

# FINAL PROGRAM REPORT

## Maintaining *Biological Integrity* of *Critical Biodiversity Habitats*

Associate Cooperative Agreement No. 687-A-00-04-00090-00



May 17, 2004 – August 31, 2009



This publication was produced for the United States Agency for International Development. It was prepared by Conservation International (CI), Wildlife Conservation Society (WCS), and World Wide Fund for Nature (WWF).





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## **PROJECT SUMMARY**

Project Name: **MIARO**

Project Activity: **Maintaining Biological Integrity of Critical Biodiversity Habitats**

Cooperative Agreement No.: **687-A-00-04-00090-00**

Project Period: **May 17, 2004 – August 31, 2009**

Implementing Organization: **Conservation International/Madagascar in partnership with WCS, WWF, and Madagascar National Parks**

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## List of Acronyms

ACCE	<i>Arongampanihy Communication Culture Environnement</i>
AOTR	Agreement Officer Technical Representative
ASE	<i>Association pour le Sauvegarde de l'Environnement</i>
BBOP	Business and Biodiversity Offset Program
BRD	Bioclimate Research and Development
CAG	Conservation Action Grants
CAZ	Corridor Ankeniheny Zahamena
CBD	<i>Conférence pour la Diversité Biologique</i>
CBO	Community Based Organization
CCBS	Climate, Community and Biodiversity Standards
CCD	Communal Development Committees
CCEE	<i>Centre pour la Conservation et pour l'Education Environnementale</i>
CDM	Clean Development Mechanism
CEG	<i>Centre d'Enseignement Général</i>
CEL	<i>Centre Ecologique de Libanona</i>
CEP	<i>Commission Environnement – Pêche</i>
CNFEREF	<i>Centre National pour la Formation, Education, Recherche en Environnement et Foresterie</i>
CI	Conservation International
CIMF	<i>Comité Inter-Ministériel Mines Forêts</i>
CIREF	<i>Circonscription de l'Environnement et des Forêts</i>
CMP	<i>Comité Multilocal de Planification</i>
CNRE	<i>Centre National pour la Recherche Environnementale</i>
COAP	<i>Code des Aires Protégées</i>
COBA	<i>Communauté de Base</i>
COFAV	Corridor Fandriana-Vondrozo
COGE	<i>Comité de Gestion</i>
COP	Conference of Parties
COSAP	<i>Comite d'Orientation et de Suivi des Aires Protégées</i>
COZ	Controlled Occupation Zone
CR	<i>Commune Rurale</i>
CRO	<i>Comite Régional d'Orientation</i>
DCPSE	<i>Direction pour la Coordination, de la Planification et du Suivi-Evaluation</i>
DGEF	<i>Direction Générale de l'Environnement et des Forêts</i>
DGF	<i>Direction Générale des Forêts</i>
DIR	<i>Direction Interrégionale</i>
DIREEF	<i>Direction Interrégionale de l'Environnement des Eaux et des Forêts</i>
DPRH	<i>Direction de la Pêche et des Ressources Halieutiques</i>
DREF	<i>Direction Régionale de l'Environnement et des Forêts</i>
DREFT	<i>Direction Régionale de l'Environnement, des Forêts et du Tourisme</i>
DSAP	<i>Direction de l'Appui aux Systèmes des Aires Protégées</i>
EIA	Environmental Impact Assessment
EP	Environment Program
EPP	<i>Ecole Primaire Publique</i>
FAO	<i>Food and Agriculture Organization</i>
FAPBM	<i>Fondation pour les Aires Protégées et la Biodiversité à Madagascar</i>
FBM	<i>Fikambanana Bongolava Maintso</i>
FCPF	Forest Carbon Partnership Fund
FSC	Forest Stewardship Council
GDRN	<i>Gestion Durable des Ressources Naturelles</i>
GEF	Global Environment Fund
GERP	<i>Groupe d'Etudes et de Recherches pour les Primates</i>
GHG	Greenhouse Gas
GIS	Geographic Information System
GOM	Government of Madagascar
IDA	International Development Association
IEG	<i>Indice d'Efficacité de Gestion</i>
IFC	International Finance Commission
IHSM	<i>Institut Halieutique des Sciences Marines</i>
IR	Intermediate Result
IRG	International Resources Group
IUCN	International Union for Conservation of Nature and Natural Resources
JME	<i>Journee Mondiale de l'Environnement</i>
LCM	Land Change Modeler
LMU	Local Management Unit

<b>MAEP</b>	<i>Ministère de l'Agriculture, de l'Elevage et de la Pêche</i>
<b>MAP</b>	Madagascar Action Plan
<b>MATE</b>	Man and The Environment
<b>MaVoa</b>	Madagasikara Voakajy
<b>MBG</b>	Missouri Botanical Garden
<b>MEF</b>	Ministry of Environment and Forests
<b>MEFT</b>	Ministry of Environment, Forests and Tourism
<b>MEM</b>	<i>Ministère de l'Energie et des Mines</i>
<b>MFPAB</b>	Madagascar Foundation for Protected Area and Biodiversity
<b>MNP</b>	Madagascar National Parks
<b>MPA</b>	Marine Protected Areas
<b>NAPA</b>	National Adaptation Action Plan
<b>NEAP</b>	National Environmental Action Plan
<b>NGO</b>	Non-governmental organization
<b>NP</b>	National Park
<b>NPA</b>	New Protected Areas
<b>OLEP</b>	<i>Organe de Lutte contre l'Événement de Pollution Marine par les hydrocarbures</i>
<b>OMC</b>	Orientation and Management Committee
<b>ONE</b>	<i>Office Nationale de l'Environnement</i>
<b>PA</b>	Protected Area
<b>PAG</b>	<i>Plan d'Aménagement et de Gestion</i>
<b>PBZT</b>	<i>Parc Botanique et Zoologique de Tsimbazaza</i>
<b>PCD</b>	<i>Plan Communal de Développement</i>
<b>PCZ</b>	Priority Conservation Zone
<b>PDD</b>	Project Development Design
<b>PES</b>	Payment for Ecosystem Services
<b>PGES</b>	<i>Plan de Gestion Environnemental et Social</i>
<b>PlaCAZ</b>	<i>Plateforme de Coordination du Corridor Ankeniheny-Zabamena</i>
<b>PNUD</b>	<i>Programme des Nations Unis pour le Développement</i>
<b>POWPA</b>	Program of Work on Protected Areas
<b>PTA</b>	<i>Plan de Travail Annuel</i>
<b>QMM</b>	QIT Madagascar Minerals
<b>REBIOMA</b>	<i>Réseau pour la Biodiversité de Madagascar</i>
<b>REDD</b>	Reduced Emissions from Deforestation and Degradation
<b>REPC</b>	<i>Réseau d'Educateurs Professionnels pour la Conservation</i>
<b>RM</b>	Results Module
<b>RTM</b>	Reggio Terzo Mondo
<b>SAPM</b>	<i>Système des Aires Protégées de Madagascar</i>
<b>STTA</b>	Short-term technical assistant
<b>SUZ</b>	Sustainable Use Zone
<b>TAMS</b>	<i>Tetik'Asa Mampody Savoka</i>
<b>TBD</b>	To be determined
<b>TDY</b>	Temporary Duty
<b>TFT</b>	Tropical Forest Trust
<b>TGK</b>	Tsitongambarika
<b>TNC</b>	The Nature Conservancy
<b>TPF</b>	The Peregrine Fund
<b>UCFB</b>	<i>Unité de Coordination Foresterie Biodiversité</i>
<b>UNEP</b>	United Nations Environment Programme
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>USAID</b>	United States Agency for International Development
<b>VAM</b>	Vesicular Arbuscular Mycorrhizae
<b>VCS</b>	Voluntary Carbon Standard
<b>VER</b>	Verified Emissions Reductions
<b>WCPA</b>	World Commission on Protected Areas
<b>WCS</b>	Wildlife Conservation Society
<b>WWF</b>	World Wide Fund for Nature

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## Executive Summary

The MIARO Program was implemented from May 2004 through August 2009 and is a cooperative agreement with Conservation International (CI) under the “Maintaining Biological Integrity of Critical Biodiversity Habitats,” Leader Award No. LAG-A-00-99-00046-00. World Wide Fund for Nature (WWF) and Wildlife Conservation Society (WCS) both received grants through this program, allowing the three NGOs to provide coordinated technical support to the creation and effective management of the Protected Area System of Madagascar (SAPM).

In September 2003, President Marc Ravalomanana declared at the World Parks Congress in Durban that Madagascar would expand its protected area system to cover approximately 10% of the country’s surface. The MIARO program has focused on making that “Durban Vision” into a reality. At the end of the project in August 2009, there are over 6 million hectares of critically important biodiversity sites where conservation organizations, whether international, national or local, are actively working securing natural habitats. This achievement has required unparalleled collaboration between diverse organizations from government ministries, conservation NGOs and rural development partners all the way down to the communities living around the new protected areas. CI and its partners under the MIARO program have supported the design of the new SAPM, have identified the most important sites to protect through compilation and analysis of large datasets on biodiversity distribution, have developed and tested new models for engaging communities in conservation, have developed new tools for improving management effectiveness and monitoring, and have identified and acquired new financial resources and put them to work to conserve Madagascar’s unique natural heritage. USAID’s support through the MIARO program has been essential to the process of designing and creating the new protected area system.

### Main achievements of the Program

MIARO’s overall impact is remarkable insofar as significant changes have occurred since the program’s inception. Specifically, the following impacts were achieved:

- The Durban Vision aimed to triple the surface area of protected areas, bringing the total to 6 million hectares. Through MIARO’s support, we accomplished this goal with **6,305,490 hectares of protected areas**.
- MIARO supported the development of **23 new policies and laws**. These include protection orders for individual protected areas, but also legislation that sets the framework for SAPM. One law to highlight is the revision to the **Protected Areas Code (COAP) and its application decrees**, which allow for multiple protected area categories and governance types that conform to international IUCN standards.
- Due to MIARO’s efforts, **100% of Madagascar’s habitats are now represented** in the Protected Areas System (SAPM).
- There are now **1,027,577 hectares of protected areas in USAID priority zones**. These areas will ensure that unique and endemic biodiversity and essential ecosystem services are conserved in perpetuity for the global good and local human well-being. Within these areas, a total of **190 communities are involved in protected area governance and natural resource decision making** (129 at the Ankeniheny-Zahamena Corridor and 61 at the Fandriana-Vondrozo Corridor).
- MIARO worked to ensure that conservation is financed sustainably in the future. These efforts proved fruitful, as we contributes, with others, to the establishing the **Foundation for Protected Areas and Biodiversity, which is now operational with a capital of \$16,681,378, contractual commitments of a further \$17 million and ongoing negotiations for a further \$19 million**. The Foundation projects that it will

achieve its \$50 million target for the capital before 2012. Other non-traditional financing mechanisms were mobilized and developed. Most importantly perhaps is **carbon-related funding, which will ensure the core costs of the Ankeniheny Zahamena corridor (CAZ) and the Fandriana Vondrozo corridor (COFAV), where USAID has invested, are covered in the foreseeable future.**

In addition, to these overall impacts, CI and its partners targeted four results modules. Some of our main achievements under each of these are listed below.

***Results Module 1. Ecological linkages within and between landscapes established and/or maintained by expanding biodiversity habitat conservation***

- Identification, based on rigorous science, of the priority terrestrial areas for biodiversity that should be included in the expanded protected area system.
- Provisional protection from mining and forestry operations acquired for all the priority biodiversity areas.
- Key policy and guidance documents developed for the new protected area system, including an overall orientation document on SAPM, and guideline documents on the creation of new protected areas, determining management objectives of sites, governance arrangements and sustainable use of natural resources within protected areas.
- Capacity building on governance options for new protected areas provided to government and non governmental stakeholders, resulting in greater understanding of natural resource governance issues and the integration of these principles into new protected area legislation.
- Technical assistance provided to the Ministry of Environment and Forests for the development of new legislation that modernizes Madagascar's protected area network to bring it into line with the latest standards developed by the IUCN's World Commission on Protected Areas (WCPA). In particular this legislation provides an array of new management objective and governance options that are well adapted to Madagascar's conservation context.
- Technical assistance provided to the promoters of the new protected areas, many of whom are civil society organizations new to protected area creation and management, to ensure that they comply with procedures for the creation of new reserves. Through this large emerging network of civil society protected area promoters and managers, the Ministry of Environment and Forests is well on its way to achieving its objectives for the SAPM.
- Communications activities conducted at national, regional and local levels to promote understanding of SAPM and the options it provides for improved management of natural resources.
- Two of the largest and most complex new protected areas in the country, the Ankeniheny-Zahamena corridor (CAZ) and the Fandriana-Vondrozo corridor (COFAV) granted provisional protection and the steps planned under MIARO needed for definitive creation have been completed.
- Innovative habitat restoration techniques developed and applied to restore over 1,000 hectares of natural rainforests at two sites.

## ***Results Module 2. Management effectiveness for protected area management improved***

- New tools for management planning developed and adopted by the network of Madagascar National Parks (MNP). These planning tools help managers objectively define conservation priorities at their sites and design appropriate management strategies to address the pressures that threaten these conservation targets.
- Two staff from each of the 44 sites managed by Madagascar National Parks were trained in developing management plans and these plans were updated for all the parks and reserves in the network.
- Two staff from each of the 44 sites managed by Madagascar National Parks were trained in the development of business plans for protected areas. Support was also provided for MNP's centralized financial planning approach to ensure that park and reserve budgets corresponded to the activities identified in the updated management plans.
- Management planning tools developed for Madagascar National Parks adapted for the new protected areas and training was provided to all promoters of the most advanced new reserves. The tools and approach have been used to develop the management plans at the most advanced new protected areas.

## ***Results Module 3. National Park Network Activities Implemented***

- Management activities supported at 6 parks and reserves within the Madagascar National Parks network.
- Improved management systems within Madagascar National Parks designed and adopted and the management capacity of staff was improved. These systems and training were vital at the beginning of the third phase of the Environment Program (EP3) to put the institution in a position where it was able to access and manage other donor funding, particularly that of the World Bank.

## ***Results Module 4. Sustainable financing mechanisms operational***

- Technical support provided to the Madagascar Foundation for Protected Areas and Biodiversity, helping it to develop into a fully operational foundation that has already attracted funding commitments of over \$50 million. Specifically the support from the MIARO program addressed the development of internal procedures, an investment strategy to maintain and grow the institution's capital, a communications plan and a strategy for making sure that the foundation's resources are allocated to protected areas where they will have the greatest conservation impact.
- The MIARO program supported Madagascar's other environmental foundation, Tany Meva, by helping them to develop a new strategic plan that aims to ensure that its investments achieve more effective and focused results. MIARO also provided support in two important areas to help Tany Meva adapt to the new strategy: capacity building for the board during an important period of transition, and the development of a new communications strategy for the organization.
- Support provided to the government to develop new "avoided deforestation"/REDD (Reduced Emissions from Deforestation and Degradation) forest carbon projects that will provide funding to cover part of the long term costs of the new protected areas at CAZ and COFAV.
- Biodiversity offset, species and habitat management activities related to the Ambatovy nickel mine that are complementary to the establishment of the CAZ protected area identified. Implementation of these activities in collaboration with the Ambatovy mine will result in the contribution to part of the costs of the new protected area and they will enhance the sustainability of the protected area by improving habitat connectivity and improving forest management in the areas outside of the protected area.

- Technical assistance provided to the Government of Madagascar to support debt-for-nature swap negotiations with the French government that resulted in a 13 million Euro contribution to the Malagasy Foundation for Protected Areas and Biodiversity.
- In collaboration with IFC and another USAID-ecotourism program, technical assistance provided to the Ministry of Environment and Forests and Tourism (MEFT) to develop a tourism concession policy and to attract potential investors. Through this collaboration, initial concession sites have been identified within Madagascar National Parks and several high-end potential investors have visited the country on reconnaissance trips.

## I. Introduction

Madagascar is widely recognized to be one of the World's top conservation priorities. Conservation International considers this "eighth continent" to be among the top 5 global priorities due to its species richness, endemism and the level of threat. Madagascar boasts 25 families of species that exist only on this island – the highest number in the world. It has 10-12,000 species of plants, 400 reptiles and 199 described amphibian species, 209 species of birds and over 100 species of the endemic lemurs that make it the top priority for primate conservation. Despite these natural riches, Madagascar is a country of extreme human poverty that continues to be further exacerbated by the degradation of the ecosystem services that sustain human life. Deforestation continues, mostly for slash-and-burn agriculture and charcoal production, leading to large scale erosion, increased flood risk, diminishing water resources and the subsequent threats to downstream agriculture and people.

Shortly before the MIARO program commenced, President Marc Ravalomanana announced a new vision to more than triple the area in Madagascar under official protection. This announcement at the World Parks Congress in September 2003 in Durban, South Africa, quickly became dubbed the "Durban Vision." The decision was made in recognition of the vital role that natural ecosystems will play if Madagascar is to achieve sustainable economic growth. The expansion of the protected area system also required a rethink on the definition of protected areas, the types of protected areas that were appropriate in the Malagasy context and the way that they would be managed – the governance structure. An important rationale of this vision was to provide new incentives for the Malagasy people to benefit from biodiversity. Previously the people living closest to this biodiversity had few official rights to benefit from it, but the new vision of protected areas provided a framework for allowing communities to be full participants in the management and resource use decisions related to this biodiversity.

The MIARO program was designed to support the development of all aspects of this new protected area system. Specifically the work program was designed to:

- Equip Malagasy institutions and their partners with the tools and capacity needed to implement successful biodiversity conservation
- Ensure that Malagasy institutions and their partners have access to investment to conserve biodiversity in the long term
- Create the appropriate legal, economic and policy framework for biodiversity conservation in Madagascar to succeed.

During 2004-2009, with USAID's support, the MIARO program became the main mechanism through which Conservation International, WWF, WCS, and Madagascar National Parks provided coordinated technical support to the creation and effective management of the new Madagascar Protected Area System (SAPM) and the sites within it.

CI was the lead organization for MIARO implementation and WWF, WCS, and MNP were sub-recipients. As such, CI ensured overall coordination of the program in addition to implementing activities. Although all four institutions collaborated on most aspects of MIARO, lead organizations were established for each of the Results Modules as follows:

- Results Module 1. Ecological linkages within and between landscapes established and/or maintained by expanding biodiversity habitat conservation (CI lead)
- Results Module 2. Management effectiveness for protected area management improved (WWF lead)
- Results Module 3. National Park Network Activities Implemented (MNP lead)

- Results Module 4. Sustainable financing mechanisms operational (WCS lead)

### **Protected Areas and Phase 3 of the National Environmental Action Plan**

Although the Durban Vision announcement was a massive step forward, it was also a logical step in the evolution of Madagascar's National Environmental Action Plan (NEAP) that started in 1990, the first in Africa. The first phase of the NEAP (1990-1997) (EP1) focused on environmental policy development and formulation, institutional capacity building; and importantly for SAPM, it was during this phase that Madagascar National Parks (originally named ANGAP – *l'Association Nationale de Gestion des Aires Protégées*) was created. Several new national parks were also created during EP1 and the protected areas that already existed were strengthened and management standards introduced under Madagascar National Parks coordination. The second phase (EP2) of the NEAP also had a strong emphasis on consolidating the national parks network in addition to notable advances with community management of natural resources under management transfer arrangements (*transfert de gestion*).

At the beginning of the EP3 and the MIARO program, important enabling conditions were in place on which to build – there was a capable and enthusiastic National Parks service, the government had announced its vision to triple the protected areas and this vision enjoyed high level political support, and technical and financial partners were coordinated, motivated and willing to support protected area vision. The network of sites managed by Madagascar National Parks was made up of relatively strict protected areas equivalent to IUCN categories I (Strict Nature Reserves – *Reserve Naturelles Integrales*), II (National Parks) and IV (Wildlife Reserves – *Reserves Speciales*). At the time, the concept of Conservation Sites (*Sites de Conservation*) was being developed that would still emphasize biodiversity conservation but allow multiple use objectives within them. In particular, work was already underway in 3 of these new Conservation Sites (Makira, the Ankeniheny-Zahamena corridor and Menabe) and these became a testing ground for new ideas related to protected area management. These Conservation Sites were the precursors of the new protected areas and ultimately, through the new framework developed with MIARO's support, were divided into three new types corresponding to IUCN categories III (Natural Monuments- *Monuments Nationaux*), V (Natural landscapes – *Paysage Harmonieux Naturel*), and VI (Natural Resource Reserves – *Reserves des Ressources Naturelles*).

### **The Institutional Landscape**

Over the course of the MIARO program all the main government institutions changed their names at least once, but the basic functions remained the same. This change of names and acronyms has caused great confusion to people trying to follow the process from afar. For this final report we have adopted the current names of the different institutions throughout the report even when referring to historical actions or decisions for which official documentation will refer to the institution as it was named at the time. In this section we explain the role of different actors and the changes in their designations that occurred over the life of the program.

Madagascar National Parks manages a network of National Parks, Strict Nature Reserves and Wildlife Reserves. At the beginning of the PE3 this network of 46 sites totaled 1.7 million hectares and since that time 5 new parks have been added and an extension of 500,488 hectares has been added to the network. Madagascar National Parks was one of the partners involved in the MIARO program from 2004 to 2006. Our main objective for Madagascar National Parks was to increase the management effectiveness of the network. Madagascar National Parks uses a management effectiveness indicator based on an IUCN –WCPA evaluation system, and at the beginning of the MIARO program this management effectiveness index was 41%. Under the PE3, the target for improvement was to reach a management effectiveness index of 70%, and

one of MIARO's objectives was to help in this improvement by improving conservation planning, financial planning and monitoring at an institutional level and specifically supporting key site level activities at 4 national parks.

The forestry service, the Directorate General of Forests (DGF), within the Ministry of Environment and Forests (MEF) has the overall responsibility for the management of forests both inside and outside of protected areas. In practice the DGF's role inside protected areas managed by Madagascar National Parks is relatively limited although they are usually called upon to enforce legislation when infractions occur. At the beginning of the PE3 the DGF did not have a specific unit or department responsible for protected areas but as the policy and legal framework for protected area management was revised it became clear that staff were needed to fulfill this role. Initially a Protected Area System focal point was named to co-preside over an informal group, known initially as the Durban Vision Group and subsequently as the SAPM commission. The SAPM commission comprised technicians from Ministries, NGOs and other partners who were working to develop new protected areas. The MIARO program initiated the creation of this commission and MIARO staff ensured its co-presidency and the secretariat (until the creation of a specific protected areas directorate and the transfer of this role to DGF staff). It was through the SAPM commission that the technical standards and policy and legal framework for the expanded protected area system were developed. As described in section II of this report, the MIARO program helped in all of the activities of the SAPM commission through the work conducted under Results Module 1, and the commission was the primary vehicle for MIARO to ensure wide participation in SAPM development beyond just the partners involved in our program.

In 2007, a major step forward was the creation within the MEF of the Directorate for the Protected Area System (DSAP) composed of a director and several support staff. This was the first time that dedicated personnel at the ministry worked full time on protected area issues, and it allowed many of the previous constraints and delays to be overcome. In addition, the DSAP became directly responsible for the management of the new protected areas being created outside of the Madagascar National Parks network as well as oversight of Madagascar National Parks (though in practice this has not yet become an important emphasis of the DSAP). At the regional and district levels in Madagascar, the "decentralized" staff of the DGF have also been involved in the role of protected area creation and management. The forestry service is represented in each of the 22 regions by the Regional Directorates of Forests and Environment (*Directions Regionales de l'Environnement et Forêts - DREF*) and many of the districts are represented by Forests and Environment Circumscriptions (*Circonscriptions de l'Environnement et Forêts - CIREF*). The official managers of all the new protected areas during the creation phase are the DREFs although in practice each of the sites has a promoter (usually an NGO, sometimes a business) that is undertaking the work necessary for creation and management of the protected areas. Much of MIARO's effort under RM1 was to keep these regional level actors included in the development of the SAPM to ensure that the technical, policy and legal framework being developed in Antananarivo was based on input from the field and real experience.

## **Protected Area Governance**

One of the greatest changes that has occurred during the PE3 is the advance made to set up more inclusive forms of governance for protected areas and the natural resources inside them. Almost all of the new protected areas will be co-managed through a partnership between the State, regional and local authorities and local communities. The communities are powerful local decision-makers in these governance structures but also take on responsibility for the effective conservation of the specific parts of the protected area that can be identified as being their traditional use areas. Although the co-management concept has been integral to the new protected area concept, Madagascar National Parks has also taken on many of these ideas and developed new ways to include local communities in decision making in the new sites that they have created and also in existing parks. MIARO's input has been at two main levels: helping the SAPM commission develop the governance framework for protected areas, but also designing and testing governance structures at the field level, particularly in the USAID eco-regions.

## **The Legal Framework**

Madagascar's legal code on protected areas (the *Code des Aires Protégées* - COAP) was promulgated in 2003. This law was conceived for the existing protected areas at the time: strict nature reserves, wildlife reserves and national parks. However it did also leave room for the possibility of Madagascar adopting some other new types/categories of protected areas. Initially this option was used and based on policy recommendations from the SAPM commission a new application decree (*Decret d'application*) was published that formalized the new types of protected area that were proposed for the protected area system (Natural parks, natural monuments, protected landscapes and natural resource reserves). This decree allowed the SAPM to advance and over 4.5 million hectares of new protected areas have received provisional protection under this arrangement. However, the SAPM commission and the MEF agreed that the COAP legislation in its current form has some constraints, mostly related to management objectives inside new protected areas and it does not provide a good legal framework for the new marine protected areas that are being created. The COAP was therefore amended to bring it up to date with the vision for SAPM. This amended text was passed by the two houses of parliament in the last quarter of 2008 but unfortunately it was not promulgated by President Ravalomanana before the coup d'état in Madagascar in March 2009. Although the existing COAP provides an adequate legal base for advancing with the formal gazettement of the new protected areas, the promoters and the MEF prefer to wait until the new amended version is officially promulgated and can be referred to in the definitive creation decrees of the new reserves. In the meantime, these new sites all have provisional protection on the basis of the inter-ministerial order (arrêté inter-ministerial 18.633/2008/MEFT/MEM) signed between the MEF and the ministry responsible for mining.

## **Management effectiveness of Madagascar's protected areas**

Results Module 2 was intended to build the capacity of Madagascar National Parks, the DGF and other actors involved in protected area management. At the end of the EP2, Madagascar National Parks, with support from USAID, developed its institutional plan – the PlanGRAP, a plan that laid out its strategic orientations for 2001-2006, including plans to expand the parks network. The institution was well placed to implement this plan and for the first time was one of the partners in the MIARO program, with specific responsibility for RM3 which focused mainly on direct park-level management activities. MIARO's support under RM2 was to ensure that conservation planning of the highest quality was achieved for each of the parks and reserves in the network. All of the network's management plans were revised and updated, and a new format for a summary management plan was developed. Support was also provided to improve

and standardize monitoring protocols at the park level throughout the network. The methodology proposed allowed for patrolling effort to be quantified and mapped as well as providing data to allow the tracking of key biodiversity indicators. Finally the updated management plans were also used to develop business plans. A methodology and format was developed that allowed managers to easily determine budgetary needs on the basis of the activities in the management plan. Trainings in business plan development were provided for staff from all parks and reserves and draft plans were developed for most sites. Unfortunately the completion of these plans that had been planned under RM3 was not possible due to the suspension of funding to Madagascar National Parks in 2006. The methodology was still used, however, and some business plans were still completed for the key parks where other funding was available. The financial tools that were developed for the business planning continued to be used by Madagascar National Parks for their annual planning exercises throughout the PE3. In particular these tools helped in the planning of the use of the World Bank funds which covered approximately 60% of Madagascar National Parks' costs during the EP3.

Following the updating of all the Madagascar National Parks management plans, the focus of RM2 became conservation planning for the new protected areas. The experience with Madagascar National Parks was fully capitalized and indeed parks staff often helped in regional trainings and in even in developing management plans for the new protected areas. The planning methodology that had been used for management plan development was based on The Nature Conservancy's 5-s approach. Later a modified version of this same approach was integrated by TNC into a software package called MIRADI that was easier to use and reduced the potential for errors in some of the calculations used. The MIRADI planning package was used as the basis for all the management plans of the new protected areas and a standardized management plan format was developed, validated by the SAPM commission and the MEF and used by the promoters of the new protected areas.

### **Site-based Conservation**

The MIARO program operated at both a national level and site level. While the national level work involved SAPM policy development and technical support to Madagascar National Parks and new protected area promoters throughout the country, the site level activities were mostly focused on three protected areas, one in each of the USAID ecoregions: the **Ankeniheny-Zahamena forest corridor**, the **Fandriana-Vondrozo corridor** and Ambatotsirongorongo, a small community managed site in Anosy. In Anosy we also supported various other protected areas either directly through the MIARO program or else with alternative funding from one of the MIARO partners. The activities to create these new protected areas were closely coordinated with other USAID projects working in each of the regions through our active participation in the ecoregional alliance meetings. In addition to the alliance meetings specific committees for the creation of the protected areas were established by MIARO for the Ankeniheny-Zahamena corridor and for the Fandraina –Vondrozo corridor. In both cases USAID's EcoRegional Initiatives program implemented by DAI was a key partner in these committees along with the government representatives. Despite their size and the effort involved, the two large forest corridors are among the most advanced of the new protected areas and have been the testing ground for many of the ideas behind SAPM.

The **Ankeniheny-Zahamena corridor (CAZ)** is one of the largest remaining blocks of rainforest in Madagascar. It has long been regarded as one of the country's top conservation priorities and numerous studies have catalogued its rich biodiversity (e.g. Conservation International's Rapid Biodiversity Assessments in 1998 and 1999). To date over 2043 species of plant have been identified (85% are endemic), with representatives from 5 endemic families. Fifteen species of lemurs are known from the corridor and 30 other species of mammals are known from the corridor as well as 129 species of amphibians and 89 bird species. The new

protected area covers 374,000 hectares of pristine rainforest and also provides important ecosystem services for the surrounding regions. Water provision and soil erosion control are particularly important for the agricultural plains on both the east and west sides of the corridor and for the two hydroelectric plants that supply the electricity for Madagascar's two largest cities. Within the corridor there were already three parks and reserves run by Madagascar National Parks: Zahamana NP, Mantadia NP and the Mangerivola reserve. However other efforts to conserve the corridor's natural resources were very localized and lacked a clear overall strategy. The new protected area has provided the perfect framework to develop a clear vision for the conservation of the whole corridor and to scale up the successful pilot efforts that had been initiated. In addition, our close collaboration with USAID's Eco-Regional Initiatives program that supported agricultural and community-based resource management activities in communes around the corridor provided opportunities to address some of the root causes of forest degradation and exploitation.

The **Fandriana-Vondrozo** corridor (COFAV) contains 240,000 hectares of rainforest and is another of Madagascar's priority areas for conservation. Like CAZ and most of the remaining rainforest, it is extremely threatened by slash-and-burn agriculture that threatens the biodiversity, degrades the ecosystem services and causes carbon dioxide emissions. The corridor is exceptionally species-rich and over 800 species of plants and 300 species of vertebrates have been identified to date in these forests, including 17 species of lemurs. The corridor also contains two national parks: Ranomafana and Andringitra-Ivohibe and during the PE3 there has also been a new initiative to create a new national park to the north of COFAV (the Marolambo-Fandriana National Park), that will ensure a contiguous connection with the rest of the eastern rainforest corridor to the north of this region. The vision for protecting the Fandriana-Vondrozo corridor that has emerged through USAID's investment during the PE3 will ensure that the protected areas fit within the wider conservation and development context of this part of Madagascar.

In addition to MIARO's main site-based conservation efforts at CAZ and COFAV, support was also given in USAID's **Anosy eco-region** to the **Ambatotsirongorongo** protected area for the creation of a community-managed protected area. The site protects important vestiges of lowland "transitional" forest with several local endemic species of plants and reptiles. MIARO was also active in developing the 60,509 hectare **Tsitongambarika** reserve through our participation in the Anosy SAPM committee, a Conservation Action Grant that was provided to Asity Madagascar for the work leading to the temporary protection status of the reserve and CI also provided complementary funding from private sources to develop a small grants program for the communities around the new protected area. WWF was also very active in the Anosy eco-region and developed new protected areas at Anokida, Ifotaka, Angavo and Behara-Tranomaro. MIARO technical support was given to develop the conservation plans for Ankodida and Ifotaka. MIARO also provided Conservation Action Grants in Anosy to obtain protection for Anadabolava and another to plan for a Man and Biosphere reserve in the Mandrare valley – thereby developing links between each of these new protected areas and promoting a common approach for their future management.

### **Sustainable funding**

Building sustainability into the SAPM has been an over-riding theme since the government announced its Durban vision. Governance issues, in particular engaging local communities in management, are central to ensuring long term sustainability and resilience to change. Financial sustainability is also crucial and this was the emphasis of Results Module 4. In 2000, a commission was established to start working on sustainable financing for protected areas and this work ultimately led to the creation of the Foundation for Protected Areas and Biodiversity of Madagascar (FAPBM) in 2004 shortly after the start of the MIARO program. Two of the MIARO partners – CI and WWF – were founding members of the Foundation and have each

contributed \$1 million to the capital. Throughout the MIARO program we have provided the Foundation with technical assistance particularly related to communications, helping to define priority protected areas for the foundation's investment and initiating a feasibility study for a debt for nature swap with the French Government that was ultimately successful and is providing funding to the capital. The Foundation's original funding raising goal of raising \$50 million in capital is on target (current projections are for \$52 million by the end of 2012). Sixteen million dollars has already been paid into the capital, a total of \$33 million has been contractually committed and negotiations are ongoing for a further \$19 million. Despite the world-wide financial crisis, prudent investment by the foundation means that they are in a healthy financial situation and will already be able to disburse funds from interest gained on the capital. As the MIARO program ends, the Foundation is fully functional, has several years of experience disbursing grants to Madagascar National Parks from its sinking fund and has just announced the first two protected areas that will receive funding in 2010 from the interest generated off of existing capital: the Masoala National Park and the Mahavavy-Kinkony Wetlands Reserve (one of the new protected areas).

The Tany Meva Foundation was originally set up with USAID support and focuses on engaging communities in sustainable natural resource management. The MIARO program has supported Tany Meva since 2004, particularly by helping them develop and implement a new strategy that focused their investments geographically and improved synergies between Tany Meva's activities and the SAPM. Targeted support was provided for improving communications about the foundation's work and to help them develop new opportunities linked to forest carbon markets.

The growing realization of the importance of climate change and the emergence of carbon markets during the life of the MIARO program made this one area that we focused on to develop long term funding opportunities for new protected areas, in particular for the corridors where we were directly working under the MIARO program. Avoided deforestation carbon projects have been set up for both the Ankeniheny-Zahamena corridor and the Fandriana-Vondrozo corridor where CI has been leading the effort to create new protected areas. In addition, advances were made on the Makira forest carbon project that WCS is managing. These projects are receiving revenues on the voluntary carbon markets that will provide for the important core costs for the protection of these forests into the foreseeable future. CI and WCS continue their activities to protect each of these corridors that together represent over 1 million hectares of Madagascar's remaining rainforest.

### **MIARO program extension**

The MIARO program was originally scheduled to run from March 17, 2004 to September 30, 2008. However, we requested, and were granted a 6 month extension on this original period to allow us to complete the work that had originally been planned. In addition, at USAID's request, we submitted an additional cost extension for the period April 1, 2009 until August 30, 2009. This 5 month extension was to build on the success of the original program and to focus new activities on some immediate opportunities and needs for SAPM. At the time the program was developed and approved we had assumed that USAID would be initiating a new environment program at the end of 2009 and so the activities that were planned were those considered to be the most important for the transitional period. However on March 17, 2009 the government was replaced in a Coup d'état which had important consequences on the subsequent program activities (see section below).

The additional-cost extension as originally planned was to address new activities identified under result modules 1, 2 and 4 of the original program. As outlined in USAID's request to develop this proposal, the aim of these new activities was to:

- Create the appropriate legal, economic and policy framework for biodiversity conservation;
- Provide Malagasy institutions and partners with the key tools and capacity to implement successful biodiversity conservation;
- Develop sustainable financing strategies and mechanisms for long term sustainability of conservation action.

The specific new activities and results that proposed for the 5-month period were:

***Activity 1.6 Development of policy and an appropriate legal framework for protected areas***

- Protected Area Code and application decrees are distributed at the national and regional levels
- Improved stakeholder understanding of relevant protected area policy frameworks and their application

***Activity 1.7 Finalization of the creation of new protected areas in USAID selected zones***

- Management structures for the two large forest corridors (CAZ and COFAV) are operational
- Local management plans are developed and implemented at selected priority management units (local level) for the two priority USAID forest corridors (CAZ and COFAV)
- Capacity building leads to local governance structures being operational (CAZ and COFAV)
- New, enhanced communication campaigns are completed targeting the local communities at CAZ and COFAV

***Activity 1.8 Expansion of marine protected areas (MPAs)***

- Address capacity of GOM, regional authorities and sectoral stakeholders to apply legal and institutional framework as pertains to MPAs, fisheries and sustainable aquaculture, and promote best practices and lessons learned to improve MPA creation and management

***Activity 2.4 System wide promotion and utilization of PA management and evaluation tools***

- Protected area management planning process completed at priority new protected areas
- Promotion and assistance provided to put in place an adapted and appropriate management effectiveness evaluation system for the Malagasy Protected Area System (SAPM)
- Assistance provided to MEFT to put in place an accountability and monitoring system

***Activity 4.4 Expand the carbon credits projects including credits for avoided deforestation***

- Improved estimates of national carbon emissions (i.e. a baseline) from deforestation are available for Madagascar
- Government of Madagascar capacities for coordinating Reduced Emissions from Deforestation and Degradation (REDD) projects is improved

#### ***Activity 4.5 Assist the GOM develop other new financial instruments to finance the environmental sector***

- Further develop understanding of and capacity to apply biodiversity offsets in Madagascar for key stakeholders

#### **The Impact of the March 2009 Coup d'Etat**

On March 17, 2009 the government was replaced in a Coup d'état and the subsequent "High Transitional Authority" is not recognized by the US government. Following the coup, the US Government announced that all aid to Madagascar would be focused uniquely on "humanitarian assistance". We therefore stopped the activities under the MIARO program that were to support policy development and government strategy related to protected areas and focused uniquely on the activities planned to improve the livelihoods of communities around protected areas. As can be seen from the list of planned activities above, this meant that many activities were stopped. We agreed on modifications to the workplan with the AOTR for the MIARO program in the USAID Madagascar mission and these modifications were approved on April 2, 2009 prior to us starting any new activities. The activities that were completed are fully described in Section II of this report.

On July 23, 2009 we received instructions from the Agreement Officer to cease all "assistance activities that provide services or benefits to the Malagasy people" under MIARO and to proceed to closing-out the program. No further activities except those tasks related to closing-out were undertaken under the MIARO program following these instructions.

#### **MIARO conceptual approach:**

MIARO focused on supporting the government's commitment to increase the surface area of protected areas by developing the SAPM. To ensure that these protected areas successfully conserve the country's biodiversity requires that:

- the areas to protect are chosen on the basis of their biodiversity importance and their complementarity to ensure that a representative sample of biodiversity be included in the network, and that these sites be managed at a landscape scale to ensure that genetic linkages be maintained and that protected areas are not managed in isolation;
- the existing and new protected areas be managed effectively;
- the protected area system be socially sustainable;
- the system be financially sustainable.

Each of these requirements was addressed under the MIARO program through a separate results module.

Our work was focused at both the national and regional scales. At the national level we supported the government and its institutions to develop strategy, policy, management tools and systems for protected areas. At the regional level, we focused our activities on USAID's priority SO6 eco-regions: Ankeniheny-Zahamena, Fandriana-Vondrozo and Anosy. At both the national and regional levels we worked closely with other partners, primarily those funded by USAID who met on at least a monthly basis as members of a USAID Alliance. However we also worked with many other partners not directly linked to USAID and developed strong partnerships with each administrative Region to help them coordinate the activities of different projects and partners working on environmental issues and to promote a landscape scale vision for planning interventions. In addition to working closely with partners, we also ensured that there were strong links between the activities under the MIARO program and the other activities that we

had in each of the organizations implementing MIARO. For example, CI funded many national NGOs to undertake the work of creating and managing new protected areas. Therefore our familiarity and involvement with many different sites meant that we were able to promote the approaches and tools developed under MIARO to many other sites that fall outside of USAID's priority eco-regions.

From the start of the program, there was a strong recognition by the team members that to be viable, the new protected areas would need to address both conservation and sustainable livelihoods. To achieve this, we advocated for the involvement of local communities in protected area management and the implementation of the principles of good governance. With complementary, non-USAID, funding we developed small grants programs, supported community-based forest management transfers and direct conservation contracts with the communities around CAZ, COFAV and other protected areas beyond the USAID priority areas. At CAZ and COFAV we worked closely with the USAID-funded Eco-Regional Initiatives (ERI) program to ensure that their community development activities contributed towards the new protected area vision.

Social support for conservation arises when people and structures affected by conservation believe that they will benefit. Therefore communicating information at all levels on SAPM and ensuring that all stakeholders were integrated into decision-making was a recurring theme throughout the different elements of the program. Activities under all the RMs integrated participatory approaches. Under RM1, stakeholders at all levels provided input to the choice of sites to include in the protected area system and local communities were fully engaged in deciding on external and internal zoning limits of protected areas and the appropriate conservation measures to implement. Local and regional stakeholders are an integral part of the governance structures of the new protected areas. RMs 2 and 3 were to help partners build the institutional and technical capacity to develop effective management. The institutions and individual protected area managers were fully involved in a process of adapting internationally recognized methodologies for management planning to the Malagasy context and the MIARO team provided mentoring to the managers of each protected area to produce their own management plans. This is an important change from the past where international consultants have often been engaged to develop management plans but the peripheral involvement of the staff that need to implement them means they feel no ownership over these documents and therefore they have not been implemented effectively. MIARO sought to change that culture and has trained managers throughout the country on conservation management planning so that they will be able to update and adapt plans as needed in the future. RM4 focused on sustainable finance for protected areas and the development of new innovative funding sources for SAPM. Great advances were made on forest carbon finance and MIARO has contributed to the development of three large scale REDD (Reducing Emissions from Deforestation and Degradation) projects that have received considerable international attention in the context of UN climate change negotiations. The participatory approach we used to design these projects has resulted in a good capacity within Malagasy institutions that has allowed them to fully participate in the UN climate change negotiations on this issue and at the end of the project Madagascar is one of the most advanced countries in terms of its vision for implementing REDD at a national scale. Through RM4 we also supported the institutional development of two environmental foundations in Madagascar and at the end of the project both are fully operational and important players in the funding of biodiversity conservation activities in Madagascar.

## II. Project Activities

The MIARO program was organized into four Results Modules, each with sub-results modules and specific activities. In this section, we describe the activities and achievements.

### **Results Module 1: Ecological linkages established and maintained**

At the World Parks Congress in Durban in 2003, President Marc Ravalomanana presented his vision (the “Durban Vision”) to increase the territory in Madagascar designated as legally protected areas from 1.7 million to 6 million hectares (or approximately 10% of the country’s land surface, the CBD and IUCN standard for protected area coverage). The rationale for this ambitious target was clearly justified. Firstly, Madagascar is a globally important hotspot in terms of its biological diversity and the threats to its survival. Secondly, the economic benefits of protected areas in terms of direct and indirect revenues are likely to be substantial. Finally, protected areas, or indeed other sustainably managed natural habitat areas, are increasingly recognized as essential elements for development as they protect and maintain irreplaceable ecological goods and services such as water.

It is this broad context that prompted USAID to include Results Module 1 (RM1) in the MIARO program. Results Module 1 aimed to make a substantial contribution to the achievement of the Durban Vision of 6 million hectares of biodiversity-rich habitats conserved by supporting the effort to create the new System of Protected Areas (*Système des Aires Protégées de Madagascar* - SAPM) By bringing together stakeholders and technicians we identified the most important areas for protection and developed novel methods for managing and funding them. The increase and diversification of benefits from good environmental management will contribute to a substantial reduction in the loss of biodiversity from the two main threats, slash-and burn agriculture and hunting, through a combination of improved protection and incentives for economic improvement. The overall impact will make a substantial contribution to the reduction of poverty, which is generally understood to be a root cause of biodiversity loss in Madagascar.

The Ministry of Environment and Forests (MEF) established the SAPM Commission (this was group was originally known as the Vision Durban Group) to fulfill the Durban Vision. The Group was led by the MEF and comprised more than one hundred members representing 35 organizations.

Given the number of themes and the level of expertise needed for the establishment of new protected areas, a number of sub-groups was created within the commission:

- *Prioritization Group* was in charge of the identification of potential sites for new protected areas. The taxonomic group was part of prioritization technical group.
- *Categorization Group* was in charge of defining categories and governance types of new protected areas and also developing the legal framework;
- *Communication Group* provided information on SAPM to target populations at different levels
- *Finance Group* discussed the long-term funding of the SAPM

The SAPM Commission, supported by MIARO, continued the work on each of these subjects up until the end MIARO program and it continues to be the main forum for exchange of ideas related to the SAPM between the ministry and the other organizations involved in the SAPM.

To maximize the impact of ecological linkages established and maintained under this RM, a series of sub-results modules were developed:

- 1.1 Promote the definition of policy and legal parameters for the establishment of new protected areas
- 1.2 Identify and promote potential new protected areas in consultation with regional and local actors
- 1.3 Establish new protected areas
- 1.4 Refine conservation priorities in USAID priority eco-regions
- 1.5 Develop forest restoration functions and procedures in USAID priority eco-regions

During the extension period of MIARO from April – August 2009, the following additional sub-results modules were added:

- 1.6 Development of policy and an appropriate legal framework for protected areas
- 1.7 Finalization of the creation of new protected areas in USAID selected zones
- 1.8 Expansion of marine protected areas

Activities under this RM were led by CI, but implemented in collaboration with WWF, WCS, and Madagascar National Parks.

### **SUB RESULTS MODULE 1.1 Promote the definition of policy and legal parameters for the establishment of new protected areas**

At the beginning of the MIARO program, the Protected Areas Code (COAP) had already been promulgated but it only included three types of protected areas: national parks, strict nature reserves and wildlife reserves. These types of protected areas did not conform to the new concept of protected areas on which the Durban Vision was based. However the law did allow for the creation of new types of protected areas and so one of the first tasks under this RM was to define the technical specifications for these new areas. Once this work was completed, the MEF was able to define the new protected area categories in an application decree (*decret d'application*) without needing to return the legislation to parliament to create new protected area categories.

The COAP and IUCN definitions provided the broad framework for defining future categories of protected areas, and the Durban Vision Group has begun working on a set of managed and protected area definitions that expand the current set. IUCN had been working on a similar set of concepts, in collaboration with Grazia Borrini-Feyerabend, particularly to do with co-management issues.

Activities under this sub results module focused on the following:

- a. Recommendations for management options and ownership of future protected areas and their future categories
- b. Modification of COAP and implementation of the application decree
- c. Executive Order to mitigate Mines/Forests conflict
- d. Protected Area governance issues
- e. Increasing awareness and understanding of the process to expand the protected areas network and to develop a communication strategy

#### **a. Recommendations for management options and ownership of future protected areas and their future categories**

Two IUCN experts – Grazia Borrini-Feyerabend and Nigel Dudley – came to Madagascar in March 2005 to assist the SAPM commission in identifying the types of governance appropriate for the new protected areas and their categorization with regard to IUCN categories. Both experts are specialized in categorization and governance of protected areas. The working sessions, discussions, exchanges and recommendations of the two experts with regard to the creation of new protected areas helped the SAPM commission understand the following:

- The need to develop a national protected area system which includes both Madagascar National Parks and sites outside of the parks network;
- The different categories used by IUCN to which the new protected areas will belong, the process of categorization of protected areas and the governance of protected areas;
- The importance of the different management and governance systems already used in Madagascar.

Following the visit of the IUCN experts and further consideration by the SAPM commission, it was decided to establish one protected area system in Madagascar, which includes a large range of categories and governance types, and is covered by a single, comprehensive legal framework. It was agreed that all new protected areas would have biodiversity conservation as their primary objective, in line with international IUCN standards. Therefore SAPM would not be responsible for sites worthy of protection uniquely for their cultural heritage, urban parks etc.

In May 2005, MIARO organized workshops for the SAPM commission to:

- Clarify the objectives of a national protected area system (notion of systems and relationships between the elements of the systems and implications in their selection and definition);
- Clarify the types of protected areas to be created in Madagascar within the national protected area system and with reference to the management categories of the IUCN and the selection procedures;
- Propose guidelines for the creation and the management of future protected areas to fulfill the Durban Vision taking into account the Malagasy context.

The workshop report "System of Malagasy Protected Areas: General orientations on the categories and types of governance" was used as the reference in the definition of the Malagasy protected area system and served as a prerequisite for tackling three important aspects of the System of Protected Areas of Madagascar (SAPM):

- The legal framework of SAPM;
- Integration of protected areas into national and regional land-use plans
- The priority and urgent actions to move the process of creating SAPM forward

A second mission by the two IUCN experts, Grazia Borrini-Feyerabend and Nigel Dudley, took place in July 2005. This was to continue the technical support with a view to setting up a System of Protected Areas in Madagascar. During this mission, the two experts worked with the SAPM commission at the national level and took part in workshops organized at the regional level in Toamasina and Antsiranana.

The report of this second mission includes short-term and long-term recommendations. It also annexes a series of tools specifically designed for the ongoing process in Madagascar. In addition to the mission report, the experts produced communication tools for the technical staff at the provincial/regional level and for mayors. They also provided suggestions to improve the document "System of Malagasy Protected Areas: General orientations on the categories and types of governance."

The communication tools mentioned above were used during the regional workshops and district-level consultations. The general recommendations for the communication of the Durban Vision and the new System of Protected Areas were considered by the communication committee when the messages on SAPM at national level were developed.

From 2006 until 2009, the SAPM commission developed and distributed important policy documents and technical manuals to help managers advance in putting in place the new protected areas. The most important of these include:

- General guidance document on the categories and types of governance possible within SAPM
- Guide for the establishment of new protected areas
- Guide for conducting environmental and social impact assessments
- Guide for land use planning
- Guidelines for ensuring social safeguards during protected area creation
- Guide on the sustainable use of natural resources in protected areas
- Compilation of examples on co-management and community management protected areas governance types in Madagascar
- Compilation and distribution of all the tools developed by the SAPM Commission in a folder and CD

#### **b. Modification of COAP and implementation of the enforcement decree**

In 2004, it was proposed that the COAP be amended to take into account new protected areas. The legal sub-group of the SAPM commission prepared a draft law to amend the COAP but the Ministry decided that the political situation was not favorable to such an amendment at that time.

