

CARBON EMISSIONS REDUCTION PROJECT IN THE CORRIDOR ANKENIHENY-ZAHAMENA (CAZ) PROTECTED AREA, MADAGASCAR

MONITORING REPORT 2008 - 2011

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1. PROJECT DETAILS

1.1 Summary Description of the Project

The Ankeniheny-Zahamena Corridor (CAZ) has long been regarded as one of Madagascar's top conservation priorities and numerous studies have catalogued its rich biodiversity. To date over 2,043 species of plants have been identified (85% are endemic), with representatives from five endemic families. Fifteen species of lemurs and thirty other species of mammals are known from CAZ, as well as 129 species of amphibians and 89 bird species. CAZ's flagship species include several species of threatened lemur such as *Indri indri*, *Varecia Variegata variegata*, and *Propithecus diadema*.

The CAZ carbon project covers 370,032 hectares of Madagascar's eastern humid rainforest and provides important ecosystem services to both the surrounding area and greater region. It protects the headwaters of eight large rivers that directly supply approximately 325,000 residents with water. Through dams and aquifers, they also provide water to the residents of the capital city, Antananarivo, and the provincial capital, Toamasina. Water provision and erosion control are particularly important for the agricultural plains to both the east and west of the corridor, and to the two hydroelectric plants that supply electricity to Madagascar's two largest cities. In addition, the forest band located between 600 and 1,200 m probably also plays an important role in the regulation of the local climate. Residents rely on the forest for a range of products, including building materials, food and medicinal plants. The culture of the local people is strongly bound to the forest, which harbours sacred sites, such as tombs.

By far the greatest threat to the forest corridor in terms of forest loss is slash-and-burn agriculture and this threatens the long term existence of the corridor. If this pressure is not alleviated, CAZ will soon disappear and with it the incredible biodiversity it houses, but also the essential ecosystem services it provides to countless rural families in the area.

In order to reduce deforestation in CAZ, the Government of Madagascar and Conservation International (CI) developed the strategy of establishing an avoided deforestation carbon project that would provide direct incentives and alternative livelihood activities for communities living around the forest corridor. These discussions resulted in the Government of Madagascar applying to the World Bank BioCarbon Fund for support in 2004. As part of this strategy, CAZ has been included as a new protected area in the country's plans for an expanded protected area system (SAPM – Système des Aires Protégées de Madagascar). This document describes activities leading to Reduced Emissions from Unplanned Deforestation in the Ankeniheny-Zahamena Corridor (CAZ) project area.

The project aims to reduce deforestation of primary Malagasy forest by creating a corridor to protect the remaining native forests between the Zahamena National Park and the forests collectively known as "Ankeniheny" in central eastern Madagascar (Figure 1). In addition to protecting forest and stocked carbon, CAZ will protect one of the planet's most important sites for biodiversity conservation and provide a protected biological corridor that links 3 existing protected areas: Zahamena national park, Manongarivo special reserve and Mantadia national park. These parks are at the core of the remaining fragments of the eastern Malagasy rainforest, are extremely rich in terms of biodiversity, and continue to be severely threatened by deforestation. The carbon project is made up of the CAZ protected area and some areas of forest that are contiguous with the protected area and managed by the same communities that are involved in the protected area management.

The protected area at CAZ has been developed based on an entirely new model for Madagascar that involves a strong collaborative management (comanagement) component with local communities. The proposed protected area will be a “reserve des ressources naturelles” under the Malagasy protected areas legislation (COAP – Code des Aires Protégées), which is equivalent to a category VI protected area under the World Conservation Union (IUCN) classification system. Creation of this new protected area has involved an unprecedented level of stakeholder involvement and consultation for a Malagasy protected area.

The CAZ partners (the Ministry of Environment and Forestry and its regional representatives, Conservation International, regional government authorities, local NGOs, community associations, and other stakeholders) are working to finalize the protected area creation process and to ensure that CAZ is conserved in perpetuity. CAZ is well on its way to becoming one of the largest protected areas in the country and first received provisional protected status on December 30, 2005. This provisional protected status was subsequently renewed in 2008 and again in 2010. Final gazettelement into the protected area system is planned by the end of December 2012. In 2011, the government formally designated Conservation International as the overall manager of the site for an initial period of 3 years during which CI will reinforce the management capacity of the local community structures and other stakeholders involved at CAZ.

Ensuring that the carbon project is in place and providing a sustainable funding mechanism for protection activities is an essential part of the strategy for the protected area. Through the creation of the new CAZ protected area, the project will result in reduced emissions from deforestation. Through the Verified Carbon Standard (VCS), the project will generate Verified Carbon Units (VCUs). Revenues from the sale of these VCUs will be used by the GoM to finance the long term management of the protected area and to expand economic opportunities for local communities.

CI Madagascar has supported CAZ, particularly in the design and implementation of the activities aimed at reducing deforestation, calculation of the emissions baseline and the design of the management plan for the protected area. The World Bank’s BioCarbon Fund has given technical support to develop a Verified Carbon Standard methodology appropriate for CAZ and have signed an Emissions Reduction Purchase Agreement with the Government of Madagascar to buy the initial VCUs generated by the project.

CAZ Protected area Localization map

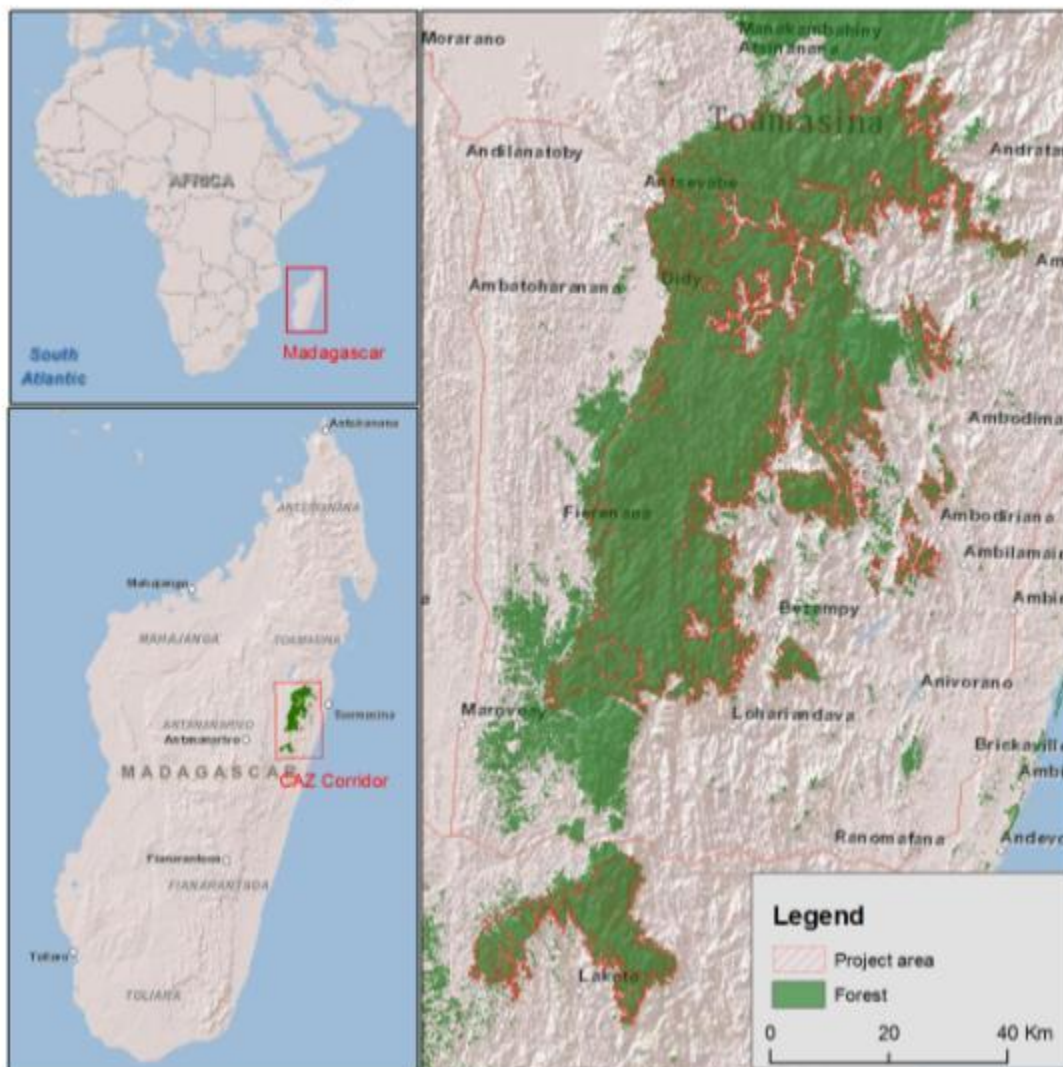


Figure 1. The Carbon Emissions Reduction Project in the Corridor Ankeniheny-Zahamena (CAZ) Protected Area, located in the central eastern forests of Madagascar

1.2 Sectoral Scope and Project Type

The project falls under scope 14 of the VCS, namely Agriculture, Forestry, and Other Land Use (AFOLU). The AFOLU project category is Reducing Emissions from Deforestation and Forest Degradation (REDD). The REDD project activity type is Avoided Unplanned Deforestation (AUD), since the land in the project area is not legally authorised and documented to be converted to non-forest in the baseline. This is not a grouped project.

1.3 Project Proponent

The project proponent is the Government of Madagascar, through the Ministry of Environment and Forests (MEF) represented by the Direction Générale des Forêts (DGF), having overall control and responsibility for the implementation of this project.

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1.4 Other Entities Involved in the Project

Management of the protected area with the objective of reducing deforestation has been delegated by the DGF to Conservation International. CI will play this role of coordinating management activities until December 2014 with the possibility of extension. In addition, CI is the main project developer, providing technical and financial support to the project development and implementation, and is responsible for carbon monitoring. The protected area is collaboratively managed (co-managed), with village level associations and federations of these groups playing an important role in implementing activities. This co-management structure will stay in place for the whole crediting period although the organization responsible for overall coordination (the role currently played by CI) may change during that period.

