

Mai Ndombe REDD

Project Implementation Report—Climate, Community, and Biodiversity Benefits

Version 1.0: Activities Implemented March 14, 2011, through October 31, 2012

October 22, 2012



Table of Contents

List of Tables	3
List of Figures	4
1 Introduction	5
1.1 The Mai Ndombe REDD Project	5
2 Management of the Monitoring and Reporting Process.....	7
2.1 Project Accountability Structure	7
2.2 Project Implementation Report Objectives and Relationship to Other Project Documents.....	7
2.3 Scope and Methods for the Project Implementation Report.....	7
2.4 Project Evaluation	9
3 Climate Activities: Implementation and Results	10
3.1 Summary of Climate Activities Implemented to October 31, 2012.....	10
3.2 Results of Climate Monitoring	10
3.3 Monitoring of Potential Negative Climate Impacts: Leakage	12
3.4 Climate Indicator Results	12
4 Community Activities: Implementation and Results	13
Activity Area 2: Capacity Building and Social Capital.....	13
Activity Area 3: Infrastructure Development and Education, Health	18
Activity Area 4: Agricultural Improvement, Diversification, and Economic Opportunities.....	23
5 Biodiversity Activities: Implementation and Results	27
Activity Area 1: Climate and Ecosystem Conservation Activities.....	27
6 High Conservation Values	29
7 Potential Negative Community and Biodiversity Impacts.....	30
8 Summary and Recommendations.....	32
8.1 Climate Benefits.....	32
8.2 Community Benefits	32
8.3 Biodiversity Benefits	33
8.4 Recommendations	33
References	34

LIST OF TABLES

Table 1. Baseline emissions.	11
Table 2. Net GHG emissions, reductions, and removals.	11
Table 3. Quantified NERs by vintage year for the current implementation period.	12
Table 4. Climate indicator results.	12
Table 5. Capacity building and social capital indicator results.	17
Table 6. Infrastructure development and education, health indicator results.	22
Table 7. Agricultural improvement, diversification, and economic opportunity indicator results.	26
Table 8. Biodiversity indicator results.	28
Table 9. HCV indicator results.	29
Table 10. Negative impact indicator results.	31

LIST OF FIGURES

Figure 1. Local development committee capacity-building meeting in Mbale.	14
Figure 2. Clan boundary workshop.	15
Figure 3. Staff foresters learning about the collection of soil samples.	16
Figure 4. A typical existing school in Bosongo prior to the Mai Ndombe project.	19
Figure 5. A Mai Ndombe REDD project school under construction.....	19
Figure 6. Mai Ndombe REDD office in Inongo and project boats.	20
Figure 7. Mai Ndombe REDD staff overseeing the purchase and transport of medicines.	21
Figure 8. Tree nursery in Selenge.....	23
Figure 9. A farmer in Selenge inside his new enclosure.	25
Figure 10. Eggplants growing in the demonstration garden.	26

1 INTRODUCTION

1.1 The Mai Ndombe REDD Project

The Mai Ndombe REDD project area is located in the central part of the Congo River basin of the Democratic Republic of Congo (DRC, formerly Zaire), called the Cuvette Centrale. It runs along the western shore of Lake Mai Ndombe (formerly Lac Leopold II), with the nearest major population center of Inongo (pop 110,000) situated 20 km across the lake and accessible to the concession by boat. The project area is bound between 1°43'S, 17°50'E (NW corner), 1°43'S, 18°00'E (NE corner), 2°23'S, 18°15'E (SE corner), and 2°22'E, 18°00'E (SW corner).

Administratively, the project area is located in the province of Bandundu, district of Lake Mai Ndombe, and territory of Inongo, and encompasses three sectors: Ntomba, Baselenge, and Bolia. According to the 2010 DRC administrative census, the total population in the project area approximates 32,000 people living mostly in more than 30 villages.

The project area covers 299,645 hectares (ha) of terra firma forest, swamp forest, savanna, and inundated grassland. It is located approximately 395 km northwest of the national capital, Kinshasa. A more detailed description of the project area, its original conditions, and baseline projection is provided in sections G1 and G2 of the Mai Ndombe project design document (PDD).

A document was signed on March 11, 2011 between ERA Ecosystem Restoration Associates and the DRC government by its representative, the Minister of Environment, Conservation of Nature, and Tourism (MECNT), which transferred and assigned to ERA all of the carbon rights resulting from the project for a period of 25 years. This agreement also specifies the roles and obligations of the two parties, the project time period, revenue sharing with the government, payment to communities, and tax to be paid by ERA to the government. A forest conservation concession contract was subsequently signed on July 30, 2011 by ERA Congo, a subsidiary of ERA Ecosystem Restoration Associates Inc, and the MECNT, which allocates the conceded lands to ERA Congo and defines ERA Congo's social, environmental, and management obligations.

In the without-project (baseline) scenario, it is expected that the preexisting timber concession arrangement would have continued and that 5000 to 6000 ha per year would have been logged, covering most of the primary terra firma forested area within the project area over the 30-year project period. A more detailed description of the baseline scenario and legal status and property rights is provided in sections G2 and G5 of the PDD.

The objectives of the Mai Ndombe REDD project are as follows:

Climate

- Reduce CO₂ emissions from the project area through stopping planned legal and reducing unplanned illegal logging, charcoal production, and slash and burn agriculture.

Community

- Enhance livelihoods and food security for communities in the project area.
- Increase local administrative and governance capacity through support of existing traditional and contemporary governance structures.
- Enhance the sustainable use of natural resources.
- Improve access to, and quality of, health and education.

- Improved access to, and quantity of, potable water.
- Improve community well-being.

Biodiversity

- Retain intact forests and ecosystem integrity at the landscape level.
- Retain and promote recovery of habitat as well as native flora and fauna.
- Retain rare and ecologically valuable species.
- Increase local and outside knowledge of the area's biodiversity values.

2 MANAGEMENT OF THE MONITORING AND REPORTING PROCESS

2.1 Project Accountability Structure

The project proponent is ERA–WWC Joint Venture, a joint venture between ERA Ecosystem Restoration Associates Inc and Wildlife Works Carbon LLC. ERA Ecosystem Restoration Associates Inc is a wholly owned subsidiary of ERA Carbon Offsets Ltd, a publicly listed British Columbia corporation which trades on the TSX Venture exchange. Wildlife Works Carbon LLC is a limited liability corporation registered in the State of Delaware with offices in Mill Valley, California. The specific responsibility for operations of the Joint Venture lie with a steering committee composed of two members from ERA and two from WWC.