Instead, terms of reference for a legal study on the texts governing new protected areas were prepared and a call for proposals was issued. The recruitment process was managed by DGF, and the consulting firm S-PROGES won the bid. During S-PROGES' work, the concept of the "System of Protected Areas of Madagascar" (SAPM) was developed. SAPM includes both pre-existing and new protected areas, and therefore S-PROGES adapted its efforts to conform to this new approach. S-PROGES worked to draft a law that would cover all categories of protected areas and various governance types.

S-PROGES was also tasked with proposing intermediate statutes for new protected areas to be granted temporary protection status. The existing forest legislation and COAP were to serve as the basis for these statutes. The goal was to create 1 million hectares of new protected areas in 2005, if only with temporary protection. The consulting firm proposed two intermediate statutes:

- Forest Station with multiple uses
- Inter-ministerial declaration of temporary protection of a site

Although S-PROGES' efforts provided the legal framework for creating initial new protected areas, the need for a legal status for the entire protected area system remained.

In October 2005, the Ministry of the Environment and Forests issued new guidelines for the enactment of the legal text, namely:

- ♦ Taking account of regulatory acts as a provisional basis. The regulatory framework (decree or order) should be definite

- ♦ The non-requirement for setting up a new law (i.e., orders should be based on existing laws)

As a result, an international lawyer came to Madagascar to support and share his experience on legal aspects of establishing new protected areas. Based on a preliminary analysis of the documents produced by the legal subgroup, the lawyer has made the following recommendations:

- Integrate technical considerations in the legal framework
- Analyze institutional and legal gaps
- Link the national process with the implementation of the Program of Work on Protected Areas (PoWPA)

In compliance with the guidance from the Minister and recommendations from the international lawyer, the Technical Group drafted a document on the technical aspects of SAPM to help the legal subgroup develop the draft decree.

The Technical Group also drew up a list of definitions of key words and concepts as well as their legal national and international references, as required: protected area, sustainable use, biological diversity, right of use, etc.

***In December 2005, the SAPM legal framework was approved by the Cabinet according to Decree N° 2005/848 of 13/12/05 bearing on the creation of SAPM.***

Three sets of new regulatory provisions formed the content of the special decree:

- Creation of new categories of protected areas according to the definitions discussed with the Technical Group;
- Definition of various management modes for new protected areas in compliance with the COAP. These new categories of protected areas, being State property, are fully part of the national protected area network;
- Creation procedure: stages (shortened) including provisional protection and a decree of creation notwithstanding COAP Implementation Decree.

Concerning the intermediate status of new protected areas, Ministerial orders were prepared that bear on the provisional protection of areas currently under the forest law and those that are eligible for protected area status (conservation forest stations and others).

The orders granted provisional protected status to the following:

- 5 new protected areas of 945,289 hectares in 2005
- 11 new protected areas of 726,969 hectares in 2006
- 7 new protected areas of 918,067 699 hectares in 2007
- 7 new protected areas of 383,511 hectares in 2008 with individual protection orders and 41 areas with 1,168,419 hectares with a global provisional protection order

***COAP Amendment:*** The development of the SAPM is the result of extensive discussions between the MEF, technical and financial partners, local stakeholders, and it has been enriched with examples of best practice from around the world. The result is a relatively complex system made up of a suite of protected area categories and governance types. Although the COAP was developed specifically with the Madagascar National Parks network in mind and only defines three protected area categories, it did leave open the possibility for new types of protected areas and governance to be developed. Hence it was possible to advance with the creation of the SAPM and new protected areas with the addition of an application Decree (No. 2005-848, which operationalizes articles 2, 4, 17, 20, and 28 of the Protected Areas Code - COAP). However, as

the SAPM framework became clearer over the life of the MIARO program, the COAP needed to be updated to more specifically reflect the policies that the MEF developed and to eliminate the grey areas that allow for various interpretations and complicate field-level activities and negotiations. MIARO thus provided technical support to the MEF to allow them to propose an amended version of the COAP.

After consultation with partners in the environment sector and other affected sectors such as Land Use, Justice, Agriculture, Fisheries, and Mining, an initial draft of a revision to the COAP was developed. In September 2008, a consultant from the IUCN (Mr. Laurent Granier) was recruited by MIARO to help the DSAP finalize the revisions to the COAP. Mr. Granier also helped to identify “*textes d’application*” needed to operationalize the revised COAP.

The amended COAP includes the following new elements:

- Specific reference to the application of the Durban Vision
- The Ministry in charge of protected areas, assisted by a consultative body, defines the orientations and ensures the coordination of SAPM
- Formalization of the status of protected areas in conformity with the 6 categories of the IUCN
- Creation of the System of Protected Areas of Madagascar in terms of ecosystems, tenure, and governance
- Definition of governance types
- Governance principles
- Sustainable use of natural resources
- Protected area management tools
- Threat reduction

Additional issues:

- The overlap with other sectors
- Economic valuation of natural resources
- Sustainable development tools

The revised law was passed by the Senate and the National Assembly in December 2008, and ready for signature by the President. However the law was not promulgated prior to the political unrest in Madagascar in January 2009, that subsequently led to a coup d’état on March 17, 2009. The SAPM commission is advocating for the amended to be promulgated only after a government is in place that receives recognition from the international community. This is to avoid the possibility that its promulgation be called into question in the future for lack of legitimacy.

***Decrets d’application:*** After parliamentary approval of the proposed COAP amendment, a legislative consultant was hired by MIARO to work on developing the various application texts that were still required. The following steps were followed by the consultant, with oversight from the SAPM Commission:

- I. Revision and fusion of the two current decrees (No. 2005-013 of January 11, 2005 and No. 2005-848 of December 13, 2005) and identification of the sector-specific texts that apply to protected areas and therefore need to be taken into consideration (DRAFT 1);

- II. Harmonization of the results from DRAFT 1 and other pertinent documents (e.g., governance types in SAPM, community protected areas, management tools, private protected areas, sustainable use of natural resources, etc.). (DRAFT 2);
- III. Examination of the compatibility between DRAFT 2 and the procedural manuals for terrestrial and marine protected areas (DRAFT 3);
- IV. Final version of proposed decrees

In addition to fusing the two decrees, MIARO also worked on developing a decree on marine protected areas. This draft decree outlines aspects specific to the marine realm.

A model “*cahier de charges*” related to management delegation for a protected area was also developed.

Additional work was initially proposed under the MIARO program extension (April-August 2009) to distribute and communicate the application decrees at the regional levels so that their content be widely known. However, this activity had to be cancelled due to the US government position that only humanitarian assistance would be given to Madagascar following the coup d’état.

Prior to the termination of MIARO program, the drafts of the two implementing decrees were submitted to the Ministry of Environment and Forests. Currently, a restricted committee presided by the DSAP, is working to finalize the decrees. The committee is composed by lawyers, representative of Madagascar National Parks and some members of the SAPM Committee. Once the amended COAP law is promulgated, the decrees will be presented to the government.

### **c. Executive Order Mines/Forêts**

MIARO provided assistance to the Mining-Forests Commission that resulted in the development of an inter-ministerial order suspending the issuance of mining and logging licenses in potential conservation areas. The Durban Vision Group, with MIARO’s assistance, drafted a document that was presented to the Minister of Environment, Water and Forests, on the definition of new protected areas, the justification for keeping the forest cover, and the map attached to the inter-ministerial order, which shows the geographic references of the potential conservation areas/new protected areas. The inter-ministerial order was signed on October 18, 2004.

Two other ministerial orders were also issued. The first one defined and delimited sensitive forest zones and was signed on September 27, 2004. The second is one suspended all forest logging activities in the potential conservation areas/new protected areas and was signed on November 11, 2004.

After twenty-four months of MIARO implementation, 2,149,064 hectares of new protected areas had been established. Order No. 17914/06 of 18 October 2006 extended the suspension of delivery of mining and forestry permits in priority zones for a maximum period of twenty-four months to thoroughly complete necessary protected area creation procedures.

On October 17, 2008, an extension of Order No. 17914 of 18 October 2006 was issued. This order ensured temporary protection of new protected areas under creation, priority conservation sites, and priority sustainable forest sites until the release of the protected area classification decree.

#### **d. Governance**

MIARO supported the development of new governance types by calling on IUCN's expert, Grazia Borrini-Feyerabend. Ms. Borrini-Feyerabend came to Madagascar July 1-14, 2006 to provide technical assistance regarding governance, specifically on co-managed areas and community managed areas (i.e., community asset areas). Workshops were organized in Toliara with the then current and potential future protected area managers to consider how co-management governance structures could be set up and function in Madagascar. A field visit was conducted to Menabe with key individuals committed to Central Menabe to discuss shared governance. The visit was followed by an intensive 1-day workshop in Morondava. Results were presented during a reflection day organized in Antananarivo.

By 2008, several protected areas had already developed a governance structure. During the protected areas governance workshop held in October 2007, it was suggested that a network be created to facilitate exchange and learning among promoters and other actors regarding protected area governance.

As a first step, a workshop among the promoters and stakeholders of the large corridor protected areas – CAZ, COFAV, Makira, and Menabe – was held in December 2008 to promote exchange and reflection on governance issues. This workshop resulted in the creation of a network among these actors, who have several points in common (large surface area, co-management model, relatively advanced in the creation process...). The network worked to fill specific functions:

- Facilitate exchange and information sharing to improve the efficiency and effectiveness of PA creation and management, as well as to define orientations of the methodologies and approaches to be used when establishing protected areas.
- Attached to MEF/DGF/DSAP/SAPM Commission at the national level, the secretariat is ensured by ESSA. A focal point was designated for each site.
- The secretariat facilitates communication among members, liaises with MEF/DGF/DSAP, prepares network meetings, and manages information and data. The focal points serve as liaisons between the members and the secretariat and also organize local exchange/sharing meetings.

Specific themes to be addressed by the network were identified: management plans, environmental and social impact assessments (management tools), protected area governance, safeguards, economic development opportunities around protected areas, forest control, financing and sustainability.

**Table 1. The different governance options for each of the categories of protected area in Madagascar as agreed through the SAPM commission. This table summarizes the governance options that have been included in the amended COAP.**

Governance Type	STATE MANAGEMENT	CO-MANAGEMENT	PRIVATE MANAGEMENT	COMMUNITY MANAGEMENT
Protected Area Category (IUCN equivalent in brackets)				
Strict Nature Reserve (I)	X			
National Park (II)	X			
Wildlife Reserve (IV)	X			X
Natural Park (II)		X		
Natural Monument (III)	X	X	X	X
Protected Landscape (V)	X	X	X	X
Natural Resource Reserve (VI)	X	X	X	X

**e. Increasing awareness and understanding of the process to expand the protected areas network and to develop a communication strategy**

In 2004, various activities were proposed to improve the perceptions towards protected areas by key groups. The SAPM commission, in collaboration with the EP3 coordination Unit of the DGF organized workshops for the DGF communication campaigns. The following themes were covered and specifically focused on regional representatives of the DGF, other ministries and provincial/regional authorities:

- National land-use zoning: the current situation, important areas for ecosystem services, forest production zones, next steps needed to achieve a coherent national zoning plan;
- New protected areas: update on the Durban Vision and the process being used to identify priority sites. This included requesting regional authorities to propose sites of interest to include in the national protected area network
- EP3: Quarterly Work plan, Annual Work Plan, Implementation modalities of the EP3. This theme was specifically targeted at regional representatives of the DGF

In 2005, regional workshops aiming to improve the perception of protected areas by key groups were organized in the six provinces. The main objectives of the workshops were:

- ♦ To upgrade the information on the Durban Vision process to ensure a common understanding of SAPM and its implications by the administrative authorities and other regional stakeholders
- ♦ To fine-tune the list of potential protected areas per region, including proposals from the regions themselves

- ♦ To set up Technical Secretariats within each region responsible for coordinating and monitoring the progress of new protected area creation.
- ♦ To plan future actions needed to advance the SAPM.

Potential sites in the six provinces were identified during the regional workshops. Action plans for the establishment of SAPM were also developed for the Provinces of Fianarantsoa, Mahajanga, Toliara, and Antananarivo. Both regional and provincial technical secretariats were established in these four provinces. Provincial technical secretariats were in charge of the following:

- Coordinating activities
- Monitoring the implementation of the action plan
- Supporting regions
- Continuing communication
- Collaborating with the SAPM commission and DGF at the national level

Regional technical secretariats were in charge of implementation, i.e. public awareness, consultation/negotiation and delimitation of new protected areas.

**Visual aids:** A film was produced to explain the value of creating protected areas and the role of local communities in their management. The 45-minute film focused on the example of the Makira protected area and was made available in French and Malagasy versions. It was narrated by two Malagasy singers: Dama and Babaique, and used interviews with local people to explain the benefits of protecting the area and the issues that need to be overcome by communities to ensure sustainable use of forest resources. The film was used as an educational and promotional tool in the vicinity of Makira, CAZ and COFAV, it was shown on national and regional television and copies were distributed to protected area promoters for use as a tool to help explain the principles of SAPM.

### **SUB RESULTS MODULE 1.2 Identify and promote potential new protected areas in consultation with regional and local actors**

At the beginning of the MIARO program, a national map showing a common vision of priority conservation areas did not exist and there was no common database on species distribution in the country. Instead the various NGOs, universities and research groups each had their own datasets and there was little collaboration to pool knowledge to help the Ministry define a clear vision of its conservation priorities. Through the MIARO program we were able to resolve this situation and bring different stakeholders together to share the data needed to identify the most important sites to include within the protected area system. The MIARO team worked throughout the project to refine and update the map of proposed protected areas to include the best biological and social data available. This map was an essential tool to clearly communicate the plans for protected areas to stakeholders at all levels.

Activities under this sub results module focused on the following:

- a. The priority setting process to refine the list of priority sites and produce maps showing clearly where protected areas would be created
- b. Providing technical support to regional and local actors for the identification and promotion of potential new protected areas
- c. Establishing and implementing a communication plan

### **a. Starting the priority setting process, improving the list of priority sites and producing a map**

MIARO worked to set conservation priorities in both terrestrial and marine ecosystems.

#### *Terrestrial ecosystems:*

MIARO worked to identify priority conservation areas based on data on threatened species, restricted-range species and gap analysis. For these activities, MIARO supported the SAPM commission's prioritization group to apply the MARXAN methodology. Applying this approach to all of Madagascar would ensure that the priority setting used an appropriate methodology comparable with gap analyses conducted elsewhere.

MIARO organized working sessions with specialists on different taxonomic groups to ensure that the prioritization group was using the most complete data available on vertebrates, invertebrates and plants. MIARO organized technical assistance from MARXAN experts and provided GIS specialists in the prioritization group with training on a software tool to aid analysis of compiled data.

At the end of November 2005, a workshop was held in Antananarivo to validate the preliminary results achieved by the prioritization group on reptiles, amphibians, lemurs, birds and plants. Researchers and conservation experts working at the University of Antananarivo, ESSA-Forêt, national and international NGOs and the MEF took part in the workshop.

An international expert, Robert Pressey, specialized in conservation planning came to Madagascar in December 2005 to evaluate the work done to date and to advise and support the prioritization group on how to improve the analyses. This support resulted in a work plan for improving this national level conservation planning over subsequent years, particularly by integrating socio-economic and threat data.

In 2006, the taxonomic group advanced on three activities related to the workplan:

- Short term (June 2006): Identifying the biodiversity value of new protected areas established in 2005 and to be established by June 2006
- Mid-term (December 2006): Updating the map of potential SAPM sites given the inter-ministerial order suspending the issuance of mining permits was to expire in October 2006
- Mid-term (December 2006): Defining priority sites for 2007 and 2008

The key result of priority-setting work in 2006 was the extension and amendment of the inter-ministerial decree of 18<sup>th</sup> October 2006 that provides temporary protection from mining and forestry operations in biodiversity priority zones. The map annexed to this decree was the clearest vision to date of the objective for spatial coverage of SAPM and it provided the data that the ministry responsible for mining needed to put in place a moratorium on mining permits in potential protected areas. The areas that were included for SAPM on the map that accompanied this decree represented an estimation of the minimal area needed to ensure long term survival of all species currently classified as threatened by IUCN. The list of threatened species includes 63 mammals, 31 birds, 51 amphibians, 50 reptiles, and 53 freshwater fish.

In July 2007, MIARO also organized a workshop entitled 'Science-based Conservation planning.' The purpose of the workshop was to present the results of conservation prioritization analysis done by the taxonomic group of the SAPM. One of the principal focuses of the workshop was to identify differences in various approaches used in identifying priority conservation sites. The workshop considered and contrasted results from another methodological approach using the ZONATION software with those obtained from the MARXAN analysis. The two approaches

should not be viewed as in competition with each other, they each use different data formats and each one tackles the problem of conservation planning in a different way. As such the two results provide complimentary results and provide a useful comparison and validation of the areas that have been included within the SAPM.

**Table 2. Comparison of the MARXAN and ZONATION priority-setting tools.**

Description	Marxan	Zonation
Number of species	248	829
Taxa	Lemurs, birds, reptiles, amphibians, fresh water fish, plants	Lemurs, ants, frogs, geckos, plants
Other data integrated into the assessment	KBAs, ants, and butterflies	
Benefits	Integration of conservation targets for each species; Identification of more effective areas to achieve the conservation targets; Suggesting several alternative solutions	Prioritize rarer species; Target better habitats for each species; Possibly, maintain connectivity among priority areas; Facilitate a more comprehensive analysis

The evaluation based on both representativeness (number of species included) and survival (distribution of each species included) indicated that sound decisions were made in selecting the current protected areas.

In 2008, an updated map of conservation priority sites was developed by the priority-setting group. This was needed because the 2006 decree providing a moratorium on mining in potential protected areas ceased in October 2008. This renegotiation of the moratorium by the SAPM commission provided the impetus for updating the priority-setting map. To finalize the SAPM map, protected areas were classified into the following categories:

- Cat 1: Madagascar National Parks-managed protected areas
- Cat 2: Madagascar National Parks extension protected areas (both new and extensions of previously-existing PA)
- Cat 3: Protected Areas with temporary status (either valid or expired)
- Cat4: New Protected Areas outside Madagascar National Parks with promoters and funding
- Cat 5: Other priority sites according to promoters/DREF/Region and based on the results of the prioritization group

Species that were not originally protected or only weakly protected under the original map were included in categories 1-4 of the priority sites above. The final version of the map was annexed to the inter-ministerial order No. 18633 of October 17, 2008. As the MIARO project closes, this map and the database that accompanies it is the most complete and up-to-date vision of the planned SAPM. The categories 1-4 included in this map are the areas for which protected area management or creation with a view to management is already occurring and together they cover an area that exceeds the original 6 million hectare target.

To provide the information that had been generated by the prioritization group to a large audience, MIARO, in collaboration with the REBIOMA project, created a digital atlas containing the data layers. The purpose of this activity was to produce a regional map of the national prioritization results to support decision-making at the regional and local levels. This atlas is also intended to assist regional and local conservation planning in all existing and new protected areas. The atlas was distributed by CD and an online version is at <http://atlas.rebioma.net>

### *Marine, coastal ecosystems and wetland zones:*

MIARO, through WCS, worked to refine marine conservation priority sites based on new species distribution data. In addition, MIARO worked to develop the Orientation Document for Marine and Coastal Protected Areas, and built government capacity to manage marine protected areas (MPA).

#### ***Marine biodiversity data***

As for the terrestrial priority setting, the first task needed was to establish a viable dataset. Unfortunately marine data in Madagascar is even sparser than terrestrial data and at the beginning of MIARO, none of the marine biodiversity data had been integrated into a database. A database of coral reef fishes and macro-invertebrates of Madagascar was established and formatted and integrated into the REBIOMA project in 2007. This was further improved and added to during 2008. The database compiled in an Excel spreadsheet was transferred to Access database format in order to facilitate its use. The dynamic and updateable database – a combined effort of experts in marine biology and GIS – serves to help identify priority marine conservation sites in Madagascar based on species distribution data. Climate change resilience is an addition factor, beyond the scope of this specific sub-activity that was integrated into MPA priority selection.

#### ***Priority mapping with the database***

To demonstrate the use of the biodiversity database developed under MIARO, priority setting mapping was completed for the regions in which rich datasets are available. Andavadoaka in the southwest and the northwest coast of Madagascar was mapped using available data on biodiversity level of coral reef species, coral cover, fish species number, fish biomass, resilient factors, and ecological services. This mapping exercise allows for the identification of priority marine conservation sites.

As a result of the information collected in the database, a set of 10 criteria were defined including bio-ecological characteristics, national/international importance, uniqueness, productivity, vulnerability, naturalness, economic interest, social interest, scientific interest; and practicability. The matrix table is a tool to better understand these different criteria and the relevant sections for identifying marine sites of interest for conservation in Madagascar. Based on these criteria, nine sites were designated as potential sites for marine conservation in the northwest and southwest of Madagascar: Nosy Hao, Andavakalovo Island, Lakandava, Nosy Iranja, Nosy Tanikely, Banc de Rameza, Nosy Vaha, Agnahibe, Vahilava.

To ensure the framework and procedures for marine and coastal protected areas were being developed with stakeholder input and will be used in a sustainable manner in the future, MIARO worked through the Environment-Fisheries Commission.

The Environment–Fisheries Commission (CEP) is a group made up of DPRH (MAEP), SAGE (MEF), private sector, NGOs and donors that is concerned by the sustainable management of marine, coastal, and wetland resources to implement a policy for establishing protected areas. As of 2006, two of four sites that were subject to the CEP evaluation process had received temporary protection (Andreba Complex [31.7ha in Antongil Bay] and Alaotra Lake [42,478 ha]). In 2006, Sahamalaza – Iles Radama was the only marine and coastal site that had completed the necessary creation procedure. It was then given national park status as per decree No. 2007-247 on March 19, 2007.

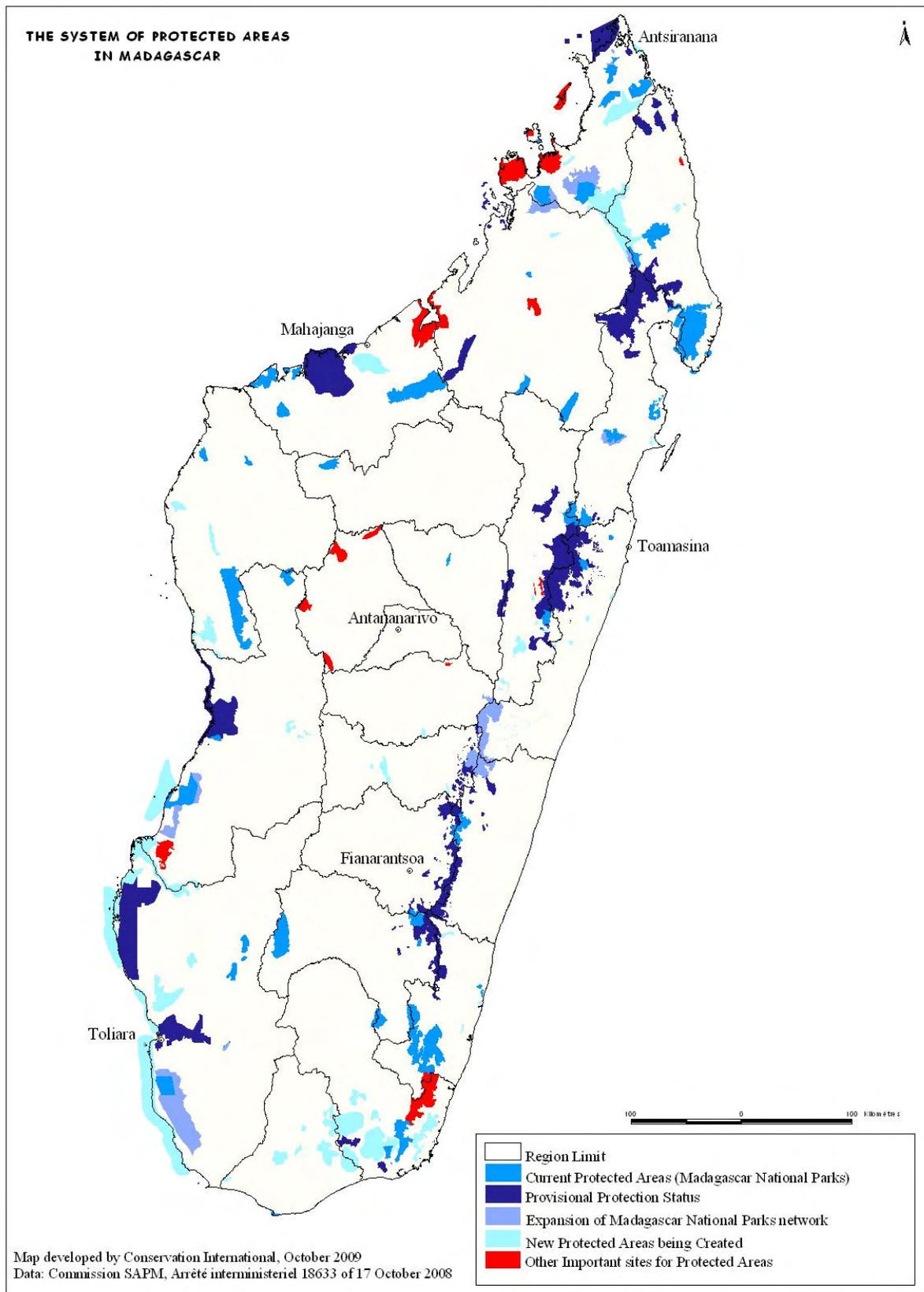
In October 2006, CEP recommended that a group of consultants be hired to review the procedure and legal elements for creating marine protected areas (MPA). The objective was to identify needs and adapt texts by incorporating elements of concern to various stakeholders. The

contract lasted 45 days, including meetings and field trips. The group of consultants included a lawyer, a marine/wetland resource manager, and a marine and coastal environmental expert: all were identified and hired by CEP but supported by MIARO and FAO. The results were used as input to the revised COAP and application decrees.

With a change in the Ministries in 2008, CEP was no longer functioning as an effective national platform to promote and coordinate a coherent marine framework for the establishment of MPA. As an alternative to this platform, the Director of Protected Areas at MEF formalized a marine working group to provide support for the creation and monitoring of MPAs. This group meets on a regular basis and is comprised of technical people from the government, NGOs and the private sector involved in the creation and management of marine protected areas.

To develop the Orientation Document for Marine and Coastal Protected Areas, MIARO worked with IUCN marine protected area expert Dr. Charlotte DeFontaubert. Dr. DeFontaubert gathered stakeholders to offer commentary on the draft Orientation Document that had been produced. MIARO also engaged the legal assistance of Mr. Guy Rajaonson of the Environment – Fisheries Commission to review all existing legal texts concerning establishment of marine protected areas so as to develop an appropriate framework for creating and managing a Madagascar marine protected area system.

With MIARO support, the orientation and procedural documents for Marine and Coastal PAs were drafted to develop a national strategy for MPAs in Madagascar and to inform the revision of the COAP and its application decrees. These documents were validated on February 26, 2009. A simplified MPA user guide based on legal MPA documents was also presented.



**Figure 1. The System of Protected Areas of Madagascar (SAPM).**  
**b. Providing technical support to regional and local actors for the identification and promotion of potential new protected areas**

### *Methodology for conservation planning*

The MIARO team suggested an approach for planning conservation activities at new protected areas that is coherent with that already used by ANGAP. The approach is based on The Nature Conservancy (TNC)'s 5-S method, which has 5 key steps:

- ◆ Identification of key elements of biodiversity that need protection (Conservation Targets)
- ◆ Assessment of Targets' viability
- ◆ Identification of critical threats to these conservation targets, and the causes of the threats
- ◆ Choice of appropriate interventions to counter the threats or causes
- ◆ Development of an appropriate monitoring system to measure activities and their impacts on threats and the status of conservation targets.

The conservation plan includes intervention planning over time, as well as the geographic priorities for protection. Meetings involving scientists and natural resource managers were held in Fianarantsoa and Toamasina to identify the Conservation Targets for these two proposed protected areas (CAZ and COFAV).

### *CAZ and COFAV*

Three scenarios for the protected area boundaries were proposed for Ankeniheny-Zahamena (CAZ), which served as the initial basis for discussion during public consultations and negotiations. A two-day training session on a participatory method for identifying threats at the landscape level was provided to Eaux et Forêts, CI and ERI staff involved in the delimitation process. This approach was included in the district-level discussions of the proposed limits to identify potential conflict areas, refine the proposed limits and identify localized threats.

Three scenarios were suggested regarding the limits of the new protected area at the Fianarantsoa corridor. The third scenario suggested that the limit of the new protected area be extended north of Ranomafana National Park. This proposal was accepted, thus the Fandriana-Vondrozo Corridor or COFAV.

### *Conservation Action Grants (CAG)*

In 2008, MIARO made available Conservation Action Grants (CAG) to promoters with the aim of advancing SAPM. A total of 22 activities were financed through CAG, the majority of which contributed to the creation of new protected areas in USAID priority regions: CAZ, COFAV, Anosy. Additional sites such as Tsimembo-Manambolamaty, Bealanana, and Tambohorano were included, which already receive other support from USAID. Sites that already have temporary protection status such as Ibity and Analava were also supported (Table 3, Figure 2). The projects were chosen on the basis of proposals received and these were reviewed and chosen with all the MIARO partners, USAID and the DSAP.

**Table 3. Summary of Conservation Action Grants**

	<b>Site</b>	<b>Promoter</b>	<b>Project</b>
1	Morarano	ACCE	Natural resources management for sustainable development
2	Ranomay/Onilahy:	Association Culture et Conservation Toliara	Creation of a community sacred protected area and ecotourism development
3	Andatabo/Bay of St. Augustin	ASE	Creation of a community protected area (terrestrial and marine)
4	Mandrare	CEL	Feasibility study and consultations for the creation of a Biosphere Reserve
5	CAZ	NGO Tolotanana	Transfert de Gestion evaluation at Aloatra Mangoro
6	PLACAZ	PLACAZ	General Assembly
7	Vohidahy	RTM	Establish governance structure and conduct forest restoration
8	Ivato- Antoetra	MATE	Securing the remaining habitat of <i>Mantella cowani</i>
9	Ambohilero	Federation Fitokisana	Integration Ambohilero Forest into CAZ and improved communication on CAZ
10	Maromizaha	GERP	Biodiversity preservation at Maromizaha
11	Tsimembo	The Peregrine Fund	Preparation of the Temporary protection status of Tsimembo and the creation of the NPA Complexe Tsimembo- Manambolomaty
12	Bombetoka-Belemboka	Fanamby	Preparation of the temporary protection status
13	Anadabolava Betsimilaho	MBG	Preparation of the temporary protection status
14	Ibity	MBG	Preparation of the definitive protection status
15	Analalava	MBG	Preparation of the definitive protection status
16	Vohibe- Ambalabe	MBG	Support community based conservation in the future protected area of Vohibe-Ambalabe
17	Couloir Angavo	Fanamby	Feasibility study on the creation of protected area in category V/VI
18	Ambondrombe	DURRELL	Preparation of the temporary protection status
19	Mangabe- Sasarotra Ranome	MaVoa	Temporary protection status of the new protected areas and conservation of <i>Mantella auriantica</i> habitat
20	Ampananganandehibe/ Beasina, Analalava I, II, Mahialambo, Ambakoana, Analabe	MaVoa	Temporary protection status of Natural Forest fragments used by frugivore bat colonies
21	Tsitongambarika	ASITY MADAGASIKARA	Definitive protection status
22	Tambohorano et Bealanana	TPF	Development of the Management Plan

1. *Natural resources management for sustainable development – ACCE*  
 The management of Besariaka, Marovitsika and Farizana forests was transferred to local community associations. These forests are characterized by their richness in endemic species but they are threatened by habitat degradation. The main objective of the transfers is to sustain the management of natural resources in these areas. Consultation activities were conducted to discuss with local actors, confirm agreement of local authorities, and understand the opinion of local communities. The “*Schema Global d’Aménagement*” was developed and validated by stakeholders and the protected area creation document was submitted to DSAP.
  
2. *Establishing a sacred community protected area and developing the ecotourism potential of Ranomay on the Onilaby River – Association Culture & Conservation Toliara*  
 The Ranomay site is important not only for biodiversity conservation in the Toliara region but also for the economic development of the rural communities in the area through tourism activities. The purpose of this project was to support the community association Club TSIFA to establish a community-based protected area, Category III, (Natural Monument) within the Amoron'i Onilaby landscape. Activities included social impact studies, re-demarcation of the protected area, extension and participatory zoning of the protected area, implementation of participatory environmental monitoring (including training), communication and implementation of the *dina*, development of an ecotourism plan, and support to Club TSIFA for economic development and ecological restoration of degraded areas.
  
3. *Establishing an innovative community protected area in a terrestrial and marine landscape south of Toliara – Association pour la Sauvegarde de l’Environnement (ASE)*  
 The overall objective of this project was to improve the establishment of a new community protected area and coastal zone to ensure the conservation of the natural and cultural heritage of the area and contribute to rural development. The target site is located between the sacred hill of Andatabo and Saint Augustin, south of Toliara and composed of seven fokontany (Ankoronga, Ankilibe, Sarodrano, Ianatsono, Ampasinihita, Tanadava and Lovokampy). The implementation of this project was conducted by the *Association pour la Sauvegarde de l’Environnement* (ASE) and the TAMIA community association. The management plan, social and environmental safeguard plan, protected area zoning, and ecotourism plan were developed and conservation activities such as ecological restoration and biological inventories were completed.
  
4. *Feasibility study and consultations for the creation of a Biosphere Reserve in Mandrare Valley – CEL*  
 Libanona Ecology Center (CEL) along with partner organizations WWF, MNP and the Regional Directorates of the Environment, Forest and Tourism Service in Anosy and Androy, undertook a feasibility study and consultations to consider the potential for proposing to UNESCO that a Biosphere Reserve be designated in the Mandrare Valley. The study and consultation activities completed indicate very strongly that the Mandrare Valley has a great diversity of internationally recognized biodiversity as well as significant development potential based on the natural resources and cultural traditions. Furthermore, it has become evident through consultations that there is the will among diverse stakeholders the region to move this process forward.
  
5. *Transfert de Gestion evaluation at Alaotra Mangoro – NGO Tolotanana*  
 Management transfer agreements were established with community associations in some parts of the Ankeniheny Zahamena Corridor. Many of the agreements had exceeded the initial three-year period and require an assessment to enter into the next phase of the agreement. Twelve management transfers were assessed in the Alaotra-Mangoro Region. Workshops were organized for the assessment of community associations involved in the agreements and field visits were organized for site-level assessment. Finally, a workshop with

community associations and local actors concerning the future management of natural resources within the management transfer sites was organized. The evaluations from this CAG allowed the Miaro team to negotiate new management contracts and integrate the 12 communities into the new management structure of CAZ.

6. *The General Assembly meeting of PLACAZ*

The General Assembly of the Platform for the Corridor Ankeniheny-Zahamena (PLACAZ) took place in Toamasina from September 29 - October 1, 2009 thanks to the support from partners such as ERI, CI, JARIALA, Ambatovy Project, ONG Madagasikara Voakajy and also CAG funding. Information on activities within CAZ and on PLACAZ was shared during the meeting. The members of PLACAZ were mobilized to agree upon coherent activities to ensure that biodiversity conservation is efficient and human well-being is improved.

7. *Establish the governance structure and conduct forest restoration in the Vohidahy Forest – RTM*

The Vohidahy Forest is part of the Fandriana-Vondrozo Protected Area according to the inter-ministerial executive order N°17 914 of 18 October 2006. It is one of the last reservoirs of Palissandre hardwoods for the artisans of Ambositra and Zafimaniry. CAG funding allowed RTM to intensify its intervention within the project called “*Appui aux communautés de base et activités de restauration de la zone forestière de Vohidahy.*” A sequence of trainings for members of the management committee and forest/fire committee were conducted. Forest inventories with 286 samples were completed in the two zones of management transfers. The zoning map of the village territories was developed based on the inventory results. Five nurseries with native species were put in place in 5 villages and enrichment plots were planted.

8. *Securing the remaining habitat of Mantella cowani in the municipalities of Ivato and Antoetra – MATE*

Fohisokina and Ambinanitelo are the most important sites that house the critically endangered Harlequin frog, *Mantella cowani*. Man and The Environment (MATE), with local partners in the Amoron'i Mania Region, worked to ensure the conservation of *Mantella cowani* and its remaining habitat, which are currently threatened by fire, trade and construction. Local consultations with all stakeholders were organized at the village level. Two local community associations were formally created, SOANIFIOMBONANA at Antoetra and FOMISAME at Ivato. A global management plan that presents the zoning was developed and approved by local actors. Management agreements at Ambinanitelo and Fohisokina sites were signed by the DREFT, Head of the Amoron'i Mania Region, and the representative of the local community associations.

9. *Integration of Ambobilero forest into CAZ and improved communication – Federation Fitokisana*

Federation Fitokisana received funding through CAG to integrate the Ambobilero Forest into the CAZ protected area. This funding supported *Radio Corridor* and also the negotiation, awareness raising and communication activities concerning the creation of CAZ. As a result, local communities have a better understanding of the objectives of the new protected area.

10. *Maromizaha – GERP*

The Maromizaha forest is located in the southeast of the Ankeniheny-Zahamena protected area (CAZ) and links the Vohidrazana and Mantadia forests. Management of Maromizaha, which is a local management unit within the CAZ, is currently attributed to the GERP association. CAG funds supported the management of Maromizaha (including the development of the management plan, biological inventory, monitoring reinforcement and patrol activities with the local communities), awareness-building and environmental education efforts at a small scale. This support allowed critical biological data to be collected, which will serve as input to the management plan of the CAZ protected area, including specific zoning of the Maromizaha local management unit.

11. *Creation of a new protected area in the Tsimembo-Manambolomaty Complex –The Peregrine Fund*  
The Peregrine Fund (TPF) was funded by USAID for the creation of new protected area in the Manambolomaty wetlands. CAG provided support for obtaining the temporary status of the adjacent Tsimembo Forest. Through the CAG support, the Peregrine Fund was able to merge the Tsimembo Forest and Manambolomaty wetlands into one protected area. This is more logical given the interdependence of the two habitats. With CAG funding, the preliminary process of creation was achieved for Tsimembo forest and the local consultation was done for the complex Tsimembo- Manambolomaty. The management plan and environmental and social management plan were completed and validated by local communities and stakeholders at the regional level.
12. *Temporary protection status of Bombetoka-Beleboka – Fanamby*  
Fanamby prepared necessary documents for obtaining the temporary protection status of Bombetoka-Beleboka wetlands. First, scientific inventories were conducted followed by local consultations to collect necessary data for the development of the “*Schema Global d’Amenagement*,” with the participation of local communities. The governance structure was determined and activities on awareness raising were realized.
13. *Temporary protection status of Anadabolava-Betsimalaho*  
The new protected area of Anadabolava Betsimalaho is part of Mandrare Valley and is an important source of water in this Region. Anadabolava is also among the priority sites for plant conservation. Necessary documents for temporary protection status were submitted to DSAP, including the engagement letter from the Region, PV of meeting at Fokontany level, approval letter from the mayors, the “*Schema Global d’Amenagement*,” the social and environmental impact assessment, and the map with the limit and zoning within the new protected area.
14. *Definitive protection status of the Ibity Massif - MBG*  
Missouri Botanical Garden, along with its local partners, prepared the necessary documents to obtain definitive protection status of the Ibity Massif. At the end of the project, the map with the proposed limits and zoning of the new protected area was available, the management plan was developed and validated by stakeholders, and the Social and Environmental Impact Assessment was completed.
15. *Definitive protection status of Analalava Forest- MBG*  
MBG, along with its partner the *Direction Régionale du Ministère de l’Environnement des Forêts et du Tourisme de Toamasina*, created the new protected area of Analalava (temporary status in August 2006). CAG funding supported activities related to definitive creation of the new protected area. Activities included (1) preparation of the document for the definitive protection status, and (2) creation of the management structure. The communication plan and communication tools were developed. Consultation activities were undertaken in the surrounding Fokontany to discuss the definitive limits and zoning, and to collect necessary information for the development of the management plan and the Social and Environmental Impact mitigation plan. These plans were developed and validated by stakeholders.
16. *Support community based conservation in the future new protected area of Vohibe/ Ambalabe - MBG*  
CAG funding supported the following activities: awareness raising, control of natural resources use, creation of the new protected area, establishment of nurseries, and restoration of degraded forest. Consultations were completed, the limit of the protected area clarified, and restoration of degraded forest begun. The management plan and Social and Environmental Impact mitigation plan were also developed.
17. *Feasibility studies on the creation of protected area in category V/VI at Couloir Forestier d’Angavo - Fanamby*

Following the successful assessment by GEF of community-based conservation at *Couloir forestier d'Anjozorobe*, Fanamby requested support from CAG to replicate the approach at Angavo- Anosibe an'ala. CAG funding was used to study the feasibility of establishing a new protected area in this rainforest corridor. With the CAG support, Fanamby developed the economic, social, cultural and biological profiles of the site and identified potential axes for sustainable development. Although there is potential to follow-up on the protection of this site and obtain funding from GEF for it, the major constraint is the plan to create a forestry concession in the same corridor.

18. *Protection of the "COMPLEXE LAC- FORET D'AMBONDROMBE"- DURRELL /MADAGASCAR VOAKAJY*

Durrell/Madagascar Voakajy worked to obtain the temporary status of the Complex Lac-Forêt d'Ambondrombe. The new protected area is composed of lake, marshes and also dry forests. Ambondrombe Lake is a refuge for *Erymnochelys madagascariensis*, which is an endangered species of tortoise. During the national turtle and tortoise conservation workshop held in January 2008, the creation of new protected areas for tortoise conservation was among the priorities. The specific objectives of the project were to engage local and regional authorities in the creation of the new protected area, to inform and engage local communities, and to prepare the document of creation. The feasibility studies and consultations at the local level were completed. The "*Schema global d'aménagement*" was developed and validated at the local, district and regional levels.

19. *Habitat Conservation project of Mangabe-Sasarotra-Ranomena – Madagascar Voakajy*

The Mangabe-Sasarotra forest is the most important site for the survival of Critically Endangered Golden Mantella frog, *Mantella auriantica*. Madagasikara Voakajy, Association Mbarakaly, and ACCE took the initiative to promote the establishment of a protected area at this site. In accordance with the process of protected area creation in Madagascar, Mavoava organized local consultations with stakeholders at the village level. The new protected area covers 25,238 ha and the forest of Mangabe-Sasarotra-Ranomena received temporary protection status. Following the CAG support, Madagascar Voakajy has obtained further funding to continue the process and start managing the site.

20. *Temporary Protection of Natural Forest Fragments used by Frugivore Bat Colonies- Madagascar Voakajy*

Three species of Madagascar frugivore bats (*Pteropus rufus*, *Eidolon dupreanum* and *Rousettus madagascariensis*) are threatened with extinction due to habitat loss. These species have an important function in pollination and seed dispersal. Most of these species' roosts are located outside existing protected areas within small forest blocs along the eastern escarpment of Madagascar. This project contributes to the implementation of the Durban Vision by protecting eight roosts with approximately 4,000 individuals of *Pteropus rufus* in the Aloatra Mangoro Region, in peripheral zone of CAZ. These protected areas are created specifically for bat conservation in Madagascar and received protection status. Awareness building and outreach activities were conducted with the local communities.

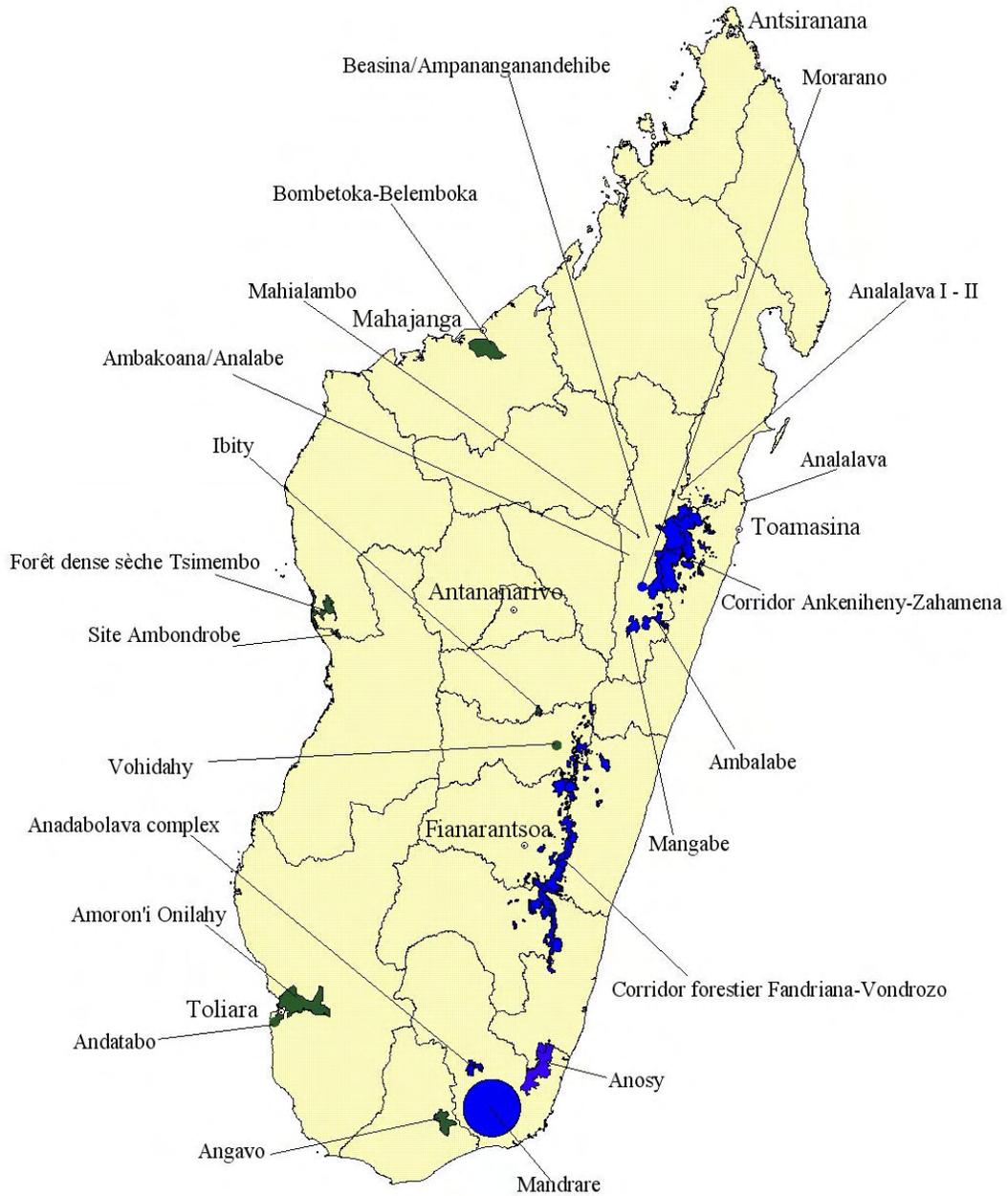
21. *Definitive protection status for Tsitongambarika new protected area – Asity*

ASITY Madagascar prepared the definitive protection status of Tsitongambarika. This new protected area obtained temporary status in December 2008. With CAG support, local consultations were completed. The Social and Environmental Impact Mitigation Plan and the zoning of the new protected area were completed and validated by local and Regional stakeholders. The management plan and proposed governance structure have also been finalized and the dossier is ready to be sent to the MEF with a request for definitive gazettelement once the COAP is promulgated.

22. *Development of the management plans for Bemanevika and Mandrozo – The Peregrine Fund (TPF)*

The creation of the Mandrozo new protected area was supported by USAID. The protected area is composed of dry forest, palm forest, savanna and marshes and it is characterized by its richness in bird species. The creation of Bemanevika was also supported by USAID, which is a refuge for many endangered species such as the red owl, serpent eagle and the Madagascar pochard. With CAG support, The Peregrine Fund developed the management plan for Mandrozo. It was validated by local and regional stakeholders. For Bemanevika, TPF also developed the management plan, which was validated as well.

CI also provided additional non-USAID funding for the creation of new protected areas at Ranobe PK32, Mahabo Mananivo, Orangea, Itremo, Analavelona, Complexe Mangoky- Ihotry, Ambodivahibe, Ambalabe , Montagne des Français, Lokia- Manambato, Mikea, Point à Larrée, Allés des Baobab, Ibity, Menabe Antimena, Ankeniheny- Zahamena Corridor, Fandriana Vondrozo Corridor, Complexe Mahavavy- Kinkony, Couloir Forestier de Bongolava, Nosivolo River, Andavakoera- Andrafiarena- Ambohipiraka . The advances at these sites also contributed towards reinforcing the SAPM and the objectives of the MIARO program.



**Figure 2. Location of Conservation Action Grants. Areas in blue are within USAID priority eco-regions. Areas in green are other site-based conservation activities funded through USAID Conservation Action Grants.**

### **c. Establishing a communication plan**

At the beginning of the Government's Environmental Program Phase III (EP3), USAID and its partners developed two films on the environment in Madagascar: "Madagascar: A New Vision" and "Ny Dian'I Mananilatany." These films related the Government's commitment to triple the protected areas in Madagascar as announced by the President at the World Conservation Congress in Durban, South Africa in 2003. Dubbed the "Durban Vision", this announcement served as the political context for the MIARO program, along with the System of Protected Areas of Madagascar (SAPM) that developed from it. MIARO's communication efforts throughout the program were therefore focused on the SAPM.

"Madagascar: A New Vision" was projected at the Woodrow Wilson International Center for Scholars on April 21, 2004 with the attendance of several US government representatives. The film was also presented to the International Conservation Caucus of the House of Representatives. The film enjoyed enormous success and was used as an information tool for subsequent activities at all levels.

A Communication Commission was established with USAID and other EP3 partners, including the Ministry of Environment, the Ministry of Land-use Planning, and the Ministry of Education. Its role was to develop and implement a communication plan for the EP3 program, of which MIARO was an integral part. The Commission recruited a communication firm to develop the basis for messaging and communication guide regarding SAPM that would be used by all EP3 partners in their communication activities. ARTCOM was selected for this work.

The results of ARTCOM's work were disseminated at the regional level to all EP3 partners so that they could develop their communication strategies and proceed with communication activities.

After the communication guide was developed by ARTCOM, the EP3 Communication Commission developed guidance for proceeding with communication activities. This guidance included following several steps:

- Training field communication agents
- Developing a strategy at the field level
- Developing communication tools
- Implementing the communication campaign
- Training journalists on SAPM (CI/MIARO = Tana, Fianar, Diego, CAZ, Bongolava)
- Covering protected area establishment progress at certain sites
- Monitoring the communication campaign
- Evaluating the messages, exchanging experience, and reorienting for the future
- Populating the MEF website
- Holding a press conference

These activities were implemented by USAID/EP3 partners individually, not by the Communication Commission due to lack of specific funds. MIARO implemented the communication activities related to the SAPM.

Subsequent to each training on SAPM provided to national reporters, the media put out articles/information on SAPM in print, radio, and TV.