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No other entities play a major role in the project management. Many community-based organizations are involved in the conservation activities at the field level. The CAZ management structure detailing roles and responsibilities of each institution involved is described in section 1.8 of the PD.

1.5 Project Start Date

The project start date is December 30, 2007. Although the CAZ protected area was first given provisional protected area status by the government of Madagascar on 30 December of 2005 following a project design and regional consultation process that started in 2004, activities to reduce deforestation only started at the end of 2007. This represents the date that the public consultations with local communities on project boundaries and regulations related to forest use were completed, activities to improve forest management and enforce forest protection began and activities to promote alternatives to slash and burn began. The project start date is therefore taken as December 30, 2007. The choice of this date allows for 2008 calendar year to be considered the first year of the project.

Following the provisional protection status that was promulgated through an executive order in December 2005, a communication and public consultation process was started to determine the details of the project design and governance for the project. The activities to reduce deforestation started at the end of this public consultation process. The chronogram of the main activities of the project are summarised in Table 1. Sources of information related to each of these activities are also listed and are available on request by the validators.

Table 1. Timeline of project activities

Year	Activity	How it addresses drivers of deforestation
2005	Initial project design activities, biological and socio-economic inventories and public consultations with regional authorities and government services that resulted in the Provisional protection status.	These activities did not directly address drivers of deforestation. These were preparatory activities to build local government support and start to include local stakeholders in the project design. The provisional protection status served to communicate the intent of developing the project in the CAZ region. Source: Project reports and documents prepared to obtain the provisional protection status.
2006	Communication campaigns about the this protection status and sensitization on activities to be carried out in a protected area management	This activity did not directly address the drivers of deforestation but prepared local people for the public consultation process. These activities drew attention to the need and the reasons for protecting CAZ and provided an explanation of the project. Source: Communication campaign reports
2007	Public consultations at commune and village levels to define protected area boundaries, zoning	The completion of the public consultation process signals the start of the activities to reduce deforestation

	and land-use planning	because it was through these village meetings that agreement was reached with communities on the need to tackle deforestation, the principles for forest use were agreed and zoning of local areas was agreed. The final consultation meeting was completed in December 2007. Source: Maps, consultation decisions and meeting minutes from community meetings
2007	The NODE small grant program for communities living around CAZ was started. Small grants provide opportunities for funding sustainable livelihood activities as accompanying measures to conservation activities. Types of projects funded include: Tree nursery establishment for restoration or wood lots, Agroforestry – fruit garden - under cover crops, introduction of new crops, trainings in agricultural techniques, income generating projects. The first grants to communities were for projects completed in late 2007.	Projects funded through the small grants program provide alternative options to previous slash and burn of primary rainforest. Income generating opportunities that can be initiated with these grants provides incentives for conservation. Source: NODE grants program reports
2008-2012	Establishing and supporting transfer of forest management contracts for local communities. A variety of activities have been undertaken to establish and improve community management of forests within the project area. These include communications campaigns on management transfer contracts, organizational capacity building of community forest management bodies, trainings on law, development of simplified management plans, (forests inventory, defining boundaries and zoning, land use planning, “cahier de charges”...).	Transfer of management responsibilities to the local communities provides them rights and responsibilities related to access to forest resources, clarifies rules related to forest resource use and provides a formal basis for community organisations to be involved in the co-management of the protected area/avoided deforestation project. Enforcement of forest protection is strengthened through these local management arrangements. Source: Transfer of management agreements

	Establishing and signature of contracts between the forest service and the community, monitoring of the contract/ local management.	
2007-2012	Participatory Ecological Monitoring activities through Conservation Incentive Agreements. Conservation agreements provide direct payments to individuals working on conservation and monitoring activities and community benefits through development projects chosen by the communities. The first tests of these conservation agreements started in late 2007 and additional agreements have been put in place since that time.	Conservation agreements with communities provide incentives for conservation and participatory monitoring activities. These agreements help to make local management activities, particularly surveillance patrols and monitoring of biodiversity and threats to be more effective. Source: Project reports, Conservation Agreements
2008-2012	Enforcement by local authorities, particularly the Forest Service	Following the end of the public consultation process, enforcement of protected area rules has been enforced by local authorities and forestry agents responding to threats reported by local communities and NGOs involved in the project. Source: Forest control reports from the forest service
2008-2012	Supporting the establishment and training of federations of community based forest management bodies. The federations are an integral part of the management structure of the project and are taking on an increasingly important role in project management as their capacity increases. Activities with federations include trainings on organizational issues and technical issues so that they can better support the local community forest management bodies in their conservation and monitoring activities.	The federations play an important coordination role in all the activities of the project at the local level. They are increasingly taking on a supporting role for the local management groups and play a regional advocacy and communication role for the project. Source: Federation Activity reports

1.6 Project Crediting Period

The crediting period described in this document begins on the 30 December of 2007, and ends on December 29, 2037, representing a length of 30 years. The crediting period will be renewed twice to a total of 90 years.

1.7 Project Location

The project is constituted by the CAZ protected area and the adjacent community-managed forests, located in the center of Madagascar's eastern slope rainforests in the Province of Toamasina. It is broadly delimited by the Zahamena National Park (center: 17°40'S, 48°50'E) to the north and the Ankeniheny Classified Forest in the commune of Lakato to the south. The precise boundaries of the project area are defined by the limits of the protected area, and the limits of the community management forest areas. Figure and 2b present the location of the project area; GIS and KML files of the project boundaries are available to the validator. The separate parcels' ID, coordinates of centroids, area and land tenure status are presented in Annex 3 of the PD.

The project area covers 370,032 hectares and is entirely owned by the Government of Madagascar. It is found within the regions of Alaotra-Mangoro and Atsinanana; and the districts of Ambatondrazaka, Moramanga, Brickaville, Toamasina II and Vatomandry. The administrative areas encompassing the project are summarised in Table 2.

1.8 Title and Reference of Methodology

Title: Methodology for Avoided Unplanned Deforestation

Reference: VM0015, Version 1.1, approved by VCS on December 03, 2012.

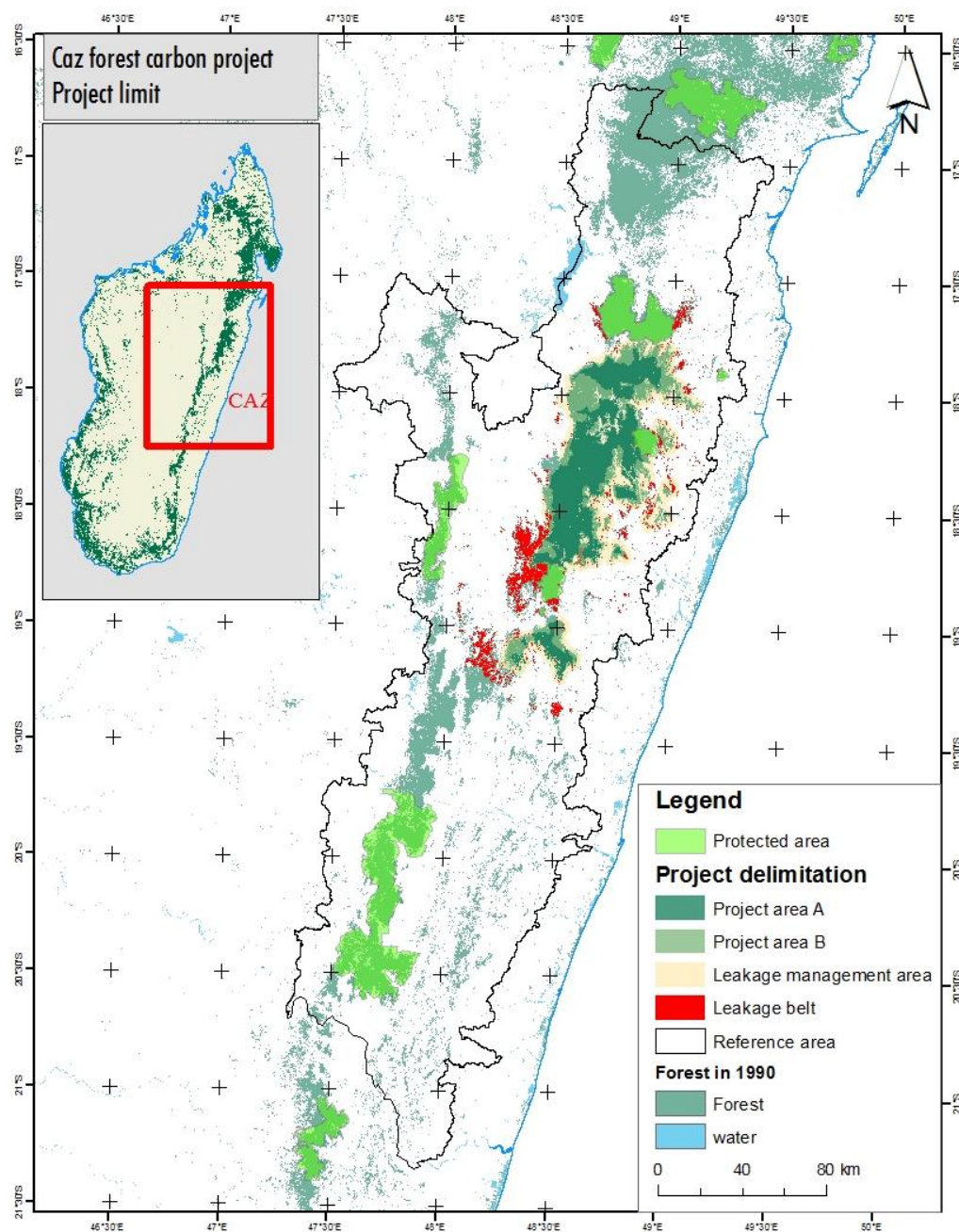


Figure 2a. Project location in central-east Madagascar. The map also shows the leakage management area, leakage belt and reference region

