed, including mitigation measures	Stock evaluation Conduct interventions in a manner consistent with best practices outlined in the Fisheries Sectoral Environmental Guidelines, host country environmental requirements and USAID Environmental Procedures
SA1 Key Result 2: Improved coordination and engagement among/by target actors						
1.2.3 Support MNP in updating protocols on controlled	Conflict between communities over access to land and natural resources	1) Ensure that activities are completed alongside community sensibilization	Consultation with stakeholders on the process of updating ZOCs	Draft cahier de charge for the Makira and Masoala ZOC	Meeting of PA managers, WCS, MNP Meeting between PA managers (WCS and	Finalization of the cahier de charge

Project/ Activity/ Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Status of Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring/Issues/ Resolution	Corrective measures to be taken/ Outstanding Issues
occupation zones (ZOC) in Masoala and park boundaries in Menabe Anitmena and Ambondrobe	Disputes between local actors over zoning and delimitation of different land use zones Poorly planned or executed management techniques may threaten the stability of protected zones and lead to unintentional negative effects on endangered species or their habitats and potential negative social impacts (e.g., loss of income, exclusion from traditional lands, etc.)	2) Include mechanisms for stakeholder consultation 3) Include benchmarks to measure and monitor any negative effects on people and the environment for which adjustments/remedial actions will need to be taken. 4) Include updates to the management protocol for ZOCs in Masoala USAID Mikajy shall include an environmental review of the updated management plans for Masoala, Menabe Anitmena and Ambondrobe under action			MNP) and local stakeholders in Masoala and Makira Parks (Mayor, COBA, DREDD, CEFF, Topo Service) on updating ZOCs Development of the cahier de charge	Consultation of ZOC users and finalization of ZOC protocol / specifications
1.2.4 Support active and passive restoration activities in degraded habitats to ensure landscape connectivity	Conflict between communities over access to land and natural resources including zoning disputes, restored zones risk destruction from cattle grazing or agricultural activity. Poorly planned or executed management	To ensure beneficial restoration activities, USAID Mikajy will: 1) Ensure restoration activities align with a properly prepared PA or CBNRM management plan 2) Select indigenous species well adapted to the landscape	*Vohitaly and Lokaitra Makira Restoration:191 ha* *Masoala Restoration: 300 ha* Sahavary 40 ha, Andranoanala 200 ha, Ampanavoana 10ha Mangrove Ambanizana 50 ha of passive restoration	Vohitaly and Lokaitra restoration reports Lists of community participants involved in restoration	Identification of restoration zones following the restoration plan of each PA Selection of native species well adapted to the landscape Production of young plants in nurseries Makira and Masoala, collecting and transplanting native	Planning for ongoing and additional restorations in Masoala and Makira Monitoring of restoration areas by CLPs and park officers

Project/ Activity/ Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Status of Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring/Issues/ Resolution	Corrective measures to be taken/ Outstanding Issues
	may threaten the stability of protected zones and lead to unintentional negative effects on endangered species or their habitats and potential negative social impacts (e.g., loss of income, exclusion from traditional lands, etc.). Use of exotic species or potentially invasive species in restoration efforts may further compromise the integrity of the ecosystem. Species not adapted to the zone of restoration may suffer high mortality and fail, causing unintended damages and misuse of funds. Risk is higher with the development of nurseries, especially for species endemic to dry forests which grow slowly and are particularly fragile. Installation of a single species increases the danger of spread of disease and reduces	3) Use young plants from local nurseries with preference for nurseries managed by the implicated management authority (COBA or PA Manager) and avoid creating a mono-species ecosystem by using multiple species 4) Provide sensitization and training on techniques to communities and engage them in the restoration 5) Engage communities in site selection 6) Define use and management rules of restoration zone before activity implementation 7) Agree with community on monitoring, surveillance and patrol measures to protect the area before the activity USAID Mikajy shall complete an environmental screening of each restoration action prior to implementation to evaluate potential impacts and identify mitigation measures or alternative	• Marking of restored plots. *Menabe Antimena restoration (Grant KMCC and Voahary) : 186.55 ha* • Active restoration of Lambokely degraded core protected zones in Menabe Antimena PA: 11.15 ha in collaboration with DREDD • Passive restoration: delimitation and boundary marking of the 100ha passive restoration area in Lambokely • Active restoration 6.85 ha in degraded core protected zones and 1.85 ha in peripheral zones • 66.7 ha of agroforestry • DREDD-approved seed Collection Authorization	Restoration report for Masoala Proof of signs installed for restored plot in Andranoanala	wild species into nurseries using indigenous species Compliance with management plan and restoration plan Engagement of fokontany communities during the restoration: members of local communities mobilized in Vohitaly and Lokaitra Nurseries installed using materials from the site for shading and fencing No conflicts over water point use No land clearings beyond the tree nursery site Insignificant destruction of vegetation due to supply of mulching and shading of tree plantation Pollution caused by plastic bags avoided and communities sensitized on respecting the environment Restoration implemented without fertilizer	through patrols and surveillance

Project/ Activity/ Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Status of Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring/Issues/ Resolution	Corrective measures to be taken/ Outstanding Issues
	overall ecosystem health	activities and complete a full ER for higher risks tasks if identified in screening				
Promote sustainable agroforestry and establish patches of Home forest	Risk of vegetation depletion due to extraction of stakes from natural forest Risk of land tenure disputes Risk of crop production extension leading to new slash and burn	Use of cassava stakes instead of natural vegetation Agroforestry will be developed on fallow land, not in new slash and burn sites	Identification and delimitation of the field sites with the community	Community Coaching Report	Training of producers on agroforestry techniques Technical monitoring and supervision	Ensure that pilot agroforestry activities are implemented in accordance with identified mitigation measures
1.2.7 Support implementation of firefighting control measures (sensitization, preparation, and implementation)	Firefighting is an inherently dangerous activity and without appropriate safety measures can present unacceptable risk Fire prevention involves some level of habitat disruption which if poorly planned can lead to habitat destruction or impede wildlife corridors Fire prevention and firefighting also present social risks for the firefighters if not	1) Community stakeholders are consulted and engaged, and village firefighting committees will be reinstated 2) DREDD Regional Representative will work alongside the delegated management authority 3) Fire breaks to be established on boundaries of protected area to minimize impact, protected areas will not be fragmented, and core zones will not be impacted	*Fire management in Menabe Antimena PA (Fanamby)*: • Strengthened capacity of fire monitoring committee • Installation of 15.2 km of firebreaks with the local population in hard core forest areas • Active firefighting in Lambokely, Tanandava, Beroboka *Firefighting in Masoala Park*:	Fanamby ERF Report on the installation of Menabe firewalls List of participants from Menabe and Masoala Fire prevention guide flyers for Masoala communities	Strengthened capacity of patrols, fire monitoring committees, KMMFA patrollers and local committees Mobilization of trained firefighters Mobilization of all actors: CEEF Belo Tsiribihina, DREDD Menabe, as well as of the Mayor of Beroboka Nord. Fokontany Lambokely: Fokontany Chief, VOI, Fokonolona,local restoration monitoring committee (CLSR/	Continued strengthening of patrols and monitoring Continued training of communities on fire management techniques Awareness raising by the Masoala fire brigade