The management of the project in the DRC is the responsibility of a project director who reports to the project steering committee and an operations manager who reports to the director. The individuals in these positions are primarily based in the DRC with regular trips taken to North America to link with ERA and WWC senior management. The project director and operations manager are responsible for directing a significant number of DRC-based staff and supporting project consultants and ensuring that the project is implemented in accordance with the PDD and monitoring plan.

2.2 Project Implementation Report Objectives and Relationship to Other Project Documents¹

This project implementation report (PIR) has been prepared to report on the delivery of climate, community, and biodiversity benefits specified in the Mai Ndombe REDD CCB PDD (submitted August 29, 2012, for validation). The PDD outlines how the project intends to address the criteria in the Climate, Community and Biodiversity Project Design Standards (2nd edition; hereafter CCB Standards). A monitoring plan has also been prepared in conformance with CCB Standards. The monitoring plan identifies the types of measurements, the sampling method, and the frequency of measurement that will be carried out to document changes in project-related carbon pools and project emissions; changes in social and economic well-being resulting from project activities; and changes in biodiversity resulting from the project activities. The results of these monitoring activities form the basis for information reported in this PIR.

2.3 Scope and Methods for the Project Implementation Report

The Mai Ndombe REDD project is only 1.5 years into its 30-year project crediting period; as such, the implementation of project activities is still at a very early stage. This PIR corresponds to the project's first CCB verification period. It describes the progress and results of project activities implemented during the period March 14, 2011, through October 31, 2012. For climate, these activities are defined in large part through the successful conversion of the previous logging concession to a conservation-oriented focus. For community, early activities were defined largely through an extensive consultation process related to determining basic social commitments tied to the forest conservation concession contract terms of reference. For biodiversity, project-related benefits are linked to the presence of the conservation concession and additional activities which have been initially defined in the PDD, but await further detailed consultation with local communities prior to implementation.

¹ See the Climate, Community and Biodiversity Project Design Standards (2nd edition) and supporting CCB documents for more detail.

Climate monitoring and reporting involves carbon-related measurements described in detail on the Mai Ndombe REDD CCB and VCS Monitoring Plans, the methods for which have been double validated under the VCS VM0009 Methodology for Avoided Deforestation, version 2.0. Community and biodiversity-related monitoring follows guidance from the CCBA Social and Biodiversity Impact Assessment Manual for REDD+ Projects (Richards & Panfil, 2011) and subsequent community and biodiversity assessment specific guidance by Richards (2011) and Pitman (2011).

For community and biodiversity impact assessment, Richards and Panfil (2011) recommend the *theory of change* approach (also known as the *causal model*) above other known methods as a credible and cost-effective means of assessing impacts for REDD+ projects. The theory of change approach, through an analysis of anticipated cause and effect sequences from project activities through to outcomes and eventual long-term impacts, allows for a systematic evaluation of how project interventions are expected to achieve their desired objectives. The resultant conceptual or causal model is common to monitoring and evaluation approaches (e.g., results-based management, logic models) used by public agencies as well as international development agencies and NGOs.

An important aspect of project monitoring is the ongoing assessment for potential negative and/or unexpected outcomes arising from project activities. The Mai Ndombe REDD PDD includes an assessment of potential negative outcomes or impacts that could potentially result from the project and describes several project activities designed to mitigate their potential effects. Mai Ndombe REDD monitoring activities incorporate assessments for potential negative outcomes over the project lifetime and assessment of the effectiveness of mitigation activities.

Through the ongoing assessment of the extent to which anticipated outcomes and impacts are being achieved, assumptions about how project activities will result in expected changes (the theory of change) will be tested. As monitoring results become available, it is likely that adjustments will be required to approaches, activities, or even the assumptions inherent to the theory of change models identified in the project's PDD and monitoring plan. This is the essence of adaptive management and a core value of the CCB process and the Mai Ndombe REDD project.

Community and biodiversity-related monitoring and reporting for this implementation period focus on the project outputs level of the theory of change, with some assessment of short-term outcomes. This is for two reasons. First, it is too early in the implementation process for many of the social, economic, or biodiversity-related changes that are expected to come about as a result of the project to have taken place and to have become apparent and measurable. Second, while extensive consultation has taken place with respect to determining the project's initial community-related activities, the Mai Ndombe REDD project also intends to involve local communities with further development, refinement, and implementation of outcome and impact monitoring. This will take place through the participation of local development committees (CLDs²). The formation of CLDs is itself a defined project activity and is currently underway, with CLD formation now complete in nine villages. The local organizational capacity that will result from CLD formation will be the basis of enabling local participation in the development and refinement of outcome and impact indicators and determining the best means of data collection. Therefore, further development of outcome and impact indicators will proceed as CLDs become actively involved during subsequent verification periods.

Only indicators scheduled for measuring during this verification period are presented in this PIR. The full suite of project indicators developed to date can be viewed in the Mai Ndombe REDD CCB Project monitoring plan. For each outcome identified in the monitoring plan, at least one indicator has also

² Note that the French abbreviation for local development committees is CLDs and is widely used by both DRC and expat staff in the project development and implementation. It is used throughout this plan.

been established. However, not every activity implemented under the Mai Ndombe REDD project will necessarily have corresponding output, outcome, and impact indicators. It is also important to note that because the Mai Ndombe REDD project intends to be proactive in responding quickly to unanticipated community needs, there may on occasion be implementation of short-term, unforeseen project activities for which there are no corresponding indicators in the monitoring plan. All of these activities will align with the overriding Mai Ndombe REDD project objectives and commitments, and will be reported on in the PIR. An example of this type of activity is the acquisition and provision by project staff of vaccinations in response to a measles outbreak in 2011, as described later in this report.

2.4 Project Evaluation

To assist with the provision of relevant feedback for continual improvement, monitoring is usually accompanied by some form of follow-up evaluation. Richards and Panfil (2011) define evaluation as “the systematic and objective assessment of an on-going or completed project, program, or policy and its design, implementation, and results.”