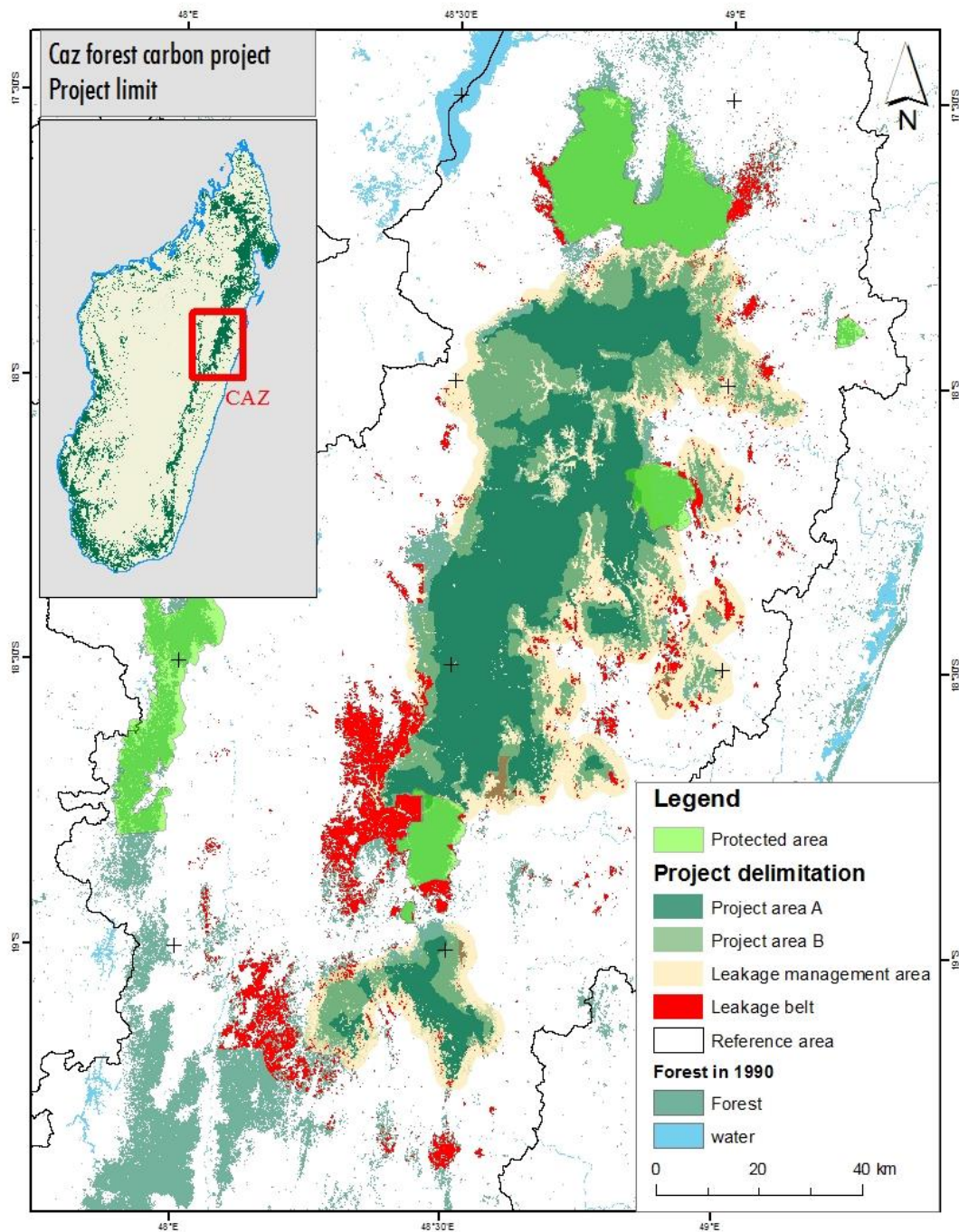


Figure 2b. Project location in central-east Madagascar. The map also shows the leakage management area and leakage belt.

Table 2. Administrative areas in which the project is located

Région	District	Commune
Région Alaotra-Mangoro	District d'Ambatondrazaka	Didy
		Manakambahiny-Est
		Feramanga-Nord
		Ambatondrazaka II
	District de Moramanga	Fierenana
		Morarano
		Ambohibary
		Ampasimpotsy-Gare
		Lakato
		Andasibe
		Beforona
		Ambatovola
Région Atsinanana	District de Brickaville	Loharindava
		Andekaleka
		Ambohimanana
		Maroseranana
		Fetraomby
		Anjahamana
		Ambalarondra
	District de Toamasina II	Ambodilazana
		Mangabe- Antenina
		Fito
		Sahambala
		Andranobolaha
	District de Vatomandry	Ambalabe

2. IMPLEMENTATION STATUS

2.1 Implementation Status of the Project Activity

The project activities of the Ankeniheny-Zahamena Corridor (CAZ) aim to: i) reduce greenhouse gas emissions from deforestation; ii) save globally biodiversity; and iii) provide economic benefits and incentives to poor rural Malagasy communities in order to engage them in forest conservation activities through alternatives to slash and burn agriculture.

The main strategy for reducing deforestation in CAZ is through the creation of a new protected area, a forest reserve that will be run through a co-management arrangement in which community groups play an important and leading role. To this end, activities have been focused on 1) creating the new protected area and improving the capacity of local organizations to manage their forests, 2) putting in place conservation agreements and transfer of management contracts for natural resources, 3) developing a small grants program to build confidence and give opportunities to local communities to be less dependent on traditional degrading agriculture techniques, and 4) elaborating the environmental management, social and safeguards plan.

The project continues to provide valuable experience to Madagascar's wider planning on REDD+. The advances and experience being gained in this project should be very important for informing future work on reducing deforestation in Madagascar and also for demonstrating how local communities can play a strong role in the management of the country's new protected areas. A summary of the current status of the project's implementation is provided below.

Protected area creation and capacity building for protected area management

The creation and management of a new protected area in the Ankeniheny-Zahamena Corridor is the overarching strategy for reducing deforestation in the site. This work includes getting agreement on the limits and rules for managing the reserve, training for local community groups to be involved in the management structure, providing them with direct incentives and conducting a variety of activities in the land surrounding the forests to provide agricultural alternatives to slash and burn and other livelihood opportunities intended to reduce human pressure on the forests.

The process for creating the CAZ protected area has been inclusive and participatory since its inception in early 2005. To begin, a regional technical committee was established to plan and coordinate all activities being implemented to lead to protected area establishment. Although rough, the initial protected area boundaries were proposed based on input from biodiversity researchers, regional government services and local authorities. Several iterations of dialogue and negotiation were then used to ensure that local people and local authorities understood the implications of designating these forests as a protected area and avoided deforestation project, as well as to ensure that they were able to provide input on the delimitation process (eliminating some areas from the boundaries and adding others of particular cultural or ecosystem service value) and that consensus was reached regarding the rules related to the use of natural resources (Figure 3). A continuous and targeted campaign of communication and consultations was developed and implemented to ensure the participation of stakeholders at multiple levels and in diverse sectors. Communication tools and messages were deployed through meetings, radio, presentations, and other outlets. Consultations were held at the regional, district, and local levels.

The outcome of this process of communication and consultation was agreement on the objectives, boundaries, zoning, and management of the CAZ protected area. Temporary protection status was obtained in December 2005, early in this process and by December 2007, detailed agreement had been reached with all the communities living around the project area.

Overall, 23 communes (an administrative unit run by an elected mayor) were engaged in dialogue and negotiations related to the project design. Negotiations were also held with mining permit holders for mining permits that already overlapped with the new protected area prior to the start of the creation process. Most of these permits were for exploration purposes rather than for exploitation and are unlikely to have resulted in actual mining operations but nevertheless, the permit holders renounced their permits so that a coherent strategy for conservation could be adopted throughout the corridor. The results of the consultation and design phase were synthesized into a management plan for CAZ that was itself developed through a multi-stakeholder participatory process involving regional government services, local authorities, representatives of local communities as well as development NGOs and projects working in the area surrounding CAZ.

The protected area creation process also brought to light the need for tangible socio-economic benefits for local people, many of whom have been neglected by traditional rural development projects because they live in remote areas. During public consultations, people highlighted the need for economic opportunity throughout the region, an issue that is addressed in the management plan by the conservation agreements approach and the community small grants program.