Project/ Activity/ Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Status of Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring/Issues/ Resolution	Corrective measures to be taken/ Outstanding Issues
	implemented alongside sensitization campaigns	4) No native trees or crops will be harmed in the trimming, only shrubs and grasses will be trimmed 5) Digging will not be used to establish firebreaks to protect soils USAID Mikajy shall complete an environmental screening of each new type of firefighting action prior to implementation to evaluate potential impacts and identify mitigation measures or alternative activities and complete a full ER for higher risk tasks if identified in screening	• 19.77 km of fire breaks in place in the Masoala Andranoanala Andranomainty Beankora detached parcels		Voahary), KMMFA, Durrell, Fanamby, KMDT Community mobilization around the Masoala detached plot Fire breaks established in accordance with mitigation measures (10m in width, no destruction of native species, proper disposal of plant debris on each side of the firebreaks, 2 km of firewalls per village) No native trees or crops were damaged during the installation of the firewall	
1.2.8 Support the implementation of management of sustainable fisheries for LMMAs in Bay of Antongil and in Menabe	Conflict between communities over access to marine and coastal resources and potential loss of income related to exclusion from traditional fishing grounds Difficulty in engaging small-scale fishers Disputes between local actors over zoning and	1) Awareness and sensitization campaigns will be paired with trainings for new fisher groups or LMMAs to ensure community buy-in and support 2) Communities will be consulted and engaged in the demarcation and placement of LMMAs	Consultation with fishermen's groups, LMMA, Communes, Fokontany for validation of amendment by the Antongil Dina Creation of 8 new LMMAs: Ambanizana, Nandrahanana, Rantabe, Anoronomby, Andakatombaka, Antanambao-Anandrivola Fontsimaro, Mahasoa	Stakeholder and LMMA consultation report on the update to the Antongil Dinabe Reports on awareness raising in the 8 new LMMAs Structuring report for the	Sensitization of the communities of fishermen in the 6 LMMA sites Outreach and information sharing on the establishment of LMMAs, management, responsibilities and distribution of benefits Consultation with fishermen and resource	Continued adherence to the identified mitigation measures during the LMMA creation process

Project/ Activity/ Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Status of Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring/Issues/ Resolution	Corrective measures to be taken/ Outstanding Issues
	delimitation of use zones Poorly planned or executed management may threaten the stability of protected zones	3) Fishing zone surveillance patrols will be strengthened 4) Dinas will be applied in collaboration with local authorities 5) Ecological information will be used to determine best placement of LMMAs to support ecosystem conservation and regeneration of fish stocks USAID Mikajy shall include an ER of each proposed LMMA that receives USAID Mikajy support to evaluate potential impacts and identify mitigation measures or alternative activities.	Consultation with local actors, regional and district authorities, mayor and communities on the integration of environmental management and marine resources in the Menabe Dinabe	8 LMMAs, including lists of participants Menabe stakeholder consultation report	users on the structuring of the 6 LMMAs and preparation of a simplified management plan by LMMA	
1.2.9 Support MNP to meet UNESCO requirements for PN Masoala to help remove the Antsinanana forests from the list of world heritage sites in peril	Conflict between communities over access to land and natural resources Disputes between local actors over zoning and delimitation of different land use zones Poorly planned or executed management	Restoration activities under this action are part of the Masoala Management Plan authored by MNP that was created in compliance with national environmental guidelines and included mechanisms for stakeholder engagement. Under activity 1.1.2 above, the management plan for	Implementation of a restoration plan for Masoala Park: 300 ha restored with the participation of communities Engagement of local communities: people mobilized for restoration activities in Masola	Restoration report of degraded areas in Masoala Park Patrol and surveillance report in Masoala Park	Restoration completed with native species transported from local MNP nurseries in compliance with restoration plan and best practices Capacity building for park patrols and surveillance in restored areas	

Project/ Activity/ Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Status of Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring/Issues/ Resolution	Corrective measures to be taken/ Outstanding Issues
	may threaten the stability of protected zones and lead to unintentional negative effects on endangered species or their habitats and potential negative social impacts (e.g., loss of income, exclusion from traditional lands, etc.)	Masoala will be subject to an Environmental Review which will include screening of proposed sites for restoration. To ensure successful restoration activities USAID Mikajy will investigate the drivers of initial ecosystem degradation and ensure appropriate measures are in place to mitigate those drivers before implementation during the ER process.				
SA2 Key Result 1 Conservation friendly private sector investment increased in target areas						
2.1.2 Promote sustainable crab and seaweed value chains	Potential impacts could include introduction of non-native species through mismanaged breeding, socioeconomic issues leading to illegal catch in protected areas, and disruption and degradation of marine ecosystems due to harvesting using unsustainable methods	Seaweed and crab cultivation value chains do not involve introduction of new species or enhanced breeding and as such do not require aquaculture concerns to be evaluated USAID Mikajy will implement best practices and take measures to ensure that business start-up systems and enterprises are aware of environmental management to ensure	Virtual meeting held with Ocean Farmers and MNP to plan intervention sites and activity startup Consultation with ONE for the completion of the "Fiche de tri" that will determine the project's environmental measures for MaMabay Planned joint mission with MNP and Ocean Farmers to delineate seaweed aquaculture zones in	Meeting notes Evaluation report of the development of aquaculture value chain Antongil Bay	Launch of a call for proposals for the development of the Antongil Bay aquaculture value chain Selection of the BRAINS consulting firm to carry out a technical, economic and financial feasibility study of potential aquaculture sectors in Antongil Bay Preparation of the authorization for extension of seafood	Social and environmental feasibility study will be conducted by BRAINS Proceed with the development of a Business Plan for the five (5) potential priority sectors

Project/ Activity/ Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Status of Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring/Issues/ Resolution	Corrective measures to be taken/ Outstanding Issues
		appropriate environmental management plans and compliance with Sectoral Environmental Guidelines. USAID Mikajy shall conduct an ER to be revised for the fisheries sector) of each fisheries value chain/producer prior to support to ensure verifiably sustainable fisheries in areas that will not contribute to disruption and degradation of marine ecosystems due to harvesting using unsustainable methods	relation to the marine park boundaries Submitted authorization requests for community seaweed farming in Menabe according to GoM regulatory requirements		aquaculture in Menabe with Ocean Farmers	
SA2 KR 3 Improved income for target communities and local government						
2.3.2. Promote entrepreneurial conservation-friendly enterprises within membership of COBAs	Commercialization-ion of natural resources could result in potential environmental impacts	Issues with high value products or interventions unsustainable yield should be investigated and additional developed to ensure the activity is non-extractive. CBNRM shall be conducted in a manner consistent with best practices outlined in the Chapter 2 Community Based Natural Resource Management contained in the EGSSAA guidelines, host country environmental	Pre-identification of Menabe peanut conservation agriculture plots and outreach to producers Creation of new eco-friendly cooperatives among the COBAs The 2 cooperatives newly created at MaMaBay are made up of COBAs managing natural resources in the towns of	List of local farmers with participating plots Minutes of constitution meeting and list of members of the Miray and Taratra cooperatives	Outreach to producers on opportunities and benefits of conservation-friendly small scale enterprises Identification of opportunities for non-extractive, sustainable enterprises (i.e. peanut conservation agriculture)	Continue to adhere to best practices for conservation enterprises and the identified mitigation measures