The Mai Ndombe REDD+ project will incorporate evaluation within its monitoring and reporting process to assist with ensuring continual improvement over the period of the project. Elements to be considered during this process reflect, to a large extent, program evaluation criteria of the United Nations Development Program (2011), and include the project’s continued relevance (to national and local priorities), the extent and effectiveness of the achievement of objectives, the efficiency of delivery, the project results (positive and negative, as well as expected and unforeseen outcomes and impacts), and the sustainability of the project benefits beyond the project lifetime. Effectiveness will be the main evaluation consideration during early monitoring and verification periods.

3 CLIMATE ACTIVITIES: IMPLEMENTATION AND RESULTS

3.1 Summary of Climate Activities Implemented to October 31, 2012

On March 11, 2011, a memorandum of understanding (including carbon rights agreement, *protocole d'entente*) was signed by ERA and the MECNT. ERA Congo, referencing the DRC government's FPIC guidance for REDD projects, also undertook extensive community consultations throughout the project area which culminated in the signing of a social chapter on March 26, 2011, with representatives of all the major communities in the project area in the presence of the governor of the Inongo territory. This document is supplemental to the forest conservation concession contract that was subsequently signed between ERA Congo and the MECNT on July 30, 2011.

The result of the signing of these agreements is that, over the first verification (as expected will be the case over subsequent verification periods), a cascade of degradation initiated by planned commercial harvest with associated new access from road and bridge construction, followed by secondary deforestation agents (extraction of wood for building materials and charcoal production), and subsequent conversion to unsustainable agricultural production has been avoided. The end-state land cover in this land-use scenario is characterized by nearly complete deforestation, and the quantification of climate benefits for this verification period is based on the difference in carbon stocks resulting from implementation of the conservation concession agreement and what would have occurred over the same period in absence of the project.

3.2 Results of Climate Monitoring

Carbon stocks in the project area were determined through a structured process of field measurements and calculations using accepted methods of carbon accounting detailed in VCS Methodology VM0009 for Avoided Deforestation, version 2.0, and the Mai Ndombe REDD project description written to VCS standards.

The Mai Ndombe REDD forestry team systematically covered the project's forested areas according to the location of the 471 forest inventory plots detailed in Section 3.5 of the Mai Ndombe REDD CCB Monitoring Plan. These biomass plots are placed so as to sufficiently represent the project area, not only to aggregate carbon within each stratum, but also to identify disturbances. The foresters and their plot sampling team colleagues observe and record disturbances during their normal plot-sampling activities. No significant disturbances were recorded during this monitoring period.

As defined in the Mai Ndombe REDD VCS Monitoring Plan, a complete image interpretation process to locate and identify potential disturbances is not scheduled for 2012 except in the case that significant disturbances occur. During 2012, high resolution 2012 Google Earth imagery and MODIS Fire Product imagery were monitored and no significant disturbances / carbon stock reversal events were identified to have taken place during the (m=1) monitoring period (as corroborated by forestry team presence on the ground, noted above). A complete image interpretation process is scheduled for 2013.

Formal forest patrols on the ground have not yet started. These patrols will be implemented once participatory mapping in each village is complete. This process will allow the patrols to monitor these areas and address any concerns with the appropriate communities based on the boundaries that have been established. The training of 25 personnel from the project zone who will carry out this work is already underway.

Carbon dioxide (CO₂) was determined to be the primary source of greenhouse gas emissions in the project, given the threat of deforestation from both sanctioned commercial harvest and illegal logging in the baseline scenario. It is therefore the focus of climate monitoring and reporting. Methane (CH₄) and nitrous oxide (N₂O) are conservatively excluded from the project.

Quality Control (QC) training was carried out by the VP Carbon Development, Jeremy Freund and Project General Manager, JR Bwangoy to ensure strict adherence to QC Procedure. The Carbon Development team generated random plot coordinates in accordance with the QC SOP to cover 5% of the originally collected inventory plots in the Project and Proxy Areas. These QC plots were evaluated as close in time to the original plots as possible to avoid any errors due to natural regeneration/growth, although it is widely understood that some regrowth will occur between these two measurement events. Allowances for such inevitable deltas are built in to the QC evaluation techniques (VCS Monitoring Report Annex Q – Quality Control Procedure v1.6). The plots cover all strata present in the Project Area as well as in the Proxy Area. Separate QC evaluation is performed in the Project and Proxy Areas to ensure thorough and robust appraisal or measurement techniques. Further detail on quality control procedures can be found in the Mai Ndombe VCS Monitoring Report and Annexes.

Baseline emissions were determined by a linear component for emissions from planned commercial harvest and a logistic component for subsequent degradation.

Table 1. Baseline emissions.

Component	First Monitoring Period (m ₁)	Total
Gross NERs	3,398,286	3,398,286
25% buffer tonnes to VCS	(849,572)	(849,572)
Net NERs	2,548,715	2,548,715

Project emissions during this monitoring period were zero. There were no disturbance events (e.g., fire, logging, burning) in the project area. The project proponent made this determination after having regularly observed the project area in the course of conducting the forest inventory.

The quantity of net GHG emission reductions and removals is detailed in Table 2 below. Please refer to the Mai Ndombe REDD VCS Monitoring Report for more details on climate benefit results and reporting.

Table 2. Net GHG emissions, reductions, and removals.

Component	Value (tonnes CO ₂ e)
Estimated baseline emissions, m ₁	3,398,286
Uncertainty deduction	0
Project emissions, m ₁	0
Leakage emissions, m ₁	0
Gross NERs, m ₁	3,398,286
NERs to VCS buffer pool (24%)	(849,572)
Net NERs, m ₁	2,548,715

Quantified NERs by vintage year for the current monitoring period are as follows in Table 3.

Table 3. Quantified NERs by vintage year for the current implementation period.

Year	NERs (tCO ₂ c)	Monitoring Period	
		1	2
2011	1,252,975	1,252,975	0
2012	1,655,859	1,295,739	360,120

3.3 Monitoring of Potential Negative Climate Impacts: Leakage

There are no leakage emissions to quantify because neither activity-shifting leakage nor market-effects leakage is applicable to this project. Refer to sections 3.3.1 and 3.3.2 of the Mai Ndombe REDD VCS Project Document.