CI's communications department put significant emphasis on communication of SAPM activities using media including TV, radio, newspaper articles, environmental events (World Days/International Days), meetings/conferences and printed materials. One of the most

important and successful approaches was the provision of trainings, information sharing, and facilitation of contacts between journalists and protected area promoters.

Several films and other communication tools were produced locally to explain the protected area creation process and the involvement by local communities in planning and management:

- A 26-minute film was produced in Malagasy that explains the SAPM process. It is illustrated with footage that was taken during public consultations in Antenina in the CAZ. The film was used for public meetings during public consultations, broadcast by TVM and shown during World Environment Day in Moramanga, Fianarantsoa, and Antananarivo.
- An educational tour for journalists to Ialamarina in COFAV resulted in a 13-minute film produced by MBS, a national television station, in addition to 3 newspaper articles in national papers (Midi, Taratra, le Quotidien) and an online news site (Aody.mg).
- A collaboration with the popular “Preuve par six” television show resulted in six 6-minute news reports on new protected areas, each of which was shown multiple times. The show is a competition between teams of young journalists who each cover a story. MIARO provided stories, background information and worked with partners to facilitate the logistics for the 6 teams. The six protected areas that were covered were Mahavavy-Kinkony, Daraina, Andranovato (COFAV), Menabe, restoration activities linking forest fragments within the CAZ, and Anjozorobe. Each report focused on the benefits of protected areas to the local community.

Other communication tools such as posters, brochures, fact sheets, guides, and websites were developed to explain various aspects of SAPM and conservation such as the carbon cycle, climate change, protected area governance, human well-being and ecosystem services. The full list of these products is included in the CD-Rom that accompanies this report.

MIARO organized an evaluation and learning workshop regarding SAPM communication efforts in December 2008. The workshop included participation from all SAPM partners, including promoters, DSAP, and the environment department of the MEF (*Direction de Développement du Reflexe Environnemental*). The following resulted from the workshop:

- The majority of people living around new protected areas know what a new protected area is and the importance of a healthy environment. Yet, certain segments of society (women, children) need to be targeted specifically, as well as those who still have doubts, concerns, or misunderstandings.
- Awareness building is an ongoing activity, not a punctual one.
- Activities are ongoing to demonstrate behavior change among people. People are conscious of the importance of the environment but faced with poverty, they are forced to depend on the forest.
- The most effective communication vectors are meetings, films, events, and interpersonal contact.
- Messages in local dialects are well received.
- Future communication campaigns should focus on additional themes such as NPA management, the relationship between NPA and human well-being, climate change, etc.

One outcome of the workshop was the clear need for additional training for field communication agents, improved communication tools and vectors, specific activities targeting sub-groups such as women, children, immigrants and environmental education that accompanies communication efforts to ensure ownership of an environmental ethic.

In response to this need, during the MIARO extension period, a series of trainings were conducted for regional communicators and journalists in CAZ, COFAV, DIANA, Bongolava. The goal of these trainings was to introduce regional communicators to key topics such as climate change, protected area governance, human well-being and ecosystem services. They were also meant to serve as “training of trainers” so that regional communicators could then pass the message on to local-level constituents. The results of these trainings included the establishment of regional communicator associations and youth groups, as well as the implementation of local-level communication/ awareness building activities.

#### **d. Climate change adaptation**

In January 2008, USAID (through the MIARO program and work directly contracted with IRG), in collaboration with the MacArthur Foundation, CI, and WWF, provided support to the Government of Madagascar to convene a 3-day workshop, “Assessing the Impacts of Climate Change on Madagascar’s Biodiversity and Livelihoods.” The workshop brought together over 130 experts from more than 50 national, regional and international organizations to evaluate the risks that climate change poses to ecosystems, marine and terrestrial biodiversity, and human livelihoods in Madagascar. Its objective was also to recommend strategies to address these threats and build resiliency in natural and human systems to cope with climate change.

The outcomes of the workshop include:

- Provision of the best available future climate and oceanographic scenarios for Madagascar and implications for changes in species (terrestrial and marine) distribution and their population and habitat shifts.
- Development of recommendations for adapting to the impacts of climate change for the benefit of conservation, protected areas planning, and human livelihoods.
- Generation of information on climate change threats to human communities and identification of appropriate adaptation measures.

Participants identified ecological protection and restoration, integrated coastal zone management, and management of use at the watershed scales as important actions to build ecosystem resiliency in the face of climate change. Experts identified riverine forests as important areas to focus restoration and protection efforts because of the potential role of these forests as corridors to allow species to track their climate envelopes and for their potential role in acting as refugia. Sustainable forest management needs to be strongly promoted to maintain habitat for biodiversity and to provide refugia to ensure the availability of necessary habitat in the future. Workshop participants recommended focusing on the protection and sustainable management of forest corridors to maintain adequate habitat connectivity and migration corridors for vulnerable species within the protected areas network.

Participants recommended reinforcing the marine and terrestrial protected areas planning processes by integrating climate change impact considerations into these conservation instruments. Workshop participants recommended strengthening national policies and institutions for Marine Protected Area (MPA) selection, establishment, and management by including climate change criteria for prioritization of key sites. Participants recommended creating networks of marine protected areas along the length of Madagascar’s coastline to include multiples of all marine and coastal habitats from coastal vegetation to the continental shelf and deep sea habitats, allowing species to shift to cooler waters as ocean warming progresses.

In order to inform conservation and development planning under climate change, there is an urgent need to have adequate climate monitoring data on key variables. Participants recommended that the GOM with partner institutions and non-governmental organizations prioritize the implementation of a long-term monitoring program with a network of marine, terrestrial and freshwater sites, distributed across latitudinal gradients cutting across the projected gradients of change. This will enable systematic and standardized collection of quantitative data

on taxonomic groups, water quality, and habitat quality, socioeconomic, oceanographic and climatic variables, with data made available freely.

Participants recommended greater recognition of the links between human well-being, biodiversity and access to natural resources. They highlighted a critical need to promote land tenure regulation in regions around high biodiversity areas. In recognition of the clear synergies that exist between ecosystem functions, terrestrial and marine biodiversity, and human well-being, actions are needed to enhance resiliency and adaptation across all spatial scales and livelihood sectors. Ecologically sensitive agricultural intensification and diversification were suggested as options for safeguarding human livelihoods in the face of climate change, minimizing impacts on biodiversity. Participants recommended enhanced support for risk assessments, improving our understanding of ongoing community-based initiatives aimed at reducing vulnerability and adapting to climate change, and identifying potential triggers and pathways for human migration caused by climate stress. Promotion of environmentally-sound energy sources and more climate resilient infrastructure were amongst other measures suggested to facilitate rural adaptation to climate change.

The workshop participants recommended four main policy actions related to governmental response to climate change. The first is the establishment of an inter-ministerial task force on climate change to facilitate environmentally sound adaptation measures across sectors. This body would be responsible for facilitating the integration of ecologically sensitive adaptation measures across diverse sectors such as mining, oil and gas, tourism, agriculture and fisheries within the Madagascar Action Plan (MAP) – a strategy document developed by the Government of Madagascar to guide development planning in the country and within regional action plans. Second, participants suggested the re-examination and review of Madagascar's National Adaptation Action Plan (NAPA) to allow for the integration of data and recommendations emerging from this workshop. Third, the gathered experts highlighted the need to develop a rural development policy around areas most vulnerable to climate change, for which one avenue is updating the Rural Development Policy Letter to integrate workshop recommendations. Finally, participants recommended the development and dissemination of methods of information–education–sensitization on climate change across all levels and sectors.

Workshop participants recommended policy and decision makers and practitioners to take advantage of various financing mechanisms such as the Clean Development Mechanism under the Kyoto Protocol and the United Nations' Adaptation Fund to finance ecologically sensitive adaptation activities on the island, which was established as one of the outcomes of the United Nations Framework Convention on Climate Change meeting held in December 2007 in Bali, Indonesia (COP-13). The Adaptation Fund is intended to finance concrete adaptation projects and programs in developing countries that are Parties to the Kyoto Protocol. In addition, payments for ecosystem services (PES) schemes present a potential source of funding to help better manage watersheds to secure hydrological services. PES schemes are in early stages in Madagascar, and their associated opportunities should be carefully explored. A critical new source of funding arises from Reduction in Emissions from Deforestation and Degradation (REDD), also emerging from the Bali COP-13 discussions. Under the Bali Roadmap, REDD is now a recognized strategy for dealing with carbon emissions, and Madagascar stands in a unique position to become a world leader in further development of methodologies and in securing major international investments through this approach (see RM4). Many participants felt that Madagascar can benefit greatly from developing a national strategy for REDD in synergy with a national policy on adaptation to harness the multiple benefits offered by REDD – reducing carbon emissions, protecting forests for biodiversity, facilitating ecological adaptation on land and maintaining other critical ecosystem services. Participants recommended that a sound national strategy on REDD could bring benefits to local communities from REDD investments and build a strong foundation to undertake mitigation and adaptation activities in tandem.

## **SUB RESULTS MODULE 1.3 Establish new protected areas**

Although site-level work within the MIARO program focused primarily on USAID's priority eco-regions of CAZ, COFAV and Anosy, MIARO also provided site-level support to other areas.

Activities under this sub results module focused on the following:

- a. Establishing new protected areas in areas outside USAID priority eco-regions
- b. Providing the enabling conditions for the DGF to implement, coordinate, and support the new protected areas

### **a. Establishing new protected areas in areas outside USAID priority areas**

MIARO provided site-level support to areas outside USAID priority zones, such as Mahavavy-Kinkony Complex, Bongolava and Montagne des Français. Training workshops on the creation process for new protected areas were organized in these three areas. In addition, detailed support on conservation planning was provided for many sites through RM2 and that work is fully presented in the section of management planning in RM2. The creation of additional new protected areas outside USAID priority area were supported through CAG (details have already been provided in section 1.2b).

#### **MAHAVAVY-KINKONY COMPLEX (CMK)**

As part of the establishment of the new PA in the Mahavavy-Kinkony Complex, the MMZ platform or *Marambitsy Miahny ny Zavaboahary* was established in August 2006. MMZ is a structure representing the private sector, civil society (NGOs and local partner associations), administrative authorities, and traditional authorities in the region. This platform participates in activities related to the establishment of the CMK new protected area.

MIARO supported training in Mahajanga on December 17-18, 2007 to build the capacity of MMZ and Birdlife outreach agents in activities to be undertaken during the final establishment phase of the protected area:

- Commune and fokontany-level consultations– tools, methodology, data collection
- New protected area governance
- Land use and management planning
- Environmental impact assessment/safeguard plan

MIARO supported the preparation of the management plan for Mahavavy-Kinkony, using the same methodology that was used at the other sites (based on TNC's 5S approach and with the MIRADI software – see Activity 2.4).

Definitive protection status and the management plan for CMK are nearly completed, as are the social and environmental impact assessment and the governance structure.

#### **BONGOLAVA**

An exchange and reflection workshop was held in Antsohihy in July 2007 to present the progress toward establishing the Bongolava new protected area and to share information on SAPM (communication, safeguard policy, governance, EIAs, sustainable use of natural resources).

Temporary protection status for Bongolava was obtained in 2006. The communication campaign on SAPM was conducted by the Fikambanana Bongolava Maitso (FBM) association in all fokontany adjacent to this forest corridor. Local consultations were completed and the global

management plan was developed. The environmental and social management plan was also completed.

## **b. Providing the enabling conditions for the DGF to implement, coordinate, and support the new protected areas**

To support DGF to implement, coordinate, and support new protected areas, MIARO provided assistance to create the Directorate for the Promotion of Protected Areas (DSAP). This also followed the results of the EP3 mid-term review, which indicated that SAPM needed an institutional anchor within the Ministry of Environment and Forests.

DSAP is part of the DGF and its purpose is to develop and implement the strategy for biodiversity conservation and for protected area development. It is made up of the following:

- *PA Creation and Management Office (Service de Creation et de Gestion des Aires Protegees – SCGAP)* – mobilize actors to establish protected areas, monitor protected areas (inside and outside of the Madagascar National Parks network), establish standards and conditions for management delegation, and monitor safeguard plan implementation
- *National Forest Management Office (Service de la Gestion des Domaines Forestiers Nationaux – SGDFN)* – monitors the use and management of national forests outside protected areas
- *Biodiversity Conservation Office (Service de la Conservation de la Biodiversite – SCB)* – works to develop tools and monitor the state of Madagascar’s biodiversity
- *Community Support and Ecological Monitoring Office (Service des Appuis aux Communes et de Suivi Ecologique – SACSE)* – research, ecological monitoring of habitats, species, and pressures; habitat restoration, and community involvement.

MIARO provided continued support to DSAP and the SAPM Committee throughout the development and establishment of SAPM.

### *Program of Work on Protected Areas*

The overall purpose of the Programme of Work on Protected Areas (PoWPA) of the Convention on Biological Diversity (CBD) is to support the establishment and maintenance by 2010 for terrestrial (and by 2012 for marine areas) of comprehensive, effectively managed, and ecologically representative national and regional systems of protected areas.

Through the MIARO program, USAID has provided essential support to the Direction of the Protected Areas System for the implementation of the PoWPA in Madagascar and thereby helped Madagascar to fulfill some of its obligations under the Convention on Biological Diversity. Important results under the different objectives of POWPA have been:

- *To establish and strengthen national and regional systems of protected areas integrated into a global network as a contribution to globally agreed goals;*
  - MIARO supported the SAPM commission’s planning for the establishment of new protected areas to supplement the biodiversity representativeness of the existing network.
  - Madagascar envisaged 6 million ha of protected areas by 2012 in the Madagascar Action Plan. Through the MIARO program and additional support given by the MIARO partners, the current situation for SAPM is:
    - Existing protected areas managed by Madagascar National Parks: 1,688,564 ha
    - Protected areas with temporary status: 2,973,836 ha
    - Creation in progress: 1,168,419 ha
    - Proposed protected areas: 1,295,380 ha
    - Extension of protected areas managed by MNP: 505,488 ha

- *To integrate protected areas into broader land- and seascapes and sectors so as to maintain ecological structure and function;*
  - MIARO helped the DSAP establish Inter-ministerial executive orders on mining-forest, support consultative committee for integration of several sectors,
  - MIARO produced management tools to help in decision making related to protected areas
  - MIARO provided support to amend the COAP to correspond to all needs of new protected area categories (in line with CBD and IUCN standards)
  
- *To substantially improve site-based protected area planning and management.*
  - MIARO provided and trained government and non-government partners in methods to ensure that all protected areas are created on the basis of scientific analysis and use a participative approach that integrates all stakeholders.
  
- *To prevent and mitigate the negative impacts of key threats to protected areas.*
  - MIARO helped to develop methods to elaborate and implement social safeguard plans that ensure that people living around protected areas incur no net loss
  
- *To promote equity and benefit sharing.*
  - MIARO provided feasibility studies of sustainable financing options
  - MIARO and the MIARO partners developed new mechanisms to disburse funds from novel mechanisms such as carbon revenues directly to local communities
  - Protected Area creation has been accompanied with mitigation measures and appropriate development activities for communities living around them
  
- *To enhance and secure involvement of indigenous and local communities, and relevant stakeholders.*
  - MIARO has developed governance structures for the new protected areas that ensure that local communities participate in protected area implementation and management.
  - MIARO has supported the creation and emergence of civil society management platforms and federations of community associations in protected areas and buffer zones;
  - MIARO helped develop the COSAPs (Management Committee of Protected Areas) around National Parks that involves civil society stakeholders to have a voice in how the parks are run and how funds generated from ecotourism are spent to the benefit of communities living around the parks.
  
- *To build capacity for the planning, establishment and management of protected areas.*
  - MIARO provided training to government and non government partners at all level throughout the process of establishing the SAPM.
  
- *To ensure financial sustainability of protected areas, and national and regional systems of protected areas.*
  - Madagascar, in addition, has created a Protected Areas Foundation that will help bring sustainability to the SAPM by covering some of the management costs of the protected areas. Two of the MIARO partners were founding members of the Foundation and MIARO also provided technical support to the Foundation under RM4. MIARO has also helped the Ministry review the options for putting in place a “green charges” and we have developed forest carbon projects that will cover core costs of the new protected areas created under the MIARO program.
  
- *To strengthen communication, education and public awareness.*

- New PA implementation integrates local consultation and participation phases, in order to get more awareness and education which is a long term process
  - MIARO produced a variety of communication materials appropriate for communication activities at the national, regional and local levels
- *To develop and adopt minimum standards and best practices for national and regional protected area systems.*  
MIARO promoted the adoption of internationally recognized tools and standards. These included the following:
    - Selection criteria for sites : systematic conservation planning using MARXAN
    - Site-based conservation planning: TNC's 5-s methodology and subsequently MIRADI when TNC developed this to replace the 5-s approach.
    - Management effectiveness: IUCN/WCPA management effectiveness tracking tool
    - Gouvernance: alignment with IUCN's standards

## **SUB RESULTS MODULE 1.4 Refine conservation priorities in USAID priority eco-regions**

The USAID priority areas were a special case within the context of all that was undertaken under Sub Results Modules 1.1-1.3. Because of the history of USAID's involvement in these areas, and the continued investment USAID has brought to stimulate multi-sector development here, MIARO focused on implementing activities in a coordinated fashion with other USAID and non-USAID partners and served as an active member of each of the USAID Ecoregional Alliances.

### **a. Ankeniheny-Zahamena Corridor (CAZ)**

The 425,000 hectare Ankeniheny-Zahamena Corridor (CAZ) is one of the largest remaining blocks of rainforest and a top conservation priority in Madagascar not only because of its biodiversity and ecosystem services, but also because it is essential for the well-being of local people, contributing to the regional and local economy. To ensure ownership of the conservation process, a participatory approach was adopted for the creation of the CAZ protected area. Stakeholders such as ministerial representatives, civil society groups, local authorities, and community-based organizations were engaged.

The vision for the CAZ protected area was developed in a participatory manner with all the various stakeholders. It was informed by a series of trainings and information sessions supported by MIARO on what the protected area creation process is and what designating CAZ as a protected area could mean. Several rounds of discussions and negotiations were held on the question of the protected area category and governance type. This participatory approach has resulted in a protected area with wide appeal and buy-in from a wide range of stakeholders. This support has proved essential during the 2009 political crisis during which we have witnessed an unprecedented pillaging of natural resources in many of the more traditional state-run protected areas.

The main objective of the CAZ protected area is to protect its natural ecosystems and use the natural resources sustainably such that conservation and use are mutually beneficial. The various studies, analyses, consultations and negotiations that have led up to the creation of the CAZ protected area indicate that CAZ conforms to what the IUCN understands as a protected area. Specifically, the objective of CAZ as defined by stakeholders is in line with IUCN Category VI, which allows for sustainable use of natural ecosystems. This translates into a Natural Resource Reserve as defined in Madagascar's Protected Areas Code (COAP).

Specific objectives of the protected area correspond to IUCN categories:

- Contribute to the development and/or maintenance of a balanced relationship between people and nature
- Distribute economic and social benefits to people, specifically local communities living near the protected area
- Secure community subsistence activities in a sustainable manner
- Integrate culture, belief systems and world views in the approaches of the protected area
- Contribute to sustainable development at the national, regional, and local levels for the benefit of local communities who depend on protected natural resources; promote ecotourism where appropriate
- Facilitate scientific research and environmental monitoring

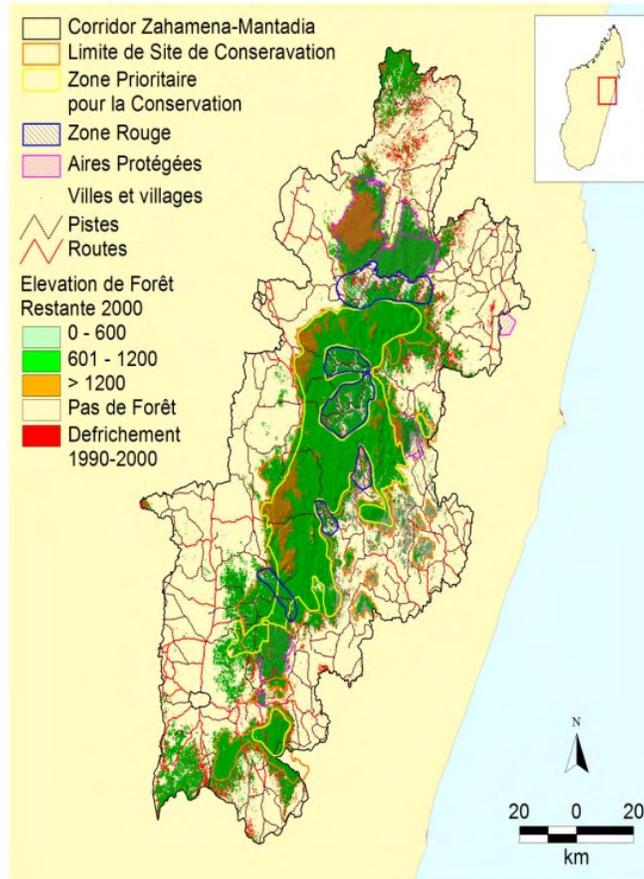
In addition, the CAZ reserve has specifically been designed to be eligible as an “avoided deforestation” carbon project and has benefited from one of the first contracts (with the BioCarbon Fund) that will provide carbon revenues long term that will cover the reserve’s core costs. Further details are provided in RM4.

On the basis of the protected area’s category and given the local contextual reality, it was decided to develop a co-management governance structure of CAZ. Co-management necessarily implies a sharing of power and decision making among various stakeholders.

#### *Protected Area Creation Process*

The process followed for creating the CAZ Protected Area includes a series of steps. MIARO has provided direct support to this entire process, both at the national and site levels. We also supported COFAV in exactly the same way, but to avoid repetition, we have only described the process in detail for CAZ.

- *Scientific Workshop* – A workshop with biologists, foresters, and sociologists who had conducted research in CAZ was held to ensure that the scientific basis for creating the CAZ Protected Area was solid. This workshop resulted in an initial proposal for the CAZ boundaries (Figure 3) in early 2005.

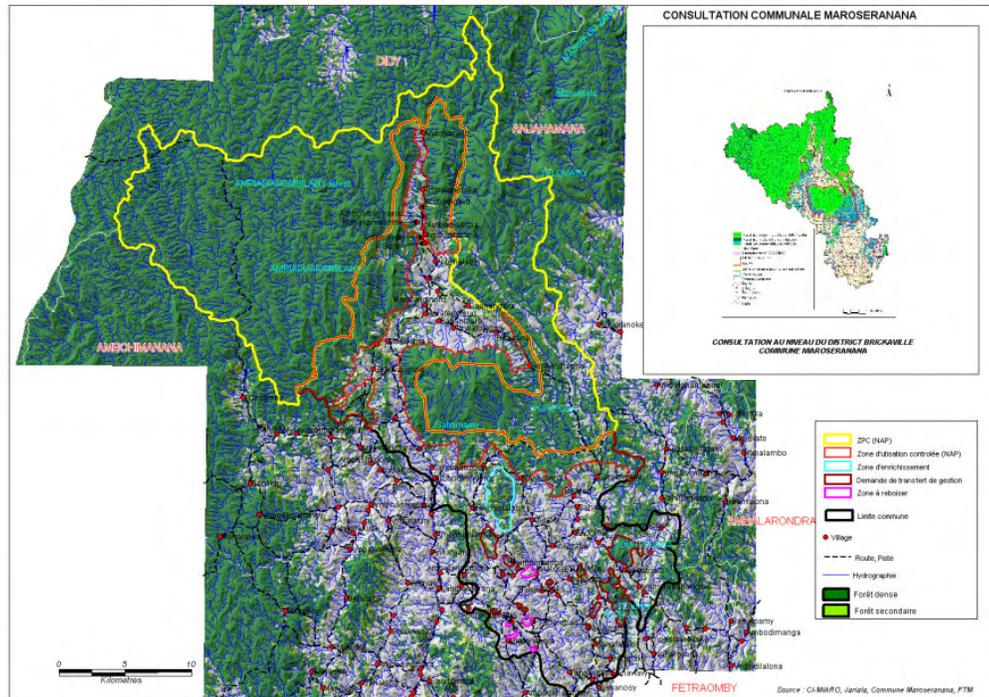


**Figure 3. Initial proposed boundaries for CAZ Protected Area**

- Temporary Protection Status* – The initial proposed protected area boundaries were the foundation for negotiations that were held in five districts (Moramanga, Ambatondrazaka, Brickaville, Toamasina II and Vavatenina). Mayors, traditional leaders and regional ministerial representatives participated in these discussions. The objective was to compile the information available at the district level and use it to inform a refined version of the protected area boundaries. The result of these negotiations was presented at meetings in the three regions and included a new map and an overall land-use plan for the area (*Schema d'Aménagement Global*). Subsequently, a declaration in support of the creation of the CAZ Protected Area was signed by the *Président de Délégation Spéciale de Toamasina*, the three Regional Heads, the Water and Forests Director, and the *Plate-Forme du Corridor Ankenibeny Zahamena (PlaCAZ)*. These elements were the basis for the submission to DSAP for temporary protection status.



include landmarks and topography (example Figure 5). These maps were fundamental for desktop work that was conducted with local community representatives.



**Figure 5. High resolution map of Maroseranana used for local-level consultations**

- *Guide for Consultations* – Local level consultations were led by teams of multi-disciplinary technicians. To ensure homogeneity of the type and quality of information that resulted from these consultations, MIARO supported the development of a guide and trained participating technicians.
- *Local Consultations (Communal and Village)* – Local consultations aim to inform local communities so that they can understand and appropriate the creation of the protected area, agree on protected area limits, zoning and resource-use rules for the different zones, and discuss participation in the protected area management. Specific objectives include the following:
  1. Agree geo-referenced protected area boundaries with corresponding resolutions describing the decisions made at the meeting. These resolutions were signed by all participants.
  2. Collect information for the management plan
  3. Collect information for the environmental and social impact plan
  4. Identify potential use of the areas outside the protected area (for subsequent development intervention planning)
  5. Identify the governance system for the protected area

The multi-disciplinary teams that led the consultations were trained on the basis of the Guide for Consultations that MIARO developed with the SAPM

commission. During the period September – December 2007, consultations were held in the 20 Communes affected by the protected area. These consultations resulted in updated maps with communal zoning, land use, and the local perception and desire for future land and natural resource use. However, due to a lack of information and uncertainty regarding certain elements, the CAZ team conducted follow-up consultations in various communes:

- Didy, Morarano, and Ambohibary regarding community management transfer boundaries
- Ambohimanana regarding mining permits
- Anjahamana (Andranoharongana), Fito (Andasibe and Andranoharongana) regarding settlements inside the proposed protected area
- Lakato and Beforona regarding link to Ambalabe Protected Area
- Ampasimpotsy, Ambalarondra, Ambodilazana and Sahambala

These additional consultations resulted in consensus on the boundaries and zoning of the new protected area.

- *Community Empowerment and Management Transfer Contracts* – MIARO supported the evaluation of 12 community management transfer contracts in the Aloatra Mangoro region through CAG grants to the local association Tolotanana. These evaluations were necessary as they are the first step toward renewal. The renewal of eight of these contracts in Didy is currently pending with the DREF. MIARO also supported capacity building and empowerment activities at the community level, specifically to ensure effective protection and law enforcement given the high level of pressure the CAZ forests face. These activities resulted in patrol and enforcement committees who work to fend off illegal activity.
- *Capacity Building* – MIARO supported a workshop to share information on protected area management and to assess the technical and organizational capacity of COBA Federations. Training on various themes such as nursery establishment and native tree planting was provided to COBA Federation members. In addition, the following training / capacity building activities were implemented:
  - Training on proposal development for the Carbon Project
  - Assessment of the organizational capacity of 6 COBA Federations and subsequent development of a training plan
  - Training of community associations on the new protected area
  - Training for communities in community and financial management, vegetable gardening, and improved rice cultivation
  - Training in beekeeping
- *Social and Environmental Safeguard Plan (PGESS)* – The protected area creation procedure includes the submission and approval of a Social and Environmental Safeguard Plan to the *Office National de l'Environnement* (ONE). This Plan should include the results of a Social and Environmental Impact Assessment and articulate the safeguard plan for those people affected by the project. For CAZ, the BioCarbon Fund is to support the development of this document. The Terms of Reference for the consultant for this was drafted by MIARO, reviewed

and revised several times by various stakeholders including the World Bank and ONE. Because this document is essential for obtaining the environmental permit and definitive protection status, and because of the various delays involved in the BioCarbon Fund's support of this activity, CI decided to go ahead and begin initial data collection for the PGESS for CAZ. This included collecting basic information on the number of inhabitants, their current activities, and a prioritized list of compensation/mitigation measures.

- *Submission of Protected Area Creation Documentation* – Once the PGESS has been approved and the environmental permit issued, CI, as temporary protected area Manager, will proceed with submitting the protected area creation documentation to DSAP.

### *Governance Structure*

When CAZ was granted temporary protection status in December 2005, the three DREF that cover CAZ (Aloatra-Mangoro, Atsinanana and Analanjirofo) were mandated with managing the protected area until the permanent protection status was obtained. This decision was in line with Madagascar's decentralization policy that empowered regional-level actors to execute policies and make decisions. The three DREFs established a technical committee made up of governmental and non-governmental partners involved in the creation of CAZ. The purpose of this technical committee was to orient the process for creating CAZ and monitor progress. The technical committee met twice monthly and the CI/MIARO team assured its secretariat.

MIARO supported a series of meetings and discussions to determine the final governance structure of CAZ. Stakeholders at multiple levels participated, including local communities, the Ministry of Environment, and various partners. The decision was made to adopt a co-management governance type, with an emphasis on community-level participation and empowerment. Three governance scenarios were proposed based on this decision (submitted by PLACAZ, UCFB, and the Secretary General of MEF). These three scenarios served as the basis of further negotiation and refinement of the governance structure. Roles and responsibilities were defined, paying particular attention to integrate communities into the structure.

CAZ's co-management structure is divided into two main parts, a strategic orientation component and a management component (Figure 6). The MEF delegates responsibility to the Protected Area Manager, which, along with the Orientation and Monitoring Committee, serves to define strategic priorities for management. The CAZ Manager and its staff including 6 sector managers, and the Local Management Unit managers ensure daily management functions and implementation. Specific roles and responsibilities of each of these entities are described in Table 4.

The decision making body is the Ministry of Environment and Forests. It has the final decision making power for all questions related to the management of CAZ and approves the management plan for the protected area. The Ministry's decentralized representatives at the regional/ local levels also play a role in the management structure.

The Orientation and Monitoring Committee (OMC) serves as a deliberating and consultative body and is made up of 19 members. It provides guidance on the implementation of the management plan and the protected area policies.

The Protected Area Manager ensures the executive function of the entire protected area. Until a definitive Manager is identified, CI is provisionally serving in this role. The Manager is responsible for implementing management, compiling reports from the Sector and LMU levels, and reporting to the MEF and OMC.

The Sectors and Local Management Units were defined based on the following criteria:

- Ecological and socio-economic: resource characteristics
- Administrative: communal and district boundaries
- Physical: existence of communication/transport possibilities within the area
- Cultural: ethnic and cultural affinity
- Organizational: existing structures such as COBA Federations

A total of 6 Sectors have been defined for CAZ (Figure 7). Each Sector supervises the management within the LMUs in its zone. The Sectors also liaise with authorities and partners within the zone. Activities within the sector are coordinated by a Sector Coordinator employed by the Manager.

The Local Management Units (LMU) are at the most local level within the management structure. Their role is to manage each LMU, including ensuring the implementation of the “*cabier des charges*,” establishing and enforcing the *Dina*, and submitting activity reports to their Sector Coordinator. Some LMUs within a Sector are grouped into COBA Federations.

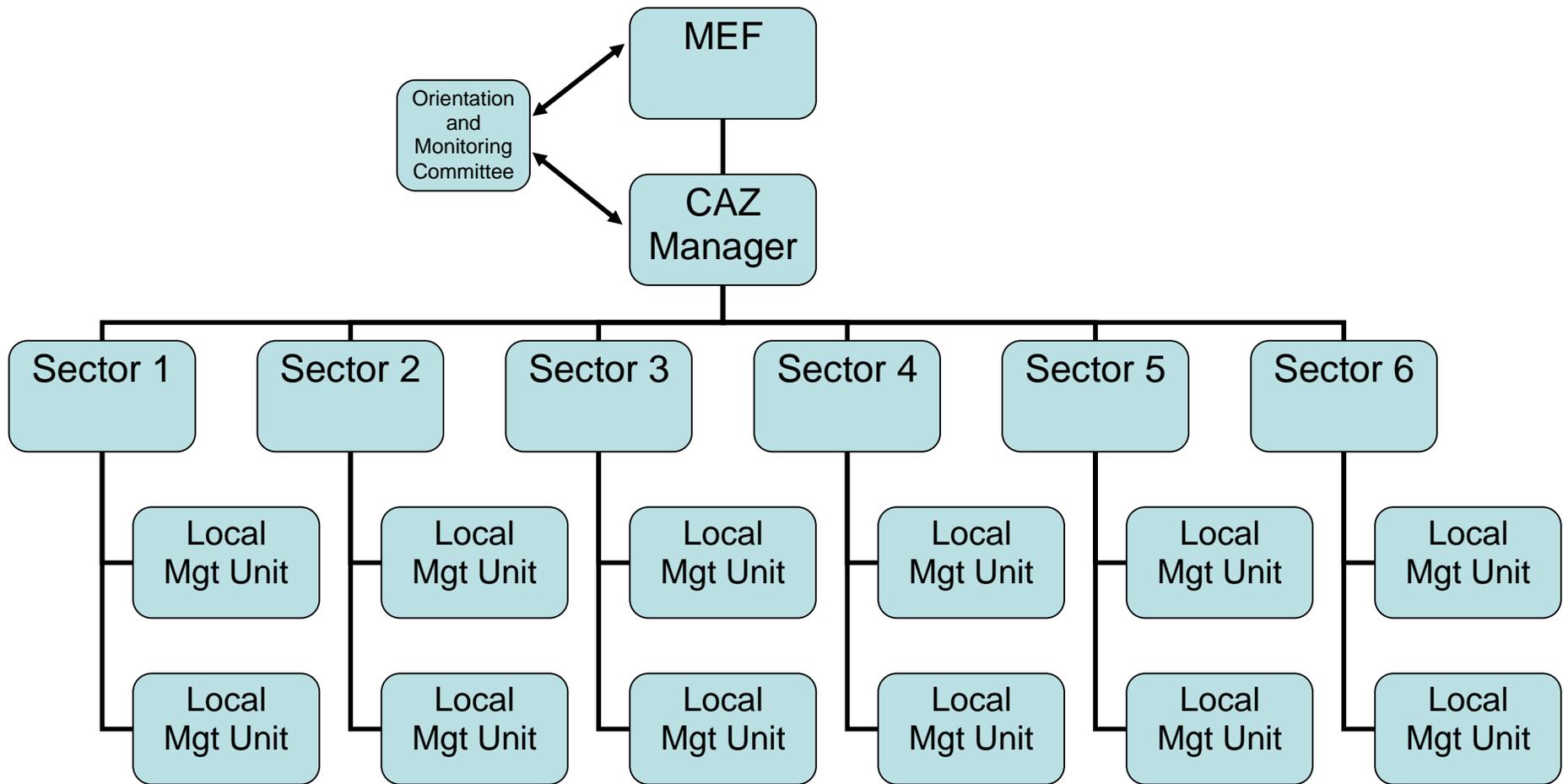


Figure 6. CAZ Protected Area management structure

**Table 4. Roles and responsibilities of the various actors in the CAZ governance structure**

Structure	Composition	Roles and Responsibilities	Decision making process	Observations
Ministry of Environment	Ministry represented by the <i>Direction du Système des Aires Protégées (DSAP)</i>	<ul style="list-style-type: none"> <li>Interface with other ministries and technical and financial partners</li> <li>Approve management plan</li> <li>Support the Manager on legal and administrative issues</li> </ul>	Is the ultimate decision maker for issues related to CAZ management	
Orientation and Monitoring Committee (OMC)	<ul style="list-style-type: none"> <li>3 DREF</li> <li>2 Regional Heads</li> <li>1 Manager representative</li> </ul> Designated representatives: <ul style="list-style-type: none"> <li>4 other regional ministerial representatives</li> <li>2 sector representatives</li> <li>2 mayors (1 per region)</li> <li>3 civil society</li> <li>2 technical and financial partners</li> <li>1 PlaCAZ</li> </ul>	<ul style="list-style-type: none"> <li>Approve orientations and strategies for implementing management</li> <li>Monitor and evaluate technical, administrative, and financial management of PA</li> <li>Monitor management implementation by the Manager</li> <li>Analyze policy implementation and suggest new orientations</li> <li>Advocacy</li> </ul>	<ul style="list-style-type: none"> <li>Advise/ orient the Manager</li> <li>Serve as deliberating and consultative body</li> <li>Deliberating -&gt; management plan implementation</li> <li>Consultative -&gt; policy, general strategy and orientation</li> </ul>	<ul style="list-style-type: none"> <li>Meet twice a year</li> <li>Approve work plans and reports</li> <li>Meeting costs covered by the Manager</li> </ul>
Protected Area Manager	Director of CAZ protected area and associated staff	<ul style="list-style-type: none"> <li>Propose strategies and orientations for management implementation</li> <li>Update management plan</li> <li>Implement management plan and develop annual work plans</li> <li>Monitor and evaluate achievements vis-à-vis management plan</li> <li>Interface with stakeholders</li> <li>Orient and support activity implementation at the Sector level</li> <li>Develop business plan and fundraise</li> <li>Approve the management plans of the Local Management Units</li> </ul>	<ul style="list-style-type: none"> <li>Receive reports from Sectors</li> <li>Submit reports to OMC and GOM</li> <li>Communicate action plans for management with other sectors</li> <li>Accountable to Ministry</li> </ul>	Note: Develop Operational Plan
Sector	Sector Coordinator employed by Manager	<ul style="list-style-type: none"> <li>Collect and analyze Local Management Unit reports</li> <li>Supervise management by Local Management Units (LMU)</li> <li>Submit reports to regional ministry representatives</li> <li>Liaise with local authorities</li> </ul>	<ul style="list-style-type: none"> <li>Reports to Manager</li> <li>Compiles reports from LMUs</li> </ul>	Platform: <ul style="list-style-type: none"> <li>1 commune rep</li> <li>1 partner rep</li> <li>1 rep per LMU</li> </ul>
Local Management Unit (LMU)	Stakeholders including local community associations, partners	<ul style="list-style-type: none"> <li>Develop and implement LMU management plan</li> <li>Conduct patrols of core protected zone near LMU</li> <li>Represent the community within the PA governance structure</li> <li>Manage LMU (Dina, reporting)</li> </ul>	<ul style="list-style-type: none"> <li>Report to Sector</li> <li>Decision making within the General Assembly</li> </ul>	

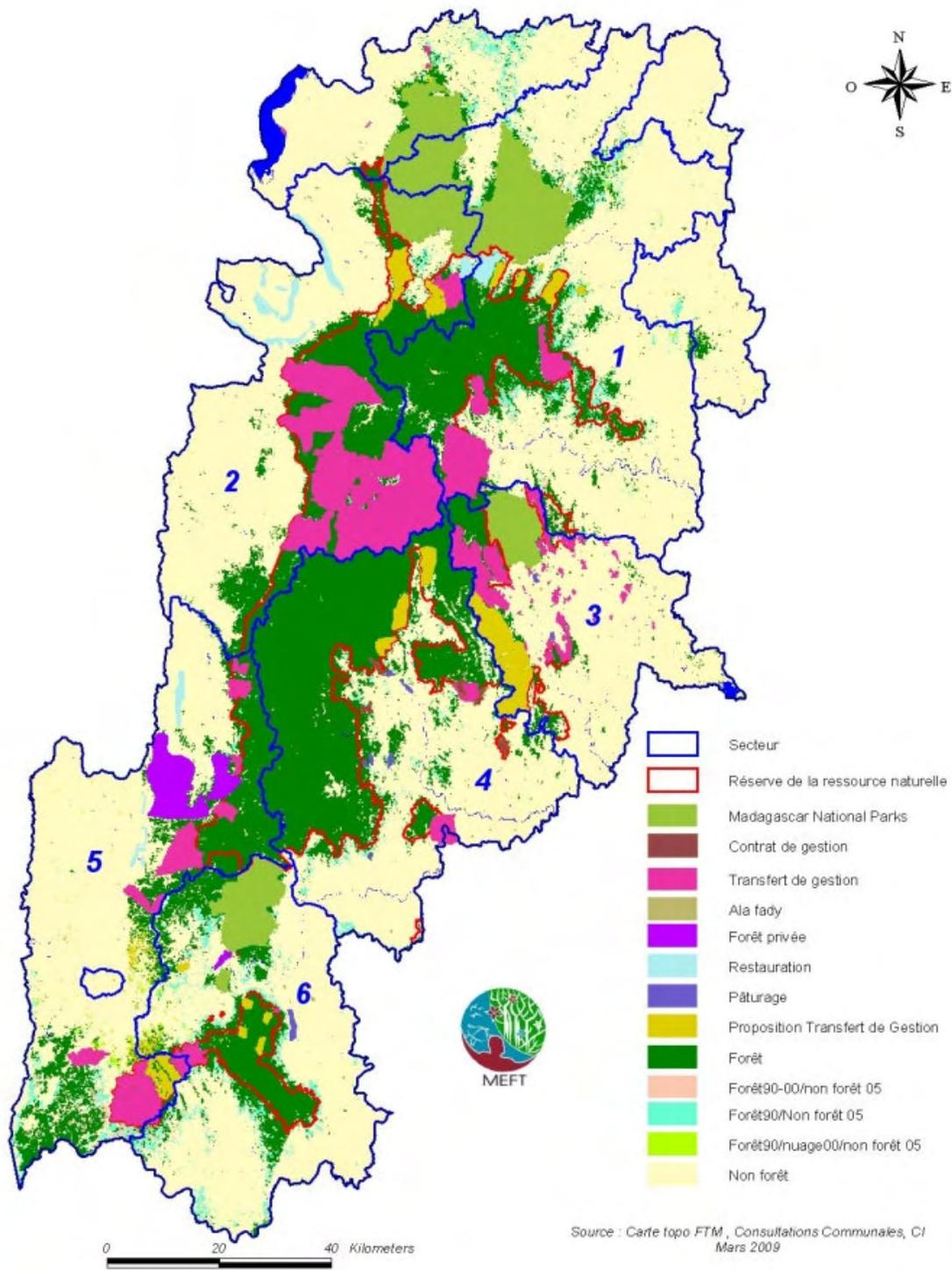


Figure 7. The six Sectors of the CAZ Protected Area

Local Management Units include community management transfer contracts, future community management transfer contracts, conservation agreements, private property, and local associations or NGOs such as MATE. Currently, a total of 129 community management transfer contracts exist or are under development inside or outside CAZ protected area. Among the 68 contracts inside the protected area, only 38 have valid contracts. Most of these were put in place through USAID’s ERI program and with leveraged funding from CI’s Node small grants program. MIARO undertook steps to evaluate and finalize the other 30, and CI will continue to do so now that the MIARO program has ended. In addition, the contracts outside the protected area have been engaged on a variety of issues because they may have an influence on what happens inside the protected area (Table 5).

**Table 5. Local Management Units associated with the CAZ Protected Area**

<b>FEDERATION</b>	<b>Commune</b>	<b>Contract inside CAZ</b>	<b>Contract outside CAZ</b>	<b>Total</b>
<b>Federation VAHATRINIALA</b>	Andaingo		1	1
	Fierenena	6		6
	Morarano-Gare	3	5	8
<b>Federation MIARADIA</b>	Ambohibary	3	4	7
	Ampasimpotsy-Gare	2	1	3
	Lakato	4	2	6
	Andasibe	4	5	9
	Beforona	1	1	2
	Ambatovola	1	2	3
<b>Federation TSARAFANIRY</b>	Petraomby		14	14
	Maroseranana	3	3	6
	Ambohimana	2	2	4
	Anivorano		6	6
	Fanasana -Gare		1	1
<b>Federation TARATRA</b>	Anjahamana	6		6
	Andranobolaha		6	6
<b>Federation VANONA</b>	Fito	10		10
	Sahambala		1	1
	Ambodilazana		2	2
<b>Federation FITOKISANA</b>	Didy	19		19
	Manakambahiny-Est	4		4
	Antanandava		3	3
	Amparihitsokatra		2	2
<b>TOTAL</b>		<b>68</b>	<b>61</b>	<b>129</b>

### *Communication*

MIARO implemented a communication campaign to inform stakeholders at various levels about the forestry law and the SAPM process, and about CAZ specifically. The aim was also and especially to engage people in the process of conservation. Initial efforts focused at the provincial level with representatives of the DIREEF and key provincial actors. Subsequent efforts focused on training local communication agents, who in turn carried out communication activities at the communal and village levels. These communication agents facilitated a broad dissemination of messages to all 30 communes of the CAZ, and also provided crucial

information for planning local-level consultations. Because the communication agents were from the communes themselves, they were able to access even the most remote hamlets and have both formal and informal discussions with people about the creation of the CAZ Protected Area.

MIARO also supported communication and awareness building activities at the level of each of the 6 Sectors with the 6 COBA Federations. The message focused on the role of local communities in the management of the CAZ Protected Area. Representatives of each Federation were then selected to conduct training of locally-based agents at the LMU level. This approach of training-of-trainers proved very effective because it not only empowered local communication agents to train others, it also allowed for widespread dissemination of information and messages.

### *Protected Area Zoning*

Developing the final map and internal zoning of the CAZ Protected Area was an iterative process of data collection, analysis, negotiation, and refinement. Several specific conditions were considered initially:

- Forest connectivity
- Protection of high altitude forest
- Protection of wetlands
- Protection of forest on volcanic soil

Initial limits of CAZ were developed during a scientific workshop. These limits were presented and discussed with stakeholders in 5 districts, which informed the revision of the initial limits. The revised limits were presented at the regional level and then also discussed and the communal and village levels during the public consultations. The result of these various discussions and negotiations is the refined map.

Zoning was determined based on data, discussion, and management possibilities. Discussions were held at two levels:

- Technical committee level – within the technical committee, the zoning was discussed and conformity with the laws and scientific data was ensured.
- Local level – during the local consultations contextual factors were considered and incorporated.

As a result, the CAZ Protected Area is divided into two main zones:

- Priority Conservation Zone (PCZ) – this is the core protection zone of the protected area
- Buffer Zone – this zone is outside the PCZ and includes the Controlled Occupation Zone (COZ) and the Sustainable Use Zone (SUZ). It is in this zone that subsistence natural resource use is allowed, which is defined as natural resource use for noncommercial ends for domestic consumption or cultural use reserved for local communities. This use is regulated by a formal agreement between the community and the Protected Area Manager. Prohibited activities include: slash-and-burn agriculture, cutting trees at the source and on the tops of hills, logging, hunting, and collection of protected species.

Each of the zones was identified using natural boundaries and has specific rules for use and management (Table 6).

**Table 6. Zoning of CAZ Protected Area**

Zone	Characteristics	Management Objective	Notes
Priority Conservation Zone (PCZ)	Intact forest or areas needing intervention for restoration	Protection and/or restoration	<ul style="list-style-type: none"> <li>• Any extraction, clearing, and fire prohibited</li> <li>• Spiritual practices that have no impact on biodiversity are permitted</li> </ul>
Controlled Occupation Zone (COZ)	Forest, cultivated land, and/or inhabited areas	Sustainable natural resource use	Use is subject to the rules established in the management plan and in the « <i>cahier des charges</i> »
Sustainable Use Zone (SUZ)	Forest, cultivated land, and/or inhabited areas	Natural resource use	Use is subject to the provisions in the management plan

#### *Protected Area Management Plan*

Developing the management plan for CAZ was a multi-party process that involved data collection, analysis, discussion, negotiation, review, and revision. MIARO played a central role in this process, not only in providing the tools for planning to occur, but also in participating in developing the plan itself. Specific steps included the following:

- *Synthesize existing data on CAZ* – information on the biology, socio-economics, local cultures, land tenure, etc were gathered and compiled
- *Train drafting team* – the team responsible for developing the management plan was trained in the management planning software MIRADI
- *Identify conservation targets* – from these targets, the management objectives were developed
- *Write plan*
- *Review plan* – various governmental and non-governmental stakeholders at the local, regional and national levels reviewed the plan
- *Approve plan*

The management plan is currently completed and approved by stakeholders. It is meant to be a living document that will change according to the results of monitoring activities and as the context evolves.

In addition to the activities to create and start managing the CAZ protected area, great advances have also been made through MIARO to develop sustainable funding sources for CAZ, particularly from carbon revenues. These results are covered in more detail under RM4.

## **b. Fandriana-Vondrozo Corridor**

MIARO provided targeted, site-level support for the Fandriana-Vondrozo Forest Corridor (COFAV), in much the same way as it did for CAZ. Because the process for creating COFAV was the same as described above for CAZ, we focus here on the aspects of COFAV that differ from CAZ. In addition, the protected area process that was followed for CAZ and COFAV was followed for all new protected areas in Madagascar. This is the result of the support USAID and MIARO provided to the Government through the SAPM Commission to develop the tools and guidance for protected area creation.

The Fandriana-Vondrozo Forest Corridor (COFAV) is a 499,598 hectare narrow strip of forest that runs along Madagascar's eastern escarpment for approximately 300km. COFAV is extremely important for biodiversity as it represents one of Madagascar's last remaining intact corridors that includes low, mid, and high altitude forest and allows for genetic connectivity of animal and plant populations. It is also extremely threatened by slash-and-burn agriculture and preliminary estimates indicate that improved protection of these forests will stop 9-10 million tons of carbon dioxide from being released into the atmosphere over the next 30 years.

The corridor is exceptionally rich in biodiversity and over 800 species of plants and 300 species of animals have been identified in these forests, including 17 species of lemur, including two highly endangered species of bamboo lemur (*Hapalemur aureus* and *Prolemur simus*). Four species in the corridor are considered critically endangered based on the 2008 IUCN redlist (*Prolemur simus*, *Neodrepanis hypoxantha*, *Paratilapia vondrozo*, *Bedotia sp Veembe*), 4 species are listed as endangered (*Eulemur cinereiceps*, *Hapalemur aureus*, *Mantella bernhardi*, *Ptychochromoides vondrozo*) and many more are considered vulnerable to extinction.

**Table 7. Animal species known from the Fandriana-Vondrozo corridor**

<b>Taxonomic group</b>	<b>Number of species known</b>
Mammals	
<i>Primates</i>	17
<i>Small mammals</i>	33
<i>Carnivores</i>	3
Birds	94
Reptiles	67
Amphibians	109
Fish	17

Threats to this unique site include slash-and-burn agriculture, illegal mining, hunting, and illegal logging. The corridor is also threatened by its geography as it is a mosaic of land uses that includes villages, agricultural lands, grazing lands, roads, and a railway. Of these threats slash and burn is by far the most important cause of deforestation and carbon dioxide emissions. The human activity in and around COFAV threaten its long-term viability, jeopardizing the very cultures and communities that currently depend upon it so heavily. In addition, unsustainable practices threaten the unique biodiversity of the area, which has been identified as a priority conservation site in Madagascar due to its high level of endemism.