Project/ Activity/ Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Status of Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring/Issues/ Resolution	Corrective measures to be taken/ Outstanding Issues
		requirements and USAID Environmental Procedures.	Morafeno and Antakotako.			
2.3.3 Support community-based ecotourism initiatives in MaMaBay and Menabe	Ecotourism is linked to the commercialization of natural resources and could result in potential environmental impacts as a result of increased use. Trails for ecotourism may cause soil erosion and/or soil compaction from: a) poorly designed trails that do not follow natural contours; b) people walking off-trail to avoid wet areas or to view unique wildlife; and c) poorly planned or overused infrastructure (e.g., camping areas, tour routes)	Projects aimed at promoting Ecotourism shall be conducted in a manner consistent with best practices outlined in the Ecotourism Sectoral Environmental Guidelines, host country environmental requirements and USAID Environmental Procedures.	Limited activities due to COVID-19 Exploration of potential sites in Ambatolaidama Masoala Preparation of grants to Ambofifora Arol and Farakaraina	Joint site visit report	Joint visit to ecotourism sites	Continued planning for ecotourism initiatives taking into account best practices and mitigation measures
2.3.4 Identify and Support Alternative Sources of Income and Food to Reduce Exploitation of Non-	Alternative income-generating activities such as yam cultivation, beekeeping, nurseries and small livestock do not generate significant impacts on the environment.	Grantees must justify the choice of sites and beneficiaries for their interventions in order to avoid any kind of conflict between the communities and with the current activities carried out by	Coordination and information meeting with local partners (WCS) on the INSIGHT beekeeping project in Mamabay Courtesy visit to local and traditional authorities by the INSIGHT team for project start up and	Grant packages for INSIGHT and GPPM INSIGHT grant Milestone I	ERFs completed for INSIGHT and GPPM grant packages INSIGHT Milestone 1: Grant Workplan reviewed to ensure that conflict is avoided in choice of sites	Continued monitoring and planning to ensure that grant activities take place without raising the risk of community

Project/ Activity/ Sub-Activity	Identified Environmental Aspects or Impacts	Mitigation Measure(s)	Status of Mitigation Measure(s)	Monitoring Indicator(s)	Monitoring/Issues/ Resolution	Corrective measures to be taken/ Outstanding Issues
Renewable Forest Resources	However, implementation could lead to social conflicts and conflicts of interest among community members	Mikajy or other partners at the landscape level. The grant application files will be accompanied by EMMPs, which the grantee will undertakes to carry out in the course of their activities.	installation of the pilot hives Consultation with Blue Ventures and WWF on mangrove conservation and improvement of the fisheries grant led by GPPM			conflict or significant environmental degradation
SA4 KR 2 Land and seascape plans for strengthened land and resource tenure implemented						
4.2.1 Reinforce statutory land and resource tenure	Although the activity itself does not directly affect the environment, land use planning will guide land use changes, and therefore, inappropriately designated land uses can contribute potentially to conflict, soil erosion, introduction of exotic species, and degradation of water quality	Planning must integrate or otherwise reflect current data and analysis on regional environmental trends, including principles of biodiversity conservation and sustainable NRM adaptation strategies. USAID Mikajy shall ensure that support (TA, training, implementation) for land use and marine spatial planning complies/not in conflict with PA Management Plans and other planning guidance and documents; identifies important biodiversity to be protected; and minimizes conflict over resources.	3 workshops held in MaMaBay to integrate land tenure in Communal Development Schemes (SAC) and other territorial planning documents Preparatory meetings for the validation of Antongil Dinabe in 15 municipalities Menabe advocacy and outreach workshops at local and regional levels to integrate land tenure concerns in the grand Dina Consultation workshop on integrating land rights in the Dina de Menabe held in Morondava	Consultation workshop reports	During the various workshops, identification and insertion in the dina of specific sanctions in the event of non-compliance with the governance rules for natural resources and land tenure For Antongil Bay, a strategy has been put in place to protect the rights of traditional fishermen For Menabe Antimena, Mikajy is facilitating discussions with communities on a strategy to resolve land tensions, especially regarding the increase of migrants in the PA	Aligning new PAGs for Pas and TGRNs with the SAC, PLOF

TABLE III-2. CLIMATE RISK MANAGEMENT ACTIVITIES WITH LOW AND MODERATE CLIMATE RISK RATING ACTIVITIES

Year 2 Activities Completed	Climate Risk Mitigation and Resilience Strengthening Steps	Issues to be Addressed
LOW CLIMATE RISK RATING		

• Supported self-evaluation of PAs using the Management Effectiveness Tracking Tool (METT)
• Strengthened community-led patrols, surveillance and co-management of PAs
• Supported joint patrols with Judicial Officers (*Officiers de Police Judiciaires*), Park Sector Heads, COBAs and other authorities as designated
• Supported establishment of improved, sustainable ecological monitoring systems for co-management of marine and terrestrial ecosystems
• Developed a mobile platform ("Allo Mikajy") on NRM that provides information to the actors of the landscape
• Established and provided ongoing capacity building support to Village Savings & Loans Associations (VSLAs)
• Promoted entrepreneurial conservation-friendly enterprises within COBAs
• Continued to make contacts and identify new partners to strengthen the interventions synergy and interaction at local level
• Reinforced synergy between Mikajy and USAID health programs at the landscape level including the continuation of mutual health insurance schemes in priority landscapes through an MOU with Mahefa Miaraka
• Conducted an analysis of the shared vision results based on existing products developed with stakeholders in FY19
• Held consultations to advocate for integration of land and resources right and tenure in SACs and dinas
• Initiated the development of a PLOF to secure land tenure for inhabitants of the Voloina Commune
	• Resilience to climate change taken into consideration in all training, awareness-raising and analysis
	• Trainings included adaptive management models and techniques integrating climate resilience for protected areas and coastal natural resource management
	• Conservation agriculture activities:
	  • Capacity building for producers in production techniques adapted to climate change: light plowing (cultivation in furrows or ponds), mulching of furrows or ponds
	  • Use of climate-adapted plant varieties
	• Included appropriate climate resilience measures in communication documents and guidelines for the co-management of protected areas and the management of community natural resources (CBNRM)
	• Shared climate information from DGM to regional actors to promote resilient community agricultural production practices
	• Leveraging of existing platforms, technologies and stakeholder groups to raise awareness on climate resilience for the conservation of biodiversity and human well-being (i.e. CDGRC group)
	• Maintained safety policies to ensure that Mikajy personnel have access to emergency communication protocols in the event of extreme weather conditions or natural disasters and ensured that project vehicles are appropriately equipped (satellite phones, rain gear, helmets, etc.)
		• Strengthening the dissemination of climate change adaptation measures across activities to improve community and individual resilience to climate change
		• Engagement of women and youth will be a focus in FY21