3.4 Climate Indicator Results

The climate indicator results are shown below in Table 4.

Table 4. Climate indicator results.

Activity	Indicator Type	No.	Indicator	Target	Results
Conversion of land-use concession from logging to conservation focus	Output	1	a signed forest conservation concession contract and supporting TOR*, MOU*	in place in 2011	Complete: supporting documentation made available to the validator and available on request.
	Outcome	2	extent of planned and secondary forest disturbance in the project area	project area forests remain intact, undisturbed	Complete: there were no disturbance events as determined via regular observation during forest inventory work.
	Impact	3	net tonnes CO ₂ e emissions avoided	a net positive climate benefit	Complete: 2,548,715 net NERs generated for this verification period.

*terms of reference, memorandum of understanding

4 COMMUNITY ACTIVITIES: IMPLEMENTATION AND RESULTS

Summary of Community Activities Implemented to October 31, 2012

Indicators and monitoring results with respect to the effectiveness of community-related activities are framed on the activities, outputs, outcomes and impacts of the theory of change models for each community-related project activity area. The results are presented below in order of the three activity areas most directly related to community benefits.

Activity Area 2: Capacity Building and Social Capital

1. Workshops and associated facilitation to support the improvement of local democratic governance, planning, and management processes

Purpose: Workshops on the structure and goals of CLDs have been held in villages to improve committee members' understanding of the function of CLDs for local decision-making processes. Discussions of the function of individual members of a CLD and the application of the CLD as a representative structure of the villages take place in these workshops. These include discussions about the creation and submission of development proposals, financial management, and democratic process.

Location of current activities: Selenge, Mbale, Bosongo, Kesenge, Lobeke, Mbtam Mbalu, Lokanga, Ikita, and Inunu.

Location of planned activities: All of the major 26 villages in the project area.

Estimated financial input to September 2012: \$34,814 in community engagement activities and \$19,850 in project staff salaries (this includes all animateurs working in the villages).

Status: Workshops have been held in all nine villages which now have established CLDs as well as one additional village (Mpili). Workshops include discussions of the following topics: the importance and role of CLDs; the organizational components of a CLD (including financial management, local development plan creation, approval processes and implementation, record keeping, and dispute management).

The CLDs provide a process and capacity for the communities to decide on what aspects of the project they would like to participate in such as agroforestry demonstration plots and the construction of animal enclosures. Examples of the use of CLD's to facilitate community decisions not related to the project were also reported. This has been done in a manner which is not in conflict with the traditional ways they have made decisions, based on input provided by these communities to the project proponent.

Project documentation: Minutes are available in CLD binders that have been assembled for each village and are retained in the Inongo office.

Figure 1. Local development committee capacity-building meeting in Mbale.



2. Establishment of clan boundaries

Three days of workshops were held where chefs de terre (clan chiefs) from the entire project area (estimated at 40) came to Inongo and learned about the project, voiced their concerns, and then broke out into groups to record, for the first time ever, their clan boundaries, first on paper and finally on an ArcGIS map (see Figure 2 below). Traditionally, clans know their boundaries by certain rivers, large trees, or other landmarks. The next step in this process will be to walk the boundaries of clan forests and record GPS coordinates for these boundaries.

There were two objectives for this exercise. The first was to verify the exact number of clans that existed in the concession; the second was to establish the boundaries of each clan's forest. This information will be used to assist with the equitable distribution of future project benefits. It is hoped that this information will also contribute to planning and governance by clans in the future.

Project documentation: Clan boundaries map, minutes from meetings, photographs.

Figure 2. Clan boundary workshop.



3. Staff training

Project animateurs and foresters were provided with extensive training in regard to the carbon market, climate change, REDD, participatory rural appraisals, and community capacity building. This has included community engagement and socio-economic related training for the animateurs, and carbon inventory training for the foresters. The animateurs were sent for one week to the Luki biosphere reserve in Bah Congo province to tour and learn from a successful WWF forestry and community conservation project. The foresters have also learned a number of new mensuration protocols and standard operating procedures (SOPs).

Training has also been provided for staff in Kinshasa in accounting, bookkeeping and general office procedures. Local animateurs who are hired to support the 10 project animateurs are given orientation training by the project animateurs. Experienced agronomists were used to train others in agroforestry techniques starting in the initial agroforestry project site in Nselenge. A general approach of ensuring new employees are given introductory orientation to their jobs and to pair them with the most experienced staff in their area of responsibility (eg. Forester to forester) has also been established.

Teams were assembled for collection of data on local flora and fauna. Both flora and fauna teams (flora led by Roy Gereau of the Missouri Botanical Garden and fauna under the direction of Corneille Ewango of the Wildlife Conservation Society) were provided with training in SOPs that have been developed for the project's flora and fauna inventories. During this process, team members gained knowledge on survey methodology, plant collection methods, soil sampling, and other areas.

Three project employees in Kinshasa have been attending the Congolese American Language Institute (CALI) for 3 months to take English lessons. English lesson plans and a certified teacher have also been

made available to staff in Inongo, and lessons will commence for those employees interested in October 2012.

Project documentation: Available in various project documents and SOPs.

Figure 3. Staff foresters learning about the collection of soil samples.



Indicator Monitoring Results for Activity Area Two: Capacity Building and Social Capital

Capacity building and social capital indicator results are shown below in Table 5.

Table 5. Capacity building and social capital indicator results.

Activity	Indicator Type	No.	Indicator	Target	Results
Improve local governance, planning, and management	Output	7	# of workshops held	26 villages by end of year 3*1	Workshops were held in 9 villages during 2011, 2012 (by midway through the project's 2 nd year).
Improve organizational capacity	Output	8	# of CLDs established	CLDs in 26 villages by the end of year 3	CLDs were established in 9 villages in 2012
Build community and project staff capacity in forest and biodiversity monitoring, GIS, PRAs, capacity building, facilitation and other areas	Output	12a	# of staff trained	20 staff attain competency in their specialty by year 5	10 animateurs and 5 foresters have received extensive training.
	Output	13	# of local people trained in basic aspects of resource assessment	50 additional people learn basics such as use of compass by year 5	An estimated 80 local people have been trained in flora and fauna data collection, the use of a compass, and forestry mensuration techniques.
Improve capacity and awareness in workplace safety	Output	16	evidence of safety training/coaching procedures in place*2	At worksites, offices 2011, 2012	Lifejackets are on board project boats for each passenger, sat phones are provided for teams out of phone contact for long periods of time, first aid kits are provided for teams working away from access to medical care, and employees are aware of the project safety policy.