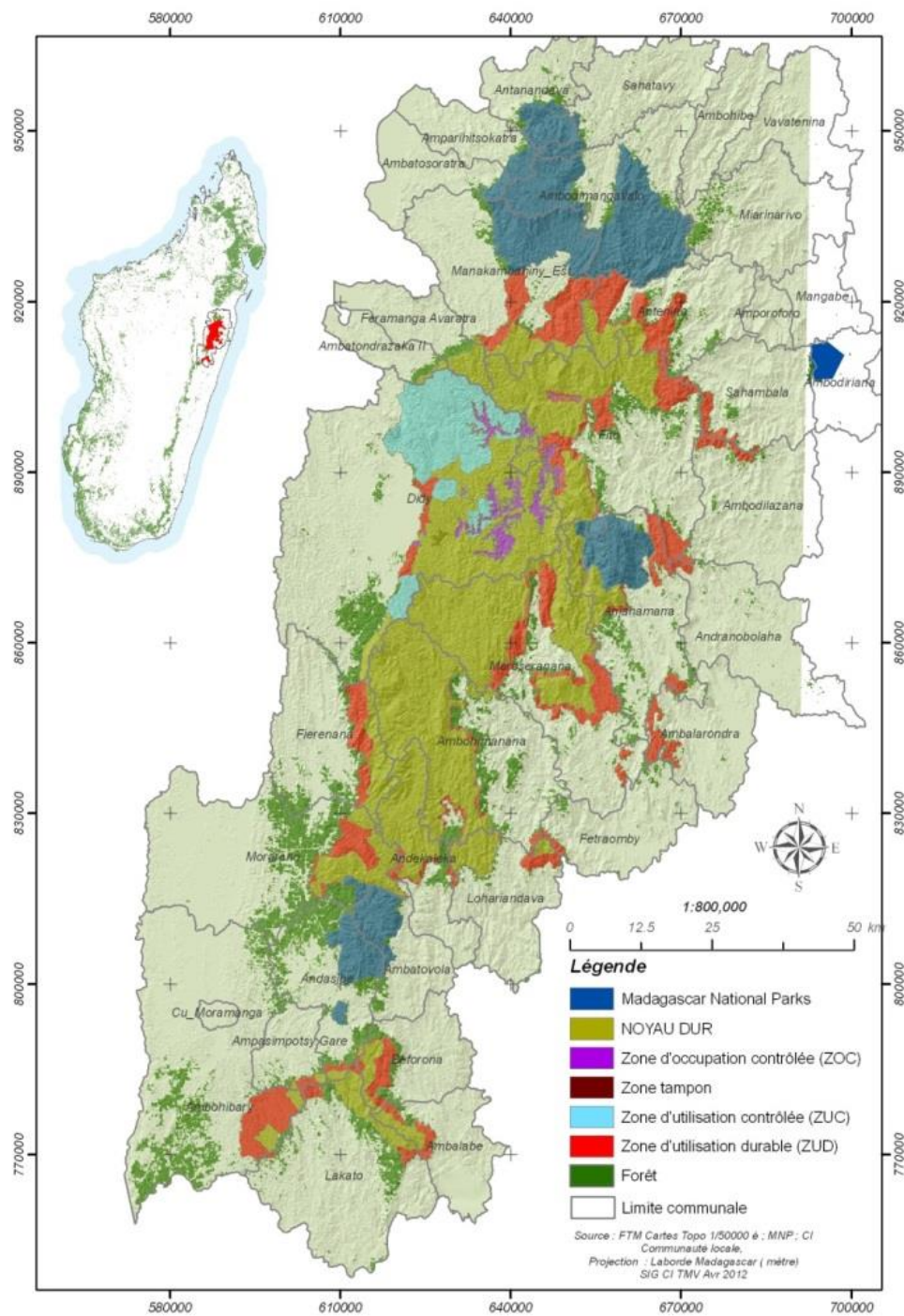


Figure 3: Map of the CAZ protected area showing the management zones as agreed through the project design and public consultation process

Management structure to coordinate forest protection activities

The development of CAZ's management structure involved contributions from various stakeholders at multiple levels. The reserve has been designed as a co-managed natural resource reserve. Overall responsibility for the reserve lies with the Ministry responsible for Forestry, which has chosen to delegate day to day management responsibility to another organization. Currently CI is playing this role and the choice of overall manager will be reviewed on a regular basis. CI's current agreement covers the period up until December 2014. In the reserve management structure and governance arrangements, local communities are responsible for managing areas that have been termed local management units. The community associations responsible for these management units have established federations that group them into six "sectors" that are then coordinated by the overall manager of the site (currently CI).

Since 2008, efforts have been focused on working directly with the local management units and their federations to strengthen their role in protected area management. Training sessions have been organized with representatives of the existing management units to clarify their roles and responsibilities in this co-management arrangement. This will be an ongoing process and an important role of the CAZ manager will be to support new community associations to take on the local forest management role in areas where formal associations currently exist to do this.

Improving communications between the different stakeholders involved in the corridor's management is essential to our long term success and a major challenge in this remote area of Madagascar. To do this, CI has been working with a local partner organization, the "Plate-forme du Corridor Ankeniheny-Zahamena" (PlaCAZ). With PlaCAZ, a network of "relay communicators" was created including members of local management units and local authorities. These communicators are the local contact points for communicating information about the protected area and they have received training in several themes including the protected area creation process, good governance principles, forest carbon projects and the importance of ecosystem services. As mobile communication networks are improving, the project has also been developing communications services to rural communities through mobile telephone text messaging. The project has also started to develop a monitoring system that will allow field based users to provide information on the protected area through text messages. While this approach is in its early stages and many communities in the corridor do not yet have mobile telephone access, it may offer some interesting future opportunities for improving the flow of information between the various partners involved in conservation activities in the corridor.

"Management transfer" of natural resources to local communities

Local livelihoods are inextricably linked to natural resources. As such, the Government of Madagascar has empowered communities to take responsibility for the management of their local forests under the forest management transfer policy (*transfert de gestion*). Local communities have benefitted from these forest transfers and many currently have legal rights and responsibilities to manage their forests. CI supports these management transfers with capacity building activities for the local associations responsible for the forest management. This support has focused on institutional and organizational development, and supporting accompanying measures such as creating income generating activities.

The project manager's role is to support these communities in creating, evaluating and renewing management transfer contracts with communities and the government. There are currently a total of 102 management contracts within CAZ (Figure 4). Some of these originated from previous short term

development projects and by various different organizations where the contracts had all lapsed by the time the CAZ project started. The quality of negotiations and capacity building for the community associations when these management transfers were first put in place also varied enormously and the CAZ project has had to renew the process of putting in place these management transfer agreements. Two organizations have been supporting the management transfer process: CI and COGESFOR. Capacity building has been provided to these communities, in terms of institutional and organizational development, and accompanying measures such as creating income generating activities. Continued support to existing local associations responsible for management contracts and development of new management transfer agreements will be an important and permanent role of the overall manager of the protected area.

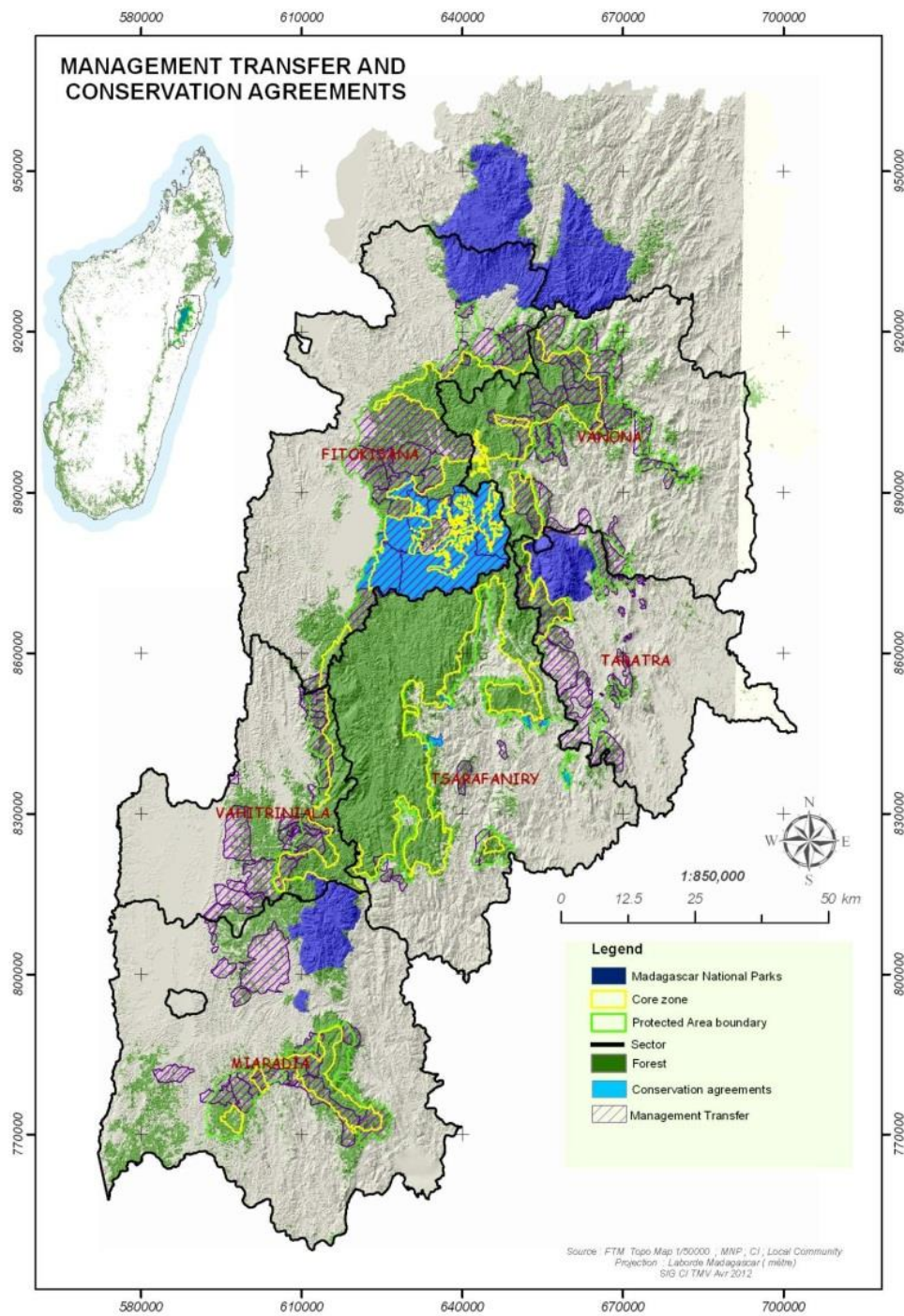


Figure 4: Current management transfer and conservation agreements in CAZ.

Conservation agreements with communities in the corridor

To ensure community-level incentives for conserving the CAZ forest, the project is implementing community-level conservation agreements in selected communities. Conservation agreements are a form of Payment for Ecosystem Services tool through which CAZ secures tangible conservation action from local communities, as well as articulates its commitment to provide economic benefit to those same communities (e.g., community-level sustainable development projects). The goal is to engage local communities in sustainable management of natural resources. The agreements also provide conservation incentives such as alternatives to unsustainable practices like improved agricultural techniques.

On the basis of the successful tests initially used in 5 communities in Maroseranana commune, these agreements were scaled up with 8 other communities in the Didy commune. CI currently works with 13 communities at CAZ through conservation agreements and this approach will continue to be expanded (Figure 4). Each of these communities has a local forest management plan for the local area being managed (note this local management plan is in addition to, but consistent with, the overall management plan for the protected area). The local forest management plans define the following:

- Conservation zone
- Subsistence use zone
- Agricultural zone

A monitoring system is in place at each of the 13 communities that involves local surveillance and patrols of the forest by community members twice every month.