Year 2 Activities Completed	Climate Risk Mitigation and Resilience Strengthening Steps	Issues to be Addressed
• Supported the creation of a Land Tenure Office (*Guichet Foncier*) in Voloina • Continued to support the SAC process for 4 communes around Kirindy Mitea PA • Capacity building conducted on priority themes identified in the OCAT assessments: organizational development, technical development, financial management, land and natural resource governance, and advocacy techniques • Supported an environmental justice workshop to build the capacity of law enforcement officers and strengthen the prosecution of environmental crimes • Trained COBAs, park agents and LMMA managers on environmental infraction reporting techniques		
MODERATE CLIMATE RISK RATING		
• Supported the creation of new LMMAs and capacity building for marine resource management • Supported the creation of new TGRNs, including structuring of COBAs and management committees • Held trainings in SMART and PEM and for park officers and COBA patrollers • Supported development of Fishing Management Plans (PAPs) in Menabe • Supported active and passive restoration activities in degraded habitats to ensure landscape connectivity • Supported implementation of fire-fighting control measures (sensitization, preparation and implementation) • Supported the improved management of sustainable fisheries for LMMAs in Bay of Antongil and in Menabe • Promoted sustainable vanilla and clove value chains • Promoted sustainable crab and seaweed value chains (Ocean Farmers, Blue Ventures)	• Strengthened the resilience capacity of communities by facilitating planning for climate change mitigation measures to prevent the degradation of land resources and the disruption of marine ecosystems in all activities, including active and passive restoration, climate smart agriculture, ecotourism, and sustainable fisheries ***Fire Management*** • Support for the Menabe fire management plan: enabled management of fire risks in dry areas, installation of firewalls at the edge of the hard cores of ecologically sensitive forests, intensification of patrols and other awareness-raising efforts, establishment of fire monitoring committees and voluntary fire officers in the 10 villages at risk, provision of fire-fighting equipment • Support for the Masoala fire management plan: firefighting measures adapted to climate needs, installation of firewalls around the edges of sensitive plots, strengthening of the fire monitoring	• Continued consideration of the risks of poor use of land that can exacerbate risks associated with climate change, such as increased erosion of barren soil or degradation of water quality • Integrate climate change into the process of developing local development plan to guide land use changes: communal SAC, PAG for PAs, PAG TGRN • Scaling up resilient management techniques and systems for resource use

Year 2 Activities Completed	Climate Risk Mitigation and Resilience Strengthening Steps	Issues to be Addressed
• Facilitated the establishment of sustainable maize and peanut value chains • Promoted alternative value chains such as small-scale garden plots and animal husbandry • Established new conservation friendly cooperatives • Discussions held with MNP and communities to identify potential collaboration to support community-led ecotourism • Identified three potential sustainable financing mechanisms for conservation • Facilitated revitalizing and reinforcing the natural disaster management committees in each landscape through MOU with Medair and BNGRC • Development of strategies for resolving land conflicts in the Bay of Antongil, Makira NP, and Masoala NP	committee, awareness raising ***Landscape Restoration*** • Adoption of resilient restoration techniques in the dry forests of Menabe and humid forests of Mamabay: production and planting of climate-resilient species, use of planting techniques appropriate to the climate context of each landscape • Consideration of climatic conditions (rise in sea level, soil quality) in the mangrove restoration for Masoala, selection of local species adapted to climate risks ***Conservation-Friendly Livelihoods*** • Identification of climate risks and disasters for current and planned interventions. Adaptation of the cropping calendar to cycles of drought and flooding. Avoidance of invasive species and parasites • Ensured that climate-smart sustainable agricultural activities did not infringe on high biodiversity areas, hard cores, CBNRM areas, PAs or recently burned areas in Menabe • Promote sustainable production models resistant to the threats of climate change such as conservation agriculture, market gardening, sustainable vanilla, agroforestry, permaculture • Strengthen the resilience of communities and their ability to adapt to changing harvest seasons • Integrated climate resilience and biodiversity conservation into all shared vision action plans and models. • Empowerment of local actors to promote inter-community and intra-community cooperation in the implementation of shared visions on issues of climate resilience, conservation of biodiversity and management of natural resources to reduce tensions, conflict,	• Continuation of collaborative efforts with Medair and BNGRC on community climate resilience • No development of management plan against crop pests and diseases: FAW eliminated through physical removal of worm (hand picking and putting to fire) • Address the impacts from locust swarms in FY20, such as destruction of maize fields

Year 2 Activities Completed	Climate Risk Mitigation and Resilience Strengthening Steps	Issues to be Addressed
	increasing insecurity related to the resource use • Involvement of young people and women in activities to strengthen their resilience to climate change • Dissemination of DGM meteorological information products and capacity building for Lead Farmers on the use of meteorological information for planning agricultural activities • Collaboration with CDGRC for the revitalization and capacity building of local GRC committees in order to enhance the resilience of vanilla producing communities • Promoted loans for economic activities less dependent on climatic vagaries at the level of VSLA groups (rapid-cycle cultivation, small trade, processing of fishery products, etc.)	

ANNEX IV. PHOTOGRAPHS OF DIFFERENT PHASES OF ACTIVE RESTORATION MENABE ANTIMENA

Photo 1: Ampihamy nursery showing beds sown on March 16 - 17, 2020.

Photos 2 and 3: Young seedlings (*Cordyla madagascariensis)*,23 days after sowing.

Photo 4: Too young to be planted, these Mafay (Gyrocarpusamericanus) were raised at the Ampihamy nursery.

Photos 5, 6, and 7: Beroboka Nord, digging nursery watering wells.

Photo 8: Beroboka Nord, laying out the planting beds. Nursery keeper helped by youth.

Photo 9: Beroboka Nord site.

Photo 10: Beroboka Nod, beds staked out, aligned, ready for planting.

Photo 11: Beroboka North, installation of shade support.

Photo 12: Local materials for shade.

Photo 13: Beroboka Nord, mixture of topsoil with agricultural dirt.

Photos 14 and 15: Beroboka Nord, practical training for direct seeding in lines

Photo 16: Lambokely focus group to deepen understanding of restoration maintenance.

ANNEX V. ORGANIZATIONAL CAPACITY SCORES (MENABE AND MAMABAY)

TABLE 5.1. ORGANIZATIONAL CAPACITY SCORES (OCAT) FOR MAMABAY

ORGANIZATION	OCAT 1	OCAT 2	PERCENT IMPROVEMENT	CLASS
1. FPBA	33%	78%	+45%	A
2. MIHARI	37%	71%	+34%	B
3. TAFO MIHAAVO	29%	58%	+29%	B
4. PCDDBA	33%	46%	+13%	C
5. VEHIVAVY MIRAY	13%	41%	+28%	C
COBA Platforms				
6. FIZAPA	37%	69%	+32%	B
7. FIMAMA	27%	48%	+21%	C
8. MAVAA	23%	49%	+26%	C
9. MIFANDRAY	23%	46%	+23%	C
10. VOANIALA	10%	37%	+27%	C
11. MITSINIO				
COBAs				
12. LIAMPIVORANA	23%	87%	+64%	A
13. VOI FAM	40%	60%	+20%	B
14. VOI VHF	39%	59%	+20%	B
15. VOI FMTIA	38%	57%	+19%	B
16. MAMIRANO	36%	56%	+20%	B
17. VOI FVFA	34%	56%	+22%	B
18. FAM	18%	68%	+50	B
19. FML	34%	53%	+19%	B
20. VAMAMA	38%	46%	+8%	C
21. FIMIMIATA	38%	42%	+4%	C
22. SIKETRIBE	21%	57%	+36%	B
23. MITABE	22%	56%	+34%	B
24. AMTI	36%	40%	+4%	C
25. LAMINA	31%	46%	+15%	C
26. FIRASABE	22%	54%	+32%	B
27. RAVINALA	22%	51%	+29%	B
28. LOVASOA	23%	48%	+25%	C
29. FMAA	0%	68%	+68	B
30. ANDOLAVA	38%	28%	-10%	C