*1 Including community-wide meetings, women's meetings, men's meetings, and schools.

*2 Through use of safety equipment, participation in safety meetings, improved safety practices, attitudes, etc.

Activity Area 3: Infrastructure Development and Education, Health

1. School construction

Purpose: The Mai Ndombe project is building schools in a minimum of 19 villages as committed to communities in the forest conservation concession contract terms of reference – social chapter. Schools in the project area communities are poorly constructed, often made only from palm fronds and other temporary materials if they exist at all. When the staff hired by the project initially consulted communities before the project commenced, the need and desire for schools was clearly voiced as a priority in each village visited. Buildings themselves will be supplemented by future projects that improve the quality of education provided to students.

Location of current activities: Kesenge and Lokanga.

Location of planned activities: Lobeke, Ngongo, Lokanga, Ibali, Mpata Mbalu, Nselenge, Ngando Mbanga, Bosongo, Mbale, Inunu Lobalu, Bokebeni, Nkondi, Bamboka, Bobola Mpinga, Ntuku, Mpili, and Wanya.

Financial input to September 2012: \$176,000 including salaries.

Local employees: 3 full-time local employees and up to 10 casual employees on each building site for over 10 months.

Status: Two 8-room school buildings are nearing completion in Lokanga and Kesenge. The roofs of these buildings have been built, and finishing work, such as the provision of doors and windows, is currently underway. The initial goal was to have the schools completed and open for the beginning of the school year in September 2012. In advance of the opening, the Mai Ndombe REDD project hired a consulting engineer to do an assessment of the schools' structural soundness before they were completed. A number of problems that need to be fixed were identified and documented in the consultant's report. As a result, the planning to carry out the corrective actions required is currently underway, with repair work to start in the near future.

Brick making is underway in the villages of Mbale, Mpata Mbalu, and Lobeke as the initial step in the construction of schools in these locations.

Project documentation: Once finished, school completion reports will be filed in the schools binder in the Inongo office. Also in this binder are the building plans and the structural soundness report.

Figure 4. A typical existing school in Bosongo prior to the Mai Ndombe project.



Figure 5. A Mai Ndombe REDD project school under construction.



2. Capital purchase improvements at the project offices in Inongo

Purpose: To have a well-organized, efficiently run, and safe project headquarters that provides support to the project and its staff and also results in employment for local people and economic and social benefit to residents in Inongo (Inongo is within the project zone).

Financial input to September 2012: Cost of boats, computers for staff, satellite internet, and construction at project offices: \$33,083 (in 2012).

Total project employees in the project zone: 23 (including security, boat operators, bookkeeping, and community liaison workers). This does not include foresters, animateurs, etc. who are working in the project area.

Status: Three boats have been purchased and brought to the project area from Kinshasa; computers and other office equipment and materials have been purchased; staff who carry out work based in Inongo

are employed to watch project equipment, cook food for project employees, carry out GIS work for the project, carry out project bookkeeping, and construct a safe fuel storage area as well as other expansions on the project office.

Project documentation: Available in QuickBooks Online.

Figure 6. Mai Ndombe REDD office in Inongo and project boats.



3. Mobile medical clinic

Purpose: The current health situation of the communities in the Mai Ndombe REDD project area and the Greater Inongo Health Zone is precarious at best. It is not uncommon for children to die of diarrhoea or infectious diseases (such as German measles for which vaccines have been developed) or for adults to die of appendicitis due to lack of access to health care or to basic preventative medicines. The goal of the Mai Ndombe mobile medical clinic (MMC) is to tour the project area and provide basic medical assistance, medicines, and transportation to those in need. The MMC has a mandate to improve access and immediacy of medical treatment and preventative care to those people living in the Mai Ndombe project area.

Location of current activities: The clinic will tour the full project area. The first trial trip is being undertaken in the villages of Mpata Mbalu, Lobeke, Inunu, Ibale, and Kesenge.

Future locations: As logistics and need for medicines are better determined, the MMC will expand further into the project area to communities that lie even greater distances from sufficient medical and preventative care.

Financial input to September 2012: \$3,288 after the first trial trip.

Local employees: 3 local employees and between 1 and 5 nurses will be hired on a daily basis in each village visited.

Status: DRC national regulations require that the project implement this activity in partnership with the Inongo Territory Health Zone. The Mai Ndombe project has had a series of meetings with the head doctor of the health zone (Zone Sante) and has entered into a trial contract with the expectation of moving forward to a longer-term contract in the month of October 2012. The head doctor has provided the project with a recommended list of medicines based on his experience with illnesses in the project area. The project has purchased all necessary medicines and supplies for the first trip, which is scheduled for the third week of September.

Project documentation: Available in the medical binder in the Inongo office.

Figure 7. Mai Ndombe REDD staff overseeing the purchase and transport of medicines.



4. Periodic response to unanticipated emergencies

Purpose: To meet the acute need for medication and treatment during medical (or other types of unforeseen) emergencies such as the measles outbreak. This occurred in many of the villages in the northern half of the concession this year. The outbreak began at the beginning of 2012 and has continued until now.

Location: Bosongo, Bobola Mpinga, Lokanga

Total employees from the project area: 3 temporary

Total financial input: \$2690 (including the purchase of medicines, retainer for doctor and salary for local nurses)

Status: ERA contributed to the medical response to the epidemic by providing vaccines and paying for doctors and nurses in collaboration with the local health authority. The effort was well received and certainly contributed to reducing cases. Unfortunately, as the Mai Ndombe REDD project is the only organization supporting the suppression of the epidemic it has continued and infant mortality has not decreased by measurable amounts to date. A possible contributing factor to this was messages that were reportedly spread in the area that played upon superstitions towards, or fear of, vaccinations.

Project documentation: Available in the expedition medicament folder in the Inongo office.