In early 2005, CI Madagascar organized a meeting to identify the most important areas for biodiversity conservation within the forests that have now become known as the Fandriana-Vondrozo forest corridor (Corridor Forestier Fandriana-Vondrozo - COFAV). On the basis of this meeting that brought together experts on species, the corridor was identified as being among the most important sites for biodiversity conservation in the country and an initial vision for the

delimitation of a possible conservation site was developed. The corridor was subsequently included within the preliminary list of sites to include in the new expanded protected area network and on the basis of meetings with regional government authorities and local mayors; the site received temporary protection in September 2006 from the Ministry of Environment and Forests (MEF). This status provides provisional protection to ensure that new logging and mining permits are not allocated within the site, however, it was only the start of a process of extensive public consultations and negotiating agreement on exact limits and resource use rules within a protected area.

The vision for the COFAV protected area was developed in a participatory manner with all the various stakeholders. It was informed by a series of trainings supported by MIARO on what the protected area creation process is and what designating COFAV as a protected area could mean. Several rounds of discussions and negotiations were held on the question of the protected area category and governance type.

The main objective of the COFAV protected area is to ensure the protection and long-term maintenance of the biodiversity and other values of COFAV, as well as to improve the standard of living of the local population.

A technical committee was established to spearhead the COFAV Protected Area creation process. This committee included regional stakeholders from governmental and non-governmental organizations such as the DREF, USAID-funded projects, and civil society organizations. MIARO played a lead role in this committee, ensuring the continual advancement of activities. The committee oversaw all aspects of the planning and implementation of the protected area creation process, including data collection, consultations, management planning and governance.

Various iterations of consultations and negotiation were held at the multi-regional, regional, and local levels, which informed the application for temporary protection status (granted in September 2006). These negotiations included discussion with the mining sector, which is very active in COFAV and presented both a threat and an opportunity for the protected area.

To advance toward definitive protection status, a communication campaign was developed and implemented throughout COFAV. Subsequent to this, local consultations were held in 47 of the 60 communes in COFAV using the same approach as we have already described for COFAV. Consultations in the remaining 13 communes are being funded by IDA/GEF World Bank funding and as of October 2009, this work was still being completed. During local consultations, people highlighted the interdependence of conservation and development and the need for economic opportunities.

### *Governance Structure*

COFAV is being developed as a co-managed protected area. As such, its management involves power-sharing between state actors and non-state actors, namely local communities. The structure and function of the various levels of the management structure have been developed.

COFAV's co-management structure is divided into two main parts, a strategic orientation component and a management component (Figure 8). The MEF delegates responsibility to the Orientation Group, which, along with the Regional Orientation and Monitoring Committee, serves to define strategic priorities for management. The COFAV Manager and its staff including 10 sector managers, and the local management unit managers ensure daily management

functions and implementation. Roles and responsibilities for each actor within the structure have been defined (Table 8). Until a Manager is identified, CI is ensuring the role of coordination and fundraising that will be played by the Manager in the future.

Currently, 70 local forest management transfer agreements exist at COFAV. The associations that manage these agreements correspond to the Local Management Units. Communities with transfer agreements are currently grouped up into 4 federations, which correspond to the Sectors (Figure 9 and Table 9). The vision is to cover the surface area of COFAV with local management units that are then organized into ten sectors: Fandriana, Ambositra, Lalangina/Ambohimahaso, Vohibato, Ifanadiana, Ikongo Nord, Ikongo Sud, Ambalavao, Vondrozo and Ivohibe.

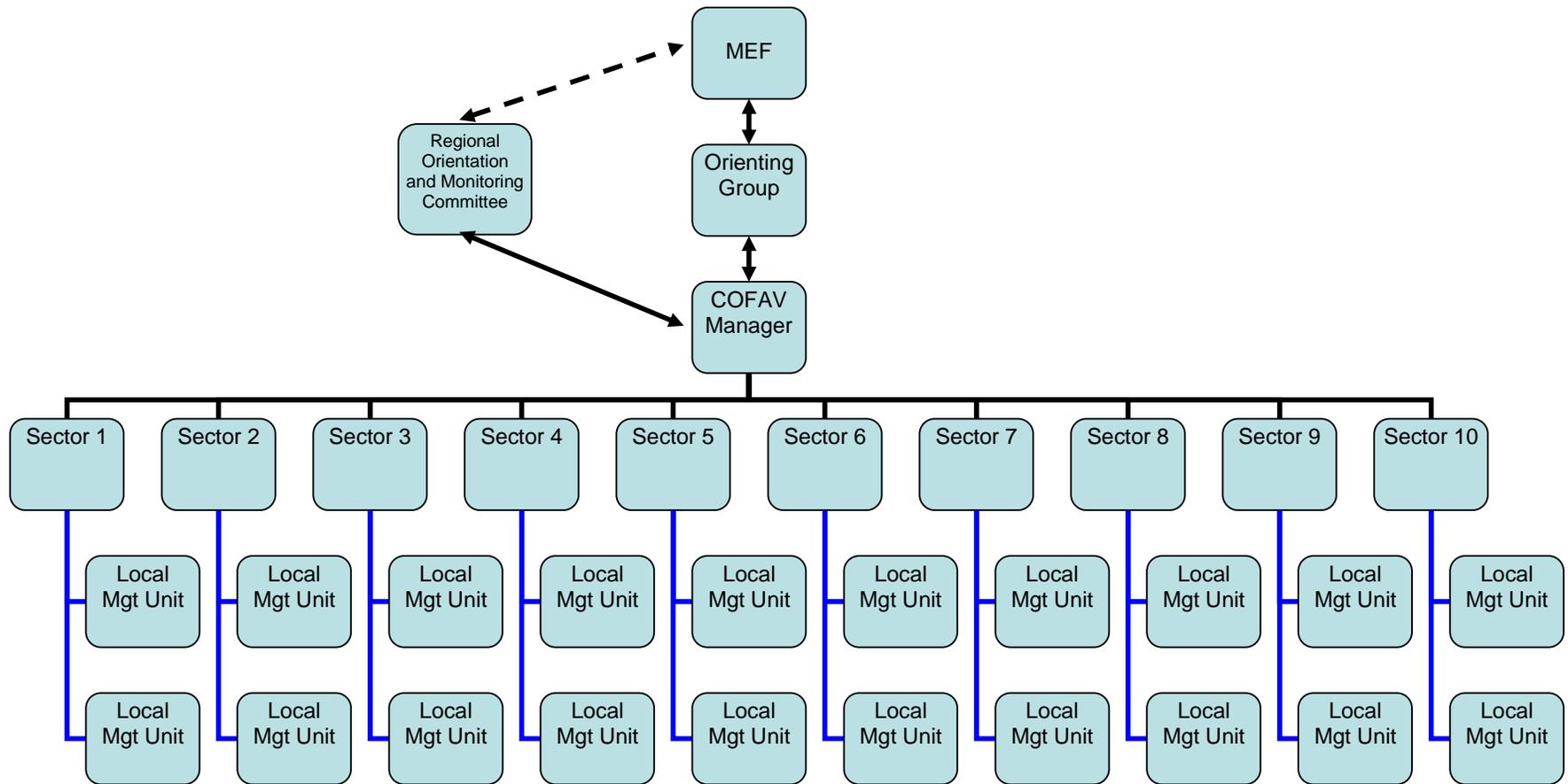


Figure 8. COFAV protected area management structure. Lines in blue indicate management contracts. Dotted line indicates communication.

**Table 8. Proposed Roles and Responsibilities of the various actors in the COFAV management structure**

Structure	Composition	Responsibilities
Ministry of Environment	The Ministry of Environment and Forests, represented by the Department of the System of Protected Areas	Supervision Functions: <ul style="list-style-type: none"> <li>Promote general protected area management policies</li> <li>Apply laws and regulations for good management</li> <li>Secure funding</li> <li>Interface with other ministries</li> <li>Approval strategic orientations</li> <li>Support the Manager</li> </ul>
Orienting Group/ Board of Directors (Inter-regional level)	<ul style="list-style-type: none"> <li>Representatives of Regions</li> <li>Representatives of DREFs</li> <li>Representative of CMP</li> <li>Representative of Regional Secretariat</li> <li>Representative of Mining-Forests Commission</li> <li>Representatives of donors, promoters</li> </ul>	Decision-making Functions: <ul style="list-style-type: none"> <li>Ensure coherence of strategic orientations for good management</li> <li>Monitor the implementation of strategic orientations</li> <li>Provide strategic orientation for management of COFAV as a whole</li> <li>Secure technical and financial support</li> <li>Conflict resolution</li> <li>Approve activity plans/ work plans</li> </ul>
Regional Orientation and Monitoring Committee (Regional level)	<ul style="list-style-type: none"> <li>Region</li> <li>DREFs from each region</li> <li>Representatives of technical ministries such as mining, topography, etc.</li> <li>Inter-communal organizations</li> <li>Representatives of the private sector</li> <li>Representative of community federations</li> <li>Representatives of civil society organizations</li> </ul>	Orientation Functions: <ul style="list-style-type: none"> <li>Monitor the activities at the manager, sector and local management unit level</li> <li>Secure technical and financial support</li> <li>Monitor implementation</li> <li>Align actions with the regional frameworks</li> <li>Strategic decision making</li> </ul>
COFAV Manager (Inter-regional level)	Protected area manager and staff	Execution Functions: <ul style="list-style-type: none"> <li>Coordinate activities</li> <li>Compile annual work plans developed at the sector and local management unit levels</li> <li>Operational decision making</li> <li>Contribute to fundraising</li> <li>Ensure implementation, monitoring, an devaluation of activities/ work plan</li> <li>Evaluate activities in regions</li> </ul>

		<ul style="list-style-type: none"> <li>• Submit proposal for actions/activities for approval by the Orientation Group and Ministry</li> <li>• Execute decisions</li> <li>• Develop general and detailed management plan</li> <li>• Develop business plan</li> </ul>
Sector-level Managers (District or inter-communal level)	Community association federations	<p>Execution Functions:</p> <ul style="list-style-type: none"> <li>• Implement annual work plan</li> <li>• Manage protected area and the local level</li> <li>• Ensure control/surveillance of the protected area</li> <li>• Submit reports to protected area Manager</li> <li>• Submit proposals for improved protected area management to Manager</li> </ul>
Local Management Units (Commune level)	Community associations	<p>Execution Functions:</p> <ul style="list-style-type: none"> <li>• Develop and implementation of management plan and local “<i>cahier des charges</i>”</li> <li>• Develop and agree conservation agreements with the protected area manager</li> <li>• Develop and apply <i>Dina</i></li> <li>• Implement annual work plan: control and surveillance, awareness building</li> <li>• Reporting</li> <li>• Guarantee application of “cahier des charges” and of technical norms for sustainability</li> <li>• Guarantee respect for cultures and traditions</li> <li>• Community mobilization</li> <li>• Identify and implement small development projects with Fokontany heads</li> </ul>

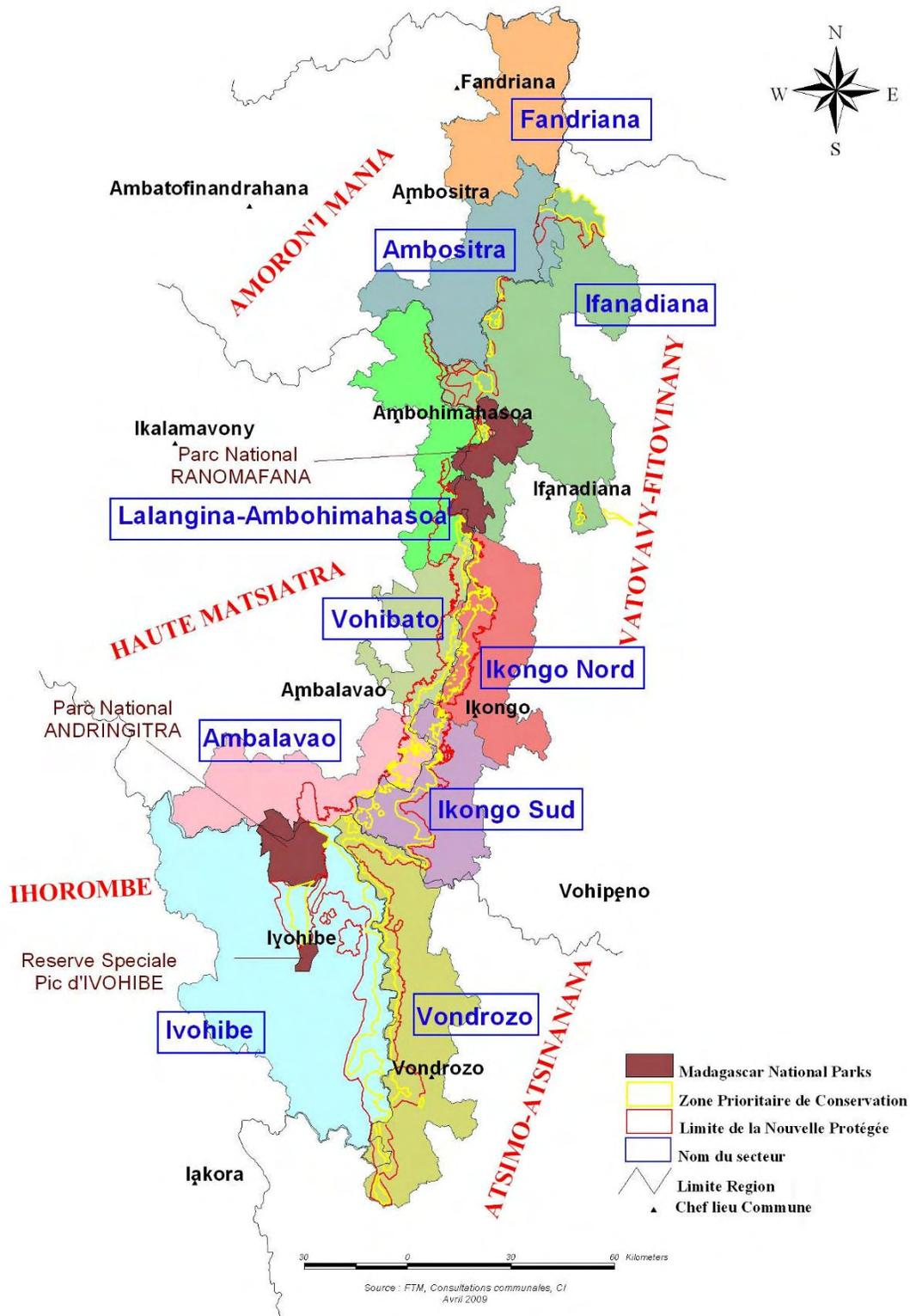


Figure 9. The 10 sectors of the COFAV protected area

**Table 9. Sectors of the governance structure for COFAV**

REGION	DISTRICT	SECTOR	FEDERATION	COMMUNE	COBA			
Haute Matsiatra	Ambalavao	Ambalavao	Mitsinjo Ny Hoavy	Ambohimahamasina	Fitamito			
				Ambohimahamasina	Itaolamijoro			
				Ambohimahamasina	Lovaso			
				Ambohimahamasina	Amboasary			
				Ambohimandroso	Antokinihoavy			
				Miarinarivo	Alaso Fagnahiambe			
				Miarinarivo	Fitema			
				Sendrisoa	Fitema			
				Sendrisoa	Miora Atsimo			
				Sendrisoa	Miora Avaratra			
				Sendrisoa	Tohana			
				Lalangina	Lalangina / Ambohimahasoa	Miaramita	Androy	Maintsoririnina
							Androy	Analaso
							Androy	Analameva
	Androy	3FT						
	Androy	Fagnazava						
	Androy	Mitsinjoala						
	Morafeno	Tsimalonjafy						
	Alatsinainy Ialamarina	Mantsoanala						
	Alatsinainy Ialamarina	Mitsinjo						
	Alatsinainy Ialamarina	Tsimanavaka						
Vohibato	Vohibato		Vinanitelo	Vinanasa				
			Andranomiditra	Miaramitantana				
Vatovavy Fitovinany	Ikongo	Ikongo Nord	Tafarina	Ikongo	Analamanitra			
				Ikongo	Miray			
				Ikongo	Faritra			
				Ikongo	Tahiry			
				Ikongo	Isitraka			
				Ikongo	Maneva			
				Ikongo	Taratra			
				Ambatofotsy	Alampo			
		Ambatofotsy		Ranomby				
		Ikongo Sud		Ambolomadinika	Ala Mamiratra			
				Ambohimadinika	Maroalala			
				Ambohomadinika	Sambatra			
				Ikongo Nord	Alamaintso	Tolongoina	F'TM'TI	
		Tolongoina				FITEHIMA		
		Tolongoina				Miaramientana		
		Tolongoina				Avotra		
	Tolongoina	Maitsoanala						
	Tolongoina	FIMAA						
	Tolongoina	F'TMM						
	Tolongoina	Fiarenana						
	Tolongoina	FIAMI						
	Tolongoina	Soamiray						
	Tolongoina	Mila Ezaka						
	Tolongoina	Tafita						
	Tolongoina	Teza						
	Ikongo Sud			Ankarimbelo	Vinaninony			
					Tratrambe			
					Firaisantsoa			
					Maintimbahatra			
					Matitanana			
					Iarinomby			
					Lohaony			
					Ingidy			
				Zafindraraha				
				Zafindramasy				
	Antodinga	MAMIA						
		Sahonjatsy						
		Vohitsoa						

### *Communication*

MIARO supported communication campaigns throughout the protected area creation process. The goal of these campaigns was to inform people and raise their awareness about the meaning of the protected area, but also to engage them as partners in this process. Communication materials such as radio shows, films, and print materials were produced and messages were diffused via radio, television, in meetings, etc. Local communicators were trained in themes related to SAPM and the COFAV Protected Area.

### *Protected Area Zoning*

The initial proposal for the limits of the COFAV Protected Area was based on scientific data that were collected from various researchers in multiple disciplines. This initial map was the basis for discussion and negotiation at the regional, district, and communal levels, and resulted in the Global Land-use Plan for COFAV. Further negotiation and discussion resulted in the final zoning plan for the Protected Area.

COFAV Protected Area is divided into the following zones:

- **Core Protected Zone (CPZ)** – This is a sanctuary for biological, cultural, historic, morphological, and archeological interests and values. It represents the main protected zone and is reserved for research and restoration activities, which are strictly regulated.
- **Buffer Zone** – This zone surrounds the core protected zone and is an area in which various activities are permitted subject to regulation. It is subdivided into four zones:
  - **Controlled Occupation Zone (COZ)** – The COZ is a zone within the protected area where settlements exist. Activities in this area are subject to the “cahier des charges.”
  - **Ecotourism and Service Zone** – This zone is reserved for tourism infrastructure such as lodging and interpretive centers.
  - **Sustainable Use Zone (SUZ)** – The SUZ is an area where natural resource use is permitted but regulated. It is in this zone that subsistence natural resource use is allowed, which is defined as natural resource use for noncommercial ends for domestic consumption or cultural use reserved for local communities. This use is regulated by a formal agreement between the community and the Protected Area Manager. Prohibited activities include: slash-and-burn agriculture, cutting trees at the source and on the tops of hills, logging, hunting, and collection of protected species.
- **Restoration Zone** – This is a degraded area of the protected area where activities are implemented to restore the ecosystem.
- **Peripheral Zone** -- This area is contiguous with the buffer zone and is an area in which human activity may have an effect on the integrity of the protected area and vice-versa. Activities in this zone are monitored for such an effect.

### *Protected Area Management Plan*

MIARO used a participatory approach to develop the COFAV Management Plan, following a series of steps including synthesizing data and information about COFAV, identifying stakeholders, conducting local consultations, identifying customary rights, understanding land tenure, developing the protected area boundaries and zoning, identifying conservation targets, formulating the protected area’s management objectives, and defining the protected area’s

category and governance type. The Plan was developed in a participatory manner, with input and engagement by all stakeholders at multiple levels. The Management Plan was completed for 47 of the 60 communes of COFAV. Local consultations for the remaining 13 communes were conducted by the group Rakotobe, hired by the World Bank. The results of these consultations are being integrated into the Management Plan, which should be finalized by CI at the end of 2009. CI staff are still involved in this process despite the fact that the MIARO program has ended and the continuation of core activities is being supported by other funding sources.

As for CAZ, the CI/MIARO team also worked on developing sustainable funding sources for COFAV and made great headway on developing an “avoided deforestation” forest carbon project that will cover the essential core costs of this new protected area. Full details are provided under the section on RM4.

### **c. Anosy Region**

An initial workshop on SAPM was held in Fort-Dauphin on June 30, 2005 to share the results of work at the national level with regional actors and ensure comprehension of the Durban Vision process and SAPM. The workshop asked Mayors from different communes concerned to identify and prioritize potential sites for the creation of new protected areas. In the Regional Development Plan for the Districts of Amboasary and Fort-Dauphin, the first 14 sites were identified. The integration of the district of Betroka in the Anosy Region brought the number of potential sites to 16. Subsequent to the workshop, an additional 4 sites were identified bringing the total number of potential sites to 20. Because MIARO only provided direct support to Tsitongambarika and Ambatotsirongorongo, we describe the details of the results at these sites below.

#### *Tsitongambarika*

The creation of new protected areas in Anosy was supported by WWF, QMM, and WCS. MIARO support focused primarily on Tsitongambarika because it was identified as a conservation priority due to its large area, rich biodiversity and ecological functions (Figure 10). The Tsitongambarika forest and its catchment areas are threatened by slash-and-burn farming and charcoal production. The low altitude forest is largely cleared due to slash-and-burn farming.

The Tsitongambarika forest is divided into 2 parts:

- Two classified forests in the south (TGKI and TGKII -- 49,800ha)
- Public forest in the north (TGKIII -- 17,903ha)

In all three forests, community-based management transfers had been established before the MIARO program began. In TGKI, 34 management transfers were put in place by the CAF program; in TGKII, 20 management transfers were put in place by PGRF; and in TGKIII, 9 management transfers put in place by ASITY Madagasikara.

Local people had been producing and marketing wood from TGKI management transfer zones, and the conservation areas within these zones were not adjacent to one another, providing little benefit in terms of forest connectivity.

To address these issues, Birdlife International worked to secure funding to proceed with the protected area creation process and WWF secured funding to evaluate and renew community management transfers in TGKI. Following the assessment of 20 management transfers in

TGKI, the agreements of 4 management transfers were renewed for the next 5 years and the agreements of 16 management transfers were renewed for one year.

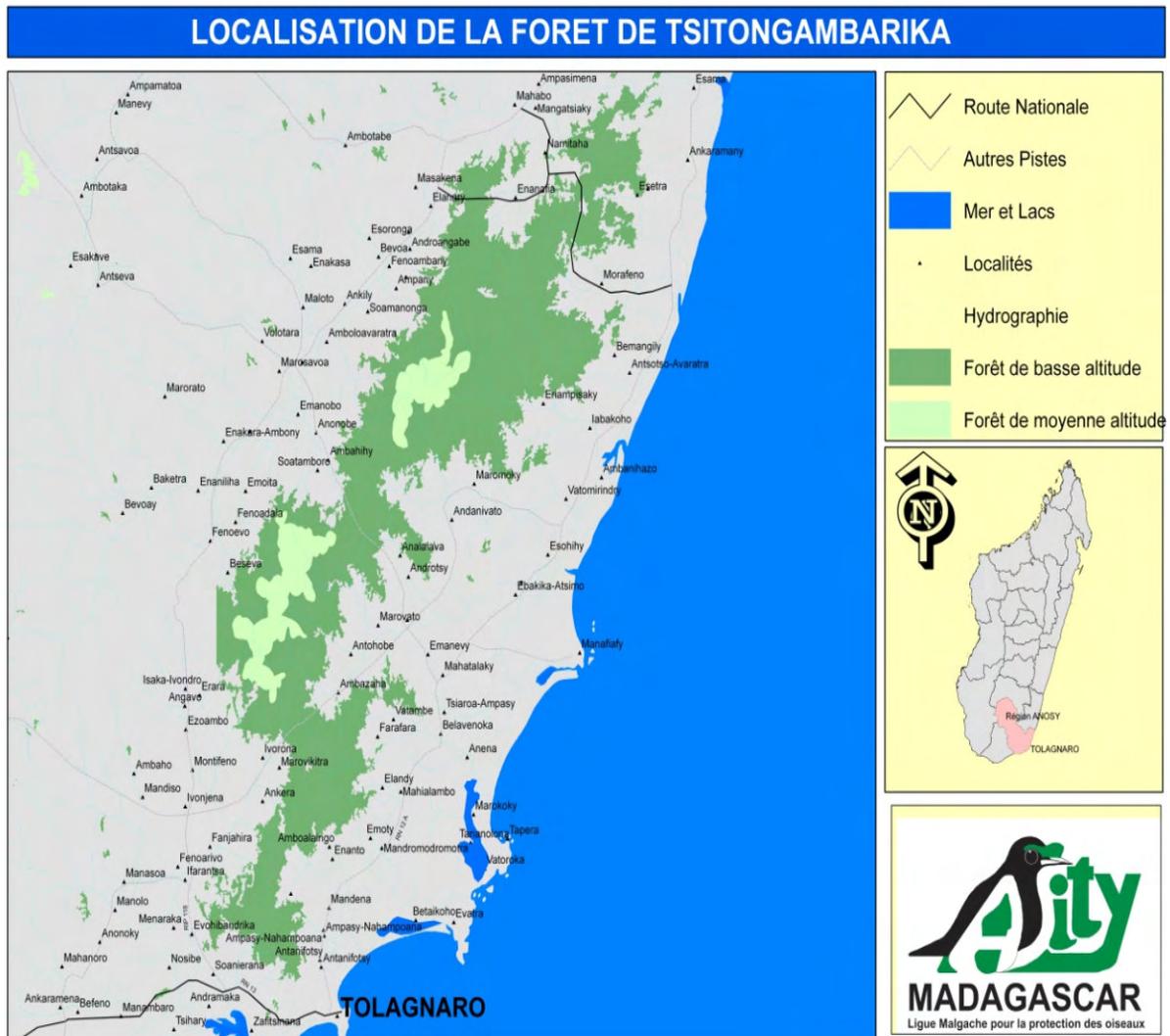


Figure 10. Location of the Tsitongambarika Forest

Under the leadership of Birdlife/Asity and the regional Task Force for Tsitongambarika, the management structure for the NPA was identified – co-management comprised of three committees:

- *Le comité de Pilotage (COP)*
- *Le comité d'Orientation et Suivi (COS)*, and
- *Le comité de Coordination pour la Gestion de la forêt de Tsitongambarika. (KOMFITA)*
- For local-level management, an autonomous management structure at each commune will be integrated into the *Voamieran'ny tontolo iainina* (Environment Group) as part of the existing Communal Development Committees (*Comité Communal de Développement CCD*)

The *Arrêté de Protection Temporaire* for TGK was signed on December, 2008.

MIARO provided a Conservation Action Grant to Birdlife for Asity to continue the process of establishing the TGK PA. These funds allowed the initiation several programs of work toward the establishment of TGK as a protected area: (i) a full environmental impact assessment of TGK was started on 24 November 2008; this EIA was completed in January 2009. (ii) The community consultation process to define the internal zoning of the PA – specifically the core protected zone – was undertaken and the validation workshop was held in February 2009. (iii) Delimitation of the forest limits in the third parcel of TGK was initiated.

Additionally, through in-kind collaboration between WCS, Birdlife International, and QMM a high resolution aerial photography survey of TGK was carried out in the fall of 2007 – with final georeferenced maps delivered in July 2008. The process, ENSOMOSAIC, provided high resolution georeferenced mosaic maps of the landscape, which will be critically important to determining internal PA and border forest zoning.

Asity Madagasikara has received funding from Conservation International to complete the management plan for Tsitongambarika, to clarify its governance structure, and to complete its physical delimitation.

#### *Ambatotsirongorongo*

Following the SAPM meeting in Anosy in June 2006, MIARO, through WCS, provided support to the Ambatotsirongorongo site to improve its zoning plan, put in place a co-management structure, organize a series of environmental education trainings and activities in collaboration with the CISCO, and make progress towards finalizing a management plan and environmental and social impact assessment (Figure 11).

All the documentation needed for the creation of the Ambatotsirongorongo Protected Area has been completed and was submitted to the MEF prior to the cout d'etat in 2009. Approval of the Environmental and Social Safeguard Plan resulted in the issuance of the environmental permit that will allow for the definitive establishment of Ambatotsirongorongo as a Protected Area. The management plan, complying with the procedures of creation of PAs and following the SAPM *Manuel de Procédures de Création des AP Terrestres*, was finalized and submitted to the DGF for approval. To mark the boundary of the protected area, a total of 27 signs were produced and put in place.

To support community governance, two workshops to build the capacities of the management committee members were held in July and November 2007. Modules included:

- Biodiversity importance and conservation, which included technical support from the scientific staff of QMM
- Protected Area Management considerations, which included technical support from the regional MNP authorities
- Process of forest resource management transfers, which included technical support from the regional Department of Water, Forest and Tourism authorities
- Ecological monitoring, which included technical support from MIARO
- Administrative reporting and accounting, which included technical support from MIARO
- Roles and responsibilities of the community management committee, which included technical support from FAFAFI

Training on bush fire management also took place in February 2009 in Manambaro, Fort-Dauphin, and participants included members of the fire committee from the surrounding villages, namely community representatives.

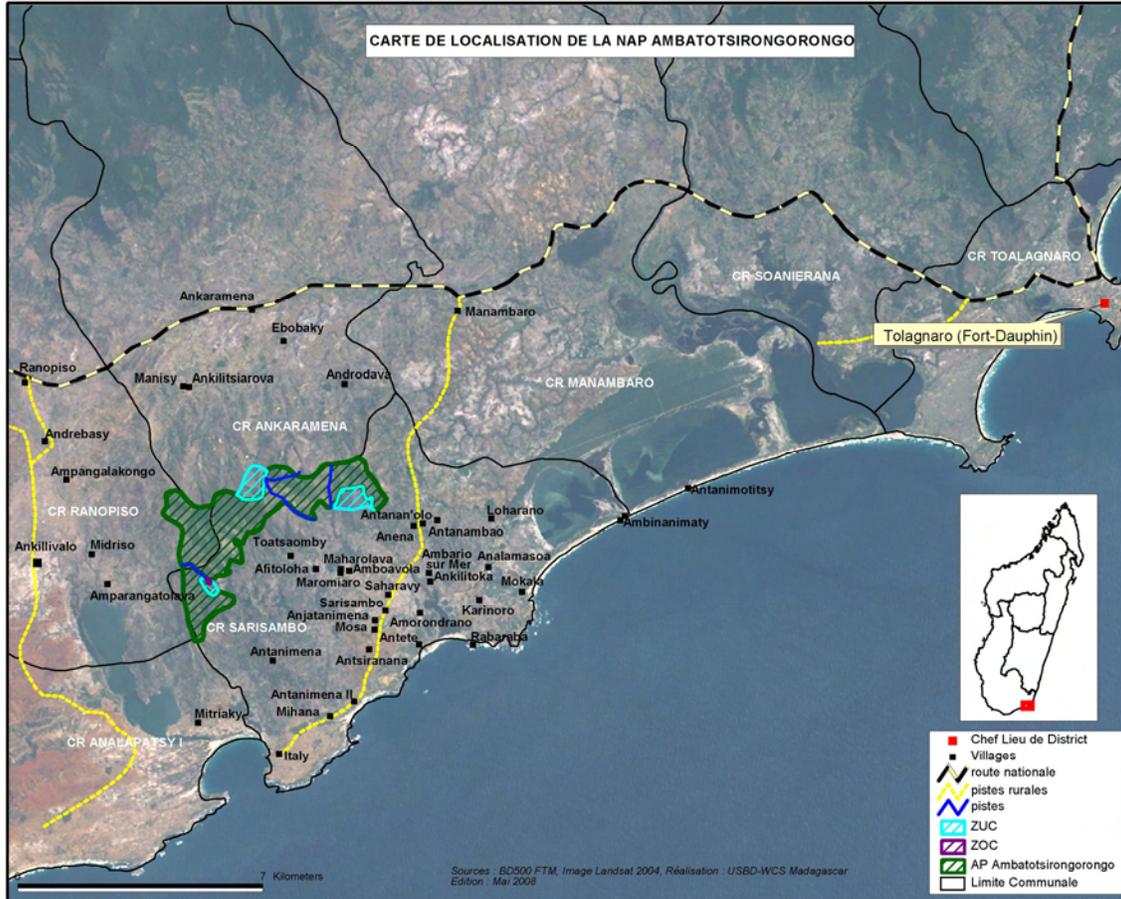


Figure 11. Location of Ambatotsirongorongo

As part of a program to restore the forest corridors connecting the three principal forest blocks of Ambatotsirongorongo, a program of work addressing community involvement in restoration efforts was initiated. Begun in 2007, the establishment of community-managed tree nurseries was the first step in initiating a 5-year forest restoration program that aimed to restore over 300 ha of forest in the critical corridors between the principal forest blocks of Ambatotsirongorongo, Ambohisampa, and Lavasoa. Restoration is on the order of 60 ha per year (10ha of which are MIARO funded) and includes the planting of 60,000 saplings. The 13 fokontany in Ambatotsirongorongo prepared 70 planting beds and cultivated 100,000 seedlings; 76,000 of which met the standard quality required by the forest restoration project. As some seedlings were too small to be viable, several planting sessions were planned to buy all viable plants. As the identified sites for restoration were visited and community teams established, the first planting began in June 2008. A total of 76,000 saplings were planted on an area of 76 ha, including 51 native species from 31 families.

In 2008, efforts to work with local partner organizations in the development of additional outreach activities to support communities engaged in management of the PA were made. Activities included: training on improved agricultural practices, alternative income generating opportunities, improved health and livelihood activities including family planning and AIDS awareness, identifying and securing funds for needed community infrastructure improvements. Support to the COGE in their efforts to secure seedlings for restoration and reforestation programs was also provided through JARIaLA/ DREF and SNGF.

Environmental education activities focused primarily on continued development of school-based and youth club based environmental education programs. Efforts were also made to support the celebration of World Environmental Day (JME).

- School-based activities: Following up on the school gardening competition initiated during the first quarter of 2007, an evaluation team composed of individuals from QMM, FAFAFI, CISCO, DREN and MIARO visited each of the fourteen (14) participating schools to evaluate progress. Four schools were identified for their efforts in the competition and an award ceremony was held during the JME celebrations.
- Youth club based activities: Activity programs were developed for the youth clubs established in the first semester 2007 and an addition youth club of 48 members was established in the CEG of Ranopiso in the second semester 2007. It is planned that further activities development of established clubs and expansion of the number of youth clubs will continue in 2008.
- World Environmental Day: In collaboration with the CIREEF of Anosy, QMM, FAFAFI, JARIaLA and the community management committee of the PA, WCS organized the JME celebration that was held during June 20-21. The celebration served the dual purpose of promoting biodiversity conservation as well as the establishment of the Ambatotsirongorongo PA. The highlights of the JME celebration included the official signing of the 'DINA' for Ambatotsirongorongo management and the placement of the official panel identifying the Ambatotsirongorongo PA.

### **SUB RESULT MODULE 1.5 Develop forest restoration functions and procedures in USAID priority eco-regions**

This Sub-Result Module was designed to support forest restoration initiatives for the benefit of conservation. In addition to the efforts in Anosy described above, MIARO worked in partnership with the DGF-Directorate General of Environment and Forests in charge of forests as well as with technical experts and local partners to implement pilot actions. The national strategy on forest restoration was also one of the major components developed under this Sub-RM.

#### **a. Forest restoration strategy**

One key component of conservation approaches is forest restoration that helps the recovery of ecological functions of natural forest habitats. Madagascar had a draft of a reforestation strategy at the beginning of MIARO. However, this did not address ecological functions of natural forests in corridors.

MIARO worked with DGF and all stakeholders to develop the logical framework of a national forest restoration strategy. Two national workshops were organized and were helpful to develop elements for the strategy.

Despite the willingness of the program to finalize and validate a document on the strategy and due to a continuous restructuring of the Ministry in charge of forests, and also some internal constraints – change of the focal point of the RM1.5 – aggravated by the political crisis in Madagascar, it was not possible to achieve a validated document in time.

### **b. Action plans developed in pilot zones**

This component of the program was intended to deal with a small number of sites (3-5 maximum) within USAID priority ecoregions, and concentrated on developing appropriate approaches and methodologies adapted to local conditions. The test sites (Fandriana and Vondrozo, which are WWF's sites under the Landscape Restoration Project) were selected based on the need to restore natural forest conditions in favor of maintaining or improving vital ecological services. Due to unexpected illegal logging that opened up new roads in primary forest, MIARO committed to implement restoration activities at Didy-Ambohilero as well.

WWF worked in 2 pilot zones on forest restoration – in the COFAV corridor and at the Didy-Ambohilero site in CAZ. In COFAV, efforts focused in the Fandriana-Marolambo landscape where MIARO implemented forest landscape restoration that addresses not only ecological functions of natural habitats but also the livelihoods of local people that depend on renewable natural resources. WWF developed a long-term action plan that was implemented over several years. WWF selected a landscape of 348,000 hectares, 92,200 of which were proposed as a new National Park by MNP (Fandriana-Marolambo). A total of 72,000 hectares were planted with 500,000 young plants.

At Didy-Ambohilero in CAZ, MIARO worked to restore the areas where illegal logging had occurred in 2004. Thanks to the participation and involvement of stakeholders such as the DGF, DREF (Regional Directorate of Environment and Forests), WWF, CI, MBG, Virginia Tech, various experts, communities, and other stakeholders, a long-term action plan for the rehabilitation of the areas was developed. Emergency actions such as soil protection and restoration, and tree planting were implemented initially through a financial support from the company that had conducted the illegal logging (Latitude Timber). Then, MIARO took over activities as the quality of work done by the local company contracted by Latitude Timber did not comply with the technical needs of the restoration. MIARO also participated in the evaluation of those emergency (soil restoration) activities and continued to work for the restoration of the forest habitats in that area.

### **c. Forest restoration and the TAMS project**

The Government of Madagascar through the Ministry of Environment, Water, and Forests, and a network of national and international non-profit organizations including Conservation International, formed a partnership to design and launch the TAMS project (*Tetik'Asa Mampody Savoka*). The goals of the TAMS project are to reduce forest fragmentation and reconnect forest remnants, while at the same promoting alternative livelihood activities for impoverished communities.

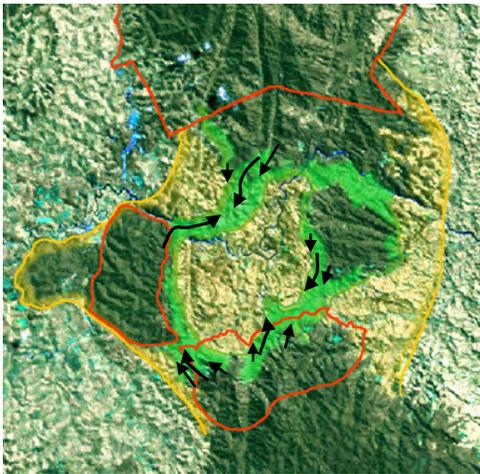
The TAMS project consists of two main components:

- 1,200 ha restoration of natural forest corridors that restore viable biological connectivity among several currently isolated forests and protected areas;
- Promotion of sustainable cultivation systems to increase soil fertility, protect watersheds and stabilize land-use patterns across 2,000 ha.

Over one-third of the total 30-year project revenue will come from the sale of carbon offsets generated by reforestation and reduced emissions from deforestation. The project has entered into agreements with the BioCarbon Fund (BioCF) of the World Bank to sell the credits from the reforestation of the project. Reforestation credits will be compliant with the requirements of the Clean Development Mechanism (CDM). Project implementation financing is being provided by the Government of Madagascar and Conservation International, as well as other philanthropic biodiversity conservation and community development funding.

MIARO provided support to the technical design of this project through Technical Assistance provided by Louise Holloway, an expert in tropical forest restoration and sustainable agriculture. This assistance included the detailed design of the two components of the project and practical training for the associations working in Andasibe to implement the activities, including supervising the planting of the first 60 hectares.

### *Reforestation Component*



The Kyoto-compliant restoration activities involve planting native species in clusters that resemble natural forest succession in order to encourage natural regeneration. The reforestation activities are designed to restore degraded lands in-between existing forest fragments, connecting Mantadia national park in the south with other protected areas in the corridor and facilitating migration of forest species. The reforestation component was designed to closely mimic the surrounding natural forest, using over 140 native forest species for planting on the reforested lands. This will facilitate the further dispersal of seeds by natural forest animals (primarily bird and lemur species) which do not regularly occur in areas not under natural forest. Along with

generating emissions reductions, these activities will also protect against siltation of irrigated rice fields, soil erosion, and flooding. Initial project scoping had identified over 3,000 hectares of degraded lands eligible for CDM-compliant reforestation; in the initial phase of reforestation, the project has focused on restoring approximately 1,200 hectares which has now been planted. Future activities will focus on maintaining these planted areas to enhance tree survival.

### *Community Livelihoods Component*

The initial alternative livelihoods component is being implemented in conjunction with the CDM-compliant reforestation component connecting forest fragments in the southern portions of the protected corridor.

The sustainable forest and community gardens provide potential alternative uses of degraded agricultural lands – especially hillsides – that are no longer useful to the local populations and that are at risk of further degradation due to soil erosion. The forest gardens are comprised of largely local trees and plants, as well as fruit trees, which can be planted to mimic local forest structure and function. These gardens will help enable a shift in land use practices from slash-and-burn (tavy) agriculture to more sustainable activities. The resulting valuable products provide food and income to the people involved in the project.

Sustainable forest gardens will provide a potential alternative use of degraded agricultural lands – especially hillsides – that are no longer useful to the local populations and that are at risk of further degradation through soil erosion. The forest gardens will comprise a significant proportion of local forest plants, which can be planted so as to mimic local forests in both structure and function. These gardens would simultaneously provide products of value to people, especially food and income, to support local livelihoods and a shift in land use practices from slash-and-burn (*tavy*) agriculture. Fruit gardens are currently of great interest to local communities as a stable source of revenue. The region is well placed with regard to markets being situated on the main route between the capital and the major port.

### *Activities*

MIARO's financial contribution yielded important impacts to the TAMS project. Indeed, MIARO financed in part the cost of the consultancy of Louise Holloway who designed the restoration scheme and helped establish and implement the project preparation phase. In addition to the design of the project, Louise Holloway brought substantial contribution to the writing of the TAMS key documents such as the Project Design Document (PDD) and the seed and seedling guide. Upon request from USAID, representatives of the TAMS team also participated in the assessment of the Didy restoration efforts led by Virginia Tech University. TAMS also participated actively in the national workshop on restoration held in Antananarivo.

Another significant achievement of the TAMS project that was achieved with MIARO support was the production of the seed and seedling guide. It is first of its kind in the forestry domain as it deals with stages of the plant that had never received attention among foresters and academics that focus their efforts on describing adult trees. Almost no attention had previously been paid to the practical aspects of growing the species that are used in TAMS from seeds, seedlings and wildlings. The guide was developed thanks to the results of experiments conducted by the project nursery staff on the germination of native species seeds and the behavior of seedlings and wildlings in the more than 30 nurseries of the project. A phenology trail, established by the project staff, provides annual information on the various phenology stages of the species used by the project. A first version of the guide including 60 species of native trees was issued in 2006 for the TAMS nursery staff. An updated and more complete version with 120 species was produced in early 2009.

The TAMS project was also invited to participate, along with the Virginia Tech team, in the evaluation of the restoration efforts in the Didy forest where a Malaysian Timber Company illegally harvested trees and opened large roads for trucks to transport the timber. The Didy restoration was different and particular in that, in addition to the harvested trees, soil was compacted to build the access roads to the forest. The evaluation team recommended the continuation and reinforcement of the mechanical measures aimed at reducing the erosion that affected the denuded lands on and along the road. The team also recommended the planting of herbs and grass on the roads to reduce the compaction of the soil and facilitate the later establishment of pioneer species. Only then could the restoration techniques used in TAMS be applied.

Both the Didy and TAMS restoration experiences were shared during the national workshop on restoration organized by the Director General of the Forestry Service in 2007. The workshop showed that restoration of natural forest was not yet recognized as a priority for the government in reforestation planning. From this time on, the TAMS experience raised increasing interest

among workshop participants and TAMS was invited to carry out some training in Ranomafana. TAMS currently serves as a model in natural forest restoration and is visited by researchers, students, journalists, and other reforestation or restoration projects. For example CI collaborated with several teams from a JICA project that plans to restore forests in one of Lac Aloatra's watersheds to integrate natural forest restoration techniques into their project. Similarly several private companies that are assessing the feasibility of developing large scale forest plantation projects in Madagascar have visited the project to assess the possibility of adopting similar techniques and integrate natural forest restoration into their plans.

#### **d. A network of forest restoration practitioners**

MIARO gathered practitioners of forest restoration through workshops and informal discussions. Because of the limited number of projects on forest restoration only a few active practitioners were directly involved, but exchanges among them were fruitful. A task force was created to develop the terms of reference of a formal network of practitioners. It was not formalized but the informal network exists.

Opportunities were created for practitioners to visit each others' sites and learn from others' practices. In total, exchange visits were organized at three sites: Mantadia with TAMS, Masoala with WCS, and Didy-Ambohilero with MIARO. These visits were helpful in that they provided a sample of various approaches to restoration under differing conditions.

#### **e. Evaluation and recommendations for the Antongil Bay restoration program**

In March 2008, international consultant Louise Holloway was contracted to carryout an evaluation of restoration efforts in the Makira-Masoala landscape. Louise Holloway has vast experience in the area of community forest resource management, and has been working on and off in the Antongil Bay region for over 10 years in addition to the TAMS project described above. The objectives of Louise's consultancy were to (i) to evaluate the activities of Masoala National Park corridor restoration and protection efforts ten years after they were started; (ii) to extract technical lessons that can be replicated in other prioritized forest corridor sites; and (iii) to develop/update a framework for prioritizing critical forest corridor sites in the Masoala/Makira landscape and propose measures to restore/maintain these corridors. The evaluation showed that the restoration activities that commenced in 1998 in Masoala have been successful and that rainforest restoration is feasible in Madagascar given sufficient resources and if sufficient effort is put into maintenance activities once planting has occurred. The area restored in Masoala is relatively small (30 hectares), but after 10 years, the seedlings planted in these areas have now grown to a height that has allowed the canopy to close and create the natural conditions necessary for a natural forest succession. In the Masoala region (and also the TAMS project), invasive plant species are the main competitors for the planted trees and control of these is the key to successful forest restoration.

### **SUB RESULTS MODULE 1.6 Development of policy and an appropriate legal framework for protected areas**

This sub-RM, was added during the project extension period from April-August 2009 and it was initially intended to ensure that the policy and legal work that had been completed under MIARO was widely distributed and explained to stakeholders at the national, regional and local levels. However, following the coup d'etat in March 2009, and in agreement with the USAID mission in Madagascar, much of this work was ceased. Instead we focused on the local

community governance aspects of this theme and worked with communities to improve their understanding of their rights and role in the management of new protected areas and specifically the management of natural resources to improve their livelihoods. MIARO developed communication tools on the management of new protected areas, governance, and sustainable use of natural resources. These tools were designed for use by the local community “communication agents”.

A communication firm was recruited to evaluate the needs and to develop these tools. Based on the needs that were expressed, three products were developed that focused on:

- The concept of SAPM
- The role of communities in protected area governance
- Sustainable use of natural resources
- Development of a simplified, community-level, protected area management plan

Three practical communications tools developed:

- A Guide to protected area management, governance, and sustainable natural resource use in Malagasy
- A Guide to radio programming
- A Film explaining communities’ roles in protected area management. This film featured a well known Malagasy comedy group that often features in public service announcements.

Once these new materials were developed they were used in targeted communication campaigns with key community representatives involved in protected area management in the USAID priority eco-regions. These training and exchange sessions were organized during June-August around CAZ, COFAV and in the regions of Diana and Anosy.

## **SUB RESULTS MODULE 1.7 Finalization of the creation of new protected areas in USAID zones**

Activities in this Sub-Results Module, which was added during the MIARO extension period from April – August 2009, focused on identifying management units, developing and implementing local management unit-level management plans for CAZ and COFAV, capacity building for the local governance structure at CAZ and COFAV, and enhancing communication at the local level (using materials developed under RM1.6).

### ***CAZ***

In addition to identifying local management units, the following sub-objectives were also defined:

- Share information with COBA on the advancement of the CAZ creation process
- Discuss roles and responsibilities of the COBA in protected area management
- Provide information on the development of PAGS, “cahier de charges” and *Dina*
- Collect additional information needed for the development of the Environmental and Social Impact Mitigation Plan (PGES)

To achieve these objectives, a training of trainers approach was adopted. Training/information/exchange workshops were held at the level of each federation. Individual members of each federation with elevated capacity for learning and message transmission were identified and these people in turn provided mentoring to the individual COBAs responsible for management units.

A series of workshops with a standard agenda were held throughout the corridor (Tables 10 and 11).

**Table 10. Training of trainers workshops held at CAZ**

Date	Location	Federation	Communes
May 12-13	Conference Room Commune Morarano-gare	VAHATRINIALA	Morarano-Gare, Fierenena, Andaingo
May 14-15	La Cascade Soarano RN2- Beforona	MIARADIA	Ambohibary, Lakato Andasibe, Beforona_Ampasimpotsy-Gare,
May 26-27	ECAR Anivorano	TSARAFANIRY	Anivorano, Andekaleka Fetraomby, Maroseranana, Ambohimanana,
June 4-5	Tranompokonolona Commune Andranobolaha	TARATRA	Andranobolaha Anjahamana
June 23-24	Community Granary Antanandava	FITOKISANA	Didy, Manakambahiny-Est Antanandava, Amparihitsokatra

**Table 11. Agenda for training of trainers workshops held at CAZ**

Day	Activity
<b>Day 1</b>	- Opening: Remarks by Federation President, Chef Fokontany, and Mayor - Presentation of objectives, agenda, and participants
	Presentation of CAZ Presentation of steps taken toward protected area creation
	Presentation of the CAZ governance structure (roles, responsibilities, sectors, local management units) and IUCN category
<b>Day 2</b>	Identification of COBA in each commune and their respective situation/status Information on modifications needed for each COBA's management/ contract documents
	Collection of safeguard elements: -Information on People Affected by the Project (number, location) and their resource use -Compensation measures: Community aspirations, compensation and mitigation, development alternatives, training, etc.

In general, local community members expressed their commitment to improved natural resource management but also stated that in the social and political incertitude of 2009, that they feel ill-equipped to face the pressures coming from outside interests.