ORGANIZATION	OCAT 1	OCAT 2	PERCENT IMPROVEMENT	CLASS
31. AKANGA MIARADIA	0%	58%	+58%	B
32. FFAM	23%	27%	+4%	C
33. AMF	0%	40%	+40%	C
34. VOI AMBODIVOANGY MIRAY	36%	0%	-36%	D
35. ATM	34%	0%	-34%	D
36. TSINJOLAVITRA	0%	31%	31%	D
37. VOI FVAS	30%	0%	-30%	D
38. MAROLAKANA	22%	0%	-22%	D
39. VONONA	0%	0%	0%	D
AVERAGE	**25%**	**46%**	**+21%**	

TABLE 5.2. ORGANIZATIONAL CAPACITY SCORES (OCAT) IN MENABE

ORGANIZATION	OCAT 1	OCAT 2	PERCENT IMPROVEMENT	CLASS
1. OPCI ALOKAINA	89%	91%	+2%	A
2. FANOITRA	73%	84%	+11%	A
3. VFTM	61%	83%	+22%	A
4. CONSORTIUM JEUNE MAHERY	67%	71%	+4%	B
5. GEDY-B	66%	71%	+5%	B
6. FIVOI	46%	86%	+40%	A
7. OP FANDROSOANA	48%	78%	+30%	A
8. OP MAHASAROMBAKY				
9. VELONDRIAKY MIRAISOA	50%	61%	+11%	B
10. ASS KELIMAMONJY	40%	62%	+22%	B
11. PFC TSARAHOTANA	35%	65%	+30%	B
12. VOI MIJOHA	42%	56%	+14%	B
13. PFC DELTA	32%	65%	+33%	B
14. ASS TSIMIALONJAFY	16%	64 %	+40%	C
15. FOSA	24%	62%	+38%	B
16. CR MAROFANDILIA	0%	86%	+86%	A
17. VOI MITSINJO NY TAHIRISOA	29%	56%	+27%	B
18. CR TSIMAFANA	16%	64%	+48%	B

ORGANIZATION	OCAT 1	OCAT 2	PERCENT IMPROVEMENT	CLASS
19. FIVE BELO TSIRIBIHINA	2%	77%	+75%	A
20. VOI MAMELOMBAHOAKA	37%	41%	+4%	C
21. VMLE	21%	55%	+34%	B
22. LONGO IABY	15%	60%	+45%	B
23. PFC TSIMAFANA	17%	53%	+36%	B
24. FITAMA	17%	50%	+32%	B
25. VOI TAHIO GNATEGNA	30%	35%	+5%	C
26. PFC MAROFANDILIA	13%	46%	+33%	C
27. TAFO MIHAAVO	30%	31%	+1%	C
28. PFC BEMANONGA	13%	46%	+33%	B
29. FKT MAROFANDILIHA	22%	31%	+9%	C
AVERAGE	**34%**	**62%**	**+28%**	

ANNEX VI. IMPROVEMENTS IN BIOPHYSICAL CONDITIONS AS A RESULT OF USAID MIKAJY ACTIVITIES

USAID Mikajy is supporting the conservation of biodiversity in biologically significant areas in Menabe and MaMaBay landscapes. These include five protected areas in Menabe covering 379,535 hectares and two protected areas in Masoala covering 594,540 hectares in which a range of surveillance and restoration activities described under Strategic Action 1 are being conducted to improve the biophysical conditions. In addition, USAID Mikajy is supporting conservation and sustainable natural resource management in sites of transfer of management of natural resources (TGRN) to communities in green belts around the protected areas, and in blue belts through locally managed marine areas (LMMAs) around the Bay of Antongil in MaMaBay and along the Menabe coast.

Monitoring was conducted in FY20 in all these areas, including through

- participatory ecological monitoring with local communities,
- community patrols monitoring pressures using SMART,
- scientific ecological monitoring (e.g. analysis of lemur populations), and
- analysis of remote sensing data to assess changes in forest cover.

In addition, ecological restoration activities have contributed to improvement in biophysical conditions.

The results of the assessment of areas of biological significance with improved biophysical conditions through these monitoring and restoration activities in the MaMaBay and Menabe landscapes in FY20 are described below. In summary, a total area **of 551, 049 hectares** has been assessed to have improved biophysical conditions as a result of USAID Mikajy activities in FY20 and **551,111 hectares** over the life of the project.

1. Analysis of forest cover change

USAID Mikajy/WCS and USAID Hay Tao/WRI assessed changes in forest cover in biologically significant areas by comparing the forest loss in different management units for a period before and after USAID Mikajy support. In the case of Makira, WCS used satellite images between September to December and compared reference data from 2017 to 2018 with those from 2018 to 2019, since 2020 data are not yet available. For other areas, WCS Hay Tao used reference data from WRI Global Forest Watch for the calendar year 2018 compared with data for calendar year 2019. This corresponds well with the period when USAID Mikajy started to support patrols and other protection and management activities.

A reduction in forest loss indicating an improvement in biophysical conditions was observed in 509,300 hectares of biologically significant areas in MaMaBay and 40,018 hectares in Menabe (see Tables 6.1 and 6.2 below) making a total of 549,318 hectares across both landscapes.

TABLE 6.1: SITES WITH A REDUCTION IN RATE OF FOREST LOSS IN MAMABAY

Site		Area (ha)	Forest loss (ha/year)		Reduction in forest loss (ha/year)
MAMABAY			**After Mikajy**	**Before Mikajy**	**Before-After**
MAKIRA PA			**2018-2019**	**2017-2018**	
Secteur 5 Interior		19,543	14	31	17
Secteur 5 Zone Rouge		28,542	65	69	4
Secteur 6 Zone Rouge		30,134	44	94	50
Secteur 1 Zone Rouge		68,512	526	692	166

Site		Area (ha)	Forest loss (ha/year)		Reduction in forest loss (ha/year)
MAMABAY			**After Mikajy**	**Before Mikajy**	**Before-After**
MAKIRA PA	Total	146,730	219	685	466
MAKIRA TGRN			2018-2019	2017-2018	
Secteur 1	Ambanivaolotra	4,639	0	91	91
Secteur 1	Anjiamazava	2,052	4	20	16
Secteur 1	Ampasimbola Ampoatsatroka	6,842	0	122	122
Secteur 1	Anjiahely	2,904	3	4	1
Secteur 1	Sahasomba1	1,610	0	38	38
Secteur 1	Antsiranambato	3,668	2	17	15
Secteur 2	Beanana	5,557	1	19	18
Secteur 2	Sahafekona – Antsahabe	2,152	7	23	16
Secteur 3	Ambohimarina	2,493	0	5	5
Secteur 3	Andilambe	5,291	13	19	6
Secteur 3	Antananivo	6,343	30	55	25
Secteur 3	Ambalasoa	2,031	18	22	4
Secteur 3	Tsarabajina	5,047	1	32	31
Secteur 3	Beravina	3,319	7	21	14
Secteur 4	Andranomena	7,325	1	62	61
Secteur 4	Soavera (Tsaravilona)	4,338	6	29	23
Secteur 4	Ankorakabe	5,091	2	44	42
Secteur 4	Manandriana Station	1,639	4	18	14
Secteur 4	Manandriana Ambinany	703	2	12	10
Secteur 5	Lohan'Androaka	1,082	3	38	35
Secteur 5	Andatsakala	3,562	1	26	25
Secteur 5	Antanamangotroka	3,257	1	6	5
Secteur 5	Amponaomby	6,705	10	38	28
Secteur 5	Mahadera (Andranobetsisilaoka)	3,385	22	147	125
Secteur 5	Antsahabeorana	5,551	6	104	98