Significant progress has already been made in establishing and implementing conservation agreements at CAZ. Specifically, the following has been achieved:

- *Capacity building in sustainable forest resource management –*
 - Organizational support to all 13 communities, including the development of local, internal regulations (i.e., *Dina*);
 - Support for each community to obtain legal management transfer rights from the Ministry responsible for forestry;
 - Training in operations of an association as well as financial management;
 - Training in local biodiversity and ecological monitoring;
 - Development of a participatory ecological monitoring methodology.
- *Data collection for resource management tools –*
 - Data collection on biodiversity and status of threatened species in the area
 - Development of management plans for each of the 13 managed forest areas
- *Improved perception of forest resource value –*
 - Development and operationalization of forest patrol systems for each of the 13 communities, which has resulted in increased pride by those conducting patrols
 - Regular ecological monitoring in the forest (twice monthly)
- *Conservation incentives and support for small development projects –*

- Small infrastructure projects have been implemented based on good conservation performance. Specifically, small agricultural irrigation dams, school rehabilitation, community granary construction, community pharmacy construction, rural electrification, and purchase of agricultural tools and materials.
- Support for income-generating activities has been provided as per the terms of the conservation agreements. Activities include payment for community patrol officers, training in improved agricultural techniques, small animal husbandry, and beekeeping.

Community small grants program

In an effort to involve communities in conservation, provide economic benefits to local people, and catalyze an economy based on conservation activity, Conservation International as an implementing partner of the CAZ REDD project has spearheaded its Community Small Grants Program in Madagascar. This program provides small grants to community-level associations to undertake activities that directly contribute to conservation outcomes. This approach has been adopted around CAZ and is the primary way in which the project will support community efforts to replace slash and burn agriculture with more sustainable livelihood options.

The Small Grants Program is innovative in that it achieves two major objectives simultaneously: (1) supporting local conservation action, and (2) contributing to increased capacity of national NGOs to administer and manage grants at the local scale. The first objective is achieved through the small grants themselves, and the important local-level conservation activities that are completed with these resources. The second objective is achieved through the innovative mechanism CI is using to disburse funds. Rather than having a centralized system of grant-making, CI has partnered with Malagasy NGOs working around CAZ to receive and review proposals, issue grants, and monitor activities. This provides Malagasy NGOs with an opportunity to increase their grant management skills as well as build their expertise in supporting conservation.

At CAZ, the Small Grants program has been implemented through three local NGO partners: ANAE (Association Nationale pour les Actions Environnementales), MATEZA (Malagasy teknisiana ho Andry sy. TEzan'i Zahamena ary ny Ala Antsinanana) and ODDIT (Organe de Développement du Diocèse de Toamasina). The program aims to achieve two main objectives:

1. Improving natural resource management at the local level

Local communities are supported in developing management tools such as simplified management plans, and local social agreements called DINA. The different alternative activities are mentioned in the management plans following a specific land –use planning and zoning strategy.

2. Creating socio-economic and cultural benefits for local people engaged in natural resource management

This program is helping to create small projects developing income generating activities as alternatives to slash and burn agriculture. Some examples are shown in Table 3, while the numbers of beneficiaries so far is shown in Table 4. Figure 5 illustrate a map of where these projects have been implemented within CAZ.

Table 3: examples of alternative activities developed by the small grants program.

Driver	Alternative
Slash and burn agriculture	Intensive Irrigated rice (SRI), Improved irrigated rice (SRA)
	Irrigation - small dam
	Small scale market gardening using improved techniques (mulching, agroforestry, etc.)
	Cash crops (bean, potatoes, peas, etc.)
	Forest restoration: nurseries of native species, seedlings, plantation, etc.
Hunting	Poultry breeding
	Fish farming
Wild honey collection	Beekeeping

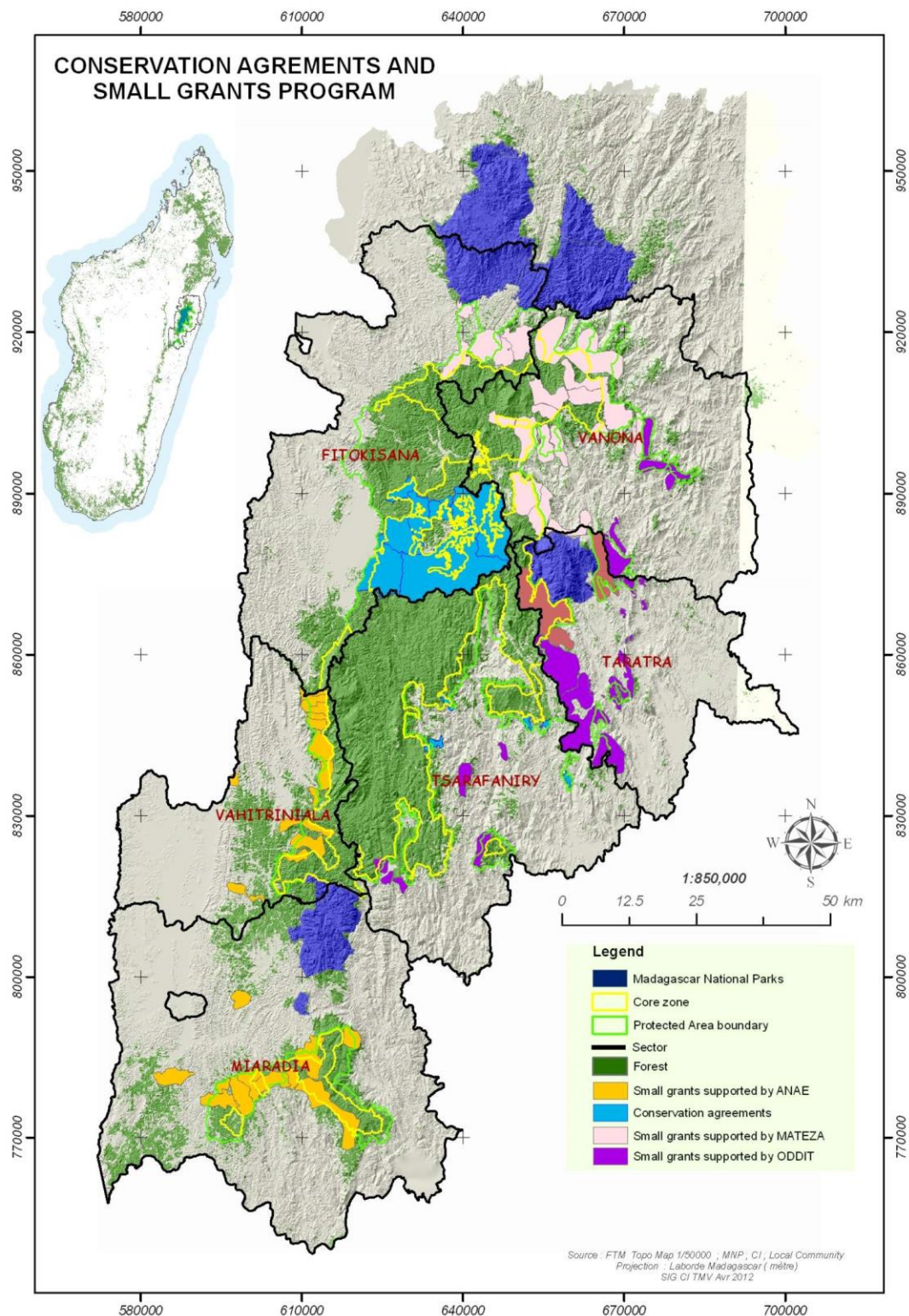


Figure 5: Areas where communities have received support through the Conservation Agreements and Small grants program

Table 4. : Beneficiaries of the small grants program in CAZ since the project began

Relay partner	Sector	Federation	Commune	Nb of communities	Nb of members	Nb of households
ANAE	6	MIARADIA	Ambohibary, Ampasimpotsy, Beforona, Andasibe, Lakato	14	929	490
	5	VAHATRINIALA	Fierenana , Morarano	15	435	420
ODDIT	3	TARATRA	Anjahamana, Andranobolaha	8	250	189
	4	TSARAFANIRY	Andekaleka, Lohariandava, Maroseranana, Ambohimanana	12	427	375
MATEZ A	1	VANONA	Fito, Ambodilazana	12	399	596
		Sous – fédération Lampirana	Antenina	5	352	91
	2 (en partie)	Sous – fédération (UNION DES VOI M-Est)	Manakambahiny-Est	8	263	165
Total				69	2703	2326

Environmental Management and Social Safeguard Plan (PGESS)

One of the documents needed for the creation of protected areas is the Environmental Management and Social Safeguard Plan (usually referred to by its French initials PGESS – Plan de Gestion Environnementale et Sauvegarde Sociale). This document and the data collected for it aim to ensure that the creation of the protected area does no environmental damage and does not create new socio-economic hardships on individual households. Identification of vulnerable households and the restrictions that the CAZ project would impose on them was determined through household level surveys. For CAZ, the process of data collection and development of the document has been organized and funded by CI. The World Bank agreed to provide co-funding for this work at CAZ and has earmarked \$1 million to fund rural development “safeguard” activities in the periphery of the new reserve. The document was renewed and approved by the World Bank Safeguards team, and soon the social safeguards will be put in place with the earmarked funding.

The tables below indicate the planned safeguards projects and the number of beneficiary households in each area. These households have been identified as vulnerable people affected negatively by the CAZ project. These safeguards activities are therefore intended to mitigate the project impacts and ensure that the communities are no worse off than if the CAZ project did not exist.

Table 5: Types of mitigation projects for households based on the type of restriction that the CAZ project creates for communities

Restricted activity	Alternative project
Hunting	Poultry breeding
Wild honey collection*	beekeeping
Wild tuber collection	Cassava culture
Slash and burn cultivation	Improved rice field agriculture

*this activity is restricted because the traditional method involves cutting down the tree

Table 6: Number of households to be supported through safeguards projects in the 7 communes where households were identified as being potentially negatively impacted by the CAZ project.