Identification of local management units was completed:

- The list of community-based forest management contracts was collected
- These lists were then discussed during workshops with members of each federation

The identified LMUs include current local management transfer contracts, proposed transfer contracts, other resource management-related contracts, private landowners, and local NGOs and associations such as MATE. This process uncovered the fact that certain COBA within the protected area are not yet members of any federation. Federation presidents thus decided to reach out to these COBA. In addition, certain COBA outside the protected area will be integrated as potential LMU managers as their management decisions may have an impact on the protected area itself.

Following the evaluation of management transfer contracts that took place in Aloatra-Mangoro, 8 COBA were identified that needed to have their management documents updated (e.g., PAGS, cahier de charge, Dina) so as to proceed with the contract renewal process. These updates were finalized.

A forest control plan was developed, but since only the DREF agents have authority to document illegal activity, and we were unable to work with them, forest control activities at the community level are difficult. Thus, we modified the objective to focus more squarely on awareness building and information in and around Beforona.

With Conservation International's other funding, experiences in terms of forest patrols have been developed in Maroseranana commune for 5 COBA who have signed "conservation agreements." The approach involves providing direct payments for patrolling and ecological monitoring in some management units of the protected area. A recent evaluation showed that this approach has proved very effective for forest protection and for improving community support for protected areas. The forest control approach included in these agreements is now being expanded to other management units that we identified under MIARO. For example, 7 COBAs in the Didy commune have adopted these "conservation agreements" and CI is currently exploring how to expand this approach to cover all local management unit of the CAZ protected area. This will ensure the continuity of the work that has been initiated under MIARO.

A workshop was held to share information and to assess the technical and organizational capacity of the COBA Federations. This assessment led to the development of a capacity building plan. Training on various themes was provided by members of the MIARADIA Federation for the VANONA Federation at Fito. Despite the extreme remote location of VANONA, the members of the federation there are highly motivated.

### ***COFAV***

At COFAV, community-based forest management contracts are the management structure at the most local level. They are grouped into federations, two of which are in the Vatovavy-Fitovinany Region and two of which are in Haute Matsiatra. Two trainings for these COBA federations were conducted in these two regions, the objectives of which were to reinforce local capacity for the management of COFAV and to identify areas of support required by the management structure.

The trainings held in Vatovavy-Fitovinany and Haute Matsiatra also resulted in the development of action plans for the four existing COBA federations. The objective is to reinforce good management of natural resources at COFAV.

operationalizationA capacity building workshop focused on communication was held in collaboration with CMP. Training modules were divided into two parts:

- Introduction to biodiversity, climate change, ecosystem services, management plans, and protected area management and governance
- Communication on the COFAV protected area

A total of 25 individual participated, including audio-visual journalists from the five regions of COFAV. Communication themes were identified:

- The value of biodiversity
- Changes to the environment: climate change, and progressive degradation in general

- Services and benefits of ecosystems (energy, water, etc)
- Management/governance of COFAV (benefits, roles, responsibilities, etc)

During the workshop, the following strategies were defined:

- Mass media work to spread the messages
- Communication campaigns at the local level (14 communes do not have radio): film, theater, listening groups, public games, etc.

An action plan for implementing these activities has been developed.

At COFAV, agreement has been reached on the limits and regulations of a new protected area in the corridor that will be the principal approach used to reduce deforestation. A zoning plan for the forests of COFAV has been agreed upon with the communities surrounding the corridor. The agreements and negotiations that have taken place between the stakeholders in the project form the basis of a management plan that identifies the detailed strategies to reduce deforestation in the corridor and is therefore the foundation for both the management of the protected area as well as the forest carbon project design. In addition to management plan and zoning, the participatory approach used in the design of the activities was also used to agree upon the governance structure for the management of the corridor.

### **SUB RESULTS MODULE 1.8 Expansion of marine protected areas (MPA)**

This activity during the extension period from April-August 2009, focused on improving community capacity to become effective stewards of coastal and marine resources with the objective of achieving sustainable fisheries and sustained livelihoods. This sub-RM was a practical demonstration of the theory behind SAPM as it pertains to marine reserves. The activities conducted built on previous efforts to engage communities in marine reserve creation and management in south-east Madagascar.

Within the framework of MIARO, the establishment of marine reserves is part of the Convention on the Biological Diversity with a dual objective for the sustainable management of renewable marine resources through the promotion of responsible fishing and integrated management of marine and coastal areas. The integration of the marine protected area concept and planning represents added value in the establishment of a representative protected areas network in Madagascar. The methodology introduced through MIARO takes into account the linkage between the environment and improved livelihoods through the promotion of sustainable development of marine traditional fishing in Southwest Madagascar.

To expand MPAs, a meeting of partners was held in April 2009 to adopt the installation process of marine reserves. Indeed the process consists of 5 stages:

- Phase of preparation of the stakeholders
- Feasibility study of the installation of the marine reserves (traditional ecological knowledge, biophysics study, socio-economic study)
- Development of a *schéma d'aménagement simplifié* (delimitation of the marine reserves through the development of participative cartography)
- Setting up of marine reserve management tools (management measures or DINA, management structure and management plan)
- Formalization of the marine reserve management tools and their validation by local stakeholders.

Management tools for the installation process were defined and implemented as such:

1. *Dina*: A workshop was held in Manombo Sud on May 4-5, 2009 to define the process for developing a *dina* to ensure appropriation at the community level. This process includes five steps: 1) design of *dina* at village level, 2) synthesis of proposals from each village in a regrouping workshop, 3) presentation of synthesis results and approval at village level,
2. *Management Structure*: To ensure the local communities are well represented in the management structure, the meeting held in May 2009 in Manombo permitted a good definition of the installation process. Consultations at the community level through meetings in villages were first held to ensure that they are represented within the structure before a regrouping of all village representatives to set up the management structure of marine reserves.
3. *Management Plan*: The management plan is focused on the dates, timing, and duration of fisheries openings and closings.

The WCS marine team undertook the various activities related to the installation of operational marine reserves. A total of 11 marine reserves were identified in the northern part of Manombo Sud and in St. Augustin, and five were created with MIARO support. The management structures of marine reserves in these two communes were established -- SOARIAKE for Manombo Sud and TAHOSOA for St Augustin. The *Dina* for both structures has already been approved by the communities.

To share information and best practices for marine reserve creation and management to improve community capacity to become effective stewards of coastal and marine resources, a regional workshop took place in the Southwest Region on July 4, 2009 to ensure lessons learned from the comprehensive zoning process and best practices needed to fully engage local communities in marine reserve creation and management. The commune of Saint Augustin was chosen as a central location for this workshop with over 100 participants from several regions along the west coast. The workshop focused on providing information and lessons learned in two different domains:

- i. Research methodologies that conform to internationally recognized methods, including marine and coastal ecological monitoring techniques (for coral reefs, seagrass, mangroves, and marine mammals)
  - Fisheries research techniques
  - Socioeconomic monitoring research techniques
  - Participatory community-based resource monitoring
  - Review of current efforts and strategic direction for threatened species
- ii. Community-based marine conservation
  - Creation of community *Dinas* regulating resource use and access
  - Surveillance, implementation and enforcement of *Dinas*

Finally, with funding from MIARO, WCS was able to create community managed marine reserves that had been initiated under other programs. Various trainings on the establishment of marine reserves were provided upon the request of villagers. They consisted of the following different elements: participatory and concerted cartography, simplified planning program, marine reserve zoning, management regime, reopening procedures, and community monitoring.

The level of progress in moving forward with the creation of marine reserves varied based on the willingness and assimilation of the local communities. Communities that were willing to quickly adopt the approach distanced themselves from those which are slow to decide to start. The planning of the activities was carried out based on communities' willingness to set up a marine reserve. First, community meetings served to define a strategy and validate the feasibility studies for 11 identified marine reserves based on participatory zoning. Management regimes were discussed with communities in the commune of Mahambo. Marine reserve zoning – including 'controlled take' and 'no-take' zones – and management plans were then developed for the two sites in the commune of St. Augustine. This resulted in the creation of two community-managed marine reserves that will lead to improved sustainable fisheries for these communes.

## **Result Module 2: Management effectiveness for conservation areas improved**

Results Module 2 intended to build the capacity of Madagascar National Parks (MNP), DGF and other protected areas partners to fulfill their role in managing Madagascar's globally significant biodiversity. Tools needed to be developed for MNP and DGF/other protected area managers to improve management, programmatic and business planning.

At the beginning of the MIARO program, MNP was already implementing many of the core conservation activities needed to provide global biodiversity benefits through a network of representative protected areas. RM 2 aimed to provide the resources to complete the set of capacities MNP needed to become independent, and apply the tools developed for MNP to improve management effectiveness within DGF and the site managers of new protected areas.

Results Module 2 provided MNP staff with focused support in three main domains: conservation and strategic planning leading to results-based monitoring; operational (financial and administrative) planning and systems (including business plans for the Head Office and each protected area); and marketing. The focus was on providing professional conservation support in a collaborative, participatory, and results-oriented fashion.

As the SAPM concept and system developed and evolved, RM2 began providing support to new protected areas and their promoters, in addition to MNP.

A series of sub results modules were developed to ensure management effectiveness for conservation areas was improved:

- 2.1 Develop and/or refine conservation management plans and other thematic plans for protected areas.
- 2.2 Improve and fully implement annual programmatic work plans for protected areas
- 2.3 Develop an appropriate system of business plans and marketing programs for protected areas

During the MIARO extension period from April – August 2009, the following sub-results module was added:

- 2.4 System-wide promotion and utilization of protected area management land evaluation tools

### **SUB RESULTS MODULE 2.1 Develop and/or refine conservation management plans and other thematic plans for protected areas.**

#### *Management Plans*

MIARO initially focused its intervention on the network of protected areas managed by Madagascar National Parks-MNP (formerly PNM-ANGAP). This network of 44 PAs had conservation management plans (30 management units) and various other thematic plans: development, ecotourism, environmental education, etc.... These plans responded to international standards (CBD and IUCN) regarding the management of protected areas. However, the existing plans did not allow the 30 management units of MNP to implement efficiently the management of protected areas because of a lack of coherence and the high number of plans.

MIARO worked with MNP to review the quality of their plans and then provide recommendations for improving the planning and updating process. MIARO also improved the manual based on TNC 5S planning using an Excel format that automatically calculates conservation target/site viability and threat levels; this was to improve the planning process of protected areas and the implementation of the plan (operational). A new template for the consolidated plan was developed and introduced to simplify the reading of the plan particularly for external actors: donors, decision-makers, communities, authorities... This type of plan integrated thematic areas needed to effectively manage a protected area, including conservation, support to local development, ecotourism, environmental education, ecological monitoring and evaluation.

MNP managers used the new manual and the Excel tool efficiently. Direct support through regional workshops or site-based missions was provided by the MIARO RM2 team to update and improve their plans. Each of the 44 MNP protected areas did not have the same financial and human (technical) resources to complete the update of their plans at the same time. Yet, managers and management units appropriated the process and eventually all completed the update of their plans.

Due to the removal of MNP from the MIARO program in 2006, limited follow-up was conducted. However, the tools developed under MIARO by MNP management units were continually used for their network of protected areas.

Other types of support were provided to MNP during the life of the program. We produced biodiversity profiles – fauna and flora – for 13 selected sites to increase the quality of information at managers' disposal and to facilitate priority setting. The profiles help park and reserve staff to have a clear idea of the biodiversity values of their respective sites. They can also be used for promotion and fundraising.

Most protected areas still have poor libraries. If they received documents in the past, they have often been lost or misplaced. In 2006 WCS compiled a CD (*“Compilation de Textes Relatifs à la Gestion des Aires Protégées”*) including the most essential references for protected areas management in Madagascar. References cover topics such as: planning, delimitation/creation, environmental education and outreach, rural development support, tourism, administration and finance, protection, and wildlife management.

The rapid and positive development regarding the implementation of the Durban Vision to triple protected areas in Madagascar was challenging for MIARO. As most of the new protected areas are to be co-managed with communities or the private sector, a new adapted planning system was needed. The process was based on TNC 5S but new software, MIRADI, was introduced to simplify the process of planning and management of projects. A new adapted and improved manual was developed for SAPM, adopted by the SAPM commission, and widely applied for all new protected areas. It was used to complete a large number of overall management plans. The MIARO RM2 team provided training and direct support to promoters of new protected areas for their planning (e.g., Menabe, Montagne des Francais, Ankodida). This was essential as all sites must have a management plan before they are granted final protection status. MIRADI, although simplified, uses the same logic as the more complex 5S system. Results from either system are comparable. MIRADI provides innovative aspects including adaptation to different categories of protected areas, consideration of governance, and processes involving stakeholders.

In addition, the training process constituted an opportunity to learn from each site and then improve and refine the content and the way the management plan should be developed.

Selected sites validated their management plans with regional and local authorities, and communities. Also, economic activities were developed to improve the livelihoods of communities that are impacted by the creation of the protected area.

MIRADI was also used in the planning of some PAs managed by MNP that are part of the Eastern Humid Forest (Ala Atsinanana) World Heritage of UNESCO.

At the national level, MIARO participated in a MEF/TNC initial training program on the CBD's Programme of Work on Protected Areas (PoWPA) held in Antananarivo in 2008 for Anglophone African states. Although Madagascar is not an Anglophone country, this decision was based on Madagascar's leadership with respect to PA development in general and CBD implementation in particular. The training was followed by a more detailed introduction of PoWPA to SAPM members. Later the same year we assisted MEF to obtain funding for more in-depth training and PoWPA monitoring.

### *Environmental Education*

In terms of environmental education, efforts centered on development of a national environmental education strategy that promotes the SAPM, and the production and distribution of teaching aid materials to be used by regional education authorities, teachers, and environmental clubs in the peripheral zones of protected areas.

Toward defining and developing a national strategy for environmental education, a national workshop was held on April 9, 2008 at OLEP with the direct collaboration of the “*Direction du Développement du Reflexe Environnemental*” at MEF and the “*Bureau Programme Education Environnementale*” at MENRS. The objectives of the workshop were to (i) identify the environmental education resources already available from and used by partner organizations, (ii) identify the strengths and weaknesses of these various materials, (iii) make these materials available in a more standardized forum, and (iv) identify areas in need of improvement or areas where there is currently a lack of material/information. The workshop included 32 participants from 22 organizations. Participating organizations, associations and/or institutions included MEF, MENRS, ONE, MNP, GTZ, ARPEGE, PBZT, WWF, CCEE, MBG, Madagascar Voakajy, CAS, GERP, Programme ANKOAY, TANY MEVA, CI, WCS, REPC, UNESCO, WORLD BANK, and USAID. As a result of this workshop, the participating ministries MEF and MENRS stated their intent to create a National Committee on Education Related to the Environment CNRE that will facilitate the exchange of information in the area of environmental education.

A total of 4 environmental youth clubs in the peripheral zone of Ambatotsirongorongo PA (EPP Mitriaky, EPP Sarisambo, EPP Ankaramena and CEG de Ranopiso) were created in 2008. Evaluation of program activities indicate that over 150 students – 60% composed of primary students and 40% secondary students – are engaged in these 4 clubs. In September 2008 a first ‘nature visit’ was organized with 50 club members. Selection of participants was based on performance in club activities. The visit included discussions with COBA members, discussions with WCS staff about the progress and importance of restoration efforts in the AP, and discussions about forest conservation and ecosystem services. The clubs focused on primary and secondary school students.

Efforts to include environmental education in class curricula included development of education modules focused specifically on conservation themes, holding an environmental themed contest, education outreach on improved nutrition and human hygiene, establishment of school nurseries, establishment of school gardens, and holding nature visits with primary and secondary school students – all through the youth club system. An evaluation of program activities carried out in June 2008 indicated that 1,300 students from 90% of the villages bordering the Ambatotsirongorongo AP are affected by these program activities. Following the ideas advanced during the planning meeting, three (3) courses on biodiversity were planned for incorporation into the curriculums of EPP Sarisambo, EPP Anena, EPP Ankaramena, EPP Midriso, EPP Manisy and CEG Ranopiso. The developed themes focused on general environmental issues, flora and fauna of Ambatotsirongorongo and forest conservation. Beginning in September, school year 2008-2009, a course module focusing on general biodiversity issues and relations of these issues to conservation efforts in Madagascar was initiated.

Teaching aids for environmental education tool kits were developed:

(i) *Guide on Environmental Education for teachers at national level:* The guide “*Tabirin-kevitra ho an’ny fanabeazana ho an’ny tontolo iainana*” is written in Malagasy and provides basic information on biodiversity, ecosystem services and the new protected area system to users such as teachers from primary schools and animators. About 100 electronic versions have been widely dispatched in primary schools from 22 regions of Madagascar.

(ii) *Simplified field guide of MAMABay most attractive fauna:* Guides were designed for teachers from MaMabay primary schools that show drawings and description of flagship animals from Masoala, Makira and Antongil Bay living land/seascape. A total of 12 hard back printed versions were produced and used by teachers as references to teach biodiversity class.

(iii) *Kits of 4 posters on natural cycles (water, oxygen and carbon) and food web:* Based on a needs assessment carried out at different primary schools throughout Madagascar, the lack of didactic tools prevents the integration of environment and biodiversity conservation in class. To address this issue, WCS developed a kit of waterproof posters on natural cycles for teachers for both the primary and secondary curricula. A total of 25 kits were distributed for free to targeted schools located in the proximity of protected areas.

### *Ecological Monitoring*

In March 2008 Bemahafaly Randriamanantsoa, WCS Marine Conservation Coordinator, and Herilala Randriamahazo, WCS Marine Program Director, undertook diver certification training in Mombasa, Kenya with a view to initiate a MPA ecological monitoring training program. Subsequently, training in deep-sea diving took place in Maroantsetra for 16 agents working in the 4 existing marine parks managed by Madagascar National Parks – Nosy Hara, Mananara, Masoala, and Sahalamalaza. The training was led by certified dive instructor, Bemahafaly Randriamanantsoa, and dive gear kits were purchased to provide needed equipment during the training. Of the 16 Madagascar National Parks agents participating, 12 passed the examination of certification.

WCS, through MIARO, created a freestanding, all-Malagasy team of fully trained divers who are able to carry out a full range of MPA monitoring activities, without the need for any outside assistance. This team is equipped with top-of-the-line dive equipment, which is maintained by WCS/MIARO staff to be used at cost for any MPA monitoring activities in Madagascar. A

schedule has been established for the annual monitoring of all Madagascar National Parks-run MPAs, which will include a significant component of capacity building.

In parallel, a workshop on MPA monitoring was held in September 2008. The workshop brought together all Malagasy stakeholders involved in MPA management to better cooperate on monitoring activities. International experts explained the concepts of ecological and socio-economic monitoring during three days. This first workshop of its kind in Madagascar raised many issues on monitoring practices. The debates were productive. A standard model of monitoring methodology is now available for marine ecological monitoring and for socio-economic monitoring as well.

In 2008 as a follow up to field-based training in ecological monitoring protocols introduced in the Makira and Ambatotsirongorongo PAs, monitoring practices focused on developing protocols for community based monitoring (COBA). Several partner organizations, including the Centre Valbio, Durrell, CI and WCS developed protocols of varying similarity, and a system of more scientific verification of the COBA's monitoring is now necessary. To this end, a training and methodologies workshop was held on December 16-17 in Antananarivo. The workshop served to set up a network on community based ecological monitoring.

A monitoring committee was created and practical training provided. A follow up mission was also conducted in Makira to evaluate the participatory monitoring activities conducted by the community at two sites. With the exception of some data that was not properly collected, the results were in general very satisfactory and demonstrate a good level of ownership of the local communities with a request for additional training. The Conservation and Research team of Makira attended the training to ensure the continuation of the training and supervision.

Asity, a local NGO, who expressed interest in the methods of community-based monitoring developed under MIARO for Tsitongambarika, was provided with all related documents. A workshop was also organized to evaluate the participatory monitoring practices in Madagascar. Based on the different exchanges during the workshop, participants recommended the creation of a national committee to be led by the MEF. However, progress on this was delayed due to the political crisis.

### *Training Modules*

In 2006 MNP identified a need for training materials for its staff, particularly those based at the parks and reserves. The REPC (*Reseau des Educateurs et des Professionnels de Conservation*), a MacArthur Foundation funded project being implemented by the American Museum of Natural History in partnership with CI, Durrell Wildlife Conservation Trust and WCS, already had a similar objective. We began collaborating with the REPC team to develop training materials that target protected area managers. We identified 39 themes for which modules needed to be developed. Of these, 12 modules were relatively advanced and have been adapted for use by conservation professionals from existing academic modules. The modules consist of PowerPoint presentations with explanatory notes, and a more detailed synthesis of the subject matter. Government-sponsored in-service training and capacity building initiatives for the Malagasy government entities most involved in conservation, for instance Madagascar National Parks (MNP) and the General Direction of Environment and Forests (DGF), consisted mainly of relatively brief training workshops, with the aim of delivering specific sets of technical skills over short timeframes. These courses usually addressed specific, focused needs (such as training in the use of software packages, etc.). In most cases, such short courses cannot provide a larger conceptual framework within which to evaluate biodiversity conservation problems.

To address this issue, Phase II of REPC from 2008-2010 aims to (i) create opportunities for broad exchange of information and strategies among conservation educators and practitioners; (ii) develop a series of multi-component training modules, with each module containing both technical and theoretical background and examples of practical application of a particular topic; (iii) develop and support long term in-service training for government conservation professionals more specifically MNP and DGF.

**Training Modules** – Module development is linked to priority topics identified by Madagascar National Parks and DGF such as protected area design, planning and management, community resource management, rural poverty and biodiversity conservation, ecological restoration, control of invasive species, and geographic information system. In addition, since consortium members WCS and CI (along with WWF) worked with funding from the MacArthur Foundation to organize and hold a national-level workshop on the impacts of climate change on Malagasy biodiversity, REPC developed modules and case studies based on the outcomes of this workshop. The following modules developed in collaboration with MIARO are available for Madagascar National Parks, DGF and all REPC partners from academic and professional institutions: protected area design and planning, protected area management, ecological restoration, control of invasive species and geographic information system.

**Resource Centers** – Since 2005, REPC set up six resource centers in six ex-provinces of Madagascar. Resource centers serve to dispatch free printed and electronic versions of modules to partners. From May to September 2008, REPC distributed printed and electronic versions to more than 80 institutions in Antsiranana, Mahajanga, Toamasina, Maroantsetra and Toliara. Each professional institution received a printed version of 20 existing modules, a CD with electronic versions of modules, and pdf papers on biodiversity conservation.

**Training Programs** – Additional activities related to training programs undertaken by REPC with support from MIARO include:

Partnership with DGF and MNP: Beginning in January 2008 REPC organised several meetings with DGF and MNP to develop partnerships. As result, REPC collaborated with The General Secretary of the Ministry of the Environment and DGF to implement the DGF training plan published in 2007. REPC is in charge of building capacity on biodiversity conservation, and drafts of a collaboration agreement have been produced at the MNP and DGF level.

Supporting MNP and DGF in-service training: REPC is supporting DGF to develop an in-service training system. A core of 15 trainers was identified at DGF to serve as an initial capacity building unit. This unit will be in charge of updating a training plan and training technicians from DREFs. At MNP, REPC is working with the existing in-service training at the Department of Human Resources.

Training of trainers and implementation of training plan: Beginning in July 2008 REPC, in collaboration with the DGF training unit, updated the training plan by integrating new needs resulting from new structure and attribution of each department of DGF. REPC has trained trainers on active training approaches, helped them to understand REPC training module content and components, adapted modules to fit needs of trainees, and developed training tools.

Training of technicians at DREF and regional direction of MNP: During September 2008, REPC trained 30 technicians from DREFs of SAVA, DIANA and SOFIA on sustainable use of resources and biodiversity conservation. A field trip to Ankarana National Park allowed trainees

to identify different habitats and to illustrate alpha and beta diversity. It was an opportunity to discuss with park managers about daily management activities. A one-day training with local associations at Antsampano mangroves informed trainees of the importance and value of ecological services, and of the challenges and constraints in community management systems in Madagascar. On December 8-12, 2008 REPC trained agents from DREFs in Androy and Atsimo Andrefana Regions on conservation of the biodiversity of the South.

### **SUB RESULTS MODULE 2.2 Improve and fully implement annual programmatic work plans for protected areas**

As mentioned above, MIARO promoted the adoption of MIRADI software as a planning, management and monitoring tool for SAPM. Training workshops were provided to technical directorates at the DGF, Directorate General of Environment and Forests (DSAP: Directorate of Protected Areas System, DCI: Directorate of Communication and Information and DCPSE: Directorate of Coordination, Planning, Monitoring and Evaluation), promoters and managers (existing).

The role of DSAP is to supervise the management, monitoring and evaluation of the network of protected areas including the network of MNP sites. The tools developed and implemented by MIARO will greatly facilitate the fulfillment of this responsibility.

One of the major achievements of MIARO was the development of an appropriate system to evaluate the management effectiveness of protected areas based on existing systems used worldwide. Thanks to IUCN guidelines and those existing systems, Madagascar now has a new management effectiveness evaluation system for SAPM. MNP already has its own system based on a modified system called PAMETT. However, this latter does not evaluate some important elements regarding the management process of protected areas. The new evaluation system developed by MIARO integrates the strengths of existing systems but also allows for varying categories of protected area.

### **SUB RESULTS MODULE 2.3 Develop an appropriate system of business plans and marketing programs for protected areas**

A business plan (BP) is a tool that helps to improve the management of protected areas. MIARO initially provided its support to Madagascar National Parks business planning by developing a template and an Excel tool for financial calculations. During 2005, we developed a business planning methodology closely based on the approach that had already been shown to Madagascar National Parks by consultants from the NPCA (National Parks Conservation Association) in 2003. This methodology was the one used by the US National Parks Service. At Madagascar National Park's request we maintained a similar structure and layout to the US Park Service business-planning document. However, we changed the method used to make the different financial calculations necessary in the plans to make it coherent with other financial tools used by Madagascar National Parks in the EP3. In particular, we integrated the approach of "products" which define the main activities at each of Madagascar National Parks' sites. Another change was to make the business plans forward-looking, so that they projected the costs of the protected areas in the next five years to come. This is a fundamental change by comparison to the US National Parks Service plans, which provide a detailed breakdown of the previous financial year's expenditure and then assume that future years will be similar. Such an approach is useful in the US where protected areas funding comes mostly from the government

and the document is intended to demonstrate that funds have been, and will be, appropriately spent. However, in Madagascar most protected areas are still in a phase of development and so there is more variation in the activities conducted in different years. Funding for protected areas in Madagascar also comes from a wide variety of sources and so these plans need to be both forward-looking and appropriate for donors other than the government.

In addition to developing the methodology in 2005, we also provided training to staff from all the management units in the PNM-ANGAP network so that they could develop these plans. This training was provided in a series of workshops within each of the regional Directorates (DIR), and through direct technical assistance at some priority sites. As a result of this support we identified the parts of the analysis that the park-based staff found difficult and based on this we improved the spreadsheet analysis tools in early 2006. In addition we also improved the business plan templates to take into account comments received from the sites.

The business plans for protected areas are linked to the management plans for each site because all the financial projections are based on the activities included in the management plans. The business plans were therefore started after the management plans, however park staff from each received training in completing these plans as did the technical and financial support staff in each of the DIRs. In the original 2007 workplan that was submitted for approval to USAID it was planned that one of the RM3 activities would be that Madagascar National Park staff based in the regional DIR offices would provide technical support to ensure completion of these plans. However the RM3 activities were not approved by USAID in the 2007 workplan and CI and USAID agreed to cease funding Madagascar National Parks under the project and thus we were unable to continue to provide financial support for the completion of these plans. Despite this, some of the National Parks continued to develop their business plans using the methodology we provided and to compete them with alternative funding (eg. Ankarafantsika, Masoala, Andohahela and Bemaraha). In addition, the financial planning tools that we developed continued to be used and refined by the Madagascar National Parks staff to help them in their annual planning and quarterly budgeting exercises that were necessary to obtain cashflows under the PE3.

Later, MIARO shifted its support to develop a manual, template, and Excel file tool for the development of Business Plans appropriate for new protected areas. Again, this approach required that the management plans were well advanced before a business plan could be completed and so application of the methodology has been limited so far. These tools are available and have been applied for the development of a business plan at Ankodida. With funding from non US government sources, CI continues to support the development of these business plans using the methodology adopted by MIARO for new protected areas that have management plans.

#### **SUB RESULTS MODULE 2.4 System-wide promotion and utilization of protected area management land evaluation tools**

Under this sub-RM, MIARO, through WWF, supported community-based associations involved in the co-management of protected areas. Specifically, MIARO focused on strengthening the activities and planning related to improving the livelihoods of communities living near three new protected areas.

**a. Nosivolo NPA in the District of Marolambo (Region of Atsinanana)**

This is the first riverine protected area in Madagascar and is important for the conservation of endemic fish. We collaborated with Durrell who received training on the use of the management planning tools including MIRADI. Communities were involved in the process of management planning as they will co-manage it. On the basis of this support, Durrell and the communities completed the management plan.

**b. Bemanevika NPA in the District of Bealanana (Region of Sofia)**

This NPA integrates a mosaic of ecosystems: permanent and ephemeral lakes, wetlands (mashes), savannah and natural humid forests. These are home to rare and endemic species particularly endemic water and forest birds but also amphibians that are not found elsewhere.

In collaboration with 2 consultants from The Peregrine Fund, MIARO worked to facilitate training and encourage community participation. A final draft of the overall management plan is now available and awaits validation. In addition, a consultant recruited by MIARO identified promising economic activities for the communities around this protected area and these were integrated into the management plan.

**c. Mahavavy Kinkony Complex in the District of Mitsinjo (Region of Boeny)**

Asity-Madagascar is the promoter of this NPA, which has a mosaic of ecosystems including wetlands (lakes and rivers) and dry deciduous forests.

As for the other sites MIARO provided training for the promoter and members of the management platform that Asity has created. The management plan was developed on the basis of this training.

During all meetings and field activities conducted with the communities and stakeholders, MIARO emphasized their roles in governance and management, and benefits that communities will gain in co-managing protected areas. The management effectiveness evaluation of protected areas as part of the process of management was also integrated into the discussions and support to communities.

## **Results Module 3: National Park Network Activities Implemented**

Results Module 3 comprised activities that were carried out by Madagascar National Parks (MNP) under contract to Conservation International. Activities and technical assistance priorities and needs were determined directly by MNP, and coordinated with those taking place in RM1, RM2 and RM4. The RM2 team provided focused technical support to MNP to refine its capacity to implement RM3 independently.

The major focus of RM3 was the conservation of biodiversity in protected areas and included a suite of activities that were directly implemented by MNP. The RM3 component was also designed to help MNP refine its internal management standards up to levels required for direct US Government funding through contracts.

A series of sub results modules were developed to ensure National Park Network activities were implemented:

- 3.1 Reinforce the institutional, technical and financial capacity of MNP in protected areas management.
- 3.2 Foster service oriented roles and functional linkages between national and regional offices, and between these and the parks and reserves.
- 3.3 Define and mobilize funding for national park network and support services.

Toward the end of 2005, CI became concerned that Madagascar National Parks may have been using USAID funds for unallowable expenses under its sub agreement with CI. This concern was reinforced when MNP's internal audit report for 2005 was not submitted on time. Regular review of MNP's financial reports, as well as internal control of MNP's records led CI to take steps to investigate MNP's management and use of USAID funds.

In January 2006, a joint supervisory mission of Madagascar's Environment Program was undertaken by all the environment donors. The donors jointly concluded that MNP's management of its funds was sub-par and that action was needed. In April 2006, USAID/Madagascar and CI worked together to conduct an internal financial review of MNP's records. This review resulted in the identification of mismanagement of funds by MNP. Subsequently, CI provided financial technical assistance to ANGAP to conduct a diagnostic procedure regarding financial management of USAID funds. This assistance resulted in the identification of unallowable costs incurred with USAID funds. The unallowable costs identified came to a total of 130,449,909.55 Ariary. As a result, CI froze funds provided to MNP through the USAID sub award in May 2006.

In an effort to rectify the situation and move forward, CI proposed to reorient capacity building activities regarding MNP. Specifically, CI developed a proposal to rectify the unallowable expenditures and implement a monitoring system for all future funds provided to MNP through the sub award. CI proposed to replace the unallowable costs with eligible costs incurred by MNP since January 1, 2006 for activities that contribute to USAID program objectives.

As a result of these efforts MNP submitted a work plan for 2007. However, due to the nature of the management difficulties with MNP, the decision was made jointly by CI and USAID to cease funding to MNP under the MIARO cooperative agreement.

MNP reimbursed the total amount of ineligible expenses under USAID funding in February 2009.

## **SUB RESULTS MODULE: 3.1 Reinforce the institutional, technical and financial capacity of MNP in protected areas management**

Sub Results Module 3.1 focused in building the management capacity at MNP. Specifically, MIARO worked to support MNP to adopt a results-based planning and management system in conformity with EP3 requirements.

### **3.1.1. Implement financial planning and management system**

Starting in 2004, several workshops were organized to clarify the new structure of Madagascar National Parks in terms of finance and administration for all existing management levels. The short-term objectives were to ensure appropriate financial data collection and to implement a harmonized database for all management units.

From the beginning of the EP3 installation process, MNP had to face several challenges to ensure harmonized treatment of data, namely the wide geographical scope of its working areas and the existence of multiple sources of funding and various reporting requirements. To finalize an adaptable common matrix of financial and technical data that could respond to the information needs of most of MNP's donors, workshops were organized as follows:

- ◆ All Inter-Regional Directors (DIR), regional managers and head office financial staff had meetings to identify and adopt ways to improve reporting standards and to ensure timely reporting.
- ◆ Each Administration and Accounting Service (SAC) and Treasury Service (SET) from each DIR and the Head Office set up methods and planning to figure out the best way to produce reports for EP3 with new approaches for financial reporting

The support of MIARO in organizing these workshops contributed to the production of reports in accordance with EP3 modalities, by combining financial and technical data for the fourth quarter of 2004. In addition, follow-up, monitoring and subsequent adjustments were possible due to several field visits that allowed information exchange among all management units. These adjustments became necessary because of important changes that happened after EP3 was launched, especially regarding the use of the technical and financial software that MNP was using: TECPRO and TOMPRO. For instance, three major releases were delivered within 4 months, not counting the minor changes that occurred in the field, where direct support from programmers was required.

A training plan was established in 2004. The objective was to implement all the training designed to accompany MNP's restructuring. At the beginning of EP3, many of MNP's staff were new or were occupying new positions:

- ◆ Understand the mission, objectives, and the notion of products/results;
- ◆ Improve the management style, team spirit, leadership;
- ◆ Develop a client-oriented approach,

In addition, eight technical themes were included in the training plan. These themes were broken down into 23 training actions organized at the level of the Decentralized Units/Inter Regional Departments and in Antananarivo. They focused on three organization areas:

a. Technical training

- ✓ Research;
- ✓ Conservation;
- ✓ Ecotourism;
- ✓ Support to environmental development and education.

b. Administration

- ✓ TOMPRO, TECPRO, Financial Accounting;
- ✓ Asset, markets and supply management;
- ✓ Personnel Administration;
- ✓ Code of Protected areas (COAP) and how to appropriately document offences;
- ✓ Basic standards for operating seagoing vessels;
- ✓ Geographical information systems (GIS);

c. Communication

- ✓ General Communication techniques
- ✓ Technique for welcoming visitors;
- ✓ Approaches for negotiation and managing partnerships

These training efforts aimed to:

- ♦ Harmonize the vision and the language of the Network's technical and administrative personnel in the technical performance of the Madagascar National Parks mission (i.e. understanding and adopting the policy, strategy, procedures, methods and tools for the implementation of activities);
- ♦ Commonly define the expected results from everyone (in terms of outcome) and from each field unit and as compared to those of the management unit to which one is attached.

Training in Personnel Administration (salary, final payments, health insurance, personnel flow, new labor code) and Goods Administration (assets and markets) aimed to reinforce the capacities of the administrative and financial teams (SAC, CVAF, SCPT) at the level of the five inter-regional departments.

In 2005, special attention was given to Asset and Inventory management, an important part of administration of day-to-day activities and known as one of the sensitive accounting points, along with cash flow and banking. In addition, the decentralized approach focused on personnel management information sharing for selected sites in MNP's network, as per the overall training plan.

### **3.1.2. Redefine staff terms of reference based on results-based planning**

Results-based planning and reporting was a fundamental part of EP3's approach. This approach helps to ensure that anticipated results are actually achieved through a series of clearly defined outputs and indicators. Individual donor organizations can thus also invest in specific EP3 strategies that interest them. Madagascar National Parks needed to ensure that this way of managing the network was fully shared with its personnel. Unfortunately, the restructuring of MNP that began in the second Semester of 2003 resulted in the following:

- A disparity in MNP staff's understanding of the mission as well as implementation roles within the organization.

- Confusion over concepts such as objectives and results in the result-based method.
- Reduced staff commitment due to feelings of job-insecurity
- Low morale and motivation due to the restructuring

The above points clearly indicated the need for training and support aimed at developing a common vision concerning the relationship of each site and DIR to the Head Office. The objectives of the Head Office were to work with the DIRs and protected areas to better understand the challenges faced and to work together towards effective solutions, such as:

- ♦ Harmonizing and consolidating a single common vision at all staffing levels.
- ♦ Clarifying roles and responsibilities for all personnel at all different levels
- ♦ Defining results expected at each management level (sites, DIRs, Head Office) and for individual staff members. This requires very clear definitions of expected results and definitions of staff responsibilities.
- ♦ Clarifying monitoring and evaluation procedures (at the end of the trial period and every year).
- ♦ Sharing a common corporate culture, incentives and management styles among the organization's staff. The expected result is that staff will be better equipped to achieve MNP objectives.

Implementation of the 2004 training plan took place with MIARO support through 2004 and 2005. In addition, a rapid evaluation was conducted of each of the common vision workshops to evaluate participant understanding and appreciation.

### **3.1.3. Refine and implement strategic training plan based on staff terms of reference**

Beginning in 2004, the main activity was to ensure better comprehension of the accounting and monitoring software programs: TOMPRO and TECPRO. As they were subject to various modifications due to new requirements of EP3, installation and support for the whole MNP network were necessary to maximize usage of all existing and new functions. Data analysis was performed, and necessary adjustments were made. These operations are closer to financial and management concerns than to the strategic training plan, so beginning in year 2005, they were treated under Activity 3.1.5.

Following the restructuring process and in accordance with the sustainable organization policy, a position of professional career manager was created at MNP. The role of the professional career manager was to define/refine the strategic training plan with staff at every level of the network, keep an historical database of the personnel, and to identify, analyze and propose specific training for short, mid and long term development of personnel capacity.

In 2005-2006, the following was completed regarding the MNP training plan:

- ♦ Definition of a network training policy and detailed implementation plan (completed).
- ♦ Development of training methods and identification of the training needs (completed).
- ♦ Training of the persons responsible at the DIR and site levels on the use of the above tools (initiated).

The above stages were achieved through a participatory process with relevant staff at every level.

### 3.1.4. Develop and implement regular test audit of financial and conservation performance

Beginning in 2005, technical training per thematic activity was planned (research, conservation, environmental education, and consolidated synthetic plan). In addition, MIARO continued to provide support for thematic plan updates and preparation of consolidated synthetic plan information for each park under RM2 and this work was closely linked to the activities in RM3

To develop the capacity of the DIRs and each park and reserve to improve financial and technical performance, we organized the following:

- All the technical personnel (SAT, SAS, CVECOT, CVCR, CVAD and EE and all Sector Heads) of the Inter Regional Department of Toliara, Inter Regional Department of Toamasina, Inter Regional Department of Fianarantsoa, and Inter Regional Department of the Antsiranana received **technical training** (Research; Conservation; Ecotourism; Support to environmental development and education)
- Directors of parks and reserves; Heads of Technical Support Offices; Heads of Conservation and Research of parks and of the reserves; Representative of the water and forests administration and local authorities of the Inter Regional Departments of Mahajanga, Fianarantsoa, Toliara, and Toamasina received training on the **COAP and documenting offenses** in 2005. The team at the Inter Regional Department of Antsiranana received this training in 2006.
- The GIS Administrator in the Management Units received training in **administration of the geographic information system**. After theoretical training in Mahajanga, the Administrators conducted practical work in the field at the site of Ankarafantsika.
- Training on "standards for operating and repairing seagoing vessels" was provided for personnel of the Mananara and the Masoala National Parks (speedboat pilots, speedboat assistant-pilots) in charge of operating and maintaining the Madagascar National Parks seagoing materials at the level of each park.

### 3.1.5. Setup and run EP3 general communication system through the MNP network

The overall objective of this sub-module was to develop a series of communication systems within MNP to improve information flow and reporting procedures. This was designed to improve internal performance and to ensure that reporting systems clearly conform to EP3 standards. MNP focused on the following:

- ♦ Analysis of planning, information management and reporting for year-end 2004-January 2005 working with financial personnel from priority parks, and representatives of reserves plus Head Office staff. If sub-module 3.1.1 focused on the practice of planning and finalizing the reports themselves, this section paid special attention to improvement of internal communication. This work was carried out during meetings in Antananarivo, and looked at how communications function vertically within Madagascar National Parks (Head Office, DIR, site) and horizontally between and within sites. Each site and DIR had a series of reporting tools to facilitate their work and to ensure that technical and financial progress is reported together.
- ♦ Madagascar National Parks staff organized several conferences by BLU to the sites to improve the quality of reporting. BLU conferencing helped to improve DIR and Head

Office support to parks and reserves, helping to quickly clarify points that were not clear for site staff. However, MNP recognized that internal park or reserve communication tools remain a challenge.

### **SUB RESULTS MODULE: 3.2 Foster service oriented roles and functional linkages between national and regional offices, and between these and the park and reserves.**

#### **3.2.1. Training in the oriented service provision**

In 2005, following the new principle of client-oriented service, sessions on communication and reception techniques were organized for HQ and site personnel. This training was tourist-oriented.

- Training on “welcoming and communication techniques” was provided to Receptionist at the Head Office, Communications technician at the Head Office; Management Secretary at the Head Office; Mananara Liaison Office Officer; Secretary-cum- Operator at the DIR/s; Receptionists within the Network.).
- Training on “practical marketing, negotiation techniques, and partnership building” was provided for Inter regional Director and Central Director

#### **3.2.2. Creation of marketing committee to develop service oriented goals for each level of staff**

The idea for this activity was the creation of a marketing committee at the DIR and park levels. In 2004, relevant actions were the regular update of MNP’s website. In 2005, the marketing committee concept was reinforced and the scope of activity was extended to the realization of MNP’s overall workplan, with participation from existing ecotourism staff.

A workshop aimed at creating a marketing pilot committee for the Head Office was organized for mid-June, 2005 at Isalo. The workshop’s participants were members of the DIRs and selected Head Office staff notably the Assistant Director-General (DGA), the Director of Operations (DOP), the Ecotourism Officer and the Marketing Officer.

The outcomes of this workshop were:

- ◆ To determine the objectives of the marketing committee for the entire network.
- ◆ To prepare a further workshop to establish the marketing committee for the network.

The central marketing committee was created at the Isalo workshop. Membership included the DGA, DOP, DRH, Marketing Officer and the director of each DIR. The general marketing strategies for the network were examined and developed. A series of strategic axes were developed. These became the norms for MNP.

The regional marketing committees of Inter Regional Departments were established. They worked to review the analysis conducted in Isalo and adapt them to the context of the sites, draft action plans according to areas of improvement addressed in Isalo, and propose standards to indicators identified in Isalo.

### **3.2.4. Annual or twice yearly forum for exchange between the operational levels of the organization**

A yearly forum was held for the network management units for technical and financial information exchange within a common strategy. This activity is part of MNP's marketing plan aimed at improving its institutional and public image, as well as improving revenue generation through improved services. Some advertisements ran in magazines including GOTO Madagascar, Mad Magazine, Guide Pass and DMD. The targets of this advertising effort were national and international tourists. Publicity targeted three main locales: on board international and national flights, at airports and in hotels.

To target key economic operators (tour operators, etc.) and politicians (senators, authorities, etc.) complementary guides were produced for distribution among these groups. MNP worked with the society DIARY Valy to strengthen communication with rural communities living near protected areas. This collaboration was designed to develop articles showing links between agriculture and biodiversity conservation in the society's diaries that are widely distributed among rural communities.

### **3.2.5. Develop institution-wide marketing and client relationship**

Beginning in 2005, MNP implemented its marketing plan including park entry fees management, commercial actions, and potential customer identification. The following was achieved:

- Offer of partnership and request for proposal published in newspapers and sent to travel agencies and tour operators, namely for the sale of entry fee tickets in Antananarivo, the signature of a partnership with Ocean Adventure was completed, the signature of a partnership with Air Madagascar was completed.
- A partnership was signed with Uniflora Travel for the development of German tourism, including cooperation on training designed for German and Australian tour operators as well as for journalists at Andasibe, Ranomafana, Isalo, Ankarafantsika;
- The partnership with Société Pardalis was implemented for the completion of a guidebook on Madagascar's Chameleons. Société Pardalis offered 150 free copies of "Guide to Madagascar's Chameleons" to park agents and to MNP guides as well as for environmental education activities.
- The partnership with Société Pardalis for marketing in Ecoshops was implemented.
- The partnership with ORANGE Company was formalized. Equivalent of a call-center for Madagascar National Parks, this partnership consists in an agreement with the Company to promote the 12 most visited sites on their vocal kiosk (Andasibe, Ranomafana, Isalo, Tsingy of Bemaraha, Ankarana, Masoala, Marojejy, Andringitra, Ankarafantsika, Montagne d'Ambre, Andohahela, Tsimanampetsotsa)

## **SUB RESULTS MODULE: 3.3 Define and mobilize funding for national park network and support services**

### **3.3.1. Draw up funding agreements based on individual park needs**

In 2004, a business plan template was developed, a formal committee was established and priority criteria were set for parks. The second year activities were the continuation of business plan set up and database update.

Madagascar National Parks worked with MIARO partners to organize meetings covering (i) business plan development and (ii) progress monitoring in business plan development at each of the DIRs. Following these meetings, an action plan was developed for each management unit – parks, reserves and the DIR. The implementation of these action plans was supported by resource persons from MNP Head Office, WWF and WCS. MNP took responsibility for the development of a network-wide business plan that builds on those emanating from its individual management units at DIR and site levels. This was carried out in collaboration with activities in RM2.

Workshops on business planning were held in collaboration with the MIARO RM2 team for all the directors (DIR, DP, CR) and technical personnel (SAT, SAS, CVECOT, CVCR, CVAD & EE and all the Heads of sectors) of the Inter Regional Departments of Mahajanga, Toamasina, and Fianarantsoa.

### **3.3.2. Conduct conservation activities in selected parks**

MIARO supported conservation activities in selected parks and reserves. In accordance with the result-based approach, the following activities are clearly set Madagascar National Parks standards. These are described below:

#### ***a. Micro-projects***

##### Ranomafana

- Three development micro-projects were completed: the rehabilitation of two schools (EPP Ranomafana, CEG Ranomafana) and the completion of a school building for the CEG at Androy. A total of 280 pupils will benefit from this support.
- Communications sessions were held in 27 villages of which six were in Tsaratanana, seven in Ambohimiera, three in Androy, two in Ranomafana, four in Ambalakinresy and five in Morafeno. A total of 593 villagers participated. The sessions were presided by the park's sector chiefs and their local agents and covered the economic impacts of the park on local communities. In addition, the PN of Ranomafana prepared 300 copies of calendars with environmental messages and photos of biodiversity to communicate to the general public. These calendars were distributed to village groups, authorities, schools and partners of the peripheral zone.
- One campsite was rehabilitated with the toilet being repaired, repainting the interior and exterior of infrastructures, and replacement of damaged structures. Some 17.29 km of circuits were maintained – cutting back vegetation, cleanings trails, and rehabilitation of infrastructures on the circuit.
- Eight communications sessions for decision-makers were held. This activity consisted of developing communication support including environmental messages, together with tools for environmental education and communication. These sessions helped to

maintain positive relations with the authorities so that the goals of the Park are integrated into local and regional planning.

- Communications sessions within schools aimed to give to the pupils better knowledge of the value of the natural resources around them (fauna and flora) and the necessity to protect them. Communications sessions were held at four schools (EPP Ampasimpotsy/ CR Ranomafana, EPP Morafeno CR Ranomafana, EPP Vohitrarivo/CR Tsaratanana and EPP Ambalakindresy/CR Ambalakindresy). The total number of beneficiaries is estimated at 908 pupils. Student visits were organized for pupils from Antananarivo (BIRD school, Saint Michel College, Maria Manjaka College, and the Association FIZAMI), together with classes from Jean Ralaimongo High school in Fianarantsoa II.

#### Mantadia / Analamazaotra

- A maintenance plan for the camping site was finalized. One-half hectare of the site was maintained, involving vegetation clearing and housekeeping.
- Eight communications sessions with villages were held at Volove, Vohibazaha, Ankondromorona, Fanovàna, Ambatovola, Antsampanana, Andasibe and Farahevitra. These communication sessions consisted of establishing surveillance committees and developing an umbrella group known as 'Friends of the Park.' During these communications campaigns, MNP presented information on the impacts of a range of human pressures around the protected areas.
- Two development micro-projects were completed. One project involved reforestation using native plants and its goal is to restore a forest landscape in the peripheral zone of the protected areas complex. The second project involved planting fruit trees within the primary school (CEG) in the commune of Andasibe, aimed at improving environmental awareness. The pupils themselves assured the maintenance of the fruit trees, with technical support also being provided by local Madagascar National Parks personnel.

#### Zahamena

- Two development micro-projects were completed. One involved the establishment of a small bee-keeping project in the village of Tanykaitso in the area of Miarinarivo. The bee-keeping project involved 15 families. The second project consisted of construction of a small dam for irrigation of 22 ha of rice fields. The number of beneficiaries includes 17 families and 92 people.
- Communications campaigns in seven villages were carried out, comprising three modules: an introduction to economic impacts of the Park, an introduction to environmental problems (pressures and threats) and information on the value of the protected area together with the need to change local practices, behavior and attitudes. The participants included 257 villagers of which 78 were women.
- PN Zahamena conducted public communications campaigns. These were based on the problems of natural forest loss in the farming community of Miarinarivo and the sanctions that are required concerning illegal activities noted by national park staff.
- Advocacy with decision-makers was carried out, which included setting up an Association of Mayors within the Peripheral Zone. The association supported action aimed at protecting the park, including communications campaigns that promote positive changes in behavior among people living around the park.
- 10 km of access track were maintained. This access track joins provincial roads linking neighboring villages to nearby larger towns near the park, notably the track to Antanandava-Ankosy.

- Data were collected for an assessment of the state of the Ankosy-Bemoara-Antendorano trails and infrastructures.