Site		Area (ha)	Forest loss (ha/year)		Reduction in forest loss (ha/year)
MAMABAY			**After Mikajy**	**Before Mikajy**	**Before-After**
Secteur 5	Besariaka	5,201	7	38	31
Secteur 5	Anivorano	1,455	5	10	5
Secteur 5	Ankijanibe (Ambodisakoana)	2,672	0	74	74
Secteur 6	Beravintsara	3,603	4	130	126
Secteur 6	Bearamy	1,530	5	48	43
Secteur 6	Besira	1,630	8	40	32
Secteur 6	Amparihimena	3,552	3	31	28
Secteur 6	Antsahantitra	8,761	19	167	148
Secteur 6	Nosibe Virembina	6,029	0	171	171
Secteur 6	Andampy	3,099	0	116	116
Secteur 6	Ankasikety	4,374	16	38	22
Secteur 6	Mahasoa	1,484	0	70	70
MAKIRA TGRN	Total	139,978	211	1,945	1,734
Masoala AP			2019	2018	
Secteur 1	Ambohitralanana	39,308	96	621	525
Secteur 2	Ampanavoana	57,929			
Secteur 3	Vinanivao	25,692			
Secteur 4	Ambanizana	44,520			
Secteur 5	Mahalevona	19,970			
Secteur 6	Ampoankafo	26,021			
Masoala	Zone Tampon	9,151	34	123	89
Masoala AP	Total	222,592	130	744	614
MAMABAY	TOTAL	509,300	2,360	4,707	2,348

TABLE 6.2: SITES WITH A REDUCTION IN RATE OF FOREST LOSS IN MENABE

Sites		Forest loss (ha/year)	Reduction (ha/year)	Sites	
MENABE			After Mikajy	Before Mikajy	
Menabe Antimena	Total improved (ha)	40,018	2019	2018	
	Noyau Dur	28,803	2,111	3,375	1264
	Anketrevo	1,228	10	14	4
	Ampataka	1,502	31	124	93
	Ankaraobato	2,467	85	218	133
	Kirindy	373	65	109	44
	Anketrevo1	175	6	9	3
	Anketrevo2	1,186	24	75	51
	Mandroatsy	674	5	8	3
	Mandroatsy Extension	743	35	65	30
	Lambokely Extension	342	6	12	6
	Tsitakabasia	1,071	13	98	85
	Tsianaloky	1,454	83	105	22
MENABE	TOTAL	40,018	2,474	4,212	1,738

2. Analysis of SMART infraction encounter rate for LMMAs

For marine and coastal areas, remote sensing of change in biophysical condition is not feasible. For LMMAs, the change in encounter rate of infractions, such as observation of use of disallowed fishing tackle such as nets with small mesh and seine nets dragged along the beach, was used to assess the changes.

The infraction encounter rate was analyzed from the start of Mikajy support from Aug 2018 to July 2019 and compared with the encounter rate after a longer period of Mikajy support from Aug 2019 to July 2020. Four LMMAs in MaMaBay covering 1,227.55 hectares showed a reduction in encounter rates.

TABLE 6.3: SITES WITH REDUCTIONS IN INFRACTION ENCOUNTER RATE FROM SMART PATROLS IN THE BAY OF ANTONGIL

Types	Analanjahana		Mahasoa		Navana		Vatolava	
	Area (Ha)	415.06	Area (Ha)	156.61	Area (Ha)	554.35	Area (Ha)	101.54
	Number	Number/ km	Number	Number /km	Number	Number/ km	Number	Number/ km
Aug 2018 – Jul 2019								
Beach seine net	9	1.15	-	-	2	0.30	-	-
Net with small mesh	1	0.13	1	0.11	-	-	1	0.50
Total encounter rate 2018-2019	5	0.64		0.05		0.15		0.25
Aug 2019 – Jul 2020								
Beach seine net	-	-	-	-	-	-	-	-
Net with small mesh	-	-	-	-	1	0.26	-	-
Total encounter rate 2019-2020	-	-	-	-	1	0.13	-	-

3. Restoration areas

Sites of active and passive restoration are also included in the areas of improved biophysical conditions. In FY20, 503.85 hectares were restored, of which ~~384.00~~ 484.00 ha in MaMaBay and 19.85 ha in Menabe. This adds to the areas restored in FY19 of 61.38 ha to make a total of ~~465.23~~ 565.23 ha restored since the start of the USAID Mikajy activity.

Table 4: Restoration in MaMaBay in FY20

Site	Area (ha)	Village	Commune
Makira PA	109	PF Vohitaly	Antsirabe Sahantany
Makira PA	75	PF Lokaitra	Morafeno
Masoala PA (marine)	10	Antsahabobe	Ampanavoana
Masoala PA (terrestrial)	200	Andranoanala	Ambohitralanana
Masoala PA (terrestrial)	50	Marofototra	Ambanizana
Masoala PA (terrestrial)	40	Sahavary	Antakotako
TOTAL for MaMaBay	**484 ha**		

Table 5: Restoration in Menabe in FY20

Site	Area (ha)	Village	Commune
Menabe Antimena PA (terrestrial)	11.15	Lambokely	Beroboka nord
Menabe Antimena TGRN	0.78	Beroboka	Beroboka nord
Menabe-Antimena TGRN	0.86	Tanandava	Beroboka nord
Menabe Antimena TGRN	0.86	Kirindy	Marofandilia
Menabe Antimena TGRN	2.24	Marofandilia	Marofandilia
Menabe-Antimena LMMA	0.45	Andranomandeha	Tsaraotana
Menabe Antimena TGRN	1.19	Kiboy	Tsaraotana
Menabe-Antimena LMMA	1.1	Tsimafana	Tsimafana
Menabe Antimena TGRN	1.22	Tsitakabasia	Tsimafana
TOTAL for Menabe	**19.85 ha**		

Summary of areas with improved biophysical conditions resulting from USAID Mikajy activities

Sites with a total of 551,049 hectares have been assessed to have improved biophysical conditions in FY20 (see Table 6 and Figures 1 and 2). Note that there was also reduction in deforestation rate in Kirindy Mitea National Park in 2019 compared with 2018 but this was not as a result of USAID Mikajy activities.

Table 6: Area (hectares) showing improved biophysical conditions in FY20 by data and analysis type

Data and analysis type	MaMaBay	Menabe	Total
Reduction in loss of forest cover	509,300 ha	40,018 ha	549,318 ha
Reduction in SMART encounter rate LMMAs	1,228 ha	-	1,228 ha
Restoration	484 ha	20 ha	504 ha
Total	511,011 ha	40,038 ha	~~550,950~~ 551,049 ha

In FY19, a total of 61.38 hectares were restored and counted towards the Indicator 6.1 improvement of biophysical conditions. Therefore, a total area of **551,111 hectares** have been assessed to have improved biophysical conditions as a result of USAID Mikajy activities over the life of the project

Detailed maps of the areas with improved biophysical conditions from both landscapes are provided below.