District	Commune	Affected pop
Brickaville	Ambohimana	518
	Fetraomby	62
	Maroseranana	400
Total Brickaville		980
Moramanga	Ambohibary	160
	Lakato	235
	Morarano-Gare	370
Total Moramanga		765
Toamasina 2	Fito	755
Total Toamasina 2		755
Total		2500

2.2 Project Description Deviations

There are no deviations from the Project Description.

2.3 Grouped Project

This is not a grouped project.

3. DATA AND PARAMETERS

3.1 Data and Parameters Available at Validation

Please refer to respective PD section (4.1)

3.2 Data and Parameters Monitored

Data Unit / Parameter:	Forest Cover and Change Map (2005-2011)
Data unit:	Map
Description:	Digital map of forest cover in 2011 and change 2005-2011 in the project area and leakage belt (Figure 6)
Source of data:	Landsat (MR Table 01.a.)
Description of measurement methods and procedures to be applied:	Satellite imagery-based forest cover change classification using decision tree and see5 methods.
Frequency of monitoring/recording:	At every verification period
Value applied:	2 ha of forest patch as minimum threshold
Monitoring equipment:	ERDAS 10.0 and ArcGIS 10.0
QA/QC procedures to be applied:	Quality Control and Assurance procedures are detailed in the Methodological Annex. The overall map accuracy is 93% for the classification of forest/non-forest in the remote sensing imagery
Calculation method:	n/a
Any comment:	Raster format – 30m resolution – projection system UTM zone 38N – datum WGS84. GIS files provided to the verifier.

Data Unit / Parameter:	ABSLPAi,t
Data unit:	ha yr ⁻¹
Description:	Annual area of observed deforestation in the project area for the period 2005-2011.
Source of data:	GIS processing

Description of measurement methods and procedures to be applied:	Results of overlaying the forest cover map with the project area boundaries
Frequency of monitoring/recording:	At every verification period
Value applied:	GIS files of the project boundary
Monitoring equipment:	Computer and ArcGIS 10.0 software
QA/QC procedures to be applied:	Projection system and datum was kept consistent. Clear and detailed documentation and independent desk review to assure consistency and accuracy of the GIS procedures
Calculation method:	Spatial Analysis tool (tabulate area of zonal statistics toolbox)
Any comment:	n/a

Data Unit / Parameter:	ABSLKi,t
Data unit:	ha yr ⁻¹
Description:	Annual area of observed deforestation in the leakage belt for the period 2005-2011.
Source of data:	GIS processing
Description of measurement methods and procedures to be applied:	Results of overlaying the forest cover map with the leakage belt boundaries
Frequency of monitoring/recording:	At every verification period
Value applied:	GIS file of the leakage belt
Monitoring equipment:	Computer and ArcGIS 10.0 software
QA/QC procedures to be applied:	Projection system and datum was kept consistent. Clear and detailed documentation and independent desk review to assure consistency and accuracy of the GIS procedures
Calculation method:	Spatial Analysis tool (tabulate area of zonal statistics toolbox)
Any comment:	n/a

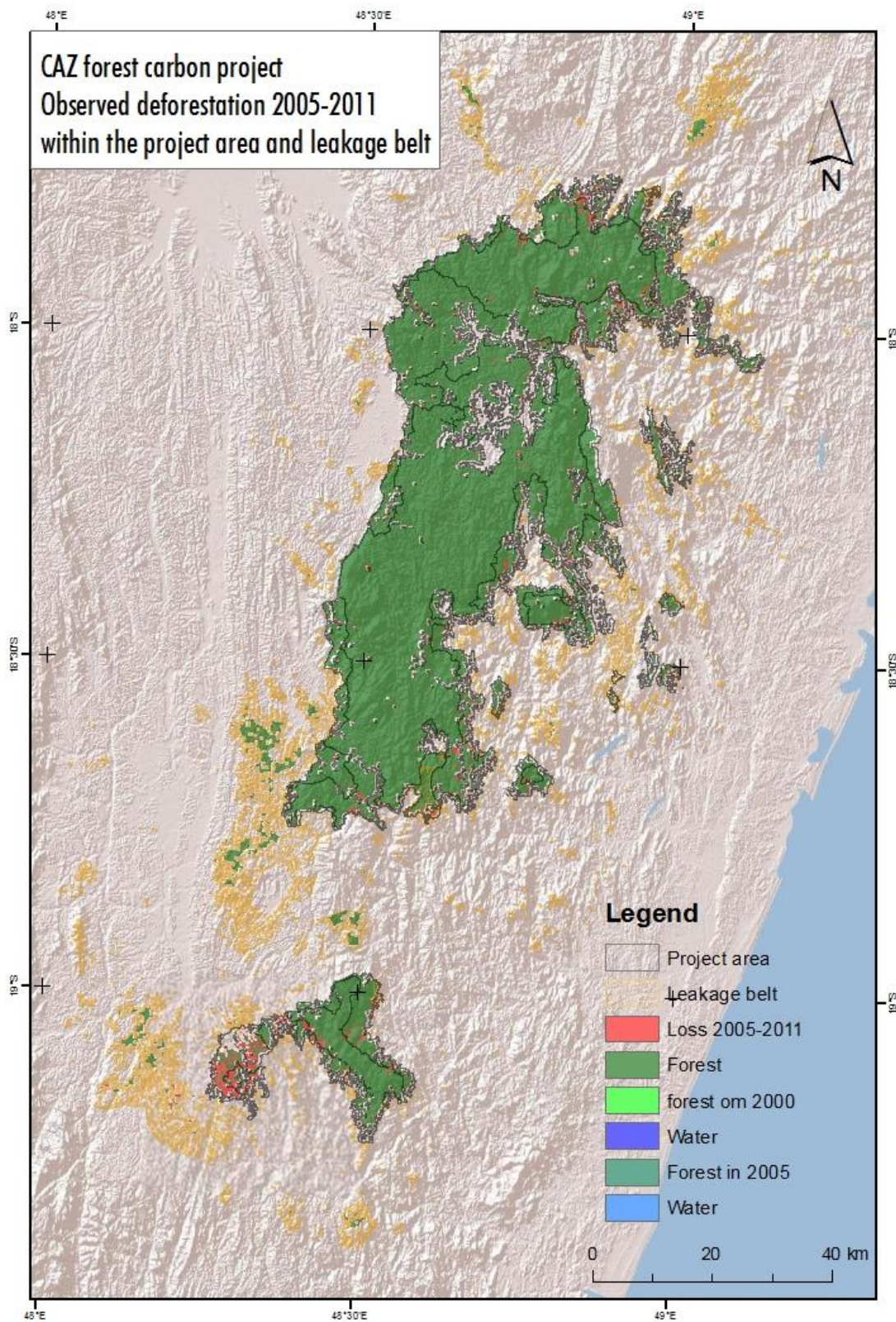


Figure 6. Deforestation map 2006-2011. It shows the observed changes between forest and non-forest classes within the project area and leakage belt.

3.3 Description of the Monitoring Plan

As of the date of validation and verification no regional, national or jurisdictional monitoring system of land-use and land-cover change was in place. Therefore, the project proponent was responsible for implementing the land-use and land-cover change component of the monitoring plan for the project area and leakage belt. The analysis covered the monitoring of forest land converted to non-forest. In order to assure a high quality analysis the monitoring plan closely followed the methods, rules, and procedures specified in Conservation International's standard change detection methodology, and the methods used in the historical land-cover change analysis (Harper et al. 2007).

The land cover and change maps, including quality assurance procedures, were produced following the technical steps described below and detailed in CI's standard change detection methodology, provided to the validators as supplementary information. Accuracy assessment as described in steps 2.4 and 2.5 of Part 2 of the PD was performed. The estimated accuracy of the final 2011 classification was 93%, above the minimum accepted accuracy of 80%.

The following technical steps were carried following the same process described in the PD.

1. Landsat images with minimal cloud cover were acquired online from the United States Geographical Survey websites. Multiple images were used in the verification to fill areas obscured by clouds, as listed in MR Table 1.a:

MR Table 1.a. Data used for monitoring LU/LC change analysis

Vector (Satellite or airplane)	Sensor	Resolution		Coverage (km ²)	Acquisition date (DD/MM/YY)	Scene or point identifier	
		Spatial	Spectral			Path / Latitude	Row / Longitude
Landsat 7	ETM	30m	0.45 - 12.5 µm	185 x 172 km	31-Jan-12	158	73
Landsat 7*	ETM	30m	0.45 - 12.5 µm	189 x 172 km	14-Dec-11	158	73
Landsat 7	ETM	30m	0.45 - 12.5 µm	193 x 172 km	31-Jan-12	158	72
Landsat 7*	ETM	30m	0.45 - 12.5 µm	197 x 172 km	14-Dec-11	158	72

2. All of the images used in the analysis were atmospherically corrected and orthorectified to the original 2005 images used in the analysis.
3. The Landsat images were cloud masked and mosaiced to create a single 2011 image that covered most of the project area and leakage belt.
4. The images were classified in two-date image stacks (2005/2011) using decision tree analysis (ERDAS-See5);
 - a. Map classes include: 1=forest, 2=non-forest, 4=water, and 5=cloud.
 - b. Training sites were selected to represent both change and non-change areas.
 - c. Training sites included numerous sub-classes for each land-cover and change class, to

incorporate the full range of spectral variability within the image in both land cover change and persistence (i.e. hillshade might make two patches of contiguous forest have different spectral signatures).

- d. Accuracy assessment of the decision tree generation was performed using 50% of training classes for calibration and 50% for validation for each Landsat scene. In total 281,839 + 281,839 pixels for scene 158/072 and 490,793 + 490,793 pixels for scene 158/073
5. The final classification was filtered in ERDAS using a neighborhood majority filter 3x3 (corners unchecked). Then the map product was processed using Clump (4-way) and 2 hectare Eliminate.
6. Areas of change from forest to non-forest were extracted from the final 2005-2011 land-cover change map and overlayed on the forested area from the original 2005 classification to create the updated 2011 land-cover map. Thereby minimizing the amount of erroneous transitions and reducing the map agreement error.
7. Areas of cloud in the 2005 land cover map were permanently excluded from this analysis, while areas covered by cloud in 2011 were temporally excluded until the next monitoring period. Areas covered by cloud were found only within the leakage belt.