#### Andohahela

- Five development micro-projects were identified and implemented in three farming communities within the peripheral zone (Enaniliha, Isaka-Ivondro and Mandiso). These micro-projects focused on apiculture, fish farming and reforestation.
- Thirteen surveillance committees were created in target localities (Mandiso, Isaka Ivondro, Ambatoabo). These committees have internal *Dinas* (Agreements) that have been created with the support of the park.
- The potential members of the Regional Orientation Committee (currently entitled the Protected Area Support Committee) were identified in collaboration with local communities
- 12 km of access track to the National Park were reinstated in the farming community of Behara.
- Regarding advocacy activities, the 15 Mayors of the national park's peripheral communes agreed to cooperate with the park. Two working sessions to develop partnerships between rural communes, MNP and WWF were organized with the mayor and community representatives of Behara.
- An intensive communications session concerning community socio-economic problems and needs was conducted for the two villages of Analabe and Beloha in the fokontany of Esakatany.
- Technical training in reforestation was provided for 369 villagers. Some 14,700 seedlings were planted on a four-hectare plot in the rural commune of Ankaramena. This reforestation is part of a local program of reforestation of 37 hectares and was conducted in collaboration between the NGO FAFAFI and Andohahela.
- A communications session with eight fokontany of the rural commune of Ambatoabo was carried out to reinforce the conservation projects and to improve communal cooperation in management of natural resources around the park. As a follow-up, eight committees worked with park staff in the identification of threats and their causes, and in joint enforcement with the Direction of the Park and the CIREF.
- A follow-up mission by surveillance committees was carried out to evaluate and control pressures in the farming townships of Enaniliha, Fenoevo Efitra and of Enakara.
- To prepare advocacy activities for decision-makers in the rural commune of Fenoevo Efitra, a preliminary evaluation mission was organized to collect essential baseline data.
- Communications activities in villages concerned an intensive session of environmental education by 14 forest operators of the village of Ranomainty (the Southern peripheral zone of parcel I of the park). Additional missions visited four villages and involved 26 villagers in the rural commune of Enaniliha (peripheral Zone in Parcel I of the park). These communications visits were carried out to create surveillance committees at the request of the above communities.
- The park worked with staff from Cap Sainte Marie Special Reserve, WWF-Ala Maiky, the Amboasary-Sud CANFORET to organize a meeting aimed at putting in place a structure that would link four rural communes working in cooperation with MNP. An additional mission in the rural commune of Tsiombe was carried out to develop an inter-commune *dina* or agreement. The goal of this *dina* is to standardize approaches concerning natural resource management within the protected areas' neighboring communes that have an influence on these sites.

### ***b. Village endowed with a vigilance committee***

These activities aimed to garner support for and instill ownership among local communities for the conservation of the park

#### Andohahela

- Thirteen vigilance committees were created in the regions (Mandiso, Isaka Ivondro, Ambatoabo). Each of these committees has internal regulations
- The surveillance mission of the surveillance committees aimed at evaluating and controlling existing pressures in the rural communes of Enaniliha, Fenoevo Efitra and Enakara
- Potential members of the CRO (*Comite Regional d'Orientation*) were targeted thanks to the collaboration of the local committees.

### ***c. Research program***

This is a topic or a set of several research topics with a common approach (problem, situation, reason) or subject. The research topics or programs were drawn from each site's Conservation Management Plans.

#### Ranomafana

The research plan was drafted. It is research on a species of fauna found and observed only in the site of Zahamena. This species is called *Euthriochus astur* currently on the brink of extinction.

### ***d. Trail improved***

A circuit is an itinerary developed inside the PA, made up of different pathways and tracks suitable for vehicles or not. A circuit is defined as « developed » if it complies with determined standards, and presents various points of attraction, with the level of comfort provided based on the targets and whose characteristics and peculiarities are predefined.

#### Ranomafana

- The 13 km long circuit of Varijatsy was developed and is operational. The work consisted in setting up such infrastructures as a 24 m long bridge, a 129 m long footbridge, and a 1,025 m long flight of stairs.

#### Andohahela

- 7 kilometers of ecotourism circuits in the humid forest of Manangotry were developed. Parallels, an inventory of the existing attractions in the locality was done to plan the interpretation of the circuit.

### ***e. Training for tour guide***

Well-trained guides provide professional services and seek to give satisfaction to visitors while respecting guides' ethics and the protected area's internal regulations. A guide is considered "trained" when s/he is certified by the training organization after having received the three modules in the curriculum.

#### Zahamena

- MNP worked to prepare the training, i.e. determine the training modules. The plan was subsequently implemented.

### ***f. Conservation checking post built***

A functional office or welcome booth is a place where visitors are welcomed with quality service. The place is a permanent or semi-permanent structure (Hazovato style) developed to be the workplace of a welcome officer, to present cards, photos and information necessary for the visit (entrance, camping and guide fees, opening hours of the park, internal regulations...), to collect tourists' impressions, to sell entrance tickets and handicrafts, and for hygiene needs.

The construction or rehabilitation of the welcome office / booth constitutes the main object of the activity.

#### Ranomafana

- A welcome and control booth was built according to the following steps:
  - Feasibility study of the construction project, drafting technical documents
  - Preparation and launch of the request for bids
  - Completion and monitoring of the works

#### Mantadia/Analamazaotra

- A welcome and control booth was built.

### ***g. Trail maintenance***

A maintained circuit is an itinerary maintained to its initial quality condition in terms of pathway and equipment / infrastructures. The circuit must remain functional at all times so as to accommodate the estimated and desired number of visitors inside the PA. The circuit is considered "maintained" when it has been subject to 5 periodical maintenance works during the 5 successive years of the EP 3.

#### Ranomafana

- The circuit of Varibolo of 8 km was maintained
- The circuit of Sahamalaotra of 14 was maintained

#### Zahamena

For MIARO, the objective of this activity is to maintain an approximately 10 km long circuit already developed inside Parcel I of the national park linking the entrance of the park in Ankosy and the Cascade camping site (in the sector IV west of the park)

- The 11 km long circuit inside of Parcel I of the national park linking the entrance of the park in Ankosy and the Cascade site (at sector IV) was maintained. The realization during the period consisted in a field study to evaluate all the maintenance works (infrastructures included) and the cost necessary to restore the initial the portion of the circuit "Sentier de Grande Randonnée (SGR) or Iron Man" connecting the entrance of the national park in Ankosy to the Cascade camping site, approximately 11 km long.
  - For the maintenance of the very circuit (course): Cutting grass and pruning of trees' lower branches, Taking away the trees damaged or uprooted by hurricane "GAFILO"
  - For infrastructures: Maintenance of 86 stairs, approximately 1,480 m in total, Maintenance of 16 bridges and footbridges, 64 m long in total

#### ***h. Access road maintenance***

An access track is a route located outside the protected area. It is used to connect a national or provincial road to the entrance of a park or a reserve or to the entrance of a circuit for a protected area. A track often connects national or provincial roads to nearby villages and communes. In this case, its rehabilitation normally falls within a commune's, a region's or even the Government's responsibility and MNP simply contributes to it, but in some cases a park or a reserve is obliged to take care of it by itself to provide visitors and personnel with a quality access.

##### Zahamena

- 10 km of access track were maintained. This access track joins provincial roads linking neighboring villages to nearby larger towns near the park, notably the track to Antanandava-Ankosalay.
- 8 km of access track were maintained. Data were collected for an assessment of the state of the Ankosalay-Bemboara-Antendrorano trails and infrastructures.

##### Andohahelo

- 12 km of access track to the National Park were reinstated in the farming community of Behara.
- 15 km of access track to the National Park were reinstated in the farming community of Ankariera.

#### ***i. Camping site maintenance***

A camping site is a space maintained to its initial quality condition in terms of natural setting and of equipments / infrastructures. The site must be permanently functional so as to accommodate the estimated and desired number of campers according to the camping site's capacity. The infrastructures (toilets, water supply, kitchen...) will be maintained according to the maintenance plan implemented.

The camping site is considered "maintained" when it has been subject to 5 periodical maintenance works during the 5 successive years of the EP 3.

##### Ranomafana

- A camping site was maintained. For this purpose, the toilets were repaired; the interior and exterior were repainted. Some 17,29 km of circuit were maintained.

##### Mantadia / Analamazaotra

- Maintenance of the camping site was well performed. 0.5 ha of the site was maintained.
- Pursuant to the study of the maintenance plan for the camping site, its implementation consisted of daily clearing and sweeping of a surface of 0.8 ha, a surface of 0.5 ha and the toilet on a daily basis and repairing of the tent areas and kitchen corner.
- The maintenance of the camping site was completed following the scheduled steps.

##### Zahamena

For the MIARO program, the site designed to be maintained is the Cascade site, which is located north of the sector of the park.

- The maintenance of the camping site was performed following the scheduled steps:

- A kitchen with a 4.50 m X 3.10 m wide table and bench (sheltered), entirely rehabilitated
- A 4.50 m X 3.10 m wide camping fire (sheltered), entirely rehabilitated.
- Two tent areas, including a space for three tents and another for four tents
- Two new toilets
- Two trash pits
- A water point on the Manambato River

#### ***j. Impact evaluation system created***

The management of the ecotourism environmental impact consists in setting up a follow-up evaluation system for ecotourism environmental impacts at the level of the park and in evaluating the qualitative and quantitative negative impacts of ecotourism by suggesting mitigation measures.

##### Ranomafana

- Preliminary reports after analysis (initial condition of the environment, physical, biological and ecological impacts of tourist presence...) were drafted, as well as the monitoring/evaluation manual.

#### ***k. Schools benefit from environmental education***

A school is considered “sensitized,” when it has been subject to the three modules: Initiation to the notion of protected area (module I); Initiation to environmental issues (module II); Sensitization to the protection of the PA (module III). Environmental Education consists in educating students and teachers for an increased sensitivity as to the importance of the preservation of the environment in general and that of protected areas. This activity was designed in view of improving the communities' awareness of the importance of protecting PAs. It also aims at implementing the environmental education module in public and private schools in the zone of intervention. The session of environmental education at the level of the target schools consists not only in better knowing the importance and the value of Protected Areas but also in involving students conveying environmental messages to their parents.

##### Ranomafana

- The communication sessions aim at providing students with a better knowledge of the value of natural resources surrounding them and the necessity of protecting them. Four awareness-raising sessions were performed in 4 schools. (EPP Ampasimpotsy/ CR Ranomafana, EPP Morafeno/ CR Ranomafana, EPP Vohitrarivo/CR Tsaratanana and EPP Ambalakindresy/CR Ambalakindresy). The total number of beneficiaries is estimated at 908 students. Green classes were organized for some schools, namely BIRD school, Saint Michel College, Maria Manjaka College, and the Association FIZAMI) with a few classes from Jean RALAIMONGO in Fianarantsoa II.

##### Mantadia / Analamazaotra

- Two public primary schools (Andasifahatelo and Falierana/ CR Andasibe) were beneficiaries of environmental education. This awareness-raising consists in initiating to the notion of protected areas and to environmental issues.

### Zahamena

- Communications activities with five schools took place. The Protected Areas teaching module (initiation to the concept of PA, management issues and protection of the PA), was introduced in collaboration with teachers and directors of the schools. An inventory and analysis of the needs of the schools, identification of required teaching tools, and production of teaching support materials were completed.
- Among our target for environmental education, eleven other schools (EPP Anamborano/CR Miarinarivo; EPP Antevibe, Manakambahiny I, Ambodisaina, Ambodirafia and Ambodirafia II / CR Ambodimangavalo; EPP Anosivola, North Andranomalaza / CR East Manakambahiny; EPP Ambohibary and Antanandava/ CR Antanandava; EPP Ambarifotsy/ CR Ambohibe) were sensitized. We organized classroom courses in the presence of teachers, talked about the protection of the protected area. As defined in the planning, each session lasted 30 minutes. The teaching was done through a thematic presentation in a classroom, a contest and a short play at the end of the session.

### Andohahela

- Among our target for environmental education, two schools have been sensitized in the commune of Behara.

### ***1. Advocacy for decision makers***

Decision-makers are subject to a lobbying action when we perform an action aimed at getting them to adopt our interests. The idea in this activity is to convince administrative authorities as well as local and regional elected officials to implement a system of sharing and reviewing that is in line with biodiversity conservation programs. That is, carry out an advocacy/negotiation action with authorities and stakeholders in the field of natural resource management that is likely to set up a system of sharing, a common vision of biodiversity conservation programs.

### Ranomafana

- Eight communications sessions for decision-makers were held during this reporting period. This activity consisted of developing communication support including environmental messages, together with further tools for environmental education and communication. These sessions help to maintain positive relations with authorities so that the goals of the Park are integrated into local and regional planning.
- A courtesy call was made on the Minister of Environment, Water and Forests as well as the Inter Regional Department of Environment, Water and Forests of Fianarantsoa. This action concerns the presentation of all the activities completed within Ranomafana National Park as well as the pressures on the Park.
- An action of advocacy has been carried out with the Department of Water and Forests, the Inter Regional Department of Fianarantsoa, the State Prosecutor of Mananjary, Judiciary Police Officers on the Ampasina case, a parcel of about one hundred hectares of the park which has suffered trespassing.
- A courtesy call has been made with the Chief of Region Vatovavy Fitovinany; district of Ifanadiana on the park's activities, the progress made by the projects funded by portions of the proceeds from entrance fees to the protected area and the case of pressures on the park.

### Mantadia/Analamazaotra

- Two communications sessions with local authorities were carried out. One involved the Assistant to the Chief of the Alaotra-Mangoro Region, with the aim of supporting forest landscape restoration in the peripheral zone of the region, and the other involved the Mayors of Ambatovola and Beforona to promote collaboration between them for the construction of an access track joining Ambatovola to National Road 2.
- Two advocacy actions were carried out – one with the Municipality of the Morarano Commune to sensitize cattle owners to respect and protect the Andasibe Mantadia National Park and the other with local authorities in Fanovana/ CR Ambatovola to work together and lend a helping hand to the park's agents to eradicate the different pressures on the west side of the park.

### Zahamena

- Advocacy with decision-makers concerned the establishment of an Association of Mayors within the Peripheral Zone to protect the park. This also included communication campaigns that promote positive changes in behavior among people living around the park.
- Advocacy actions to fight bushfires and forest clearing were conducted in the Urban Commune of Ambatondrazaka and the Rural Communes of Miarinarivo, Antanandava, Manakambahiny-Est and Vavatenina.
- At the level of the District of Ambatondrazaka, a courtesy call was made to Mr. RANDRIANARIDINA, Chief of the said District, seen that he had just come into office. The objective of this visit was to:
  - Establish a protocol of collaboration related to conservation and to reach the communal objective of zero fires as well as to comply with efforts to reduce pressures in the intervention area.
  - Upgrade to the same level and vision all authorities and the surrounding population regarding protected area conservation and development management in the peripheral zone.

To reach this objective, a roundtable on the explanation of the following themes was discussed with the Chief of District of Ambatondrazaka:

- The management policy for the national park
- The creation of the COSAP and the management system for the development of the Peripheral Zone

After all interventions with the Chiefs of District, both parties drafted an outreach program on the fight against bushfires and forest clearing in the Rural Communes of Antanandava and Manakambahiny-Est.

- We organized a roundtable with the Mayor of the Rural Commune of Ambodimagavalo, the Chief of Fokontany of Antevibe, the President of COBA of Ambatoharanana III, and the President of Association of students' parents of the Fokontany of Antevibe to draft a convention for the implementation of development projects in both villages. This program responds to the request of the Rural Commune Mayor during the meeting for the creation of the Association of Mayors in the peripheral zone of the Zahamena national park.
- After the establishment of the convention between the national park and the community of Antevibe, we organized a consultation with the Mayor and the members of the Communal Council of Ambodimangavalo Rural Commune. The objective of this visit is as follows:

- Strengthen the collaboration among national park managers, the Mayor and the Communal Councils of the Rural Commune regarding activities related to conservation
- Comply with efforts designed to reduce pressures in the intervention areas
- Ensure a common vision among stakeholders.

To reach these objectives, a roundtable to explain the following topics was organized:

- The Durban Vision and the management of protected areas in Madagascar
- The management policy for the National Park
- The creation of the Committee of Orientation and Support to Protected Areas (COSAP)
- The management system for the development of the Peripheral Zone.

#### Andohahela

- The 15 Mayors of the national park's peripheral communes have agreed to cooperate with the park. Two working sessions to develop partnerships among rural communes, MNP and WWF were organized with the mayor and community representatives of Behara.
- Three advocacy actions were carried out in the commune of Isaka Ivondro, Ankariera and Behara. The result of this activity was that the communes unanimously stated their decision to cooperate in the fight against the different pressures through the drafting and application of an inter-communal Dina.
  - ♦ For the commune of Isaka Ivondro, 32 people (Mayors, President of Council, traditional authorities) including 04 members of the park's personnel participated. They decided that:
    - 01 management committee of Dina will be made up of concerned authorities will be implemented;
    - **The application of existing legislation must be improved through the committee's intervention;**
    - **An inter-communal Dina between the Rural Communes of Isaka Ivondro and Mandiso will be drafted.**
- Four advocacy actions were carried out in the Communes of Manamborano, Fenoovo, Tranomavo and Maromby. The main objectives were to involve decision-makers in the protection of the environment, contributing to the activities for the protection of the park in particular, and prompting them to take into consideration environmental problems in their local planning.
- All the plans on advocacy for decision-makers in the Site of Andohahela were completed in the site Peripheral zone, including 13 communes.

#### ***m. Public communication***

An event is considered "completed", when it has been planned, organized, and implemented. The environmental event is an activity aimed at informing the masses (public).

#### Ranomafana

- An event was completed in the urban commune of Farafangana. This activity consisted in celebrating the World Environment Day and the drafting the terms of reference for the environment.

### Mantadia / Analamazaotra

- Two large public awareness sessions were completed. One of them took place in the main city of Andasibe; it consisted in raising the youth and children's awareness of the park's economic value, and conveying to young people the importance that conservation has on the development of the area. The other sensitization took place during the celebration of the environment week in Mandialaza.
- Five other large public awareness sessions were implemented. Two of them were held in the public schools of Andasifahatelo and Falierana and focused on the notion of the protected area and on environmental issues. The three awareness sessions held in the EPP of the Fokontany of Andonaka, Vohibazaha and Volove, focused on the economic impacts on the park, and showed the environmental problems mentioned in the management plan of the PNAM

### Zahamena

- We organized an environmental demonstration during World Environment Day, which was held in the village of Anosivola in the CR of Manakambahiny-Est. The 7 chief lieu of fokontany in the rural commune of neighboring communes actively participated in the demonstration
- The intervention of Zahamena national park does not stop uniquely in the peripheral zone but extends as well up to the regional level. Zahamena national park participated in the regional fair of Alaotra Mangoro, which included exhibitions, video projection of films on environment and video projection of activities of Zahamena national Park

### Andohahela

- An intensive communications session concerning community socio-economic problems and needs was conducted for the two villages of Analabe and Beloha in the fokontany of Esakatany.
- Communications sessions with eight fokontany in Ambatoabo were carried out to reinforce the conservation projects and to improve communal cooperation in management of natural resources around the park. As a follow-up, eight committees worked with park staff to identify threats and their causes, and to ensure joint enforcement in collaboration with the Direction of the Park and the CIREF.
- Communications activities in villages included a session of environmental education by 14 forest operators of the village of Ranomainty (the Southern peripheral zone of parcel I of the park). Additional missions visited four villages and involved 26 villagers in the rural commune of Enaniliha (peripheral Zone in Parcel of the park). These communications visits were carried out to create surveillance committees at the request of the above communities.
- The park worked with staff from Cap Sainte Marie Special Reserve, WWF-Ala Maiky, and the Amboasary-Sud CANFORET to organize a meeting aimed at putting in place a structure that would link four rural communes working in cooperation with MNP. An additional mission in the rural commune of Tsiombe was carried out in order to develop an inter-commune dina or agreement. The goal of this dina was to standardize approaches concerning natural resource management within the protected areas' neighboring communes.

#### ***n. Mid-level structures operational (relay)***

A relay group is considered operational when once created, it has been subject to capacity building on the two modules: Initiation to the Values of the Park (module I); Animation Techniques (module II)

##### Zahamena

- We targeted students from 6ème to 3ème at the Collège d'Enseignement Général of Miarinarivo / CR Miarinarivo, and students of 5ème to 4ème of the Collège d'Enseignement Général of Ambohibe / CR Ambohibe as they were previously a ZAHAMENA Club under the ICDP. We formalized the official documents of the club called "Friends of the Zahamena Park" in the rural communes of Miarinarivo and Ambohibe. They were then launched during an information campaign within the respective target groups.
- We selected the youth sports club of Ambohibary among our targets for environmental education because the zone is a hotspot for fires. Young people provided the opportunity to issue and extend the messages to farmers and producers.
- We targeted the Association of the guides-porters of Ambodivoangy / CR Ambodimangavalo (made up of 25 people, all farmers) and the puppet operators of East Manakambahiny village / CR East Manakambahiny (to which the women's team of nutritional education is attached) for environmental education because they were already well organized. They were ready to spread the message in favor of the environment and protection of the national park. These structures were considered a pilot group in activities related to the conservation, such as tree reforestation activities, and animation and sensitization through puppet shows.

## **Results Module 4: Sustainable Financing Mechanisms Mobilized and Operational**

One of the greatest challenges for the conservation of biodiversity is its cost. Many factors contribute to this challenge, including the fact that biodiversity conservation remains at the fringes of mainstream economic development, while it is at the core of the livelihood of many poor communities around the world. In recent years a variety of financial instruments and new revenue sources for conservation have been discussed and tested in the global conservation community. Under RM4, we focused on developing the most promising of these new financial mechanisms for Madagascar to ensure that a greater amount of protected area operational costs were covered by sustainable and regular sources. Great progress was made on several fronts and with support from MIARO, Madagascar's parks and reserves will now benefit every year from funds from the new Foundation for Protected Areas, forest carbon projects and new, regular, contributions from internationally-renowned zoos. In 2010, these new funds will represent over \$1 million and on the basis of contractually committed contributions to the Foundation, this figure is projected to rise to over \$3 million by 2013. MIARO has also laid the groundwork for two other new mechanisms that should also add to these resources in the future: ecotourism concessions and "green charges" – specifically charges related to airfares that would be used for environmental protection. We also worked to ensure that an existing foundation, Tany Meva, used its resources more strategically to support community livelihood improvement around protected areas.

A series of sub results modules were developed to ensure sustainable financing mechanisms were mobilized and operational:

- 4.1 Expand and develop management capacity of Malagasy Environment Trust Funds/Foundations
- 4.2 Build on efforts made and cooperate with other EP3 actors to strengthen potential sources of income for forest habitat conservation
- 4.3 Stimulate investment for biodiversity conservation

During the MIARO extension period from April – August 2009, the following sub-results modules were added:

- 4.4 Expand the carbon credits projects including credits for avoided deforestation
- 4.5 Assist the GOM develop other new financial instruments to finance the environment sector (however this sub-RM was cancelled due to the coup d'etat in March 2009)

### **SUB RESULTS MODULE 4.1 Expand and develop management capacity of Malagasy Environment Trust Funds/Foundations**

#### *Tany Meva*

Throughout the project, MIARO, through WCS, provided support and technical assistance to Tany Meva Foundation for institutional development, strategic planning, and development of new sustainable financing mechanisms.

In 2004, WCS began support to the Tany Meva Foundation to develop a 5-year strategic plan for the Foundation. Part of this strategic plan was the launch of the Foundation's *Site de Conservation* Program, in which Tany Meva would invest in community outreach programs at selected target

sites over the long term. The first of these sites was the Makira Protected Area. Another milestone was the receipt of a \$375,000 grant from the MacArthur Foundation for creating local empowerment in the management of *sites de conservation*. The capacity building and outreach funds provided under this grant, along with staff support, enhanced programmatic efforts under MIARO.

The validation of the strategic plan led to the development of a new organizational chart for the Foundation that better responded to its long-term programming needs. Using its internal funds, Tany Meva hired a local firm to assist it in restructuring at the executive as well as the board levels. The validation of the strategic plan also allowed for the updating of the Foundation's business plan, and development of a new communications strategy in 2005.

Through 2005, MIARO continued to focus technical support to the Tany Meva Foundation in an effort to support its institutional capacity to diversify its funding sources, maintain its capability to manage its funds, and to increase its overall contribution to its conservation and development objectives. As part of this effort, WCS and Tany Meva signed a collaborative agreement outlining the level of support that would be provided during the life of the MIARO project. The memorandum of understanding between Tany Meva and WCS was formally signed on May 20, 2005.

From 2006-2008, MIARO support continued to focus on the increase of Tany Meva resources, skills, information and networking. The new board of Tany Meva was nominated in January 2007 and started to work on the internal documents such as by laws and statute.

Over the life of MIARO, Tany Meva grew as a foundation. Its strategic plan developed, its portfolio of community support programs grew, and its communication strategy and systems improved. Tany Meva successfully received two rounds of 3-year funding support from the MacArthur Foundation, managed a GEF small grants program, and successfully submitted for funding through the CASCADE program - focusing on community-based sustainable financing mechanisms through forest carbon.

To improve the Foundation's programmatic planning, MIARO provided support for the implementation of recommendations that came out of the 2004 strategic plan. One of these recommendations was that the international member of the board be resident in Madagascar to be better able to attend meetings and provide important input into board deliberations. At the same time it was recommended that Tany Meva create a voluntary international advisory group comprised of supporters and ex-board members, who would be able to provide advice, and support future Tany Meva fundraising initiatives.

The Tany Meva Board was dissolved in mid-2006 because members had neglected to renew their terms. The Founders saw an opportunity to transform the Board structure and create one that responded better to conservation challenges in the country and allowed for more easily creating internal regulations consistent with the intent of the new foundation law. The Founders decided to appoint a new transitional Board to responsible for the development of new statutes, by-laws, and procedures manuals. First tasks included the approval of new statute, by-laws, and the 2007 work plan and budget.

In 2009 the Tany Meva Board was presented with an updated draft investment strategy to optimize returns. The strategy outlined moves the Board should consider to improve the returns on Tany Meva's capital and protect it against erosion of value. Draft terms of reference were written to permit the contracting of a management firm to review Tany Meva's current structure

and operations and recommend structural changes and develop manuals consistent with the new operational thrust. A consultant was hired by Tany Meva – under the recommendation of the newly formed Tany Meva Board and with the support of MIARO – to assist in restructuring the operational modality for Tany Meva to improve its overall effectiveness as an environment foundation to better attain its mission “*to manage financial resources to promote the sustainable management of natural resources through the active engagement of communities*”.

As part of the effort to support the new communication strategy, Tany Meva’s website design and content were updated and improved. The website is available in two languages; is more dynamic and attractive; is easier to navigate; and is more informative. The goal of the new website is to increase Tany Meva’s exposure both locally and internationally. Tany Meva intends to increase knowledge within Madagascar about its work and successes as well as communicate to and attract international donors. The new design permits online donations and allows people to contact Tany Meva about its activities. The new web address is [www.tanymeva.org.mg](http://www.tanymeva.org.mg)

MIARO provided training and capacity building to the Foundation. In 2005 a study trip to Brazil was attended by Tany Meva’s Executive Director and Director of Finance, and Ray Victorine (WCS) from March 6 – 19, 2005. The Brazilian Biodiversity Fund (FUNBIO) and WCS hosted the visit. Discussions with FUNBIO staff and direct observation in the field allowed Tany Meva to gain valuable programmatic and management insights and observe fund management practices that it could adapt to its program efforts in Madagascar. FUNBIO provides long-term funding for core partners working in specific regions of important biodiversity.

To reinforce the organization’s analytical and strategic planning capabilities, training in 3D, spatial, and image analysis was provided by Society for Conservation and Geographic Information System - Madagascar (SCGIS) for the Tany Meva GIS team leader. Tany Meva used this training to develop a model aimed at establishing their priority geographic focus, with the goal of supporting management of SAPM sites, especially those that will have a significant community management component. MIARO also supported Tany Meva’s efforts to improve project management software to facilitate decision-making, and assist Tany Meva to manage its program activities more efficiently. Spatial information is now linked to financial and project tracking data allowing Tany Meva to have updated and reliable information about each of its projects. As a result of these efforts, in 2007 Tany Meva established its first sub-office in the Tulear Region – a target region where it expects to focus its program activities linked to SAPM priorities.

In July 2008 Tany Meva joined other Madagascar partner organizations in attending the KATOOMBA Group training workshop in Tanzania. Organized by the Ecosystems Market Place Group and the WCS-led, USAID Translinks program, the workshop focused on PES projects and advances in Africa.

MIARO provided support to develop Tany Meva’s project portfolio. First steps were taken in this area by including Tany Meva in the sustainable financing group focused on carbon and the ongoing work related to Reduced Emissions from Deforestation and Degradation (REDD). One role will be for Tany Meva to focus on specific SAPM sites that will have significant community participation in management. If conditions permit, Tany Meva can begin to prepare project development documents that could result in the marketing of carbon, whose proceeds can finance management of these areas. Toward this end, MIARO supported Tany Meva to host a forest carbon workshop May 13-21, 2007 with the UK-based organization Bioclimate Research and Development (BRD) and their program Plan Vivo. Plan Vivo offers a methodology for

developing community-based forest carbon projects as well as access to markets and buyers. Given the Plan Vivo structure and potential for capacity building, development of a Plan Vivo project may be a useful approach for Tany Meva as part of its sustainable financing portfolio. The program would fit well with the current reforestation thrusts of the organization and take advantage of Tany Meva's status as a trust fund.

Since the workshop with Plan Vivo, Tany Meva has been working on the development of a portfolio of Plan Vivo projects that Tany Meva intends to submit for evaluation. While this portfolio is still in development, Tany Meva has submitted several project information notes (PINs) to the UNEP CASCADE program for community conservation related to forest and land use management. The PINs focused on community restoration and reforestation projects (3 PINs), REDD projects (2 PINs) and renewable energy sources (2 PINs). Of the PINs submitted to CASCADE, the 3 focusing on restoration and reforestation were funded. These 3 PINs submitted for restoration and reforestation projects can be adapted for consideration by Plan Vivo.

As its first *Site de Conservation* support, Tany Meva engaged in a 24 month program of work with WCS's Makira Project. Working together, Tany Meva and WCS developed a strategy for long-term support, along with partners, to conservation and community management and revenue generation efforts in and around the Makira region. It is worth noting that the measurable success of this first collaboration has resulted in the approval of a second dossier for Tany Meva support to Makira. Coupled with this engagement with WCS and the Makira project, WCS worked with Tany Meva and the consulting firm Finance Technology High Management Conseils (FTHM) to identify potential sustainable financing mechanisms around Makira. Workable mechanisms that support sustainable incomes for communities located around Makira were identified to develop a holistic conservation strategy that actively involves local communities in and around SAPM sites. The steering committee selected microfinance as a key mechanism for testing in collaboration with *Ombona Tabiry Ifampisamborana Vola* (OTIV). Launching of the project occurred in 2007, and is continuing today. OTIV has established an office in the Commune of Ambinanitelo and 40 community associations engaged with WCS in management of Makira have taken loans with OTIV to start 'green' business.

Fluctuation in currency values raised asset management concerns that WCS worked to address with the Foundation. Tany Meva was evaluated to have been earning returns significantly lower than market potential (at least compared to other similar funds in the world). This resulted from a combination of holding large reserves in Malagasy currency (value loss by devaluation), conservative investments in the US (money market funds primarily), and lack of investment advice. The combination of loss in dollar value due to decline in Malagasy currency, and lack of significant participation in the world investment market will affect its ability to meet project obligations and points out the need for systematic change in the approach to managing its assets. It was recommended that Tany Meva move at least 80% (if not all) of its Malagasy currency into a dollar or euro denominated account, establishing one fund account.

To address an assessed need, recruitment of the financial advisor was implemented through a targeted request for applications in July 2005. Applications were received July 19, 2005, and Foundation staff including the Executive Director and two departmental heads conducted the technical evaluation of the applicants. A second round of applications was requested because certain applicants included services above and beyond the terms of reference required by the Foundation. This made comparison among applicants difficult. Final applications were received September 20, 2005 and were evaluated by the investment committee. On the basis of the evaluations conducted by the investment committee, as well as the financial and technical

applications, the Board of Directors selected Master Capital to support the recruitment of a fund manager on October 21, 2005.

### *Madagascar Foundation for Protected Areas and Biodiversity*

The creation of the Madagascar Foundation for Protected Areas and Biodiversity in January 2005 was an excellent opportunity for conservation in Madagascar as ensuring sustainable funding for protected areas is crucial to achieve conservation. MIARO, through WWF and CI, worked throughout the project to ensure that the Foundation was fully operational and able to respond to this challenge. In addition to the technical support that MIARO provided, two of the MIARO partners, CI and WWF, made founding contributions of \$1 million each to the capital of the Foundation. At the end of the MIARO project, the foundation is fully operational and has already been dispersing grants to Madagascar National Parks for the last 2 years from its “sinking fund” provided by KfW. The funds deposited into the capital exceed \$16 million and a total of \$33 million has been secured in contracts and is committed by donors. A further \$19 million is currently being negotiated and the Foundation currently projects that it will exceed its target of \$50 million secured by 2012. Further opportunities such as developing carbon markets and potential private sector contributions may increase this total further.

Despite the downturn in global markets over the last 12 months, the Foundation was able to protect its capital and has made net interest gains since its creation. The Foundation recently announced to SAPM partners that it will start dispersing grants from this interest generated starting in 2010. Both Madagascar National Parks and new protected areas in the SAPM will be eligible.

MIARO supported the development of a grant-making manual and trained Foundation staff in its use. This important document allows the Foundation to assess projects’ financing needs and to apply rigorous procedures for allocating funds to the managers of protected areas.

Through WWF, MIARO supported the Foundation’s communication strategy through expertise provided in collaboration with WWF-US staff. Through MIARO support, the Foundation was able to develop and produce its annual report and various marketing and communication tools such as brochure, booklet and the structure of its website in two languages, English and French.

The Foundation asked MIARO to develop a system to evaluate priorities for PA funding. Since some of the Foundation’s donors have earmarked their investment primarily for Madagascar National Parks, the system we developed treats the MNP network and the new protected areas separately. The system is weighted in favor of biodiversity values (representation measured by diversity, endemism and viability) but also includes measures of management effectiveness and the protected area’s contribution to social development. The new evaluation system has been developed and tested for all Malagasy PAs. This priority setting analysis has been used to help the Foundation set its priority areas to support in 2010 which will be the Masoala National Park and the Mahavavy-Kinkony Wetlands reserve (a new protected area).

## **SUB RESULTS MODULE 4.2 Build on efforts made and cooperate with other EP3 actors to strengthen potential sources of income for forest habitat conservation**

### *Technical support to the finance committee of the Durban Vision group*

In October 2004 a technical sub-committee of the Durban Vision's Finance Committee was created through the hiring of a conservation finance specialist who led a coordinated effort to support the Durban Vision group in collaboration. This group coordinated meetings of the Durban Vision Group sustainable finance committee. The team developed a work plan and held weekly meetings with the aim of developing a refined costs and revenue model for MNP-managed protected areas and new protected areas. In May 2005, the sub-committee delivered an updated Gap Analysis that estimated the expected management costs of SAPM.

In 2006, MIARO, through WCS, completed an inventory of existing ecosystem service payments programs was completed. This inventory followed the established methodologies of the Katoomba Group that were used in Uganda, Tanzania and South Africa. The Ministry of Environment approved the study's implementation to collect available information about existing PES programs. Interviewed stakeholders included: ANDEA, Jirama, Eau Vive, Olympiko, national and local NGOs, etc. Following this, the technical sub-committee worked to set up a national ecosystem service network, and integrate Madagascar into the Katoomba Group. The Katoomba Southern Africa network had already indicated its intention to train the national PES network members in different topics related to ecosystem service markets and the establishment of payment regimes for services. Through the participation in meetings surrounding PES in Madagascar (sponsored by CI) and Katoomba in Tanzania, a more comprehensive understanding of PES activities was developed and included in a broad assessment of PES capacity in Madagascar.

In 2007, with work of the Finance Committee stalling somewhat with changes in personnel at the Ministry and a disappointing report on sustainable financing options from the consultant SOMEAH that had been financed with World Bank funding, MIARO partners met to discuss an alternative approach to addressing sustainable financing issues at the Government level in a effort to introduce more dynamism into the process. The team decided to propose to the Government an approach involving the creation of smaller working groups around particular issues. WCS and CI agreed to lead a carbon financing group; WWF took the lead on Green Fees, while WCS and CI co-chair the committee on biodiversity offsets. As part of the process, potential participants from within government and civil society were identified and these representatives were invited by Government to participate in the meetings. Through these smaller targeted groups we were able to work more effectively to create strategies and recommendations around sustainable financing opportunities. The results of this work is explained in more detail under the sections on forest carbon projects, green fees and biodiversity offsets.

In 2008, MIARO members contributed to sustainable financing issues addressed in the Madagascar Action Plan. The MIARO team completed a strategy document on sustainable financing that laid out a variety of options and provided background on the state of sustainable financing mechanisms in Madagascar. That document was completed in September to coincide with late-year presidential meetings related to environmental issues in Madagascar.

### *Increase understanding of the value of ecosystem services*

In 2006 a study of the valuation of ecosystem services was launched in collaboration with the School of Environmental Economics, University of Vermont, USA. Completed in 2008 by consultant Michel Masozera, the study focused on an ecosystem services valuation of the Antongil Bay landscape. The final document is available and provides a simplified analytical framework that can be adopted and applied by SAPM to assess ecosystem service values in the country's protected areas.

In 2007, to promote and market the concept of ecosystem service values to a broad audience, MIARO, through WCS, produced and promoted a short film that shows the value of ecosystem services to Madagascar's economic development. The film involved members of the private sector who speak to the importance of ecosystem services and their conservation and make the business case for ecosystem management. The film was premiered and distributed during the 2008 'Presidents Round Table' on private sector investment in Madagascar. Two hundred copies of the film were made available for distribution to all participants of the round table meetings.

In 2009, a two day workshop on Biodiversity Offsets was planned to develop a shared understanding and commitment by the business community, government, environmental constituencies, and communities to use biodiversity offsets, when appropriate, as a sustainable financing mechanism to help implement the Madagascar Action Plan. Biodiversity Offsets are conservation actions undertaken by private sector to offset adverse biodiversity impacts in addition to environmental mitigation measures so as to make a net positive contribution to biodiversity conservation. The Business Biodiversity Offsets Program (BBOP) is a program led by Forest Trends, CI and WCS to develop methodologies and pilot applications of biodiversity offsets that appropriately compensate for the biodiversity impacts of large-scale mining, industrial or agricultural developments. However, the political situation prohibited the ability of the MIARO team to carry out the workshop as planned, and instead an internal round table discussion on Biodiversity Offsets was organized on February 3, 2009. Kerry Kate (Forest Trends), Director of the BBOP program, and Ray Victurine (WCS representative on the secretariat) presented BBOP overall principles and guidelines. Pierre Berner (Projet Ambatovy) provided an example of how the Ambatovy nickel mine is using the BBOP methodology to identify biodiversity offset activities related to the mine's impacts. Participants completed the meeting with a discussion on how biodiversity offsets could be more widely applied in Madagascar.

### *Forest carbon projects*

Since 2004 MIARO has supported the UNFCCC focal point for Madagascar and facilitated the creation of a carbon sub-committee of the multi-actor EP3 "*Comité Conjoint.*" and later the technical committee on Reducing Emissions from Deforestation and Degradation (that replaced the previous sub-committee). The team has been very successful at moving the forest carbon issue forward and has supported the engagement of consultants to develop guidelines for the national carbon committee to evaluate carbon projects. WCS and CI furthered their efforts to market conservation carbon from Makira, CI developed the Ankeniheny-Zahamena as an "avoided deforestation"/REDD project for which the government entered into a contract with the World Bank's BioCarbon Fund, and CI developed the Fandriana-Vondrozo corridor as a REDD project that is now receiving funding from the voluntary carbon market. In addition, CI developed the TAMS forest retraction project (see RM1.5) as a Clean Development Mechanism-eligible project to ensure funding for the activities and benefit communities. In 2009,

implementation of all four of these projects is well advanced and carbon revenues are providing for the core costs of activities at each of these sites.

### *The Makira Project*

During 2005 and 2006, in collaboration with CI's Center for Environmental Leadership in Business, donations equivalent to 40,000 tons of carbon dioxide emissions reductions were received for protecting Makira's forests – a first for Madagascar. These funds contributed to the establishment of the Makira Forest protected area. This successful first phase of marketing carbon was followed up by a second in which donations equivalent to 100,000 tons of carbon dioxide emissions reductions are being marketed to pay for Makira's management costs.

In 2007, in preparation of selling verified emission reductions (VERs) from Makira, WCS received a letter from the Ministry of Environment giving it the authorization to market up to 9.1 million tons of CO<sub>2</sub> emissions reductions. This agreement states that 50 % of all proceeds should go to support conservation and community development in the Makira region. In addition, the objective is to use remaining funds to strengthen Government capacity as well as the carbon financing capabilities of Tany Meva. This letter led to the drafting and signing of a MoU between the Government and WCS: the signing took place in June 2008.

In 2008, in preparation for selling VERs from Makira, CAZ and COFAV, assistance from Winrock International was requested to train foresters and staff from each of these carbon projects in a methodology for assessing forest carbon stocks. This is necessary to prepare the project design documentation so that the projects can be certified under the Voluntary Carbon Standard (VCS). VCS certification is critical to establishing a recognized REDD project. The training was broken into two components:

- Classroom training where all participants were briefed on carbon forest project background, financing and implementation. Information was then presented on how to carry out baseline carbon measurements in the field – the methodology used is a version of the BioCarbon Fund methodology for 'Mosaic' type deforestation;
- Field training followed, this was conducted in the Makira Forest Protected Area. One week of field work was dedicated to practice and in-depth explanation of every step in the methodology.

Following on from these training sessions, WCS carried out the field-based data collection and computer-based modeling work needed to complete the project design document (PDD) for Makira. CI carried out the same work for CAZ and COFAV –see below in the sections on these projects. The work undertaken included (i) completing the field botanical data collection to establish the baseline forest carbon estimates; (ii) drafting the Project Design Document (PDD); and (iii) modeling future deforestation scenarios to establish 'with' and 'without' project deforestation risk over time. The baseline deforestation estimation is now complete and land change modeling of future deforestation threat is largely complete. Makira will adhere to the World Bank BioCarbon Fund 'Mosaic' deforestation methodology. Field verification of the project by VCS is planned to take place before the end of 2009, with other funding.

In parallel to this, WCS continues to work with SmartWood of the Rainforest Alliance to complete the project design verification using Climate, Community and Biodiversity Standards (CCBS). A pre-evaluation of the Makira project has been completed by SmartWood, and field-

based verification efforts are currently in the planning phase. Ongoing activities are being implemented with other funding.

*The Ankeniheny-Zahamena project*

In 2004, initial estimates by CI and Winrock International estimated that protection of the Ankeniheny-Zahamena corridor could avoid the emission of 9-10 million tons of carbon dioxide into the atmosphere over a 30 year period. On the basis of these estimates, the Ankeniheny-Zahamena corridor was proposed by the Government of Madagascar as a pilot REDD project to include in the World Bank's BioCarbon Fund portfolio. A contract was signed between the government of Madagascar and the BioCarbon Fund for this project in 2007. This (along with a similar contract for the TAMS project-see below) is the first contract for the sale of Carbon dioxide emission reductions that the government has entered into and as such has provided the Ministry of Environment and Forests vital experience of emerging carbon markets and the REDD mechanism that may be adopted at the UNFCCC meeting in Copenhagen at the end of 2009.

The activities for putting in place the new protected area in the Ankeniheny-Zahamena corridor (CAZ) have already been covered in detail in RM1 and we will not repeat them here. Instead, we focus here on the specific activities that were related to the development of the documentation needed for the carbon project (the Project Design Document-PDD).

To ensure that the forest carbon project at CAZ is developed such that we are able to demonstrate that carbon dioxide emissions will be reduced, MIARO, through CI, has been working to collect and quantify essential data to estimate the baseline carbon stock for CAZ and to create a projection of future deforestation rate and location based on the historic deforestation rates and patterns. These analyses are essential for the PDD.

In 2008, MIARO worked with the World Bank's BioCarbon Fund to develop a methodology that has been submitted to the Voluntary Carbon Standard for validation. The approach we have been following at CAZ uses the same methodology. The main steps are:

- Define the boundaries of the proposed REDD project activity: spatial boundaries, temporal boundaries, carbon pools, and sources of greenhouse gas emissions.
- Analyze historical land-use and land-cover change in the reference region, leakage belt and project area going back about 10-15 years from present.
- Analyze agents, drivers and underlying causes of deforestation, and sequence the typical chain of events leading to land-use and land-cover change.
- Project the rate and location of future deforestation in the reference region, leakage belt and project area in the without project case.
- Identify forest classes in the areas that will be deforested under the baseline scenario and of the land-use classes that will replace them.
- Estimate baseline carbon stock changes and, where forest fires are included in the baseline assessment, of non-CO2 emissions.
- Ex ante estimation of actual carbon stock changes and non-CO2 emissions under the project scenario.
- Ex ante estimation of possible leakage due to GHG emissions associated to leakage prevention measures and displacement of baseline activities.
- Ex ante calculation of net anthropogenic GHG emission reductions.

These steps have all been completed for CAZ and included in a PDD that was submitted to the BioCarbon Fund and VCS for comment.

#### *The Fandriana-Vondrozo Corridor Forest Carbon Project*

During 2008 we also made good progress in setting up the avoided deforestation project in the Fandriana-Vondrozo corridor (COFAV). The work that has been started to protect COFAV is described in detail in RM. Related to the carbon elements of the project, the collection of field data and most of the analyses necessary to determine greenhouse gas baseline emissions have been completed, agreement has been reached with regional and local stakeholders for the design of a protected area that will include a substantial role for local communities in its management, and we have field tested approaches for engaging communities to ensure good governance of the corridor's forest resources.

We are using the same methodology at COFAV that has been adopted for Makira and CAZ. Analyses of deforestation rates over the last 15 years in the corridor have been finished, projections of future deforestation in the corridor have been conducted and the fieldwork to measure forest carbon stocks in a representative sample of sites within the corridor has been completed. Together, these data provide the necessary foundations for completing the Project Design Document that is needed to certify the project to the Voluntary Carbon Standard and the Community, Climate and Biodiversity Standards. Completing the Project Design Document and having the project certified by the VCS and CCBS is one of CI's highest and immediate priorities for 2009. The work on finalizing the design of the carbon project was not included in the extension phase of MIARO, but CI has continued this work under other funding to ensure that the investments under the MIARO project can be built upon.

#### *Green fees and debt-for-nature swaps*

Starting in 2005, MIARO provided support to sustainable financing activities by working with the *Comité pour le Développement des Instruments de Financement Durable de l'Environnement* (CDIFiDe), which was a committee led by the DGE. This committee was tasked with addressing sustainable financing for the environment sector as a whole, not only protected areas. Due to the restructuring of the Ministry in charge of forests and environment, the *Comité* was dissolved and a new department called *Service de Perennisation Financière (SPF)* (Sustainable Financing Service) was created to achieve Government objectives regarding the long term funding strategies of conservation. MIARO continued to provide support to the Sustainable Financing Service. The Chef de Service, Abdoul Cheikh Abdallah, Directeur des Etudes and Coordonnateur Général des Projets of the former Ministry of Tourism, was appointed. Three highly motivated agents from the Department of Water and Forest and from the Ministry of Tourism also joined the team.

MIARO hired a technical assistant, Henri Rabesahala, to advise and accompany the SPF team in the implementation of the AAH approach to sustainable financing of environmental actions in Madagascar (Table 12). The objectives of the team are twofold: to make sure the funding needs of the MAP's environment commitment are met and to increase the percentage of funding from sustainable financing instruments.

**Table 12. Achievements of the Sustainable Financing Service**

ACTIVITIES	ACHIEVEMENTS	OBSERVATIONS
1. Administrative and financial installation of SPF	1. SPF concept developed 2. PE3's 221b budget revised 3. SPF office installed 4. Staff recruited 5. Staff trained	- Collaboration based on solid working relationships - Appropriation of objectives by the unit with TA from consultant - Need to empower SPF to collaborate directly with partners and donors - SPF operations is important and urgent - Need long-term commitment of SPF team - Need for training of sustainable finance team
2. Revision of Sustainable Financing policy	1. Search for similar policies from other countries	- Sustainable Financing Policy: Strong sign of commitment by the Minister - Need for transparent and participatory process
3. Coordination of sustainable financing activities	1. Individual meetings with sustainable financing actors 2. Participation at SWAP meeting 3. Proposal to organize the governance of SWAP	- Strong expectation from partners that Ministry will take the lead to coordinate actions - Willingness of partners to support Ministry to coordinate - Sustainable financing is an important issue in SWAP process
4. Sustainable financing status board	1. Participation in USAID stocktaking exercise 2. Identification of opportunities based on stocktaking results	Criteria and choice of instruments refined, namely potential revenues and their sustainability External study on each instrument selected
5. Operationalization of sustainable financing instruments	1. Support for BioCarbon Fund CAZ project 2. Development of the management and administrative guide for the BioCarbon Fund CAZ Project 3. Support for WWF to develop green tax 4. Discussions with Tany Meva on BBOP	- SPF agent specialization on one or more instruments - Collaboration with one or two partners for each instrument - Appropriation by SPF of each instrument
6. Financial needs and resources status board	1. Contact with MAP secretary general to discuss the evaluation method used	- Variation in estimation of costs - Need to evaluate real costs of EP3 and the actors' capacity to absorb funds

An important success of MIARO RM4 is the signing of 26 million Euros allocated to the environment sector from a French debt conversion contract called C2D (Contrat de Desendettement-Développement) of which 13 million Euros have been earmarked for the capital of the Madagascar Foundation for Protected Areas and Biodiversity. The allocation of these funds will be managed by the Madagascar Foundation for Protected Areas and Biodiversity and the period of disbursement from the French Government will be within 3 years. This was realized as a result of intensive advocacy not only by WWF in Madagascar but also through the network (WWF-France and WWF-US) and through the other MIARO partners.

The feasibility of introducing green fees to finance conservation activities was assessed by an international expert who developed an action plan. Even if green fees have not yet been collected due to various factors, the action plan includes details of each step to achieve implementation. WWF, through an independent project, is continuing the process of setting up green fees in Madagascar.

The concept of payment for ecosystem services was explored in Madagascar. It is quite a new concept and was not well understood by conservation practitioners as a sustainable means to

achieve conservation. MIARO explored the feasibility of watershed-based payments for ecosystem services around corridors. The conclusion from this study did not allow the immediate implementation of the payment (exception for carbon projects) as various factors may influence it: lack of understanding regarding ecosystem services, legislation not adapted to the concept, and institutional structures not favorable for locally-based financial flow mechanism. However, WWF, through another independent project, will continue to develop the payment of ecosystem services and take advantage of the conclusions developed under MIARO.

#### **SUB RESULTS MODULE 4.3 Stimulate investment for biodiversity conservation**

MIARO worked to stimulate investment for biodiversity conservation, both through working with non-traditional donors and by promoting ecotourism investment.