Figure 1: Map of areas with improved biophysical conditions in MaMaBay

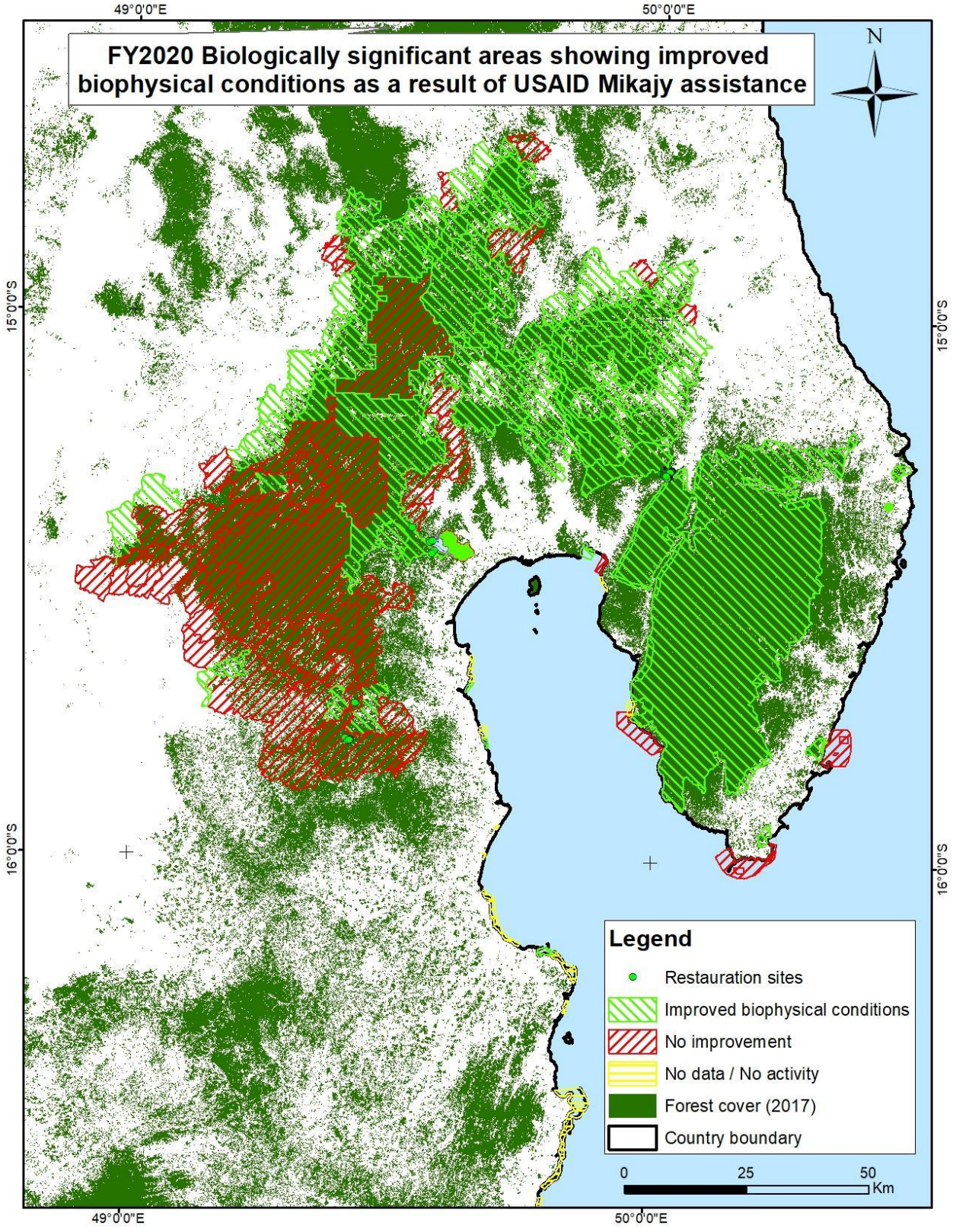
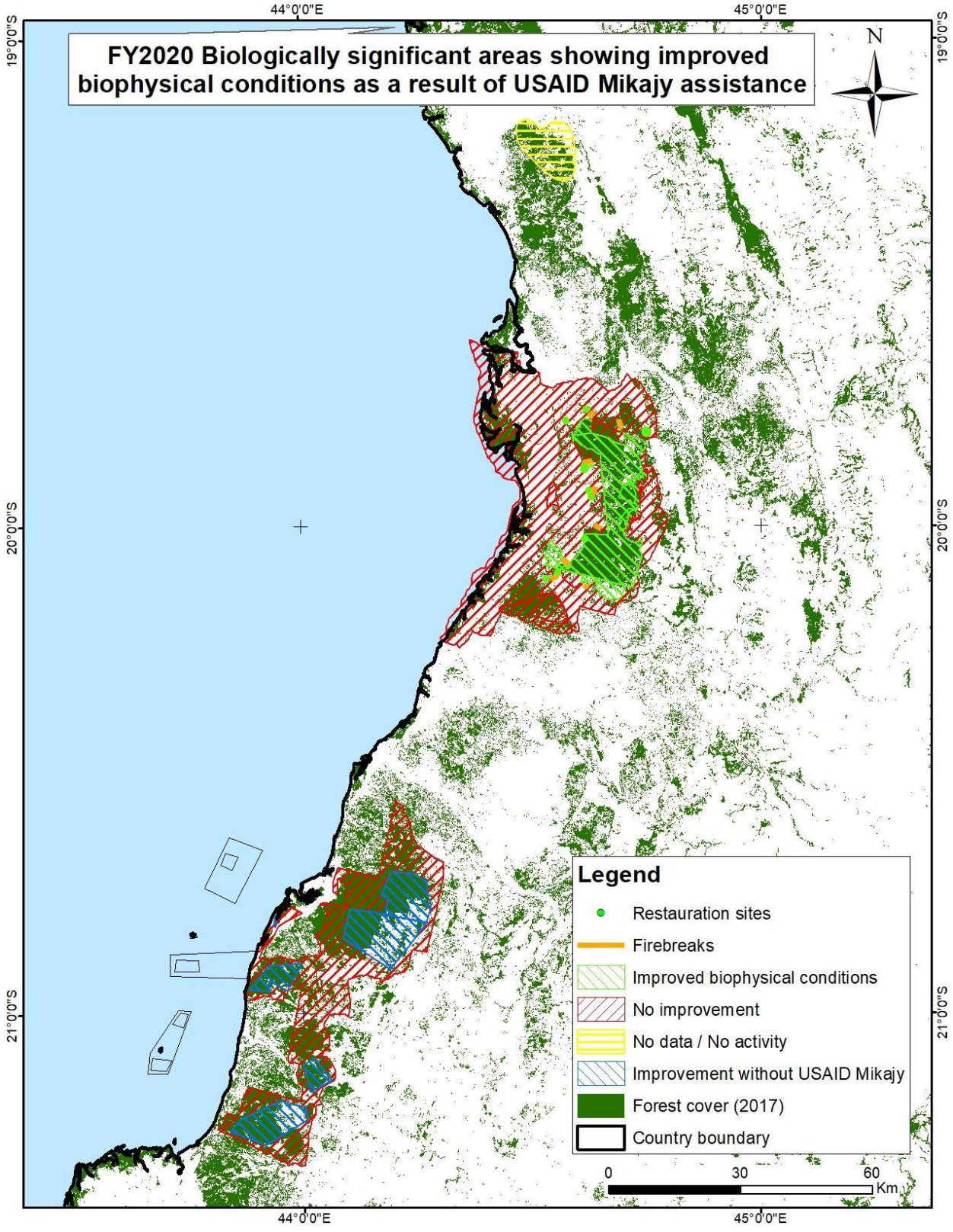