5. Activity: Boat transportation across lake

The Mai Ndombe project is required under the forest conservation concession contract terms of reference (social chapter) to, within the company's capacity, facilitate the transportation of people and their belongings to transportation terminals. As the project makes frequent crossings between the head

office in Inongo and the project area across Lac Mai Ndombe, there are many opportunities to assist villagers in this capacity. The project has made 209 crossings to date in 2012. Records have not been kept regarding the number of passengers on each crossing; however, a conservative estimate is that an average of two people per trip, including their goods and luggage, were provided transportation.

Project documentation: Photos, records of the crossings as kept by project mechanics.

Indicator Monitoring Results for Activity Area Three: Infrastructure Development and Education, Health

Infrastructure development and education and health indicator results are shown below in Table 6.

Table 6. Infrastructure development and education, health indicator results.

Activity	Indicator Type	No.	Indicator	Target	Results
School construction	Output	20	# of schools built in project zone communities	4 by end of year 3, 19 by end of project period	2 schools are near completion and brick making has started in 3 additional communities.
Provide a mobile medical clinic	Output	23	# of villages visited	3 villages by first reporting period	Visits have commenced, with 5 complete for end of first reporting period.
	Output	24	# of patients treated	100 patients by first reporting period	Complete: 100 patients treated.
Support means of transportation to and from remote areas	Output	30	Access to transport to & from the project area across lake Mai Ndombe	≥ one reliable project boat for use by locals as available	418 villagers from the project area have been provided transportation and goods transfer across the lake in 2012 via two boats.

Activity Area 4: Agricultural Improvement, Diversification, and Economic Opportunities

1. Tree nursery

Purpose: To germinate and grow seedlings in a nursery to supply multi-crop agroforestry demonstration projects and reforestation pilot projects.

Location: Selenge

Financial input to September 2012: \$5000

Total employees from project area: 3

Additional total employees from project zone: 1

Current status: To September 2012 over 13,000 Acacia and Leucaena seedlings have been successfully grown in a nursery established by the project and are ready for planting in the agroforestry demonstration plots. These are currently being prepared for planting, which starts at the beginning of the upcoming rainy season (middle of September).

Project documentation: Available in the Agroforestry Projects Binder in the Inongo Office

Figure 8. Tree nursery in Selenge.



2. Agroforestry intensification and diversification demonstration plots

Purpose: To create demonstration plots in key villages in the project area where new agricultural practices and species are tested. These tree species are quite common locally (but not for crops) and are chosen for their nitrogen-fixing properties. The goal is to establish working demonstration gardens in which project agroforesters can show local villagers methods that improve soil fertility and increase agricultural production. The long-term goal is that, by adapting new, less land-intensive and more productive techniques, local farmers will reduce pressure on the primary forests by reducing their rate of clearing and field rotations.

Location: Selenge and Mbale

Short-term future planned location: Inunu and Bosongo

Financial input to September 2012: \$1400

Total employees from the project area: This project will involve casual labour. It is expected that local people will be hired at rate of 25 person days per hectare planted.

Status: As the dry season transitions into the wet season by mid-September (prime planting season), this project is just commencing. It is expected to be completed by early October in the villages of Selenge and Mbale. If time allows this season, the villages of Bosongo and Inunu will also be planted.

Project documentation: Available in the agroforestry binder in the Inongo office.

3. Activity: Build animal enclosures

Purpose: To build enclosures to house pigs, goats, and sheep that would otherwise roam the villages, spread disease, and destroy crops. When animals roam in the villages, farmers must clear fields that are much greater distances away to prevent them being impacted by rooting and other damage by roaming pigs and goats. Once animals are controlled they will be easier to keep track of, they will be less susceptible to accidents, theft, or disease-related deaths, and farmers will have to travel shorter distances to fields, thus reducing impact on the secondary and primary forests.

Location of current activities: Selenge and Mbale

Location of planned activities: Inunu and Bosongo

Financial input to September 2012: \$700

Total employees from project area: 10 temporary employees over the duration of the enclosure construction (2 months).

Status: Over 40 enclosures have been constructed in the villages of Mbale and Selenge over the months of July and August. Farmers are very happy to be able to contain their animals as it avoids them being stolen or ruining others' crops. Project agronomists are now in the process of collecting natural medicines from the forest that are known to prevent diseases among livestock. They will train farmers in the use of these medicines.

Figure 9. A farmer in Selenge inside his new enclosure.



4. Activity: Construct demonstration vegetable garden

Purpose: To test the cultivation of varieties of vegetables not commonly grown in the area, both in regards to growing potential and in response to community interest. The vegetable demonstration garden is located at the Inongo head office in an area that is regularly traversed by community members walking to the lakeshore.

Location of current activities: Inongo head office

Financial input to September 2012: Estimated \$200

Total local employees: 2

Status: The demonstration garden has been a great success. Vegetables not commonly (or ever) seen in Inongo that thrived include cabbage, green peppers, cucumber, and carrots (to a lesser extent). Other vegetables that have been grown that are more common in the area include onions, spinach, and tomatoes. Project staff welcomed questions from curious villagers and spoke with them about methods for cultivation and preparation. Those interested left their name and contact details and will be provided with seeds and guidance when the next planting season arrives.

Figure 10. Eggplants growing in the demonstration garden.



Indicator Monitoring Results for Activity Area Four: Agricultural Improvement, Diversification, and Economic Opportunity

Agricultural improvement, diversification, and economic opportunity indicator results are shown below in Table 7.

Table 7. Agricultural improvement, diversification, and economic opportunity indicator results.

Activity	Indicator Type	No.	Indicator	Target	Results
Agroforestry demonstration plots	Output	32	# of seedlings in tree nursery, hectares planted	20000 seedlings 4 ha planted	13,000 seedlings in the nursery
Demonstration & diversification garden	Output	34	# of visits to the demo garden	50 visits	47 visits recorded
	Output	35	# of new vegetables successfully tested	5 successful new vegetables grown by the end of year 3	3 successful and 1 potentially successful vegetable at first verification
Construction of animal enclosures	Output	36	# of enclosures completed	20 by end of year 3	40 enclosures have been constructed to date

5 BIODIVERSITY ACTIVITIES: IMPLEMENTATION AND RESULTS

Activity Area 1: Climate and Ecosystem Conservation Activities

1. Educational efforts to increase knowledge about the importance of biodiversity, forests, and climate change

Purpose: To increase community knowledge in the project zone about the importance of forests, healthy ecosystems, and biodiversity, both on a local and global scale. Workshops are held in general assemblies, schools, focus groups, and within CLDs.