Stimulating private sector investment poses significant challenges in Madagascar, given the very low rate of private sector participation in the country's conservation sector and the limited number of conservation-related enterprises in existence today. Moreover, market-based instruments for promoting conservation are still in their infancy. To improve these investment opportunities MIARO, through WCS, has worked closely with Zoo Zurich on behalf of Masoala National Park. In September 2004 supporters of Zoo Zurich created a private organization called 'Friends of Masoala.' The association makes annual contributions in the realm of \$15-20,000 towards conservation and development projects on the ground at Masoala and, over time, aims to raise \$8 million dollars to establish a permanent endowment fund for the Park. Zoo Zurich continues to put aside \$100,000 per year from voluntary contributions and a percentage of restaurant and gift shop sales, and raises additional funds for Masoala from other Swiss-based donors.

In 2007 WCS met with Zoo Zurich staff at the Zoo in Zurich during Madagascar days, a celebration of the country with music, traditional food and activities focused on conservation and development. One of the purposes of the meeting was to identify innovative fund-raising mechanisms that could be developed by the Friends of Masoala to raise capital for the Masoala Permanent Fund. Such actions are being deferred for the time being until the membership of the FoM (which currently stands at just over 220 members) has further increased. WCS continues to maintain its collaborative relationship with Zoo Zurich and will take the lead in creating the structure for the endowment fund at the appropriate time.

Also in 2007 WCS was approached by the Edmonton Zoo in Canada about a potential collaboration with the Makira Forest Protected Area Project. In 2009 the collaboration continues to grow. While not at the support level of Zoo Zurich, WCS Makira has received over \$10,000 in funding from the collaboration with the Edmonton Zoo.

In 2005 WCS and Tany Meva agreed to jointly fund the creation of a loan guarantee/investment fund to support sustainable development activities and conservation related businesses around Masoala and Makira. In 2006 the funds were appropriated and meetings held with the financial institution OTIV in Tamatave to explore the best approach for creating the fund. In 2008 an office for OTIV was established in the commune of Ambinanitelo. In 2009 over 20 community associations have engaged in this micro-credit program.

In other areas of potential investment, the MIARO team explored various business opportunities to determine how business investment could lead to improvements in biodiversity conservation. Products include wild silk (working with international NGO CPALI), fashion accessories (MAD

Exports), vanilla, and other natural products. To date, the scale of the investments and benefits are still relatively small, but through other program activities WCS is continuing to pursue these opportunities in the Antongil Bay landscape.

Of the business opportunities that have developed beyond feasibility assessments, WCS has developed a community-integrated program to produce conservation cotton in peripheral landscape of the Mikea National Park, southwest Madagascar. This program was funded by MIARO in its early start-up phase, and received additional initial support from WCS. WCS, with assistance from the World Bank, also recently submitted a large funding proposal to the Japanese Social Development Fund to allow for the continuation for this multiyear program. Currently political instability in the country has suspended the program, but it is expected to continue in fiscal year 2011.

Further, in collaboration with JariAla, WCS supported the 'MusicWood Coalition.' With an interest in promoting private sector support to conservation, the MusicWood Tour was a first-step initiative to establish a program for commercial harvest of precious hard woods to be used in the construction of musical instruments. The harvest would be based on a certification scheme introduced through the Tropical Forest Trust (TFT). The visit was co-sponsored and co-financed by the USAID-funded JariAla project which supports reforms in Madagascar to improve sustainable forest management. The manufacturers are all members of the Greenpeace Music Wood Coalition who are working together to increase the availability of traditional woods used by musical instrument manufacturers that can be certified to the exacting management standards of the Forest Stewardship Council (FSC). The Tropical Forest Trust works directly with businesses to link them with sustainably sourced timber products and certifiable supply-chains. The mechanism of transparent, certified, sustainably extracted hard woods would bring a revenue return directly back to the COBAs that engage in the program. MusicWood partners include: Greenpeace, TFT, and representatives of Martin Guitars, Gibson Guitars, and Taylor Guitars.

MIARO, through WCs and CI, provided input into the concession policy development process in collaboration with IFC and Madagascar National Parks. A concession policy coordinator was hired in 2006 and in 2007 MIARO members WCS and CI signed a Memorandum of Understanding with the IFC to create a system for developing lodging concessions in protected areas of Madagascar. During 2007, MIARO and a Concession Task Force initiated work to develop the concession system. The team developed an initial policy governing the development of concessions. With the signing of the MoU and the management and funding commitment of IFC, the groundwork was now laid to develop the concession system in 2008.

During 2008, the program was advanced with the completion of the concession framework documents (concession contract and its *cahier des charges*), and their presentation during two workshops, on the 5<sup>th</sup> and the 8<sup>th</sup> of May 2008.

The objectives of the workshops were to:

- Present and discuss the proposed concession contract and its *cahier des charges* (specifications) to the Ministry (restricted technical workshop of the 5<sup>th</sup> of May) and to representatives of the private sector (public workshop of the 8<sup>th</sup> of May).
- Present the site selection process and the proposed priority pilot sites for high quality ecotourism investments.

The first restricted workshop was convened between the MEF and all direct partners in the promotion of the concession initiative (MIARO members, IFC, Madagascar National Parks).

The second workshop included, in addition to the 5<sup>th</sup> of May's participants, representatives of the local private sector, identified as potential concessionaires. The content of the concession framework documents raised no objection either by the MEF or the representatives of the local private sector.

With regards to the priority parks, five clusters of parks were identified:  
Eastern Cluster (Masoala/Nosy Mangabe; Mananara-Nord/Nosy Atafana);  
Northern Cluster (Ankarana/ Montagne d'Ambre);  
Central Cluster (Andasibe-Mantadia);  
Northwestern Cluster (Îles Radama/Sahamalaza); and  
Southern Cluster (Kirindy Mitea)

Following the ranking of the parks in priority order, two field missions were successfully undertaken by IFC, CI, WCS and Madagascar National Parks to identify sites at the park level, in Mantadia-Andasibe, Ankarana-Montagne d'Ambre and Îles Radama-Sahamalaza (IFC and Madagascar National Parks only), for each type of targeted investor (Segment 1: high-end, low-volume ecotourism operators; Segment 2: high-end, medium-volume hotel operators; Segment 3: "best-of-range" local operators). Several sites were identified in each of the assessed parks. Due to the political instability, the IFC has suspended work on this project. It hopes to resume work when the political situation is clarified.

#### **SUB RESULTS MODULE 4.4. Expand the carbon credits projects including credits for avoided deforestation**

##### **4.4.1. SUPPORT IN LEVERAGING REDD FUNDS FOR LOCAL COMMUNITY MICRO-PROJECTS**

This activity was added during the extension phase of the project in 2009. The objective was to advance on identifying and designing community level microprojects that would be funded with REDD revenues in CAZ.

During meetings with local communities in CAZ, we collected information to identify appropriate microprojects that would improve community livelihoods and to provide alternatives to activities that cause threats. This information included the following:

- Number of residents, fokontany and villages
- Resource use
- Threats and development alternatives, micro projects, and training needs.

These discussions resulted in the list of current practices (Table 13) and the list of priority alternative measures by federation (Table 14).

In general, communication and interaction between the COBA and each Federation is still insufficient, due primarily to the remoteness of certain communes such as Vahatriniala, Tsarafaniry, and Fitokisana. Additional work is needed to ensure these local managers have adequate capacity to fulfill their roles and responsibilities. Efforts should also continue to support local COBA in their forest control activities as well as to provide the development opportunities that will allow them to improve their livelihoods.

The information collected was used to design a new phase of CI's community small grants program which was launched in September 2009 shortly after the MIARO project ended. The small grants program will ensure that priority microprojects in the zones of each of the

Federations are implemented. Unfortunately the REDD revenues available for CAZ were suspended following the coup d'etat and so they have not yet been released to help implement these communities. However, when the World Bank lifts its suspension part of the Bio Carbon Fund revenues will also contribute to the implementation of these projects.

**Table 13. Main community activities by Federation**

Activity	Vahitriniala	Miaradia	Tsarafaniry	Vahatra	Fitokisana
Handicrafts		X			X
Hunting and fishing	X	X	X	X	X
Medicinal plant collection		X			
Honey collection and fishing		X		X	
Wildlife collection	X				
Orchid collection	X				
Plant collection for essential oil production	X				
Selective logging	X				
Subsistence use					
Animal husbandry (cattle, poultry)					X
Illegal logging	X	X	X	X	
Mining	X	X	X	X	
Charcoal production with native species		X			
Cattle grazing		X	X		
Slash-and-burn	X	X	X	X	X

**Table 14. Priority development activities by Federation**

Activity	Vahitriniala	Miaradia	Tsarafaniry	Vahatra	Fitokisana
Lowland rehabilitation	1	3	2		3
Hillside rehabilitation				3	
Provision of agricultural inputs		4	1	4	2
Behavior change		7			
Dam construction	6			5	5
Short-cycle income-generating activities	2	1	4	1	4
Off-season cultivation	5			8	
Rice cultivation with improved techniques	4				
Training in improved agriculture		2	3	4	1
Microcredit	9				
Fruit tree plantations	3				
Native tree production	10				
Cash crop production				7	
Ecotourism development	7	5			
« Vary malady » production				9	
Fundraising	8	6			
Handicraft training				2	

\* Numbers correspond to the priority level

**SUB RESULTS MODULE 4.5 Assist the GOM develop other new financial instruments to finance the environment sector**

Due to the political crisis, the MIARO conservation partners were unable to move forward with policy and programmatic actions with the SAPM sustainable financial committee in 2009. Originally, a large workshop with Government officials and BBOP partners was planned for February 2009. Due to the political unrest, this workshop was replaced with a smaller, internal meeting. In agreement with the USAID mission, no further activities were carried out under this sub-RM following the coup d'etat.

## USAID ALLIANCE ACTIVITIES

MIARO was an active member in the USAID Alliance, both at the national and eco-regional levels. The USAID Alliance was a mechanism through which MIARO coordinated its activities to ensure a coherent approach to conservation and development that maximizes all partners' efforts and reduces redundancy. Initially, MIARO worked primarily with other USAID-funded programs such as ERI, JariAla, Misonga, Bamex, and Title II. However, as the utility and importance of the USAID Alliance grew, other, non-USAID partners began to participate. In Anosy, the Alliance was so successful that the Region itself took it on as a means for coordinating regional-level development interventions across sectors.

At the national level, the Alliance served primarily as an information sharing and exchange platform. It allowed USAID partners including MIARO to ensure coherence in program implementation, especially as the Ministry of Environment was concerned. Because the Ministry was implicated in all USAID programs, it was critical that we all know and understand the changes ongoing at the Ministerial level and that we keep one another informed of our efforts to engage Ministerial actors at various levels.

At the eco-regional level, the Alliances functioned at both the strategic and operational levels to ensure coherence and integration. At the strategic level, MIARO and the other partners reviewed and internalized the Nature, Health, Wealth and Power (NHWP) framework that USAID used to develop its programming and interventions. A series of workshops and discussions were held on NHWP so that regional-level actors could understand and adapt it to the realities on the ground. For MIARO, it was a useful lens through which to view our work, and facilitated communication regarding the role conservation plays in development in general. It also allowed us to see more clearly the links that existed between our activities and those of the other Alliance partners.

At the operational level, MIARO and the other Alliance partners developed a joint work plan and held regular meetings to ensure activities were being implemented in the most coherent fashion possible. For instance, field visits were often deliberately planned to coincide with one another so that messages and activities were implemented simultaneously as a package. In addition, MIARO worked through the Champion Commune approach, collaborating with ERI and SanteNet to help communes identify and achieve conservation/nature-related objectives. This work was directly linked to Communal Development Plans, which ensured local appropriation and comprehension of the activities and approaches.

Although the Alliance yielded many positive results and allowed for increased efficiency in terms of communication and information exchange, its implementation also came at a cost. Because Alliance-related coordination was not originally planned at the project design phase of MIARO, certain costs associated with coordination were met with somewhat unexpectedly, such as time, resources, and materials.

### III. Discussion of objectives not achieved

In general, MIARO exceeded what we set out to accomplish. CI and its partners in the MIARO project were able to ensure an integrated and coherent approach to biodiversity conservation that mobilizes local communities and results in sustainable resource management. However, a few objectives were not achieved and they are described below:

#### **RESULT MODULE 1: ECOLOGICAL LINKAGES ESTABLISHED AND MAINTAINED**

The new legal framework for SAPM is not yet operational as it has not been signed by the President of Madagascar. Although it was adopted by both houses of parliament, it requires the President's signature to go into effect. The political crisis and ensuing institutional vacuum caused delays. The application decrees are also not in effect as they require the COAP to be officially ratified first.

Definitive protection status decrees for individual sites have not yet been obtained for most of the new protected areas. This is due to the following:

- Management tools (management plan and social and environmental safeguard plan) were developed in a participatory manner, which took longer than originally anticipated.
- Institutional blockages at the Ministry caused delays in recruiting consultants and getting funding flowing to develop the social and environmental safeguard plans.
- Public consultations at COFAV took much longer than originally planned due to the vast expanse of the corridor and various difficulties encountered throughout the process. Nevertheless these have been completed.
- Although the SAPM already has a legal framework under the existing COAP, the amended COAP that was specifically updated for the SAPM has not yet been promulgated. This hinders promoters in their work and prevents the Ministry from issuing definitive protection status decrees.
- Coordination between DSAP and the field teams was difficult, specifically as regards consultancies to be paid with World Bank funds. One example is COFAV, where Land Resources, the consultant tasked with developing the social and environmental safeguard plan, failed to engage with the regional field team (secretariat technique). In addition the delays in this work and the poor results from it caused additional delays.
- The social and environmental impact study as well as the safeguard plan for CAZ were planned to be developed with funding from the BioCarbon Fund of the World Bank. As such, this activity comes squarely within the purview of MEF and is being led by the BioCarbon Fund focal point and head of the sustainable financing unit at the MEF. Terms of reference for this activity were originally developed by MIARO and the regional team provided input. MEF/SG should have proceeded with recruitment of consultants who would develop these documents, but this was delayed due to the crisis.
- The limits of COFAV have not yet been finalized because of delays in the work of the consultants paid for by the World Bank who were tasked with completing the consultancies in 13 communes. This has now been completed and CI will ensure that the results are integrated into the management plan. In addition, there is some overlap of the northern end of the COFAV protected area with the Marolambo National Park that MNP are currently creating. Coordination efforts are ongoing between CI and MNP but this will result in slightly modified limits.

- The political crisis made it impossible to have workshops or meetings with public authorities, which had an impact on activities and our relationship with the Government.

At this stage, we do not know when the Ministry of Environment and Forests (MEF) will take the lead and continue the process of development and validation of the national strategy on forest restoration. However, we have provided a logical framework that could be used by the Ministry when the situation at national level and in the sector will be stabilized.

## **RESULT MODULE 2: MANAGEMENT EFFECTIVENESS FOR CONSERVATION AREAS IMPROVED**

Support to Madagascar National Parks was suspended in 2006, which resulted in incomplete activities as far as MNP is concerned. Specifically, some business plans were not developed for all the management units of MNP. Rather, RM2 efforts were reoriented to focus more strongly on new protected areas.

The management planning guide was not finalized because it is important that promoters and DGF / DSAP appropriate the system and methodology beforehand.

## **Result Module 3: National Park Network Activities Implemented**

The major focus of RM3 was the conservation of biodiversity in protected areas and included a suite of activities that were directly implemented by MNP. The RM3 component was also designed to help MNP refine its internal management standards up to levels required for direct US Government funding through contracts.

After MIARO support to MNP was ceased in 2006, none of the RM3 objectives were achieved under this project. However, MNP did work to implement some of the activities to improve its management effectiveness with other resources at its disposal. In addition, CI, with the approval of USAID, used the remaining RM3 funds to support site-level conservation through the Conservation Action Grants.

## **RESULT MODULE 4: SUSTAINABLE FINANCING MECHANISMS MOBILIZED AND OPERATIONAL**

The development of sustainable financial instruments is a national process and needs the participation of partners, not only NGOs or the civil society but also the Government. The political instability did not allow the program to liaise directly with the Government for the last few months of the program.

The work on PES is advancing however it is more complicated than first expected. A team sent to Fianarantsoa was delayed significantly and the feasibility of a watershed based-PES mechanism in Fianarantsoa will be very challenging to implement. In light of delays, a second site was identified in the Eastern Region of Madagascar for follow up. The incorporation of local information into the matrix of PES mechanisms adds an important dimension of understanding to the overall picture of PES possibilities in Madagascar.

The portfolio of community carbon PINs for submission to Plan Vivo was delayed. Conversely, Tany Meva submitted several PINs for community forest carbon projects to the UNEP CASCADE program that were not funded. The PINs submitted to CASCADE can be reformulated for submission to Plan Vivo later.

Due to the political crisis, MIARO conservation partners were unable to move forward in with policy and programmatic actions with the SAPM sustainable financial committee in 2009. Nevertheless, technical input into Biodiversity Offsets and REDD project were provided.

## **IV. Achievement table**

## RESULT MODULE 1: ECOLOGICAL LINKAGES WITHIN AND BETWEEN LANDSCAPES ESTABLISHED AND/OR MAINTAINED

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/ CONSTRAINTS
1.1. Promote the definition of policy and legal parameters for the establishment of new protected areas	<p>Legal framework for new categories and new governance structure defined</p> <p>Recommendations for management options available for SAPM commission</p> <p>Orientation documents produced</p> <p>Guide for “new protected areas” creation and management elaborated and available</p> <p>Improve perceptions relating to protected areas among key groups</p>	<p>2005</p> <p>2006</p> <p>2007</p> <p>2008</p> <p>2009</p>	<ul style="list-style-type: none"> <li>▪ Creation of the Durban Vision Group with multiple commissions to address protected area system establishment issues</li> <li>▪ SAPM concept developed and Durban Vision Group became SAPM Commission</li> <li>▪ Tools developed by the SAPM commission such as <i>Guide de creation, Guide de gouvernance, Environmental Impact Assessment</i></li> <li>▪ Economic evaluation by three MBA students from Yale in June-Sept 2006</li> <li>▪ Methodology to value the financial contribution of PAs to local economies developed and tested in Andasibe/ Mantadia, Andohahela and Masoala in 2006</li> <li>▪ A directorate for protected area system was created in the MEF organigram</li> <li>▪ Inter-ministerial mining–forest executive order promulgated on suspension of delivery for mining and forests permits in priority zones (No17914/06), renewed in 2008 (No18633/08)</li> <li>▪ Several films related to PA establishment and SAPM were produced (<i>Madagascar New Vision, Ny Dian'ny Mananilatany, Déjà d'une Génération</i>)</li> <li>▪ Communication campaigns on SAPM organized in several regions during World Environmental Day</li> <li>▪ COAP law amended and adopted by House and Senate. Application decree awaiting promulgation</li> <li>▪ Compilation of all technical and legal documents developed in the last few years by the SAPM commission produced; the technical part of the guidelines on the sustainable use of natural resources was also produced</li> </ul>	<p>The COAP law was about to be signed by the President of Madagascar in 2009. Due to the recent political events, it has not been done. Awaiting to the re-establishment of the constitutionality to pursue the promulgation of the texts</p>
1.2. Identify and promote potential new Protected Areas in consultation with regional and local actors	<ul style="list-style-type: none"> <li>▪ Sensitive natural ecosystems identified and Maps produced</li> <li>▪ Work with appropriate</li> </ul>	2007	<ul style="list-style-type: none"> <li>▪ Results of conservation prioritization done by SAPM taxonomic group presented at the “Science-based Conservation planning” workshop in September 2007</li> <li>▪ Data owners informed of the online distribution of</li> </ul>	

**RESULT MODULE 1: ECOLOGICAL LINKAGES WITHIN AND BETWEEN LANDSCAPES ESTABLISHED AND/OR MAINTAINED**

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/ CONSTRAINTS
	<p>bodies to identify marine and freshwater conservation priorities and localize sites</p>		<p>biodiversity data through a technical meeting organized by Rebioma in December 2007</p> <ul style="list-style-type: none"> <li>▪ Methodology to help site manager identify site-level biodiversity priorities developed through the support of Rebioma, Alison Cameron, in 2007</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ Production of orientation document and user guide based on legal MPA documents</li> <li>▪ Development of National strategy for MCPAs</li> </ul>	2008-2009	<ul style="list-style-type: none"> <li>▪ “Document d’orientation”, “Manuel de Procédure” and simplified MPA user’s guide produced in final draft versions in 2009.</li> <li>▪ Spatial modeling system adopted; list of data to be used and sources of data available with SECAP in 2009</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ Map of MPA sites produced and priorities for establishment identified</li> <li>▪ Priority site list (terrestrial, marine and freshwater) improved for all Madagascar by using appropriate analytical tools for planning and database of key biodiversity</li> </ul>	2008-2009	<ul style="list-style-type: none"> <li>▪ Map of priority sites for the creation of NPAs validated and annexed to the inter-ministerial executive order MEF/MEM No.18633 of October 17, 2008</li> <li>▪ Coral fish database updated since 2008</li> <li>▪ Priority mapping done in 2008 for Andavadoaka (in the southwest) and the northwest coast of Madagascar using the database</li> <li>▪ Marine conservation partners’ capacity in prioritization strengthened.</li> <li>▪ Marine priority-setting workshop held in 2009</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ Development of database interaction tool to allow researcher data entry and training workshop for its use</li> </ul>	2006-2009	<ul style="list-style-type: none"> <li>▪ Database improved</li> <li>▪ Rebioma website created in 2006</li> <li>▪ Database on the criteria for identification of marine site established in 2009</li> <li>▪ Digital atlas developed, validated and distributed</li> </ul>	

**RESULT MODULE 1: ECOLOGICAL LINKAGES WITHIN AND BETWEEN LANDSCAPES ESTABLISHED AND/OR MAINTAINED**

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/ CONSTRAINTS
1.3 Establish new protected areas	Biodiversity conservation priorities validated through the process of consultation with local partners	2006  2008-2009	<ul style="list-style-type: none"> <li>• Temporary protection status obtained for Bongolava forest, Montagne des Français, Menabe Central</li> <li>• “Schémas d’aménagement” developed and validated for Anadabolava, Tsitongambarika, Ambondrombe, Tsimembo, Mangabe, Angavo and Bombetoka; and support through Conservation Action Grants for the following sites: Tsimembo, Manambolomaty, Tambohorano, Bemanevika, Ibity, Analalava Foulpointe, Angavo, Bombetoka, Ambalabe</li> </ul>	For all these sites, the protected area documents were submitted to DSAP. Awaiting the promulgation of the protection status executive order from the government.
1.4 Refine conservation priorities in USAID priority eco-regions	<p>Vision of biodiversity conservation available and biodiversity conservation priorities validated through the process of consultation with local partners</p> <p>Management plan developed and implemented</p> <p>New protected areas in USAID priority ecoregions created</p> <p>Definitive PA status issued for Ambatotsirongorongo; Community governance supported</p>	<p>2005-2006</p> <p>2008-2009</p> <p>2009</p> <p> </p> <p>2008-2009</p>	<ul style="list-style-type: none"> <li>• Temporary protection status obtained for CAZ and COFAV</li> <li>• Public consultations completed for CAZ and COFFAV PA</li> <li>• Management plan completed for CAZ and COFAV</li> <li>• Governance structure developed for CAZ, COFAV and Ambatotsirongorongo</li> <li>• Safeguard plan initiated for COFAV</li> <li>• The ToR for CAZ safeguard plan development has been approved by MEF and ONE <ul style="list-style-type: none"> <li>▪ Ambatotsirongorongo protected area document finalized and submitted to the DGF/DSAP with the request for definitive PA status in 2009;</li> <li>▪ Capacity of the Management Committee (COGE) Members strengthened</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• 47 communes completed by MIARO and 13 by World Bank</li> <li>• Safeguard plans for CAZ and COFAV initially planned to be funded by World Bank and carried out by DSAP. COFAV safeguard plan was reviewed and re-planned due to coordination issues between DSAP and field committee.</li> <li>• World Bank funding for CAZ safeguard plan interrupted so CI developed it.</li> </ul>
1.5 Develop forest restoration functions and procedures in USAID priority eco-regions	Forest restoration strategy established.	2006-2007  2007-2008	<ul style="list-style-type: none"> <li>• Technical assistance and development of restoration techniques in TAMS project in Mantadia</li> <li>• Seedling guide for Eastern rainforest produced in</li> </ul>	Delay was noted because of the restructuring of the

**RESULT MODULE 1: ECOLOGICAL LINKAGES WITHIN AND BETWEEN LANDSCAPES ESTABLISHED AND/OR MAINTAINED**

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/ CONSTRAINTS
	<p>Action plans developed in pilot zones.</p> <p>A network of forest restoration practitioners established.</p> <p>Field exchanges between practitioners.</p>	<p>2007-2009</p> <p>2007</p> <p>2007</p> <p>2009</p>	<p>collaboration with MBG</p> <ul style="list-style-type: none"> <li>• Action plan developed for Ambohilero, in collaboration with Virginia Tech and MBG</li> <li>• In application of this plan, ecological restoration has been carried out by DREF in collaboration with local associations and communities in Ambohilero.</li> <li>• National workshops organized and led by the DGF. Census of restoration practitioners and organization of workshop to outline a forest restoration strategy.</li> <li>• Support provided by a consultant to draft the logical framework of the national forest restoration strategy.</li> </ul>	<p>Ministry in charge of forests. In addition, the focal point of the activity (RM1.5) at WWF was nominated as DGF. Also, the political crisis was not favorable to the finalization of the strategy document and the achievement of the entire action plan in Didy-Ambohilero.</p>

**RESULT MODULE 1: ECOLOGICAL LINKAGES WITHIN AND BETWEEN LANDSCAPES ESTABLISHED AND/OR MAINTAINED**

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/ CONSTRAINTS
1.6 Development of policy and an appropriate legal framework for PA	<p>Communication tools such as booklets, presentations, posters, designed for local communities developed and distributed</p> <p>Communication campaign organized for key partners in Anosy Region and Diana</p>	<p>2009</p> <p>2009</p>	<ul style="list-style-type: none"> <li>• A booklet on SAPM has been produced and distributed</li> <li>• A guide on the management of new protected areas, guide for radio emission have been developed and distributed.</li> <li>• A film on SAPM was produced</li> <li>• Training of local communicators and members of local communities (VOI) in the new protected areas of CAZ, COFAV and Ramena complex (DIANA) was realized</li> </ul>	<ul style="list-style-type: none"> <li>• After the Coup in March 2009, this activity had to be reoriented because it required the close collaboration with the government</li> <li>• Training in Anosy was not realized due to the termination of the MIARO project on July 23</li> </ul>
1.7 Finalization of the creation of new protected areas in USAID selected zones	Management structure for CAZ and COFFAV operational	2009	<ul style="list-style-type: none"> <li>• CAZ and COFAV governance structure designed</li> <li>• 129 management units within CAZ were identified and mapped. The process has been started for COFAV in two regions (Haute Matsiatra and Vatovavy Fitovinany)</li> <li>• Capacity building needs were identified for 6 federations of COBA within CAZ governance structure.</li> <li>• Local management plans for “transfert de gestion” were developed with 8 communities at Didy within CAZ.</li> </ul>	<ul style="list-style-type: none"> <li>• This process is being continued with CI supports in the 3 other regions</li> <li>• It’s being carried out in COFAV under CI supports</li> </ul>
1.8. Develop and/or refine conservation management plans and other thematic plans for Protected Areas	1 workshop realized – best practice methodologies presented to local community associations, regional partners, promoters	2009	<ul style="list-style-type: none"> <li>▪ Regional Workshop held to share information and best practices for marine reserve creation and management</li> </ul>	

**RESULT MODULE 1: ECOLOGICAL LINKAGES WITHIN AND BETWEEN LANDSCAPES ESTABLISHED AND/OR MAINTAINED**

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/ CONSTRAINTS
	<p>Process for establishment of 11 marine reserves completed up through the process of participatory zonation – including ‘controlled take’ and ‘no-take’ zones for all 11 reserves.</p> <p>Of these 11 marine reserves, 3 reserves in the commune of St. Augustine established and 2 reserves in the commune of Manombo – including identification of management entity, formalization of the 'Dina', and formal ceremony of reserve establishment.</p> <p>Establishment of five (5) community managed marine reserves in the region</p>	2009	<ul style="list-style-type: none"> <li>▪ All 11 identified marine reserves participated in the participatory zoning of the 5 steps process.</li> <li>▪ Management regime discussed in villages for marine reserves in Manombo.</li> <li>▪ 5 marine reserves have been created with MIARO support</li> </ul>	<p>The process is being continued under WCS funds</p>

## RESULT MODULE 2: MANAGEMENT EFFECTIVENESS FOR CONSERVATION AREAS IMPROVED

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/ CONSTRAINTS
2.1 Develop and/or refine conservation management plans and other thematic plans for protected areas	<ul style="list-style-type: none"> <li>▪ Conservation and other thematic management plans updated and strengthened in all protected areas (PA) of Madagascar National Parks-MNP (former PNM-ANGAP).</li> <li>▪ Manuals for developing protected areas management plans updated and improved.</li> <li>▪ Ecological monitoring improved through field test protocols.</li> <li>▪ Synthesized management plans developed for MNP sites.</li> </ul>	<p>2006</p> <p>2006</p> <p>2006</p> <p>2006</p> <p>2006</p> <p>2006</p> <p>2007</p> <p>2008</p> <p>2008 (adoption by SAPM commission in 2009)</p>	<ul style="list-style-type: none"> <li>▪ MNP management plans reviewed, gaps identified and potential improvements such as goals and outputs.</li> <li>▪ Amendments to strengthen plans were done, as necessary, including goals, outputs and essential analyses.</li> <li>▪ Conservation planning manual updated to conform to enhanced 5-S model and innovative activities against climate change and integration of PAs of MNP into broader landscape approaches.</li> <li>▪ Direct support to pilot sites provided for updating plans including other thematic plans (development, ecotourism, environmental education...). Training provided to MNP management units on the use of improved system for management planning of PA.</li> <li>▪ Assistance to MNP in finalizing consolidated summary thematic plans (synthesized management plan).</li> <li>▪ Promotion of the use of TNC 5S excel tool.</li> <li>▪ Support to DIRs to ensure that scientific and technical databases are in place and that staff members are trained to use them.</li> <li>▪ Profiles developed highlighting the importance of the biodiversity in each of the protected areas.</li> <li>▪ A system of management planning adapted to SAPM developed- i.e. for all protected Areas -, along with template, guide and the introduction of new software Miradi. All planning conforms to IUCN-WCPA standards and guidelines.</li> </ul>	

## RESULT MODULE 2: MANAGEMENT EFFECTIVENESS FOR CONSERVATION AREAS IMPROVED

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/ CONSTRAINTS
	<ul style="list-style-type: none"> <li>▪ Environmental toolkits developed</li> <li>▪ Youth-based environmental clubs in PA border communities established</li> <li>▪ Teaching modules for schools developed and support materials for teachers and environmental clubs designed and produced</li> </ul>	2008-2009	<p>Teaching aids for environmental education tool kits developed:</p> <ul style="list-style-type: none"> <li>▪ Guide on Environmental Education for teachers at national level produced.</li> <li>▪ 100 electronic versions dispatched in primary schools from 22 regions of Madagascar.</li> <li>▪ Simplified field guide of MaMaBay most attractive fauna produced: 12 hard back printed versions produced and used by teachers as references to teach biodiversity class.</li> <li>▪ Kits of 4 posters on natural cycles (water, oxygen and carbon) and food web produced: 25 kits distributed for free to targeted schools bordering protected areas</li> <li>▪ 4 environmental youth clubs in the peripheral zone of Ambatotsirongo-rongo PA created in 2008</li> <li>▪ Education modules on conservation themes developed in 2008</li> </ul>	
	Priority Pas and NPAs have adaptive ecological monitoring program in place	2008-2009	<ul style="list-style-type: none"> <li>▪ Protocols introduced in the Ambatotsirongorongo PA trainings translated into Malagasy to serve as a guide for continued community-based ecological monitoring in 2008</li> <li>▪ Implementation of community-based ecological monitoring at PAs and NPAs continued in 2009</li> </ul>	

## RESULT MODULE 2: MANAGEMENT EFFECTIVENESS FOR CONSERVATION AREAS IMPROVED

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/ CONSTRAINTS
	Marine ecological monitoring technical framework for Madagascar National Parks developed	2008	<ul style="list-style-type: none"> <li>▪ Training on scuba diving for 16 MNP agents in the 4 MNP-managed marine parks undertaken in Aug 2008.</li> <li>▪ Training on marine ecological monitoring held in September 2008 for the same 16 agents</li> <li>▪ MPA monitoring workshop held in Sept 2008 and standard model of monitoring methodology for marine ecological monitoring and for socio-economic monitoring available</li> </ul>	
2.2. Improve and fully implement annual programmatic work plans for protected areas	<ul style="list-style-type: none"> <li>▪ Monitoring system for network. All DIR of MNP have monitoring systems.</li> <li>▪ MIST components and functions documented for MNP appraisal.</li> <li>▪ RAPPAM tested in parallel with WCPA-based evaluation system.</li> <li>▪ Agreement reached on appropriate monitoring structure and software / systems to use.</li> <li>▪ Management plans of new protected areas.</li> </ul>	<p>2006</p> <p>2006</p> <p>2008 (validation of SAPM commission in 2009)</p> <p>2008</p> <p>2008</p> <p>2009</p> <p>2008</p>	<ul style="list-style-type: none"> <li>▪ Thematic goals, impacts, outputs and monitoring integrated into annual plans and business plans.</li> <li>▪ Overall goals and annual targets defined in priority sites.</li> <li>▪ Development of a new effectiveness evaluation system for SAPM based on existing systems widely used. This system is IUCN PA category-sensitive – this was developed and tested at the request of IUCN-WCPA as no such system has been developed before.</li> <li>▪ Adoption of Miradi software for management planning process of SAPM and training provided at all levels: central, promoters and site-based.</li> <li>▪ Direct support to all promoters through training workshops.</li> <li>▪ Support provided to priority new protected areas in elaborating overall management plans, monitoring systems and evaluation systems.</li> <li>▪ CBD PoWPA introduced to, and adopted by MEF, and funding obtained for PoWPA monitoring and training.</li> </ul>	<p>MNP did not want to change the TOMPRO &amp; TECHPRO used to date. MNP was reticent about RAPPAM and the new effectiveness evaluation system for SAPM because the Madagascar Action Plan indicator for protected areas was based on their adapted WCPA system.</p> <p>Promoters and managers have their own agendas for the development of management plan. Given their resources (financial and technical), MIARO could not cover all the activities.</p>

**RESULT MODULE 2: MANAGEMENT EFFECTIVENESS FOR CONSERVATION AREAS IMPROVED**

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/ CONSTRAINTS
	Develop training modules for PA and NPA managers based on training needs expressed by Madagascar National Parks and MEF, and improve training programs within Madagascar National Parks and MEF	2008	<ul style="list-style-type: none"> <li>▪ Training modules for PA and NPA managers and DGF developed (Protected Area Design and planning; protected area management; ecological restoration; control of invasive species; geographic information system)</li> <li>▪ Partnership with DGF and MNP developed</li> <li>▪ MNP and DGF in-service training supported</li> <li>▪ 30 technicians of DREF Sava, DIANA and SOFIA trained on sustainable use of resources and biodiversity conservation in Sept 2008</li> <li>▪ Agents from DREF Androy and Atsimo Andrefana trained on conservation of biodiversity of the South</li> </ul>	<ul style="list-style-type: none"> <li>▪ Module development requires scientific knowledge of a topic and consultants should be familiar with the Malagasy context. It has been difficult to find local consultants to develop training modules. Consequently, WCS and REPC staff were requested to finalize modules in collaboration with authors.</li> <li>▪ Developing partnership with DGF was a challenge because of the ever changing institutional structure at the Ministry.</li> </ul>
2.3. Develop an appropriate system of business plans and marketing programs for protected areas	<ul style="list-style-type: none"> <li>▪ Template of the BP drafted and Excel tools created for the required graphs and financial analyses. Draft BP for MNP.</li> <li>▪ Adopted model launched and trainings given.</li> <li>▪ One BP at priority site of the province completed.</li> <li>▪ MNP BP Unit in place.</li> <li>▪ Management planning synthesized and adapted for DGF.</li> </ul>	2006  2009	<ul style="list-style-type: none"> <li>▪ Develop a template of BP based on NCPA/ Madagascar National Parks experience with additions to fundraising sections.</li> <li>▪ Direct training provided to MNP management units on the elaboration of BP. Nine key parks developed their business plans.</li> <li>▪ Develop manual, template and Excel file tool for the elaboration of BP of SAPM, particularly new protected areas.</li> </ul>	<ul style="list-style-type: none"> <li>▪ MNP was removed from MIARO but its BP system was developed in 2006.</li> <li>▪ Training provided but not all MNP sites achieved the development of their BP.</li> <li>▪ All MNP synthesized management plans were developed, but not all have been validated.</li> </ul>
	Assist Madagascar National Parks and DGF develop and implement BPs in all operational PAs, prioritizing sites and setting completion dates	2005-2006	<ul style="list-style-type: none"> <li>▪ A round of training workshops for all PA to present the objectives and the structure of a business plan held</li> </ul>	

**RESULT MODULE 2: MANAGEMENT EFFECTIVENESS FOR CONSERVATION AREAS IMPROVED**

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/ CONSTRAINTS
2.4 System-wide promotion and utilization of PA management and evaluation tools	Management plans validated for selected NPA.	July 2009	<ul style="list-style-type: none"> <li>▪ Supported the finalization and community validation of overall management plans of selected NPA.</li> <li>▪ Developed economic activities that benefit communities impacted by the creation of NPA.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Early termination of MIARO.</li> <li>▪ Late adoption of management and evaluation tools by SAPM Commission</li> </ul>

### RESULT MODULE 3 : National Park Network Activities Implemented

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/CONSTRAINTS
3.1. Reinforce the institutional, technical and financial capacity of MNP in protected areas management	<ul style="list-style-type: none"> <li>▪ A common vision of ANGAP is understood and adopted by the heads of Pas after the restructuration</li> <li>▪ Financial managers from 30 management units master the use of the new financial accountancy system used by ANGAP (TOMPRO); Standardized technical monthly reports are developed</li> <li>▪ Maps for use in the field at sites are improved and updated</li> <li>▪ Improved quality of Management plans, annual operational planning, and impact monitoring activities</li> </ul>	2004-2005-2006	<ul style="list-style-type: none"> <li>▪ 23 training sessions and team buildings in three main areas (technique, administration and finance, communication) were organized at the level of the Decentralized Units/Inter Regional Departments and in Antananarivo</li> <li>▪ Terms of reference for each level of the MNP network redefined after the restructuration</li> <li>▪ Internal communication system improved between the different levels/sites within the MNP network</li> </ul>	<p>These sessions aimed to harmonize the vision and the language of the Network's technical and administrative personnel in the technical performance of the Madagascar National Parks mission</p> <p>The freezing of USAID/MIARO funds occurred in 2006, but some of the activities continued with other funds</p>
3.2. Foster service oriented roles and functional linkages between national and regional offices, and between these and the parks and reserves.	<p>Improved team spirit and communication of the culture of ANGAP</p> <p>Marketing process is understood at all the levels of the network</p>	2005-2006	<ul style="list-style-type: none"> <li>▪ A yearly forum was held for the network management units</li> <li>▪ Partnerships developed with travel agencies and tour operators for the sale of entry fee tickets in Antananarivo</li> <li>▪ A partnership was signed with Uniflora Travel for training designed for German and Australian tour operators as well as for journalists at Andasibe, Ranomafana, Isalo, Ankarafantsika</li> <li>▪ Creation of a marketing committee at the DIR and park levels</li> </ul>	<p>The freezing of USAID/MIARO funds occurred in 2006, but some of the activities continued with other funds</p>

### RESULT MODULE 3 : National Park Network Activities Implemented

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/CONSTRAINTS
3.3. Define and mobilize funding for national park network and support services	Reduction of the key threats: Fire, deforestation, illegal logging; reduction of the level of threats to the PA by at least XX points; Improvement of the Management Effectiveness Index of the site by at least 25 points	2004-2005-2006	<ul style="list-style-type: none"> <li>▪ Support in conservation activities in selected parks and reserves (Andasibe-Mantadia, Isalo, andohahela and Zahamena), including micro-projects around buffer zones (rehabilitation of schools, reforestation, dams construction, income –generating activities creation), rehabilitation and maintenance of parks infrastructures, patrolling in parks, advocacy and communication activities with authorities, environmental education.</li> </ul>	The freezing of USAID/MIARO funds occurred in 2006, but some of the activities continued with other funds

**RESULT MODULE 4 : SUSTAINABLE FINANCING MECHANISMS MOBILIZED AND OPERATIONAL**

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/CONSTRAINTS
4.1 Expand and develop management capacity of Malagasy Environmental Trust Funds/ Foundations	Tany Meva organization restructured; key manuals prepared to guide operations	2009	<ul style="list-style-type: none"> <li>▪ Strategic plan developed and approved by the Board</li> </ul>	
	Increased investments in and conservation impacts the Madagascar Biodiversity and Protected Areas Trust Fund	2006	<ul style="list-style-type: none"> <li>▪ FAPBM: Grant manual developed and Foundation staff trained in the use of this manual.</li> </ul>	
		2008	<ul style="list-style-type: none"> <li>▪ Prioritization policy developed: Finalizing and implementing selection and prioritization of PAs for Foundation support. (A first version was tested but gave inconsistent results. A new version is currently being developed).</li> <li>▪ Increase of capital secured through the C2D agreement</li> <li>▪ Strategic and business plan for Foundation developed.</li> </ul>	
2009	<ul style="list-style-type: none"> <li>▪ Marketing kit and communication strategy developed</li> </ul>			
4.2 Build on efforts made and cooperate with other EP3 actors to strengthen potential sources of income for forest habitat conservation	Increased revenues for forest habitat conservation, from diverse sources and financing mechanisms	2008	<ul style="list-style-type: none"> <li>▪ Signing of the C2D agreement (French Debt Contract) for an amount of €26M dedicated to environment sector</li> <li>▪ Air transport surcharge assessments carried out</li> <li>▪ Identification of payment for ecosystem services pilot projects.</li> <li>▪ Support the work plan based on recommendations of Comité pour le Développement des Instruments de Financement Durable de l'Environnement (CDIFiDe)</li> <li>▪ A « Service de Pérennisation Financière » was created within the MEF organigram and technical assistance was provided to its institutional development : capacity building for the SPF staff, development of the sustainable financing concept within the SWAP process, support coordination for carbon projects</li> <li>▪ Signature of the agreement with Biocarbon Fund for the CAZ avoided deforestation</li> </ul>	<ul style="list-style-type: none"> <li>▪ The complexity of the process due to some political decisions delayed the process. In addition, the political crisis has slow down the process.</li> <li>▪ The concept of payment for ecosystem services is new in Madagascar and the understanding of this needs a long awareness campaign. In addition, new factors not considered at the beginning of the project were emerged while implementing activities.</li> <li>▪ The CDIFiDe was dissolved and replace by the “Service de Pérennisation Financière” (Sustainable Financing Service).</li> </ul>

**RESULT MODULE 4 : SUSTAINABLE FINANCING MECHANISMS MOBILIZED AND OPERATIONAL**

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/CONSTRAINTS
			<ul style="list-style-type: none"><li>▪ Carbon Monitoring methodology developed with Winrock</li><li>▪ PDD/REDD and TAMS for CAZ submitted</li></ul>	

<b>RESULT MODULE 4 : SUSTAINABLE FINANCING MECHANISMS MOBILIZED AND OPERATIONAL</b>				
<b>SUB RM ACTIVITIES</b>	<b>TARGET</b>	<b>TIMEFRAME</b>	<b>ACHIEVEMENT</b>	<b>OBSERVATIONS/CONSTRAINTS</b>
	Policy and programmatic actions identified through participation in REDD working group and CC cellule	2008-2009	<ul style="list-style-type: none"> <li>▪ Inventory and statement on status of all REDD projects/activities and actors completed</li> <li>▪ Technical Support provide to REDD working group, but any other support constrained by political situation</li> </ul>	Due to the political crisis, MIARO conservation partners were unable to move forward in with policy and programmatic actions with the SAPM sustainable financial committee in 2009.
	Recognition of Makira VERs through the VCS	2008-2009	<ul style="list-style-type: none"> <li>▪ Baseline forest carbon estimates advanced and project description document developed</li> </ul>	
4.3 Stimulate investment of biodiversity conservation	<p>Increased private sector investment in environmental conservation</p> <p>Concession policy framework completed and validated</p>	<p>2007</p> <p>2008</p> <p>2008</p>	<ul style="list-style-type: none"> <li>- Agreement signed between GOM and the Zoo Zurich and renewed</li> <li>- Investment opportunity linking conservation and agriculture with emphasis on cotton owing to market demand for organic cotton launched, engagement of ODER to manages organic cotton production</li> <li>- Concession framework policy validated and pilot site selected</li> </ul>	
4.4 Expand the carbon credits projects including credits for avoided deforestation	<p>Preliminary report on national carbon baseline providing initial carbon estimates and identifying further research needs</p> <p>Action plan established and approved by GOM and CT REDD</p> <p>Regional representatives of government services are well informed on REDD and plans for financing activities with REDD funds</p> <p>Carbon financing plan for CAZ including carbon revenue estimations and carbon credit marketing strategy</p>	2009	<ul style="list-style-type: none"> <li>▪ Carbon baseline measurement completed for CAZ and COFAV</li> </ul>	Activities with government had to be stopped and reoriented after the Coup in March 2009
4.5 Assist the GOM	An options framework for	2009	Round table discussion on Biodiversity Offsets	The BBOP workshop planned

**RESULT MODULE 4 : SUSTAINABLE FINANCING MECHANISMS MOBILIZED AND OPERATIONAL**

SUB RM ACTIVITIES	TARGET	TIMEFRAME	ACHIEVEMENT	OBSERVATIONS/CONSTRAINTS
develop other new financial instruments to finance the environment sector	biodiversity offsets is developed that provides GOM and sectorial stakeholders with a clear understanding process, approach and policy implications. Working from the toolkit of methodologies for design and implementation of biodiversity offsets that has been developed, additional pilot biodiversity offset project scenarios will be identified.		provide orientation on mechanism to key stakeholders	in February did not happen due to the crisis.

## **V. Lessons learned**

### **LESSON 1 – GOVERNANCE**

Protected area governance is a crucial component in establishing viable protected areas that provide real conservation outcomes. The challenge is to ensure the application of the principles of good governance, engage communities, create a sustainable and lasting governance structure, and maximize/integrate traditional pre-existing social structures. This requires a long-term capacity building effort at multiple levels but with a specific focus at the community level. Roles and responsibilities of each participant must be defined and understood. The legal and regulatory framework must be clear. Finally, the relationship between the protected area itself and the surrounding areas must be understood insofar as the governance structure's responsibilities are concerned.

### **LESSON 2 – COMMUNITIES AND PROTECTED AREAS**

For protected areas to be effective and successful at delivering conservation outcomes, local communities must be active partners in the creation and management of these areas. They must feel a sense of ownership, which can be cultivated through a strong communication system that allows for dialogue, negotiation, and comprehension. This system must be robust but flexible given that communication is an iterative process that continues and evolves over time and as circumstances change. To engage communities, it is necessary to follow their timeframe and rhythm. The time it takes local people to ruminate on an issue and come to a decision and/or opinion may not necessarily coincide with the timeline of a project or program. Thus, it is important to build trust with local people so that information flows freely and transparently. This way, communities will be able to see and understand how the protected area will ensure the conservation of essential ecosystem services upon which their livelihoods depend. On a practical level, protected areas will have community support if they do not threaten local livelihoods, if the process that is adopted conforms with local cultures and traditions, and if economic benefits are felt from the existence of the protected area.

### **LESSON 3 – INTER-SECTOR APPROACH**

To succeed in conservation, an inter-sector and multi-sector approach is required. Looking at areas in terms of landscapes and developing integrated land-use plans in collaboration with various actors is recommended as this will provide a holistic view of how resources will be used/conserved/restored. This approach will also help to maximize the various types of benefits that come from establishing protected areas.

### **LESSON 4 – COMMUNICATION**

Communication is an integral part of conservation and the protected area creation process. To be effective, messages must be developed that address the concerns and issues of local people. The objectives, methods, and benefits of conservation must be framed in this manner so that local people can understand in their own terms. When multiple actors are contributing to a single effort, the messages must be coherent. Communication must be ongoing and timely as situations change or more information is available.

### **LESSON 5 – FOREST RESTORATION**

The design and implementation of forest restoration is quite complicated particularly for ecological restoration to connect forest corridors. Various techniques and expertise are necessary as well as financial resources. It is important that communities know and appropriate forest restoration in conservation areas. The continuous improvement of capacity building for actors is among the key factors for the long-term vision for restoration.

#### **LESSON 6 – USE OF CULTURAL NORMS IN ESTABLISHING MARINE RESERVES**

During the implementation of the marine reserves, there was a certain level of resistance to behavioural change by some of the communities due to previous unsustainable development activities in the region. It also takes time for fishing communities to adapt to new techniques and methodologies such as the use of fishing devices. Marine reserve zoning was also a new concept that had been ignored as a key element in any previous coastal and marine management schemes. In the past, traditional maritime fishing had been unregulated and there was little concern for improved management of the marine resource. The concepts of “controlled take” and “no take” zones were therefore new, and it will take time for local people to fully endorse them. Vezo fishermen are more responsive when they are listened to and understood. By associating the respect of the culture and the traditional or scientific ecological knowledge, comprehension seems to be reached without too much difficulty.

#### **LESSON 7 – SUSTAINABLE FINANCING FOR CONSERVATION**

The vision of sustainability has been increased for the management of natural resources in Madagascar, particularly for protected areas implementation. The need for sustainable funding sources is now understood but still weak in terms of leadership from the Government. We are now experiencing a lack of funding at national level because of the political unrest. Government appropriation and involvement should be fostered to put in place a better foundation for future sustainable funding of the SAPM. Specific sources of funding include the carbon market and other private sector actors such as tourism investors. However, to attract these types of funding over the long-term, good governance and political stability are required.

#### **LESSON 8 – WORKING WITH MADAGASCAR NATIONAL PARKS**

Close and sustained collaboration among MIARO partners is essential to ensure the coherent and integrated functioning of the program. This collaboration and coordination comes at a cost, but this cost is well worth it because it will translate into improved program results. This fact was demonstrated in the case of the partnership with MNP, who was implementing its own work plan supported by multiple donors. One of the main objectives was to modify the culture within MNP, a long process the results of which may not be immediately evident.

## VI. Sustainability

The MIARO partners are all dedicated to ensuring the sustainability and continuity of actions undertaken under the MIARO program. Specific measures were taken throughout the MIARO program to ensure sustainability, and additional measures are currently ongoing to do the same.