Figure 2: Map of areas with improved biophysical conditions in Menabe



ANNEX VII. GRANTS UNDER CONTRACT FY20 (OCTOBER 2019-SEPTEMBER 2020)

Title	Grantee	Period	Objectives	Key Achievements/ Results to Date	Relevant USAID Mikajy Indicators
Development and implementation of a firefighting strategy in Menabe Antimena Protected area and the Menabe Landscape	Fanamby	Sept 2019- Aug 2020	1) Conduct a training of trainers in fire management using international fire management specialists 2) Engage in active firefighting during the as part of field based practical training 3) Develop an integrated fire management plan that addresses the drivers of forest fires and clarifies clear mitigation efforts to reduce fires in Menabe and potentially support other protected areas throughout Madagascar.	▪ Training of community members and other local units trained on fire management) ▪ 10 fire prevention units established ▪ 30 people equipped for active firefighting ▪ Installation of 15.2 km of firewalls and accompanying units	**1.2.** People participating in planning, management, enforcement for improved NRM **1.3**. Persons using climate information or implementing risk-reducing actions to improve resilience to climate change **6.2.** Number of ha of biologically significant areas under improved NRM **6.4.** Number of people with economic benefits derived from sustainable NRM and/or biodiversity conservation **6.7.** Number of people trained in sustainable natural resources management and/or biodiversity conservation
Enhancing village patrols to significantly reduce deforestation in Menabe Antimena and Ambondrombe Protected Area	Durrell	Dec 2019 – Dec 2020	Reduce the current rate of deforestation in Menabe Antimena and Am bondrobe by 50% through: 1) More effective collaboration between partners in order to improve protected area governance 2) More effective village-led patrols, resulting in greater control over illegal activities 3) Improved knowledge and enforcement of conservation laws	▪ Training of patrollers ▪ More effective village-led patrols resulting in greater control over illegal activities ▪ Community patrols implemented (153 patrollers, 17 communities) ▪ Awareness raising through radio and TV ▪ Participation in joint patrols ▪ Threat analysis through SMART data	**1.1.** Number of people applying improved conservation law enforcement practices **1.2**. Number of people participating in planning, management, enforcement for improved NRM **5.1.** Number of forums/events completed with civil society engagement in policy and tenure rights discussions **5.2.** Percentage observed and verbalized offenses that are the subject of either a statutory or customary judiciary prosecution **6.2**. Number of ha of biologically significant areas under improved NRM **6.4.** Number of people with economic benefits derived from sustainable NRM and/or biodiversity conservation **6.7**. Number of people trained in sustainable natural resources

Title	Grantee	Period	Objectives	Key Achievements/ Results to Date	Relevant USAID Mikajy Indicators
					management and/or biodiversity conservation
Natural capital restoration for conservation and livelihoods in the Menabe-Antimena Protected Area, Madagascar	KEW	Jan 2020 – Sept 2021	Develop a pipeline for cost-effective restoration of forests in the Menabe-Antimena PA landscape, and increase agricultural productivity and sustainability using local tree species.	▪ Production of 100,000 plants in nurseries ▪ Plantation for forest restoration 9ha ▪ Reforestation of 100 ha ▪ Agroforestry in 8 villages with 400 households	**1.2**. Number of people participating in planning, management, enforcement for improved NRM **1.3**. Number of people using climate information or implementing risk-reducing actions to improve resilience to climate change **6.1.** Number of ha of biologically significant areas showing improved biophysical conditions **6.4.** Number of people with economic benefits derived from sustainable NRM and/or biodiversity conservation **6.7.** Number of people trained in sustainable natural resources management and/or biodiversity conservation
Project for the ecological restoration of the Lambokely and Beroboka North Forests	Voahary	Feb 2020 – Aug 2021	1) Restore approximately 200 ha of the highly degraded dense dry forests of the Menabe Antimena Protec ted Area (APMA) core area. 2) Promote and encourage local authorities and communities to co-manage ecosystems and natural resources	▪ Production of plants in nurseries ▪ Involvement of youth in restoration activities ▪ Awareness related to DINA raised (201 participants) ▪ Restoration 10 ha ▪ 96000 plants in nurseries ▪ Patrols ▪ 53,125 plants planted ▪ Training on restoration strategy, nursery management, and natural resources management	**1.2**. Number of people participating in planning, management, enforcement for improved NRM **1.3**. Number of people using climate information or implementing risk-reducing actions to improve resilience to climate change **6.1**. Number of hectares of biologically significant areas showing improved biophysical conditions **6.4.** Number of people with economic benefits derived from sustainable NRM and/or biodiversity conservation **6.7.** Number of people trained in sustainable natural resources

Title	Grantee	Period	Objectives	Key Achievements/ Results to Date	Relevant USAID Mikajy Indicators
					management and/or biodiversity conservation
Pilot beekeeping project in Makira Protected Area	Insight in Develop-ment	June 2020 – June 2021	Re-establish sustainable and mite resistant bee colonies among 240 beekeepers using improved techniques within 12 TGRNs surrounding Makira Natural Park, in order to strengthen and perpetuate the services rendered by bees for biodiversity conservation and increase incomes for local communities.	▪ 80 hives and accessories place in references sites ▪ 240 hives and accessories shared to communities ▪ 240 beekeepers enrolled with the project (12 communities)	**1.2.** Number of people participating in planning, management, enforcement for improved NRM
Sustainable Protection and management of mangroves and marine resources	GPPM	Nov 2020 – May 2022	1) Improve natural resource governance 2) Restore 120 ha of degraded mangrove areas 3) Strengthen community patrols and monitoring of mangroves and marine resources 4) Improve community livelihoods and 5) Establish 8 Locally Managed Marine Areas for coastal and marine areas	[In progress. As of reporting period no key results to report]	**1.2.** Number of people participating in planning, management, enforcement for improved NRM **6.1**. 5.4 ha of biologically significant areas showing improved biophysical conditions
Support for improved patrolling and natural resource management in Masoala National Park	MNP	March 2020 – Dec 2020	Equipment to support improved patrolling and natural resource management in Masoala National Park		**1.1.** Number of people applying improved conservation law enforcement practices **1.2.** Number of people participating in planning, management, enforcement for improved NRM **5.2.** Number of observed and verbalized offenses that are the subject of either a statutory or customary judiciary prosecution

Title	Grantee	Period	Objectives	Key Achievements/ Results to Date	Relevant USAID Mikajy Indicators
					6.1. Number of hectares of biologically significant areas showing improved biophysical conditions **6.4.** Number of people with economic benefits derived from sustainable NRM and/or biodiversity conservation