Location of current activities: Selenge, Bosongo, Mbale, Ikita, Lokanga, Inunu, Kesenge, Lobeke, Mpata, and Mbalu.

Location of planned activities: In all 26 of the major project area villages.

Local employees: The project has hired 9 employees from the project area as local animateurs to help facilitate these workshops.

Financial input to September 2012: Difficult to quantify as it is intermixed with other activities such as strengthened local governance and CLD building.

Status: These workshops have been held in 7 project area communities and 2 project zone communities. Workshops are held at the village level, in primary and secondary schools, within women's and men's workshops, and within CLD meetings. Workshops are conducted by full-time project animateurs and locally hired animateurs and are supplemented with the use of posters on topics such as climate change and the importance of forests.

Project documentation: Available in each village's CLD binder in the Inongo office.

2. Fauna and flora inventories

Purpose: To collect baseline biodiversity information.

Location of current activities: Fauna: Inunu, Bosongo, Bopambo, Lobeke, Lokanga, and Lombe Moke. Flora: See Missouri Botanical Garden report (provided to the auditors).

Total employees from the project area: Each 15-day survey trip employed 5 casual workers who were hired from local communities and trained in the area where the work was undertaken. There were 5 fauna teams and 4 flora teams trained.

Total employees involved from outside the project zone: 2

Status: Inventories have been completed in the reported locations. Transects are marked both visually and with GPS for repeat surveys in upcoming years. Villagers who have been trained to use a compass, mark transects, and identify species will be provided with additional training in the future and will potentially be hired for additional monitoring as their capacity to do so increases.

Project documentation: Flora and fauna data collected by the project are available in their respective binders in the Inongo office.

Biodiversity Indicator Results

Biodiversity indicator results are shown below in Table 8.

Table 8. Biodiversity indicator results.

Activity	Indicator Type	No.	Indicator	Target	Results
Conversion of land-use concession from logging to conservation focus	Output: <i>Response</i>	42	a signed forest conservation concession contract and supporting TOR, MOU	In place in 2011.	See indicator No. 1 (climate)
	Outcome: <i>Response</i>	43	extent of planned and secondary forest disturbance in the project area	Project area forests remain intact, undisturbed.	See indicator No. 2 (climate)
Increase local knowledge about the importance of biodiversity	Output: <i>Response</i>	46	workshops and materials	All 26 project area villages have had workshops by end of year 5.	Workshops held in 8 communities in first verification period.
Improve data, knowledge of local biodiversity	Output: <i>State, Response</i>	52	basic surveys to collect baseline data	3 transects in 2012. Subsequent goals determined in 2013/2014 .	4 transects completed in first verification period.
Biodiversity GOLD: Bonobo	Output: <i>Response</i>	54	response measures for the Bonobo overlap with various project activities, monitored through Indicators 1, 2, 12, 13, 37, 43, 46, 52.		

6 HIGH CONSERVATION VALUES

High conservation values (HCVs) identified for the Mai Ndombe REDD project area are highly dependent on the maintenance of project area forests in an intact state. The protection of these forests therefore provides the best possible outcome for the maintenance of HCVs. Project indicators that relate to the protection of forest biodiversity and ecosystem services are equally suitable to the assessment of measures to maintain HCVs, and are referenced as such in the HCV indicator table. Proxy indicators, including those that relate to the care and protection of forest biodiversity and ecosystem services, will be used in most cases to assess measures undertaken to maintain HCVs, as the ongoing direct measurement of such a large and complex array of values is not feasible or warranted within a project of this nature.

HCV Indicator Results

HCV indicator results are shown below in Table 9.

Table 9. HCV indicator results.

HCVs	Related Project Activities	Indicator Type	No.	Indicator	Target	Results
G1.8.1 b G1.8.1 c G1.8.1 d G1.8.2 G1.8.3	Forest, habitat protection, knowledge, awareness, and commitment to biodiversity in the area	Output: <i>State, Response</i>		See Indicators 1, 2, 12, 13, 46, 52		

7 POTENTIAL NEGATIVE COMMUNITY AND BIODIVERSITY IMPACTS

Monitoring results for indicators related to potential negative impacts are listed below in Table 10. Some indicators pertain directly to potential negative and/or unforeseen impacts, while others pertain to the effectiveness of activities intended to mitigate potential negative impacts. In some cases, existing activities from one or more of the Mai Ndombe project's four activity areas also fulfill mitigation-related purposes. These overlaps are noted.

As part of the project's efforts toward ongoing communication with communities, villagers have been and will continue to be asked for their perspectives on how the project is affecting them. For example, this is one of the priorities of the project animateurs, who will expand their work to extend throughout the project area. Opinions to date indicate many significantly positive sentiments and also some concerns. Positive perspectives have focused around a general feeling of encouragement about the opportunity to conserve, protect, and restore local forests and biodiversity and enable the return of species previously lost from the area. There is also some sentiment that this type of conservation aligns with what had been previously practiced by local ancestors. There is optimism about the retention of the forests for the benefit of children and grandchildren. Some feel there is a significant benefit in being able to conserve these values while still receiving benefits from the forest through the sale of the associated emissions reductions. Many project area residents are enthusiastic about the education and health, infrastructure, and agriculture-related activities projected over the period of the project.

Some villagers who have been spoken with, however, expressed anxiety about the timing of activity implementation, that is, that more project activities should have been implemented already. There is some distrust in this regard, especially considering the history of previous commitments from other entities operating in the area which were not fulfilled. Some villagers whom the Mai Ndombe project has communicated with to date indicate that they are concerned that a commercial logging company is not operating in their area, due to its perceived importance in providing employment. Some believe that employment opportunities and ancillary benefits from active logging operations, such as access to means of transportation and sources of wood for local carpentry projects, would have been greater under these active commercial logging operations. At the same time, residents of these specific communities have also indicated generally strong support for the project proponent's presence in their area.

All of these types of comments will be strongly considered with respect to the management and continual improvement of the Mai Ndombe REDD project. Comments related to the potential occurrence of negative impacts will be further investigated and, where necessary, addressed through the approach to project implementation, through adjustments to project planning, through the implementation of mitigation activities, or through other means.