Because MIARO focused much of its efforts on protected area creation and management, ensuring the benefits of this investment are delivered well into the future is of vital importance. MIARO developed **tools and structures** that are the foundation for sustainability. For instance, the management planning, monitoring, and business planning processes, templates, and tools that were developed are available to help ensure that protected area managers are well-equipped to achieve their objectives. In addition, MIARO supported the development and strengthening of **governance structures** that are solid, durable, and will stand the test of time (namely at CAZ and COFAV). **Capacity building** efforts for these structures that were initiated under MIARO will continue into the future with other resources.

CI's **Conservation Growth Pole** approach will ensure that communities in and around protected areas benefit economically from the conservation work they undertake. This model will ensure sustainability by integrating community-based management initiatives into the protected area governance structures that will then be provided resources for their conservation work.

To ensure the **sustainable financing** of the protected areas, MIARO worked on several possibilities including carbon revenues, green fees, and ecotourism investment. The MIARO partners continue to pursue these various financing avenues, working both at the national level (e.g., REDD strategy) as well as at the site level (e.g., local benefits sharing). MIARO partners also continue to pursue other opportunities that transform ecosystem services into real economic benefit for local people.

In a changing context, **communication** is of the utmost importance. This is especially true now, when the political situation in Madagascar has exacerbated illegal logging and hunting. The perceived lack of rule of law has opened a window for external forces to plunder Madagascar's resources, putting the work of MIARO and other conservation programs at risk. As a response, MIARO partners continue their communication efforts at the local, regional, national, and international levels. These efforts are already bearing their fruit as people recognize the threat and are making decisions to curb it.

The design and implementation of **forest restoration** is quite complicated particularly for ecological restoration to connect forest corridors. Various techniques and expertise are necessary as well as financial resources. The understanding of the values of forest restoration was also quite difficult to local stakeholders, particularly the ecological values of such action. It is therefore important that communities know and appropriate forest restoration in conservation areas. The continuous improvement of capacity building for actors is among the key factors for the long-term vision for restoration. RM1.5 worked with experts (scientists) as well with local actors in sites. We provided capacity building to those local actors, for instance Koloharena and CBOs in order for them to continue restoration activities in the case of Didy-Ambohilero. Documented guidelines were provided to facilitate ongoing activity after the end of MIARO. WWF, through its own program, will continue to practice forest restoration and will share lessons and experience with other practitioners. MIARO was used as a lever to show the importance of forest and ecological restoration for conservation.

Planning and management tools produced during MIARO have been spread widely among conservation practitioners in Madagascar. Most promoters and managers have now the capacity to apply those tools with limited support. The challenge will be for other new protected areas that will be created in coming months.

MIARO has achieved important results and expects that the sustainability of actions done through the program will continue. WWF will particularly monitor that **planning and management tools** developed under MIARO will be used correctly. We will continue our support as appropriate despite limited resources. WWF will continue to disseminate tools that were developed under MIARO; we will also continue to provide support to new protected areas. The dissemination will require limited resources while site-based support needs more important resources.

The development of SAPM is crucial to ensure secured management of new protected areas. We are continuing to support the SAPM through the SAPM Commission and support to the Ministry's DSAP in **communications** by the improving of the visual identity of SAPM by creating a logo and information campaign and in capacity building of their staff at national and at least at regional levels in WWF's intervention areas. To summarize, we will make sure that Madagascar will continue to demonstrate leadership in PA development and management.

During the period in which MIARO provided support to Madagascar National Parks, efforts focused on increasing the management effectiveness index of the MNP network of parks through cultivating a high-performing staff, developing management systems and tools, and ensuring sufficient infrastructure at the park level.

Through cross-cutting support, MIARO provided the MNP network with specific, upgraded management tools. MIARO resources also provided capacity building support for the adoption of these tools, namely TOMPRO and TECPRO. This was a key component of improving MNP's **organizational and administrative capacity**.

MIARO also provided technical assistance to MNP to update their **management plans** through a learning process that will ensure future updates and adaptations as needed. This assistance helped to ensure long-term future effective management of the parks.

MIARO worked to develop a **concessions policy** that will allow for tourism investment inside MNP parks. This policy is the foundation for what will certainly contribute greatly to MNP's financial sustainability.

The debt-swap scheme with France is currently operational and the Madagascar Foundation for Protected Areas and Biodiversity benefits from this funding opportunity and extensively conservation work in Madagascar.

The expansion and exploration of new opportunities and instruments of sustainable financing instruments are a long process. The feasibility of mechanisms depends on intrinsic and extrinsic factors, such as the political crisis that is currently happening in Madagascar.

The **green fees** concept was developed during EP2 and its exploration and feasibility were continued during MIARO. It is a quite a complicated instrument as its development requires the involvement of many stakeholders such as the government and official institutions. WWF will support the Government of Madagascar to draft a green fee proposal and an implementation

strategy. We know that this is quite difficult if we take into account the current political instability but we are addressing the technical aspects of the project. Also, we will work to win support for the implementation of green fees to finance conservation of protected areas in Madagascar and identify key stakeholders. For this, the identification of and consultation with environmental stakeholders are crucial. Also, coordination with the tourism sector will be emphasized. And an assessment of green fees in overall finance structure will help us to focus our intervention to achieve this ambitious challenge. Finally, different studies need to be carried out in addition to what have been done through MIARO. A willingness to pay study has just been carried out at the national level in collaboration with ONTM (National Tourism Board) and the same study has also been conducted with tour operators. We will identify the management and allocation mechanism in addition to legal requirements.

For the **payment for ecosystem services** (PES), WWF will continue implementing pilot projects around new protected areas as appropriate. The objectives include the assessment of opportunities and/or current progress of PES activities at the national level. The review of current of ecosystem services' projects will be updated as well as the regulatory context for PES and local involvement in PES activities. Next steps include identifying project opportunities and enhancing implementation procedures. The support to management structure will be provided as appropriate. Also, a baseline analysis constitutes one important activity, including the identification of potential payers and their willingness to pay.

At a later stage, we would like to implement operational PES activities. For this purpose, the development of a business plan for each site will be carried out. In addition, the allocation mechanism will be identified as well as technical assistance that will support the implementation of pilot projects. The establishment of the capacity of stakeholders / institutions to manage the payment mechanism will be part of activities.

# Appendix 1

## Environmental compliance report

### Context

The MIARO Program is being implemented from May 2004 – August 2009 and is a cooperative agreement with Conservation International (CI) under the “Maintaining Biological Integrity of Critical Biodiversity Habitats,” Leader Award No. LAG-A-00-99-00046-00. World Wide Fund for Nature (WWF), Wildlife Conservation Society (WCS), and Madagascar National Parks (MNP) received grants through this program, allowing the four entities to provide coordinated technical support to the creation and effective management of the Protected Area System of Madagascar (SAPM).

The MIARO program contributed to USAID/Madagascar’s Strategic Objective 6 (SO6) managed by the Environment and Rural Development office at USAID/Madagascar. Primarily the MIARO program contributed to Intermediate Result 2 of SO6: Biological Integrity of Critical Biodiversity Habitats Maintained. The main goal of the MIARO program was to provide support for the creation and effective management of protected areas and this was executed through 4 results modules:

- Results Module 1. Ecological linkages within and between landscapes established and/or maintained by expanding biodiversity habitat conservation
- Results Module 2. Management effectiveness for protected area management improved
- Results Module 3. National Park Network Activities Implemented
- Results Module 4. Sustainable financing mechanisms operational

This Environmental Compliance Report identifies the potential environmental impacts of the activities under each of the results modules and describes the mitigation measures that were taken during the project. Prior to implementation of MIARO, the USAID Madagascar mission submitted an Initial Environmental Examination (IEE) to the Africa Bureau Environmental Officer that covered the whole of Strategic Objective 6 and its Intermediate Results. On July 31, 2003, in the IEE, the Africa Bureau Environmental Officer recommended Categorical Exclusions and Negative Determinations with Conditions for some activities under the Intermediate Results. The IEE was subsequently updated in October 2008. The original and updated IEE provided the recommendations that MIARO used as a basis for designing and implementing appropriate mitigation measures to ensure that the project had no negative impacts on the environment.

Under the Initial Environmental Examination, a Negative Determination with Conditions was recommended for the following activities under each IR:

- IR 1 activities that propose to establish an overall framework for forest management in Madagascar and involve national and regional forest zoning.
- IR 2 activities that propose to reinforce ecological linkages through expanded biodiversity habitat conservation, integrate planning and management systems for Protected Areas, revise program planning for the Malagasy Parks Service, Madagascar National Parks (MNP), and develop sustainable financing mechanisms for biodiversity conservation.
- IR 3 activities that will work to reinforce the farmer-led extension approach, adapt agricultural technologies and practices, implement alternative income sources, develop value-added processing, ensure food security, increase community control over natural resources, increase finance opportunities for commercialization of agricultural and forest products, and develop rural infrastructure.
- IR 4 activities that aim to strengthen private sector forestry groups, promote private investment in forest plantations, establish a chartering system for allocation of logging permits, and promote use of higher value tree plantation species.
- IR 5 activities that will involve the establishment of a funding mechanism for local and regional forestry activities.

**A Summary of the IEE:**

SO6	Number of the SOAG	Determination	Date of Determination	Compliance issues
Environment and Rural Development	687-006	Categorical Exclusion and a negative determination with conditions.	July 31, 2003; updated October 2008	None

The following activities under IR2/MIARO were granted Categorical Exclusion in the IEE because they entail education, technical assistance, training, organizational development, analyses, studies, coordinating activities, workshops, meetings, documents and information transfers, that are not expected to result in activities directly affecting the environment:

- Define biodiversity conservation priorities for priority eco-regions: Undertake a biodiversity threats analysis in USAID priority eco-regions and provide technical assistance to determine conservation visioning for the two regions of Tamatave and Fianarantsoa.
- Examine policy and legal issues for conservation sites and voluntary protected areas: Carry out studies to define legal status, determine appropriate mechanisms for participation and types of agreements to insure long term viability of the new sites; support revision of policy and legal instruments; and carry out dissemination of materials and training of local and regional officials as well as forest service and ANGAP staff in the new policy and its application. Roles and responsibilities of national, regional, and local level will be clarified.
- Support continued refinement of the Conservation Management Plan Approach (CMP) approach: Provide technical assistance to ANGAP technical staff to insure that PAs needing new five-year plans have an active up-to-date plan in place. New procedures and related tools (such as standard forms for contracts and concessions) for the forest service will also be developed to establish ongoing functional relationships with partners outside the service (Private Sector Operators and Concessionaires and Community organizations).
- Develop appropriate system of Annual Operation Planning (AOP) process for protected areas system: Work with PA staff in priority corridors to revise and test annual planning process using more rigorous and systematic approach; develop and verify standard costs for base and enhanced activities to be used in results-based planning; devise operational manual and train staff responsible for implementation, technical support and supervision; field test plan for an entire season in pilot protected areas; revise approach and manual; scale up all protected areas through formal adoption and training for all staff; refine and improve approach and schedule of costs; and integrate operational plans more closely with ANGAP administrative and financial systems.
- Link AOPs to field operations' oversight functions at national and regional levels: Develop information management system for collecting and centralizing data and information submitted in AOPs; use information to contribute PA 'tableau de bords' which can be used in assessing results; increase analytical capacity to assess results in relation to costs and to identify areas of needed technical and management assistance; and create review process that involves both technical and financial oversight staff to periodically review PA management progress.
- Assist park staff to identify program gaps and marketing approaches to seek additional funding for value added activities: Use AOPs to identify priority areas for capital investment and improvements that can be tied to increased success in protecting critical habitat and biologically diverse resources, as well as to encourage PA managers to encourage donors and outside partners to get involved in particular programs and to use results-based reporting to assure donors and partners that the conservation results are being met.
- Expand and strengthen results based programming: Support ANGAP to establish a format for packaging requests for supplemental funding and to establish requirements for submitting proposals for funding and to establish review procedures.
- Develop priority setting exercise that distinguishes recurring budgets for management and non-core capital investments for higher impact programs: Prioritize capital expenditures; determine USAID/sinking fund requirements; and prepare proposals for sinking fund.

Under the IEE, the following activities were considered as having negative determination with conditions:

- Promote potential forest conservation sites
- Develop a plan for designating and establishing conservation sites and voluntary protected areas
- Restore broader forest functions and processes in the overall landscape
- Use Annual Operational Plans to implement, modify, up-date, and interpret five-year Conservation Management Plans (CMP)

The table below provides a description of the planned activities under IR2, the mitigation measures that were recommended in the IEE, the mitigation actions that were taken in the project. Outstanding issues, if any, are also listed for each of the mitigation measures.

***IR 2: Maintain Biological Integrity of Critical Biodiversity Habitats:***

MNP and the Malagasy Forest Service will incorporate enforcement mechanisms and promote education and outreach tools to improve community understanding of biodiversity concerns. These mechanisms will be updated and improved to better monitor environmental impacts.

IR 2 Planned Activities	Recommended Mitigation Actions in the IEE	Mitigation Actions Taken	Any outstanding issues related to required conditions
<p><u>Promote potential forest conservation sites (ie. protected areas)</u> Promote the establishment of conservation sites (protected areas) within a landscape vision to provincial, regional, and local actors and engage local population in the selection of potential conservation sites based on biodiversity and water resource priorities.</p>	<p>None listed</p>	<p>The MIARO team worked with the Protected Areas Commission (SAPM) and the National Environment Office (ONE) to develop a guide for undertaking the environmental and social impact assessments needed as part of the protected area creation process. MIARO provided the guide to all the organizations involved in the protected area creation process. In addition, we also worked with the World Bank to ensure coherence between their social safeguard operational procedures (specifically Operational Procedures 4.12) and the existing national legislation on which ONE's guide is based. MIARO worked with the World Bank to organize trainings on the development of environmental and social safeguards for all protected areas promoters.</p> <p>As a result of this work, all protected areas need to develop an environmental and social management plan that integrates social safeguards that compensate people affected negatively by the creation of the protected area. These environmental and social safeguard plans need to be reviewed and validated and approved by ONE before the protected area can be definitively gazetted.</p>	<p>Nothing specific to MIARO. Some protected areas still need to complete the environmental and social management plans or else they have submitted them and the validated and approval process needs to be completed.</p>
<p><u>Develop plan for designating and establishing conservation sites and voluntary protected area.</u> Identify and prioritize potential sites within framework of Plan</p>	<p>Technical mitigation measures should be used to the extent possible prior to the extension of existing transfer sites. For</p>	<p>MIARO plays a lead role in supporting the GoM for the expansion of the Protected Area System. As part of this work we have undertaken key activities and developed essential tools that mitigate the risks of negative changes to the environment due to the creation of new protected areas.</p>	

<p>Grap and Forestry Zoning Plan; examine financial needs of sites; determine management needs of sites; develop capacity of responsible institution(s) to manage sites; establish implementation tools to set up sites; develop viable review process for selection and financing of site management activities and release of funds; monitor and evaluate the results of implementation. The establishment of the voluntary protected areas will involve land marking and physical activities for their delimitation.</p>	<p>example, appropriate tools such as (i) the simplified management plan, (ii) the field-implementation of the zoning plan and (iii) control and monitoring plans, should be developed with a common understanding and a sound involvement of all the stakeholders and the support organizations.</p>	<p>Most important among these tools is the guide and procedures that were put in place for developing individual environmental and social impact assessments and management plans (see description above).</p> <p>In addition, the following key support was provided under various results modules of MIARO:</p> <p><b><i>SUB RESULTS MODULE 1.1. Promote the definition of policy and legal parameters for the establishment of new protected areas</i></b></p> <p>The Madagascar Protected Areas System (SAPM) has been designed with support from world renowned IUCN specialists and in line with IUCN categories and governance types. This close collaboration with IUCN staff throughout the SAPM design process has ensured that the policies of Madagascar's expanded protected area network have integrated international best practice to ensure protection of the environment. The way that the SAPM has been designed and the strategies that have contributed to fulfilling Madagascar's obligations under the Program of Work on Protected Areas (PoWPa) of the CBD. The SAPM has been used several times in IUCN publications to highlight good practice in implementing the PoWPa.</p> <p><b><i>SUB RESULTS MODULE 1.2 Identifying and promoting potential new protected areas in consultation with regional and local actors</i></b></p> <p>- A science-based priority setting process for mapping and securing key biodiversity areas was undertaken. This process aimed to identify the areas needed to protect viable populations of all vertebrate species and well-known plant species in Madagascar. As such, the sites identified to</p>	<p>No outstanding issues.</p> <p>The biodiversity of Madagascar is relatively well known by comparison to many tropical countries, but nevertheless changes in taxonomy and new discoveries continue to be made. Also many groups - such as the</p>
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		<p>include within the protected area system can be considered the conservation community's best estimate of the most efficient configuration of sites that need to be in the protected area network to maximize the number of species conserved.</p> <p>A extensive communication campaign was organized to raise public awareness on the Malagasy government's commitment to expand the protected areas surface and the SAPM context. An important emphasis in this campaign was the explanation of what this decision meant for local people and how they could be involved in decisions related to the management of the new protected areas.</p> <p>Technical and financial support to local partners for protected areas establishment and planning (through Conservation Action Grants)</p> <p><b><i>SUB RESULTS MODULE 1.3. Establishing new protected areas</i></b></p> <p>Assistance to the creation of a protected area directorate (DSAP) within the Ministry of Environment and Forests, to implement the strategy for biodiversity conservation and for</p>	<p>invertebrates, fungi, bacteria, protozoa and even plants remain poorly known. Improvements in this knowledge will provide the information needed to refine the current analyses. Conservationists should not wait for this information before acting to protect the sites that have been identified.</p> <p>Communications on a theme as large and varies as the protected area system is not punctual one-off activity that can ever be considered to be completed. While the communications that have been done to date have effectively raised awareness of protected areas at the national, regional and local levels, these efforts will need to continue. In this respect, a particular challenge arose in 2009 linked to the political coup, namely that there was a widespread perception that the regime change meant that the program to expand protected areas was no longer a government policy despite announcements by the Ministry of Environment and forests to the contrary.</p> <p>No outstanding issues. The Conservation Action Grants were very effective at providing the resources needed for promoters to advance in the protection status of several priority sites.</p> <p>The creation of the DSAP as the entity to oversee the creation and management of protected areas in Madagascar was an</p>
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		<p>protected area development</p> <p><b><i>SUB RESULTS MODULE 1.4. Refining conservation priorities in USAID priority eco-regions</i></b></p> <p>Public consultations in CAZ, COFAV, and Ambatotsirongorongo for land use planning, boundaries and zoning refinement. To increase local buy-in, a participatory process was used to develop Management plans for CAZ, COFAV and Ambatotsirongorongo. At the most local level, simplified management plans were developed with the local management units (COBAs) to ensure that local zoning and resource use rules were clear.</p> <p><b><i>SUB RESULTS MODULE 1.8. Expanding marine protected areas (MPA)</i></b></p> <p>A specific participatory planning approach was developed and tested for the creation of community-managed marine reserves.</p>	<p>important step forward in developing the institutional framework needed for the network. However the task is enormous and DSAP still has relatively little in the way of resources and personnel. Institutional capacity building for the DSAP will remain a priority for the conservation community in Madagascar for the foreseeable future.</p> <p>No outstanding issues. However, the management plan development for CAZ and COFAV took much more time than expected because of the participatory process in producing it (public consultations, analyses, writing, validation, review...). Community participation in protected area management is still a relatively new concept in Madagascar, as it is in much of the rest of the World. Building the capacity of local organizations will remain an important priority for all conservation organizations that are trying to promote local governance of natural resources.</p> <p>This activity was implemented during the extension phase of the project and due to constraints with the political situation, it was not possible to utilize the success observed at the local level to influence national level policy</p>
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		<p><b>SUB RESULTS MODULE 2.2 Improving and implementing annual programmatic work plans for protected areas</b></p> <p>- Practical tools (guides and manuals) were developed to help protected area managers focus on the real priorities of the sites they are responsible for. The approach that was used and taught to the managers of all the existing and new protected areas is based on TNCs 5-S method (and subsequently the MIRADI approach that is a refinement of 5-S). In the planning process the managers identify the key conservation priorities of the site (i.e. species, habitats, ecosystem services), the main threats and their causes and then they use this vital information to plan conservation strategies and to set the priorities. This robust, internationally-recognized approach provides a high-quality and homogeneous planning system for the whole of the SAPM, whether the site be managed by Madagascar National Parks or communities. Madagascar's use and adoption of this approach across the whole network has been highlighted in several IUCN documents as an example of international best practice.</p>	<p>on how to engage communities in marine protected area management. Further work is needed to scale up the approach at the field level and to share the lessons learned.</p> <p>No major outstanding issues. Despite the training that has been provided through MIARO and the high capacity within Madagascar to develop high quality management plans for protected areas, these documents need to be considered as evolving, living plans. As such, they will require regular revision (MIARO advocated a 5-year planning cycle) and this will require coordination and resources. Monitoring and evaluation of the plans and the achieved results will be an important part of these revisions.</p>
<p><u>Restore broader forest functions and processes in the overall landscape:</u> Determine critical areas where biodiversity habitat has been degraded or destroyed, or areas which support and/or link to critical biodiversity habitat has been degraded or destroyed; develop plan to</p>	<p>USAID will ensure that the restoration will not introduce exotic and invader species or weeds.</p>	<p><b><i>SUB RESULTS MODULE 1.5. Develop forest restoration functions and procedures in USAID priority eco-regions</i></b></p> <p>MIARO designed reforestation and restoration activities to ensure connectivity within the Corridor Ankeniheny Zahamena, namely in the Mantadia and Ambohilero areas. Exclusively native species were selected for these activities</p>	<p>No outstanding issues related to MIARO activities. However, in general the problem of invasive plants has received little attention to date in Madagascar and there is little knowledge among environmental NGOs and</p>

<p>integrate restoration activities within planning framework for the site; undertake restoration activities of key areas in partnership with local authorities and communities.</p>		<p>that were implemented by local communities with the technical assistance from local NGOs. Control of invasive species using manual removal techniques is an important part of the</p> <p>Local structures were created for the plantation and maintenance of restored areas, including the control of invasive species.</p>	<p>protected area managers about which species should be considered as threats to biodiversity and control methods.</p>
<p><u>Use AOPs to implement, modify, up-date and interpret five-year Conservation Management Plan</u> Develop questionnaires to be used to integrate feedback from the AOP to CMPs; aggregate and analyze feedback at regional and central levels; and use MNP expertise and technical assistance to help establish means to set and adjust priorities in relation to changing threats and impacts of previous actions on reducing (or failing to reduce) threats to the PAs habitat. The conservation management plan may include physical activities such as ecotourism facilities and infrastructures.</p>	<p>IUCN methodology will be used in managing and monitoring Protected Areas and Conservation Sites.</p> <p>USAID will support MNP in reducing human-induced ecosystem degradations on protected areas network and conservation sites.</p>	<p><b><i>SUB RESULT MODULE 2.2. Improve and fully implement annual programmatic work plans for protected areas</i></b></p> <p>Conservation planning and evaluation in Madagascar has been developed to comply with IUCN standards. Specifically, management plans have been developed or are being developed for all the country's protected areas using a standardized methodology that is internationally recognized (TNC's 5-s/MIRADI). Annual evaluations of management efficiency in the Madagascar National Parks network are conducted using the IUCN/ World Commission on Protected Areas evaluation monitoring framework. The tool used by Madagascar National Parks was adapted under the MIARO program for use by the new protected areas. The combination of priority activities defined in management plans and the annual evaluations is used to define annual operational plans.</p> <p><b><i>SUB RESULTS MODULE 2.1 Develop and/or refine conservation management plans and other thematic plans for protected areas.</i></b></p> <p>MIARO provided resources and technical support to MNP's network in improving their monitoring activities so that they could adapt patrolling activities on a monthly basis to target zones within the parks and reserves that were considered to have the highest risks.</p>	<p>Trainings on the annual management effectiveness evaluation were provided to the staff at new protected areas that are advanced in the protected area creation process. However, as other new protected areas are created, further training will be necessary for new managers. Further support will also be needed to ensure that the DSAP coordinates this evaluation process.</p> <p>No outstanding issues. This system of spatial monitoring is now widely used in the MNP network and helps to improve the effectiveness of ranger patrols.</p>

## Appendix 2

### List of tools and materials produced by MIARO

Category	Description / Title	Source / Author	Format	Reference / file name
Outil SAPM	Les outils techniques et juridiques liés à la mise en place du Système des Aires Protégées de Madagascar	Commission SAPM	Electronic version	SAPM_Classeur
Outil SAPM	Modele de plans d'affaires pour les aires protegees	MIARO	Electronic version	Modèle_BP_SAPM.pdf
Outil SAPM	Guide pour le plan de gestion de l'ANGAP	MIARO	Electronic version	GUIDEPlandeGestionANGAP.pdf
Outil SAPM	Manuel pour le plan de gestion de conservation de l'ANGAP	MIARO	Electronic version	ManuelPGC.pdf
Outil SAPM	Manuel pour le calcul de l'indice d'efficacite de gestion	MIARO	Electronic version	ManuelIEG.pdf
Outil SAPM	Poster Education Environnementale : Fifandrohizana ara-tsakafo	MIARO	Electronic version	Fifandrohizana ara-tsakafo.jpg
Outil SAPM	Poster Education Environnementale : Tsingerin'ny Karibona	MIARO	Electronic version	Tsingerin'ny Karibona.jpg
Outil SAPM	Poster Education Environnementale : Tsingerin'ny Oksizena	MIARO	Electronic version	Tsingerin'ny Oksizena.jpg
Outil SAPM	Poster Education Environnementale : Tsingerin'ny Rano	MIARO	Electronic version	Tsingerin'ny Rano.jpg
Outil SAPM	Toro lalana mikasika ny fandaharana momba ny tontolo iainana - Radio	MIARO	Electronic version	GuideEmissionRadio.pdf
Outil SAPM	Toro lalana: Fitantanana ny faritra arovana - Fampiasana maharitra ny loharanon-karena voajanahary	MIARO	Electronic version	Toro-lalana5.pdf
Outils sur la restauration forestiere	Torolalana momban'ny famoriana vihy sy zanakazo	Projet TAMS (2006)	Electronic version	Guide corridor 31 juillet 2006.pdf

Outils sur la restauration forestiere	Guide des plantules	Projet TAMS (2009)	Electronic version	Guide Plantules 2009.pdf
Outils sur la restauration forestiere	Restoring and Reintegrating the Ambohilero Forest following uncontrolled, industrial logging and road building	James Aronson (CNRS & MBG), Patrick Lavelle (IRD), Porter P. Lowry II (MBG), David Rabehevitra (MBG), Fidèle Raharimalala (University of Antananarivo), F. Rakotonasolo (MBG), Herman Rakotonirano (CIREEF, Ambatondrazaka) and David Tongway (Australian National University)	Electronic version	Etude sur la restauration ecologique Ambohilero .pdf
Outils sur la restauration forestiere	Action Plan for restoration in Ambohilero	Sarah Karpanthy (Mars 2008)	Electronic version	Plan d'action Ambohilero.pdf
Consultants Internationaux	Develop and/or refine conservation management plans and other thematic plans for protected areas.	Jean Pierre D'Huart (15 - 30 October 2004)	Electronic version	STTA 001 2004 RM2 JPDH 15-20 Oct.pdf
Consultants Internationaux	Conservation Finances & Business Plan	Melissa Moye, Marie Delongcamps (12 - 28 October 2004)	Electronic version	STTA 002 2004 RM2 Melissa MDL et XM.pdf
Consultants Internationaux	Support to RM4	Ray Victurine (10 - 24 October 2004)	Electronic version	STTA 003 2004 Ray Victurine 10-24 Oct 2004.pdf
Consultants Internationaux	Conservation Finances	Xavier Maret (12 - 28 October 2001)	Electronic version	STTA 004 2004 Xavier Maret Oct 2004.pdf
Consultants Internationaux	Explore potential for French Debt reduction – Development Contract (C2D) to finance environmental sector Sustainable Financing Mechanisms (RM 4)	Melissa Moye, Marie Delongcamps (13 - 27 April 2005)	Electronic version	STTA 005 2005 Moye & De Longcamp Avril 2005.pdf

Consultants Internationaux	Support to RM4	Ray Victurine (4 April - 4 May 2005)	Electronic version	STTA 006 2005 Ray Victurine Apr May 2005.pdf
Consultants Internationaux	Technical assistance to Durban Vision related activities	Tom Allnutt (February 2005)	Electronic version	STTA 007 2005 Tom Allnutt Feb 2005.pdf
Consultants Internationaux	IUCN support to DVG	Grazia Borrini, Nigel Dudley (May 2005)	Electronic version	STTA 008 2005 IUCN Mission 1 May 2005.pdf
Consultants Internationaux	Support to MIARO project partners to the anatomy, function and utility of conceptual models as a tool for communicating conservation plans	Adrian Treeves (May 2005)	Electronic version	STTA 009 2005 Adrian Treeves May 2005.pdf
Consultants Internationaux	Technical Advisor to Rebioma	Alison Cameron (1 - 12 April 2005)	Electronic version	STTA 010 2005 Alison Cameron Apr 2005.pdf
Consultants Internationaux	Support to RM4	Esteban Brenes (May - June 2005)	Electronic version	STTA 011 2005 Esteban Brenes May June 2005.pdf
Consultants Internationaux	Restoration of Ecosystem Services: Andasibe, Madagascar (RES:AM)	Louise Holloway (Nov - Dec 2005)	Electronic version	STTA 012 2005 Louise Holloway Nov Dec 2005 .pdf
Consultants Internationaux	Fundraising and communication activities of the Madagascar Foundation for Protected Areas and Biodiversity	Marie de Longcamp (July 18 - August 5, 2005)	Electronic version	STTA 013 2005 Marie de Longcamp aug 05.pdf
Consultants Internationaux	Plans de Gestion de la Conservation (PGC) and Synthetic Plan to PA	Jean Pierre D'Huart (July 2005)	Electronic version	STTA 014 2005 JP1 Jul 05.pdf
Consultants Internationaux	Plans de Gestion de la Conservation (PGC) and Synthetic Plan to PA	Jean Pierre D'Huart (March 2005)	Electronic version	STTA 015 2005 JP1 Mar 05.pdf
Consultants Internationaux	Plans de Gestion de la Conservation (PGC) and Synthetic Plan to PA	Jean Pierre D'Huart (November 2005)	Electronic version	STTA 016 2005 JP1 Nov 05.pdf
Consultants Internationaux	Workshop Support and Technical Assistance for Prioritization Subgroup of the Durban Vision	Tom Allnutt (14 may - 1 June 2006)	Electronic version	STTA 017 2006 Tom Allnutt June 2006.pdf
Consultants Internationaux	Restoration of Ecosystem Services (RES): Vohidrazana-Mantadia	Louise Holloway (February-May 2006)	Electronic version	STTA 018 2006 Louise Holloway Feb-May 2006.pdf

Consultants Internationaux	Sustainable Financing Mechanisms (RM 4) and Business Planning (RM 2.3)	Melissa Moye and Esteban Brenes (January 30 – February 10, 2006)	Electronic version	STTA 019 2006 Melissa & Esteban Feb 2006.pdf
Consultants Internationaux	Plans de Gestion de la Conservation (PGC) and Synthetic Plan to PA	Jean Pierre D'Huart (March 2006)	Electronic version	STTA 020 2006 JP1 Mar 2006.pdf
Consultants Internationaux	Plans de Gestion de la Conservation (PGC) and Synthetic Plan to PA	Jean Pierre D'Huart (July 2006)	Electronic version	STTA 021 2006 JP1 Jul 2006.pdf
Consultants Internationaux	Developing Potential for French Debt Reduction– Development Contract (C2D) to Finance Environmental Sector Sustainable Financing Mechanisms (RM 4)	Marie de Longcamp (October 10-19, 2006)	Electronic version	STTA 022 2006 Marie de Longcamp October 2006.pdf
Consultants Internationaux	Development of a manual for grant making by the Madagascar Foundation for Protected Areas and Biodiversity	Allen Putney (July 27 - August 14 2006)	Electronic version	STTA 023 2006 Allen Putney Aug 06.pdf
Consultants Internationaux	Protected Area evaluation using patrol-based spatial data	Fiona Maisels (April 2006)	Electronic version	STTA 024 2006 Fionna Maisels April 2006.pdf
Consultants Internationaux	Assessing the Opportunity to Development of an Ecotourism in the Protected Areas of Madagascar	Virali Gokaldas, Mira Rubin, Vladimir Stenek, Seth Zimring (Haas School of Business, UC Berkeley) (2006)	Electronic version	STTA 025 2006 MBA WCSUC Berkeley 2006.pdf
Consultants Internationaux	Design and test a methodology for evaluating the economic value of individual protected areas to the tourism sector.	Amanda Doster and Alexander Krasavin (June 5 - August 4 2006)	Electronic version	STTA 026 2006 Amanda - Alex Jun - Aug 2006.pdf
Consultants Internationaux	Economic value of Protected Area	Karin Barry (June 19 - August 4 2006)	Electronic version	STTA 027 2006 Karin Barry Jun - Aug 2006.pdf
Consultants Internationaux	Evaluation économique du Parc National de Masoala et du site de conservation de Makira	Michel Masozera (November 17 - December 2 2006)	Electronic version	STTA 028 2006 Michel MASOZERA Nov - Dec 2006.pdf
Consultants Internationaux	Technical requirements for achieving the Durban Vision	Bob Pressey (November 29 - December 6 2006)	Electronic version	STTA 029 2006 Bob Pressey Nov - Dec 2006.pdf

Consultants Internationaux	Ankeniheny-Zahamena-Mantadia Biodiversity Conservation Corridor & Restoration Project	Louise Holloway (March - June 2007)	Electronic version	STTA 030 2007 Louise Holloway Mar June 2007.pdf
Consultants Internationaux	Conservation Finances	Ray Victurine (April 18 – May 8 2007)	Electronic version	STTA 031 2007 Ray Victurine Apr May 2007.pdf
Consultants Internationaux	Support to SAPM	Alison Cameron (9 – 29 March 2007)	Electronic version	STTA 032 2007 Alison Cameron March 2007.pdf
Consultants Internationaux	Developing potential for French Debt reduction – Development Contract (C2D) to finance environmental sector Sustainable Financing Mechanisms (RM 4)	Marie de Longcamp (March 6-14, 2007)	Electronic version	STTA 033 2007 de Longcamp March 2007.pdf
Consultants Internationaux	Identification different mechanisms to finance conservation	Laurel Brandstetter (July 20-August 3, 2007)	Electronic version	STTA 034 2007 Laurel Brandstetter Jul Aug 2007.pdf
Consultants Internationaux	Madagascar Marine Consultancy	Charlotte de Fontaubert ( December 2007)	Electronic version	STTA 035 2007 Charlotte F. Dec 2007.pdf
Consultants Internationaux	Consultant to the World Wildlife Fund on Green Taxes	Joy E. Hecht (14-25 May 2007)	Electronic version	STTA 036 2007 Joy Hecht May 2007.pdf
Consultants Internationaux	Support to RM4	Ray Victurine (November 13 - November 27, 2005)	Electronic version	STTA 037 2005 Ray Victurine Nov 2005.pdf
Consultants Internationaux	Introducing Green Charges to Fund Protected Areas In Madagascar	Joy E. Hecht ( January 2008)	Electronic version	STTA 038 2008 Joy Hecht Jan 2008.pdf
Consultants Internationaux	Communication activities of the Madagascar Foundation for Protected Areas and Biodiversity (“Madagascar Foundation”)	Erik Reed (September 2007 - July 2008)	Electronic version	STTA 039 2008 Erik Reed July 2008.pdf
Consultants Internationaux	Plan Vivo Training	Willie McGhee, Alexa Morrison, (Plan Vivo Foundation) ( May 2008)	Electronic version	STTA 040 2008 Plan Vivo May 2008.pdf

Consultants Internationaux	Aspects légaux relatifs à la mise en place du nouveau système des aires protégées de Madagascar	Nancy Vallejo (Novembre 2005)	Electronic version	STTA 041 2005 Nancy Vallejo November 2005.pdf
Consultants Internationaux	Evaluation of and Recommendations for the Antongil Bay Restoration and Reforestation Program: Masoala National Park and Makira Protected Area	Louise Holloway (February 28 - March 28, 2008)	Electronic version	STTA 043 Louise Holloway - Evaluation and recommendations for the Ant March 2008.pdf
Consultants Internationaux	Elaboration Manuel de Procédure pour la création et la gestion des Aires Marines Protégées à Madagascar	Andrew Cooke (TBD)	Electronic version	STTA 045 2008 Andrew Cooke Mars 2009.pdf
Consultants Internationaux	Consultance pour la mise a jour des guides a la planification et l'évaluation de l'efficacite de gestion au sein du Système d'Aires Protégées de Madagascar	Jean Pierre D'Huart (Aout - Septembre 2008)	Electronic version	STTA 046 2008 JP1 Aug - Sept08.pdf
Consultants Internationaux	MPA priority-setting	Tim McClanahan and Nyawira Muthiga (15 September – 21 September 2008)	Electronic version	STTA 050 Tim & Nyawira September 2008.pdf
Consultants Internationaux	MPA priority-setting	Charlotte de Fontaubert (September – December 2008)	Electronic version	STTA 042 Charlotte de Fontaubert Nov 2008.pdf
Consultants Internationaux	Appui à l'amendement du Code des Aires Protégées de Madagascar, à la préparation d'une note de présentation et à l'identification des textes d'application	Laurent Granier (September 2008)	Electronic version	STTA 044 2008 Laurent Granier Sept 2008.pdf
Consultants Internationaux	Development of key biodiversity data management tools for priority SAPM sites Tom Allnutt	Tom Allnutt (1 - 11 April 2008)	Electronic version	STTA 049 Tom Allnutt April 2008.pdf
Consultants Internationaux	Les Aires Protégées à Madagascar: bâtir le système à partir de la base	Grazia Borrini (Septembre 2005)	Electronic version	STTA 047 Grazzia Borrini Sept 05.pdf

Consultants Internationaux	Journées de Réflexion sur la Gouvernance Partagée	Grazia Borrini (Juillet 2006)	Electronic version	STTA 048 Grazzia Borrini Juillet 2006.pdf
Consultants Internationaux	Rapport sur la formation en gestion de feu au profit des membres des comités de lutte contre le feu et du COGE de la nap ambatotsirongorongo	NEVA Herman (Février 2009)	Electronic version	STTA 051 Herman February 2009.pdf
Consultants Internationaux	Recrutement du gestionnaire de fonds de la FAPBM	Fondation pour la Biodiversité et les Aires Protégées de Madagascar	Electronic version	FAPBM.pdf
Consultants Locaux	Analyse des documents existant sur le concept de « Site de conservation » et les textes juridiques régissant la protection, la conservation et la gestion des différents écosystèmes naturels	S-PROGES 2005	Electronic version	S PROGES - Avril 2005.pdf
Consultants Locaux	La communication sur la mise en place de nouvelles aires protégées dans le corridor Ranomafana-Andringitra-Ivohibe	Comité Multi-local de Planification (2006-2007)	Electronic version	Rapport communication CMP.pdf
Consultants Locaux	Assistance technique au Service de Pérennisation Financière du MEFT	Henri Rabesahala (Septembre 2008)	Electronic version	Appui institutionnel SPF.pdf
Consultants Locaux	Guide d'Utilisation durable des ressources naturelles dans les Aires Protégées	Saholy Raminintsaotra (Mars 2008)	Electronic version	GDRN Saholy Raminintsaotra - Mars 2008.pdf
Consultants Locaux	Etablissement d'une base de données SIG et cartographie des stations méritant un grand intérêt pour la conservation des sites marins: cas du récif corallien d'Andavadoaka (Toliara, Sud Ouest de Madagascar)	Ratsifandrihamanana Faratiana (Octobre 2008)	Electronic version	Etablissement d'une BD et cartographie Fara - FARATIANA Sept 2008.pdf
Consultants Locaux	Manuel de financement de Tany Meva	Henri Rabesahala (Mars 2009)	Electronic version	Manuel de financement Tany Meva
Consultants Locaux	Guide d'Utilisation durable des ressources naturelles dans les Aires Protégées	Guybertho Randrianarivelo, Norbert Razafindrianilany	Electronic version	Partie technique du guide d'utilisation durable.pdf

		(Juin 2009)		
Rapport d'atelier	Rapport d'atelier Le Hintsy (GOUVERNANCE DES AIRES PROTEGEES A MADAGASCAR)	Gouvernance des Aires Protégées	Electronic version	Rapport d'atelier LE HINTSY 2007.pdf
Rapport d'atelier	Rapport d'atelier régional TULEAR	Communication SAPM	Electronic version	Rapport d'atelier régional TULEAR.pdf
Rapport d'atelier	Rapport d'atelier régional FIANAR	Communication SAPM	Electronic version	Rapport d'atelier régional FIANAR.pdf
Rapport d'atelier	Rapport d'atelier régional TAOLANARO	Communication SAPM	Electronic version	Rapport d'atelier régional TAOLANARO.pdf
Rapport d'atelier	Rapport d'atelier régional MAHAJANGA	Communication SAPM	Electronic version	Rapport d'atelier régional MAHAJANGA.pdf
Rapport d'atelier	Rapport d'atelier régional TANA	Communication SAPM	Electronic version	Rapport d'atelier régional TANA.pdf
Rapport d'atelier	Rapport d'atelier régional TOAMASINA	Communication SAPM	Electronic version	Rapport d'atelier régional TOAMASINA.pdf
Rapport d'atelier	“Assessing the Impacts of Climate Change on Madagascar’s Biodiversity and Livelihoods.”	MIARO	Electronic version	Madagascar_Climate_Change_Assessment_Workshop-Report.pdf
Rapport d'atelier	Actes de l'atelier scientifique a Toamasina pour la mise en place de la nouvelle aire protegee	MIARO	Electronic version	AtelierScientifiqueToamasina.pdf
Rapport d'atelier	Actes de l'atelier scientifique a Fianarantsoa pour la mise en place de la nouvelle aire protegee	MIARO	Electronic version	AtelierScientifiqueFianar.pdf
Rapport d'atelier	Atelier de capitalisation de la communication sur le SAPM	Communication SAPM (Decembre 2008)	Electronic version	Rapport capitalisation final pdf.pdf

Conservation Action Grants	Proposition de Mise en place d'une nouvelle Aire Protégée dans le Massif d'Ibity dans le cadre du Système d'Aires Protégées de Madagascar -- PHASE DE CREATION --	Rapport Final : 54020-Missouri Botanical Garden	Electronic version	54020 MBG Ibity.pdf
Conservation Action Grants	Elaboration de plan d'aménagement et de gestion dans deux sites Tambohorano et Bealanana en vue de leur mise en aire protégée	Rapport Final : 54596-The Peregrine Fund	Electronic version	54596 TPF Tambohorano.pdf
Conservation Action Grants	Projet de mise en protection temporaire du site Tsimembo	Rapport Final : 54597-The Peregrine Fund	Electronic version	54597 TPF Tsimembo.pdf
Conservation Action Grants	Gestion des ressources naturelles en vue d'un développement durable	Rapport Final : 54599-Arongampanihy Culture Communication Environnement	Electronic version	54599 ACCE.pdf
Conservation Action Grants	Mise en protection temporaire du site d'Ambondrombe	Rapport Final : 54608-DURRELL WILDLIFE CONSERVATION TRUST	Electronic version	54608 Durrel Ambondrombe.pdf
Conservation Action Grants	Mise en statut de protection définitif de la forêt de Tsitongambarika, Taolagnaro, Région Anosy	Rapport Final : 54610-ASITY	Electronic version	54610 ASITY.pdf
Conservation Action Grants	Projet Bombetoka : Protection temporaire, Outils de gestion de gouvernance	Rapport Final : 54613-Association Fanamby	Electronic version	54613 Fanamby Bombetoka.pdf
Conservation Action Grants	Conserving the Mangabe-Andranomena-Sasaroetra forest habitat of Golden Mantella frogs (Mantella aurantiaca)	Rapport Final : 54614-MADAGASIKARA VOAKAJY	Electronic version	54614 MAVOA Mantella Aurantiaca.pdf
Conservation Action Grants	La mise en protection temporaire des reliques de forêts naturelles d'origine des fanihy	Rapport Final : 54615-MADAGASIKARA VOAKAJY	Electronic version	54615 MAVOA Fanihy.pdf
Conservation Action Grants	Etude de faisabilité et consultation pour l'établissement d'une Réserve de Biosphère de Bassin de Mandrare	Rapport Final : 54616-Centre Ecologique Libanona	Electronic version	54616 CEL.pdf

Conservation Action Grants	Demande de financement de l'assemblée générale du PLACAZ axée sur le transfert de compétences au bénéfice des membres , en bonne gouvernance locale pour la conservation du corridor ankeniheny-Zahamena	Rapport Final : 54625-Plate-forme de Gestion du Corridor Forestier Ankeniheny Zahamena	Electronic version	54625 PLACAZ.pdf
Conservation Action Grants	Appui aux Communautés de Base (VOI) et activités de Restauration de la zone forestière de Vohidahy (zone Zafimaniry).	Rapport Final : 54633-Reggio Terzo Mondo	Electronic version	54633 RTM.pdf
Conservation Action Grants	Création d'une nouvelle aire protégée à Anadabolava Bestimilaho	Rapport Final : 54636-Missouri Botanical Garden	Electronic version	54636 MBG Anadabolava.pdf
Conservation Action Grants	Evaluation de Transfert de Gestion en vue de l'Intégration dans la Nouvelle Aire protégée Ankeniheny Zahamena dans la Région Alaotra Mangoro	Rapport Final : 54637-ONG Tolotanana	Electronic version	54637 ONG Tolotanana.pdf
Conservation Action Grants	Analyse de faisabilité de mise en place d'une Aire Protégée de catégories V et/ou VI dans le couloir forestier de l'Angavo	Rapport Final : 54638-Association Fanamby	Electronic version	54638 Fanamby Angavo.pdf
Conservation Action Grants	Préservation de la biodiversité de Maromizaha	Rapport Final : 54640-Groupe d'Etude et de Recherche sur les Primates	Electronic version	54640 GERP Maromizaha.pdf
Conservation Action Grants	Création définitive de la Nouvelle Aire Protégée (NAP) d'Analalava	Rapport Final : 54641-Missouri Botanical Garden	Electronic version	54641 MBG Analalava.pdf
Conservation Action Grants	Appui pour la conservation à base communautaire de la future Aire protégée de Vohibe, Ambalabe – Vatomandry	Rapport Final : 54642-Missouri Botanical Garden	Electronic version	54642 MBG Ambalabe Vatomandry.pdf
Conservation Action Grants	Amélioration et protection de la forêt dans les Nouvelles Aires Protégées CAZ dans la commune de Didy	Rapport Final : 54657-Fédération Fitokisana	Electronic version	Federation Fitokisana CAG.doc.pdf

Conservation Action Grants	Rehausser une aire protégée communautaire sacrée et développer le potentiel écotouristique à Ranomay sur le fleuve Onilahy	Rapport Final : 54668- Culture et conservation	Electronic version	54668 CCE Ranomay.pdf
Conservation Action Grants	La mise en place d'une aire protégée communautaire innovatrice dans un paysage terrestre et marin au sud de Toliara (Sud-ouest de Madagascar)	Rapport Final : 54669- Association pour la Sauvegarde de l'environnement	Electronic version	54669 ASE.pdf
Conservation Action Grants	Proposition de sécurisation d'habitat pour la conservation de Mantella cowani	Rapport Final : 54734-Man and the Environment	Electronic version	54734 MATE Mantella Cowani.pdf
REPC	Module de formation - Phase 1	REPC Phase I	Electronic version	REPC Phase I
REPC	Module de formation - Phase 2	REPC Phase II, version Novembre 2008	Electronic version	REPC Phase II, version Novembre 2008
Plan d'Aménagement et de Gestion	Plan d'Aménagement et de Gestion CAZ	MIARO	Electronic version	PAGCAZ_oct2009 .pdf
Plan d'Aménagement et de Gestion	Plan d'Aménagement et de Gestion COFAV	MIARO	Electronic version	PAGCOFAV
Plan d'Aménagement et de Gestion	Plan d'Aménagement et de Gestion Ambatotsirongorongo	MIARO	Electronic version	PAG Ambatotsirongorongo.pdf
Plan d'Aménagement et de Gestion	Plan d'Aménagement et de Gestion Ankodida Ifotaky	MIARO	Electronic version	090925 PAG Ankodida.pdf
Plan d'Aménagement et de Gestion	Plan d'Aménagement et de Gestion Menabe	MIARO	Electronic version	090925 PAG Menabe Antimena ver Mai 2008_ha.pdf

Plan d'Aménagement et de Gestion	CAZ Project Design Document for REDD	MIARO	Electronic version	CAZ_PDD_VCS_format.pdf
Plan d'Aménagement et de Gestion	Plans synthétiques et plans de gestion de l'ANGAP mis à jour	MIARO	Electronic version	PG mis à jour et Plan synthétique (version Miaro)
Plan d'Aménagement et de Gestion	Plans synthétiques et plans de gestion de conservation de l'ANGAP mis à jour	MIARO	Electronic version	PS & PGCs mars 2006
Ecotourisme	Lettre de politique pour les concessions ecotouristiques	MIARO	Electronic version	Lettre_de_politique_18janvier2008.pdf
Ecotourisme	Convention de concession pour la construction et l'exploitation d'installation ecotouristique dans les AP&PN	MIARO	Electronic version	Convention de concession pour la construction et l'exploitation d'installation ecotouristique dans les AP&PN.pdf
Ecotourisme	Proposition de Cahier des charges Concessions	MIARO	Electronic version	Cahier des charges Concessions_30avr.pdf
Outil SAPM	Le Systeme des Aires Protegees de Madagascar	MIARO - Commission SAPM	Brochure + fact sheets sur les sites	
Outil SAPM	Madagascar New Vision	USAID Madagascar	Film sur DVD	
Outil SAPM	Ny Dian'ny Mananilatany	USAID Madagascar	Film sur DVD	
Outil SAPM	"Faritra arovana, antoky ny fampandrosoana maharitra"	MIARO	Film sur DVD	
Outil SAPM	Compilation de textes relatifs a la gestion des aires protegees	MIARO - Madagascar National Parks	CD-rom	
Outil SAPM	Atlas numerique du SAPM	REBIOMA-MIARO	DVD Rom or web site	<a href="http://atlas.rebioma.net">http://atlas.rebioma.net</a>
Outil SAPM	Spots Radios et video	CMP Fianarantsoa	CD	
Outil SAPM	Emissions Betsileo, Tanala, Bara	CMP Fianarantsoa	CD	
Outil SAPM	Le defi d'une generation: recit du voyage de Dama et	MIARO-WCS	Film sur DVD	

	Babaique			
Outil SAPM	Madagascar's Natural Capital	MIARO-WCS	Film sur DVD	
Outil SAPM	Reportage sur la mise en place de la NAP COFAV dans la commune d'Ambatofotsy	CMP Fianarantsoa	Film sur DVD	
Outil SAPM	Faritra arovana vaovao iarahana mikajy ho fihariana maharitra	Emission Rangalava TVM	Film sur DVD	