The final product was validated with high resolution images acquired from the Rapid Eye satellite constellation (MR Table 1.b.). A total of 561 points were randomly sampled across three portions of the study area where cloud-free imagery was available for both the land-cover product and validation dataset. The areas that were chosen represent the areas which experienced significant land-cover change over the monitoring period. The overall accuracy of the 2011 map product, that was used to update the 2005 classification, was 93%. The accuracy assessment included a total of 42 points in areas that represented change from forest to non-forest over the monitoring period.

MR Table 1.b. Data used for validating the LU/LC change analysis

Vector (Satellite or airplane)	Product	Resolution		Coverage	Acquisition date
		Spatial	Spectral	(km ²)	(DD/MM/YY)
Rapid Eye ¹	Level 3A	5m	.44 - .85 µm	77 km	21-Oct-11
Rapid Eye ²	Level 3A	5m	.44 - .85 µm	78 km	5-Sep-11
Rapid Eye ²	Level 3A	5m	.44 - .85 µm	79 km	25-Oct-11
Rapid Eye ²	Level 3A	5m	.44 - .85 µm	80 km	14-Nov-11
Rapid Eye ³	Level 3A	5m	.44 - .85 µm	81 km	25-Oct-11
Rapid Eye ³	Level 3A	5m	.44 - .85 µm	82 km	14-Nov-11
Rapid Eye ³	Level 3A	5m	.44 - .85 µm	83 km	18-Nov-11

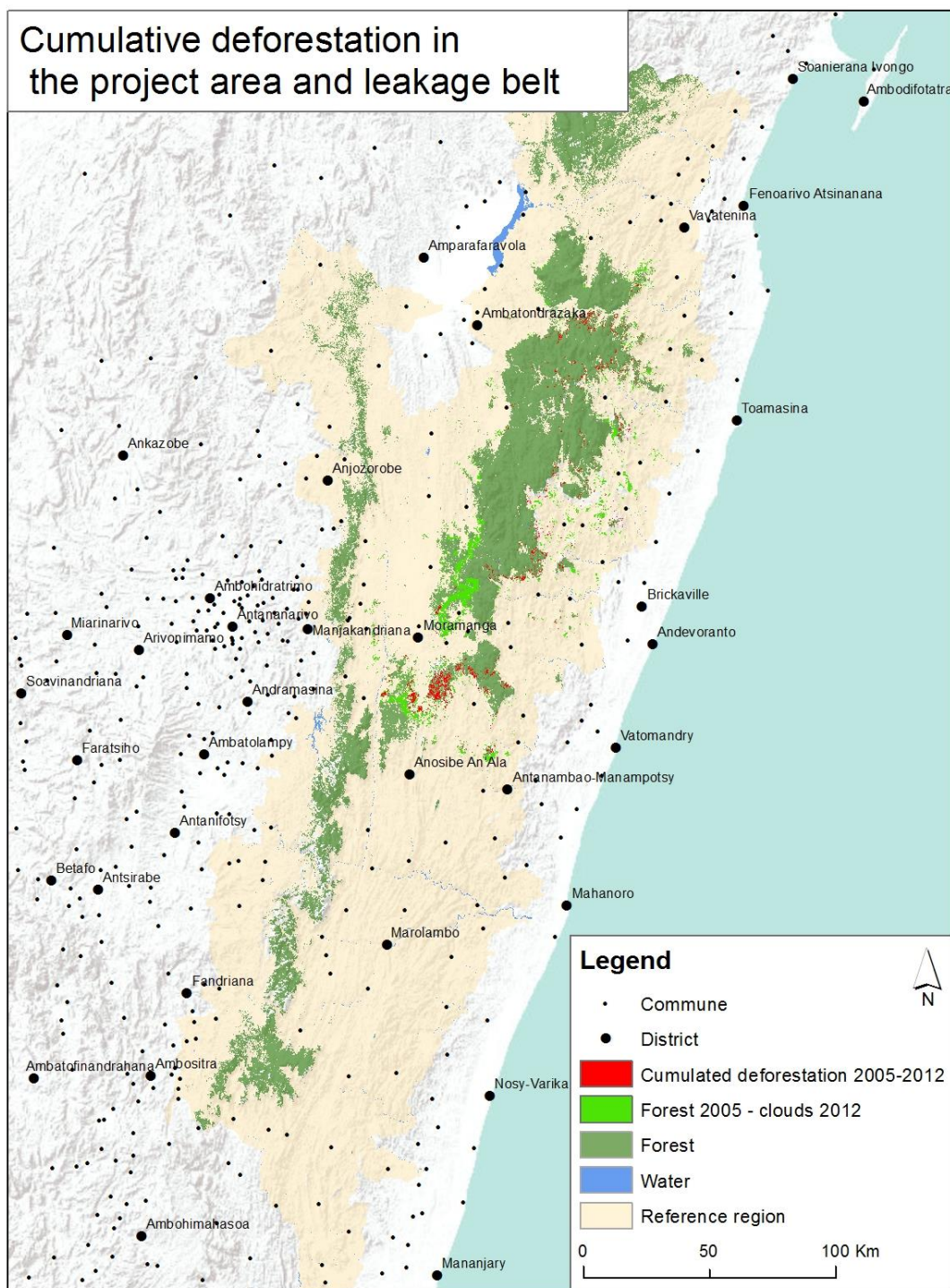


Figure 7. Map of Cumulative Areas Credited 2007-2011

The results of the land-use and land-cover change are reported in MR Table 11.b. within project area and MR Table 11.c. within leakage belt per initial forest class. Similarly the results per post-deforestation use are reported in MR Table 13.b. for project area and MR Table 13.c. for leakage belt.

MR Table 11.b. Annual areas deforested per forest class *icl* within the project area in the project case

Area deforested per forest class <i>icl</i> within the project area			Total ex-post deforestation in the project area	
<i>ID_{icl}</i> >	1	2		
Name >	Forest Land (Cat. A)	Forest Land (Cat. B)	<i>ABSLPA_t</i>	<i>ABSLPA</i>
Project year <i>t</i>	ha	ha	annual	cumulative
	ha	ha	ha	ha
2008	846	1,575	2,421	2,421
2009	846	1,575	2,421	4,841
2010	846	1,575	2,421	7,262
2011	846	1,575	2,421	9,682

MR Table 11.c. Annual areas deforested per forest class *icl* within the leakage belt in the project case

Area deforested per forest class <i>icl</i> within the leakage belt area		Total ex-post deforestation in the leakage belt area	
<i>ID_{icl}</i> >	1		
Name >	Forest Land	<i>ABSLK_t</i>	<i>ABSLK</i>
Project year <i>t</i>	ha	annual	cumulative
	ha	ha	ha
2008	700	700	700
2009	700	700	1,399
2010	700	700	2,099
2011	700	700	2,799

MR Table 13.b. Annual areas deforested in each zone within the project area in the project case

Area established after deforestation per class <i>fc</i> / within the project area		Total ex-post deforestation in the project area	
<i>IDz</i>	1		
Name >	savoka	<i>ABSLRR_t</i>	<i>ABSLRR</i>
Project year <i>t</i>	ha	annual	cumulative
	ha	ha	ha
2008	2,421	2,421	2,421
2009	2,421	2,421	4,841
2010	2,421	2,421	7,262
2011	2,421	2,421	9,682

MR Table 13.c. Annual areas deforested in each zone within the leakage belt in the project case

Area established after deforestation per class <i>fc</i> / within the leakage belt		Total ex-post deforestation in the leakage belt	
<i>IDz</i>	1		
Name >	savoka	<i>ABSLPA_t</i>	<i>ABSLPA</i>
Project year <i>t</i>	ha	annual	cumulative
	ha	ha	ha
2008	700	700	700
2009	700	700	1,399
2010	700	700	2,099
2011	700	700	2,799

4. QUANTIFICATION OF GHG EMISSION REDUCTION AND REMOVALS

4.1 Baseline Emissions

Since all areas obscured by clouds over the project area were filled with other Landsat images, all the 2011 land cover in the project area was mapped, therefore, the baseline carbon stock changes remained unchanged and it is replicated in VM Table 21.b.4. Tables with intermediated results and the carbon stock change factors were provided to the validators.

VM Table 21.b.4. Total baseline carbon stock change in the project area

Project year t	Total baseline carbon stock change in the project area	
	D C BSLPA _{icl,t}	D C BSLPA _{icl}
	annual	cumulative
	tCO ₂ -e	tCO ₂ -e
2008	-1,635,559	-1,635,559
2009	-2,350,992	-3,986,551
2010	-3,021,084	-7,007,635
2011	-3,475,947	-10,483,581

4.2 Project Emissions

The ex-post actual carbon stock changes in the project area during the monitoring period were calculated using the same parameters as in the ex-ante estimation and are summarized in MR Table 21.b.4. Intermediate tables were provided to the validators.

MR Table 21.b.4. Total ex-post carbon stock change in the project area

Project year t	Total ex-post carbon stock change in the project area	
	D C BSLPA _{icl,t}	D C BSLPA _{icl}
	annual	cumulative
	tCO ₂ -e	tCO ₂ -e
2008	-1,504,336	-1,504,336
2009	-1,535,528	-3,039,864
2010	-1,566,720	-4,606,583
2011	-1,597,911	-6,204,495

Non-CO₂ emissions from forest fires

Since most of the forest in this region is cleared by tavy (slash-and-burn), a significant amount of non-CO₂ emissions result from the burning of felled trees, and therefore it was considered in the baseline.