Negative Impact Indicator Results

Negative impact indicator results are shown below in Table 10.

Table 10. Negative impact indicator results.

Potential Negative Impact	Indicator Type	No.	Indicator	Target	Results
A reduction in forest-exploitation-related jobs	Output (mitigation activity)	59	# of people employed by the project	50 by the end of year 3 in the project zone and Kinshasa.	In excess of 50 were employed during the first verification period.
Reduced access to traditional timber-based forest products (fuel wood, charcoal, construction materials)	Output (mitigation activity)	61	presence of buffer zones that allow for traditional extraction activity	Buffer zones established and understood by communities.	These have been established as documented in the Mai Ndombe REDD VCS project description. The process of consultation with regard to these buffers is an ongoing process through the work of project animateurs. Also see 66 below.
Potential conflict or inequities over the allocation of carbon-offset-funded activities	Output	See Indicators 7, 8, 12a, 13: establishment of CLDs, and training, facilitation to promote inclusive decision-making processes			
	Outcome	65	existence of notable conflict or inequities	All such conflicts, if they arise, are resolved.	No unresolved conflicts outstanding.
Other negative impacts	Outcome	66	existence of other negative impacts	Unforeseen negative impacts that arise are mitigated.	Critical comments identified during ongoing community consultations are noted in the discussion above. Measures to address them are reviewed in the recommendations, and actions to address them will be incorporated in subsequent implementation periods.
Unforeseen positive or negative impacts	Outcome or impact	67	Existence of unforeseen outcomes/ impacts	Unforeseen negative impacts that arise are mitigated.	No unforeseen impacts have been identified to date.

8 SUMMARY AND RECOMMENDATIONS

8.1 Climate Benefits

The Mai Ndombe REDD project has clearly provided significant net climate benefits during its first year and a half of implementation. These benefits equate to 3,398,286 tonnes CO₂e, or 2,548,715 tonnes CO₂e after permanence buffer deductions.

8.2 Community Benefits

The Mai Ndombe REDD project community benefits generated to date represent a net positive benefit for communities. Furthermore, these benefits have been provided in a manner which has maintained one of the most important local assets of the project communities: the natural capital of local forests and the ecosystem services they sustain. These resources remain intact and available for current and future generations. This benefit is in direct contrast to livelihood opportunities that would have been generated through the logging concession, through which the area's natural capital would be eroded and become unavailable over a relatively short period of time.

Through its community monitoring program, the Mai Ndombe REDD project has assessed the implementation phase of early project activities, including through the work of its animateurs and their direct contact with village members. To the extent feasible at this early stage, these monitoring efforts have also strived to assess the occurrence of potential negative or unforeseen project impacts.

Significant expenditures, some specific amounts of which are identified in this document, have been made to date by the project proponents directly into the project zone to begin the process of establishing the community benefits committed to in the social chapter under the concession agreement. These early expenditures have already resulted in improvements to infrastructure in the form of school construction, capacity building in numerous villages, health initiatives, the beginning of an agriculture diversification and intensification program, and several other lower-profile benefits. In addition, employment opportunities generated directly by the project to date have incorporated significant training and capacity-building components.

It is important to note that these direct expenditures to date in the project zone are solely from funding reserves of the project proponent, as verified carbon offsets have not yet been generated by the project. Yet these expenditures, while having already initiated the generation of community benefits, are small in comparison to the funds that will be available for planned activities once the project carbon revenues come on stream. For example, the sale of verified offsets from the first verification will generate close to \$1.5M to go to investments in the project area communities. The sale of verified offsets for the first five years of the project has the potential to generate in excess of \$10M for these community investments.

Community response to the early project implementation phase has been positive in many aspects, particularly in regard to the opportunity the Mai Ndombe project has provided to maintain local natural capital in the form of intact forests and their associated ecosystem values for future generations. The presence of the project proponent in the communities in which it has been active to date, as assessed by the project animateurs, has also appeared, in general, to have been received very positively by the residents of these areas.

The Mai Ndombe REDD project's efforts to communicate with project area villages, particularly through the project animateurs, have also indicated that the perspectives of some people are, to date, less

positive in some areas. These views particularly relate to employment opportunities they feel would be provided through commercial logging that is no longer occurring, and to a related greater availability of wood products as a result of secondary harvesting. Another concern revolved around impatience for project activities to get underway in their villages. These concerns will be paid very close attention to by the project proponent in its focus and priority development for the project into the future.

8.3 Biodiversity Benefits

The protection afforded to project area forests through the conservation concession agreement provides for significant biodiversity benefits, including the protection of the integrity, connectivity, and function of its ecosystems. This represents the best possible outcome for the significant biodiversity values inherent to the area, including the presence of endangered and vulnerable plant and animal species, endemic plant species and subspecies, significant concentrations of species, viable populations of plants and animals, and threatened ecosystems.

8.4 Recommendations

Although the project and its implementation overall has generated significant climate, community, and biodiversity benefits during the first verification period, and should generally continue in the direction that has been established during this period, there are a number of areas where, through adaptive management, the project can be improved upon based on what has been learned during this time. Some specific areas of focus need to include:

1. Improvements in the school construction program in several areas, including building design, project management, timelines, and staff training. Work has already begun in earnest to address all of these areas.
2. The provision of employment opportunities for community residents needs to be an ongoing significant focus of the project.
3. An adequate availability of wood products (supplied from areas other than the primary forest) for the construction of houses, fuel wood, and other uses by project area residents needs to be ensured. An activity area that needs to be evaluated in this regard is the establishment of forest plantations to supply the wood for these uses.
4. The timing of the implementation of project activities needs to be a focus, particularly with the generation of revenue from the verified carbon offsets, so that all of the communities in the project zone can see, in as timely a manner as possible, the benefits of the forest conservation concession contract.
5. Through the ongoing CLD process and expert input, the indicators, methods for assessment, and the nature of community involvement with community-related monitoring activities will continue to be developed and refined, including the completion of outcome and impact indicators through social impact assessment workshops in the project area.
6. Implement a robust plan for long-term biodiversity monitoring which incorporates existing, updated, and new SOPs, indicators, and methods; direct community input, advice, and involvement through the CLD process already being established throughout the project area; and ongoing recognized expert input and oversight in key areas.

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