The parameters and assumptions used to estimate the ex-post emissions from forest fires are the same applied to ex-ante estimation, explained in the section 6.2, VM Table 23 and baseline results shown in VM Table 24 of the PD. The ex-post non CO₂ project emissions from forest fires in the project area are summarized in MR Table 24 and the total ex post estimated net changes in carbon stocks and emissions of GHG gases in the project area is reported in MR Table 29

MR Table 24. Total ex-post non-CO₂ project emissions from forest fires in the project area

Project year	Emissions of non-CO ₂ gasses from baseline forest fires				Total ex-post non-CO ₂ project emissions from forest fires in the project area	
	ID_{icl}	= Cat A	ID_{icl}	= Cat B	annual	cumulative
	$ABSLPA_{ic}$ $I_{i,t}$ ha	$EBBBSL_t$ ot_{icl} tCO ₂ -e ha ⁻¹	$ABSLPA_{ic}$ $I_{i,t}$ ha	$EBBBSL_t$ ot_{icl} tCO ₂ -e ha ⁻¹	$EBBBSLPA_t$ tCO ₂ -e	$EBBBSLPA$ tCO ₂ -e
2008	846	-9.7	1,575	-9.7	-23,530	-23,530
2009	846	-9.7	1,575	-9.7	-23,530	-47,059
2010	846	-9.7	1,575	-9.7	-23,530	-70,589
2011	846	-9.7	1,575	-9.7	-23,530	-94,118

MR Table 29. Total ex post estimated net changes in carbon stocks and emissions of GHG gases in the project area

Proj year	Total ex post carbon stock decrease due to planned activities		Total ex post carbon stock increase due to planned activities		Total ex post carbon stock decrease due to unavoided unplanned deforestation		Total ex post net carbon stock change		Total ex post net changes in non-CO ₂ emissions in the project area	
	ann	cumulat	ann	cumul	annual	cumulat	annual	cumulat	annual	cumul
	ΔCPA_{dP} A_t tCO ₂ -e	ΔCPA_{dPA} tCO ₂ -e	ΔCPA_{iPA_t} tCO ₂ -e	ΔCPA_{iPA} tCO ₂ -e	ΔCUD_{dPA_t} tCO ₂ -e	ΔCUD_{dPA} tCO ₂ -e	ΔCPS_{PA_t} tCO ₂ -e	ΔCPS_{PA} tCO ₂ -e	$EBBPS_{PA_t}$ tCO ₂ -e	$EBBPS_{PA}$ tCO ₂ -e
2008	0	0	0	0	-131,223	-131,223	-131,223	-131,223	-2,052	-2,052
2009	0	0	0	0	-815,464	-946,687	-815,464	-946,687	-12,432	-14,485
2010	0	0	0	0	-1,454,364	-2,401,051	-1,454,364	-2,401,051	-21,912	-36,396
2011	0	0	0	0	-1,878,035	-4,279,087	-1,878,035	-4,279,087	-27,922	-64,318

4.3 Leakage

The annual areas deforested within the leakage belt in the baseline case and excluding the areas that were covered by clouds in 2011 are shown in MR Table 11.c. Note that, areas covered by clouds in the 2011 land cover map have been temporarily excluded from this monitoring report and therefore the numbers in the MR Tables 21.c.4 differ from those shown in VM Tables 21.c.4 of the PD.

MR Table 11.c. Annual areas deforested in each zone within the leakage belt in the baseline case (cloud free in 2011)

Area established after deforestation per class <i>fcI</i> within the leakage belt		Total baseline deforestation in the leakage belt (cloud free in 2011)	
<i>IDz</i>	1	<i>ABSLPA_t</i> annual ha	<i>ABSLPA</i> cumulative ha
Name >	forest		
Project year <i>t</i>	ha		
2008	2,087	2,087	2,087
2009	1,775	1,775	3,861
2010	1,463	1,463	5,324
2011	1,372	1,372	6,696

The total baseline carbon stock changes in the leakage belt during the monitoring period (2011 cloud free) are summarized in MR Tables 21.c.4.

MR Table 21.d.4. Total baseline carbon stock change in the leakage belt (cloud free in 2011)

Project year <i>t</i>	Total baseline carbon stock change in the leakage belt	
	$\Delta C_{BSLPA_{icl,t}}$	$\Delta C_{BSLPA_{icl}}$
	annual	cumulative
	tCO ₂ -e	tCO ₂ -e
2008	-1,300,476	-1,300,476
2009	-1,131,522	-2,431,998
2010	-958,042	-3,390,040
2011	-921,290	-4,311,329

The total ex-post actual carbon stock changes in the leakage belt during the monitoring period (2011 cloud free) are shown in MR Tables 21.c.4.

MR Table 21.c.4. Total ex-post carbon stock change in the leakage belt (cloud free in 2011)

Project year <i>t</i>	Total ex-post carbon stock change in the leakage belt
-----------------------	--

	$\Delta C_{BSLPA_{icl,t}}$	$\Delta C_{BSLPA_{icl}}$
	annual	cumulative
	tCO ₂ -e	tCO ₂ -e
2008	-436,133	-436,133
2009	-446,404	-882,537
2010	-456,676	-1,339,213
2011	-466,947	-1,806,160

The total ex-post actual net carbon stock changes in (i.e. above the baseline) in the leakage belt during the monitoring period are shown in MR Table 21.d.4. According to the methodology, if the cumulative sum of ΔCLK_t within a fixed baseline period is > 0 , ΔCLK_t shall be set to zero. Therefore no credits were discounted due to leakage during this monitoring period.

MR Table 21.d. Total net ex-post carbon stock change in the leakage belt

Project year t	Total ex ante baseline carbon stock change in the leakage belt		Total ex post carbon stock change in the leakage belt		Total net ex post leakage	
	$\Delta CBSLLK_t$	$\Delta CBSLLK$	$\Delta CBSLLK_t$	$\Delta CBSLLK$	$\Delta CBSLLK_t$	$\Delta CBSLLK$
	annual	cumulative	annual	cumulative	annual	cumulative
	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e
2008	-1,300,476	-1,300,476	-436,133	-436,133	0	0
2009	-1,131,522	-2,431,998	-446,404	-882,537	0	0
2010	-958,042	-3,390,040	-456,676	-1,339,213	0	0
2011	-921,290	-4,311,329	-466,947	-1,806,160	0	0

*According to the methodology, if the cumulative sum of ΔCLK_t within a fixed baseline period is > 0 , ΔCLK_t shall be set to zero.

4.4 Summary of GHG Emission Reductions and Removals

The ex-post estimated net anthropogenic GHG emission reductions were estimated similarly to the ex-ante calculation using the equation below (adapted from equation 19 of the VM0015 methodology):

$$\Delta REDD_t = (\Delta CBSLPAt) - (\Delta CPSPA_t) - (\Delta CLK_t + ELK_t)$$

Where:

$\Delta REDD_t$ Ex-post estimated net anthropogenic greenhouse gas emission reduction attributable to the AUD project activity at year t; tCO₂e

$\Delta CBSLPAt$ Sum of baseline carbon stock changes in the project area at year t; tCO₂e

$\Delta CPSPA_t$ Sum of ex post estimated actual carbon stock changes in the project area at year t; tCO₂e

ΔCLK_t	Sum of <i>ex post</i> estimated leakage net carbon stock changes at year t ; tCO ₂ e
ELK_t	Sum of <i>ex post</i> estimated leakage emissions at year t ; tCO ₂ e
t	1, 2, 3 ... T , a year of the proposed crediting period; dimensionless

The ex-post estimation of total net GHG emissions reductions generated by the project and the calculation of ex-post Verified Carbon Units (VCUs) generated in the monitoring period of 2008-2011 are summarized in MR Table 08.

MR Table 36. Ex post estimated net anthropogenic GHG emission reductions ($\Delta REDD_t$) and Voluntary Carbon Units (VCU_t)

Project year <i>t</i>	Baseline		Ex post project		Ex post net		Ex post leakage		Ex post non-CO2 emissions		Ex post net anthropogenic GHG emission reductions		Ex post buffer credits*		Ex post VCUs tradable	
	carbon stock changes		carbon stock changes		carbon stock changes		carbon stock changes									
	annual	cumul	annual	cumul	annual	cumul	annua	cumu	annual	cumul	annual	cumul	annual	cumul	annual	cumul
	$\Delta CBSLPA_t$	$\Delta CBSLPA$	$\Delta CPSPA_t$	$\Delta CPSPA$	$\Delta CPSPA_t$	$\Delta CPSPA$	ΔCLK_t	ΔCLK	$\Delta EBBP$	$\Delta EBBP$	$\Delta REDD_t$	$\Delta REDD$	VBC _t	VBC	VCU _t	VCU
	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e	tCO ₂ -e
2,008	-1,635,559	-1,635,559	-1,504,336	-1,504,336	-131,223	-131,223	0	0	-2,052	-2,052	-133,276	-133,276	-13,122	-13,122	-120,153	-120,153
2,009	-2,350,992	-3,986,551	-1,535,528	-3,039,864	-815,464	-946,687	0	0	-12,432	-14,485	-827,896	-961,172	-81,546	-94,669	-746,350	-866,503
2,010	-3,021,084	-7,007,635	-1,566,720	-4,606,583	-1,454,364	-2,401,051	0	0	-21,912	-36,396	-1,476,276	-2,437,448	-145,436	-240,105	-1,330,839	-2,197,343
2,011	-3,475,947	-10,483,581	-1,597,911	-6,204,495	-1,878,035	-4,279,087	0	0	-27,922	-64,318	-1,905,957	-4,343,405	-187,804	-427,909	-1,718,154	-3,915,496

*Ex-post buffer credits are calculated based on a 10% Risk factor (RF_t) attributed to the project based on the VCS non-permanence risk tool

5. ADDITIONAL INFORMATION

The land cover and change analysis for this monitoring period was done based on the 2005 forest benchmark map. It was assumed that the rate of forest change was evenly distributed between the 2005-2011 period.

Areas identified as cloud in the 2011 land cover map were temporarily excluded from this monitoring period from both scenarios – baseline and project - and will be included in subsequent monitoring periods based on the availability of cloud-free images. Therefore, the total baseline carbon stock changes in the leakage belt during the monitoring period reported in MR Tables 04.a-c differ from the total baseline carbon stock change in the leakage belt reported in VM Tables 29.a-c of the PDD, respectively. The project area was not obscured by cloud at this monitoring period.

Non-CO₂ emissions from animal grazing were not monitored as they were not included in the baseline.

During this monitoring period, no natural disturbances or catastrophic events occurred in the project area and leakage belt.

The project does not seek to be credited for any carbon stock increases.