Forest Carbon Partnership Facility

(FCPF)

READINESS PREPARATION PROPOSAL (R-PP)

MADAGASCAR

ANNEXES

Version of October 8th, 2010

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Annex 1a-1. Existing structures, the readiness management arrangement, and missions of sectoral representatives

1. Existing structures for environmental program implementation and short analyses of their potential for the REDD+ process

- *The Inter-Ministerial Environment Committee (CIME)*

CIME was created by decree in 1997. It is an inter-ministerial coordination structure placed under the authority of the Prime Minister. It intervenes at high political level. CIME includes the Secretary General or the Director-General of the 17 ministerial departments working on the environment. The Ministry in charge of the Environment chairs the CIME meetings on behalf of the Prime Minister. The mission of CIME is to ensure integration of environmental management requirements in sustainable development. Among its roles, it "contributes to the mainstreaming of environmental actions in the various sectoral policies, and vice versa, notably for budget and planning". The institution has significantly contributed to mediation among sectors, particularly between the mining and environmental sectors.

The current mandate of CIME is adequate to prepare the REDD+ strategy. Under the REDD+ process, CIME will be revitalized to fully play its role for REDD+ readiness, and its operational approach will be revised. A CIME sub-committee will be established under the name of CIM-REDD, with fewer members and a more flexible structure.

The PCPR President, in collaboration with the REDD+ steering Unit, will keep regular contact with CIME to quickly convene meetings as needed for the progress of R-PP activities.

- *The Climate Change Platform:*

This structure was created in 2009 and has 24 members exclusively from the Administration in charge of the environment. It was created by executive order to internally coordinate all efforts on climate change. Links with REDD have been ignored within this structure.

This is a functional structure but because of its internal approach, it does not represent other key players (Administration in charge of forests, civil society, NGOs, etc.) and does not ensure adequate coordination of REDD readiness activities. In addition, its intervention range is global and does not focus on functional steering of the REDD+ process.

- *The Forest Commission* :

This entity was created by Decree 2005-849 of December 13, 2005, an application of Law 97-017 revising the forest legislation. It has 15 members and is established in each region. Its capacities are:

- Deliberative, by recording the forest nature of a land and the application of the forest regime and
- Consultative for the application of the forest regime, notably for State forests and forests of decentralized territorial collectivities and public entities.

It can appoint other resource people for technical matters requiring external expertise. It meets when convened by the President or by delegation by the Vice President, and can deliberate if 2/3 of its members are present. Decisions are adopted by majority.

- *The REDD Technical Committee (CT-REDD)*

This structure has been in operation for 2 years and includes national-level REDD stakeholders, notably public institutions and the civil society with NGOs and projects implementing REDD pilot projects. It is co-chaired by the Director-General of Forests and one director of the National Environment office. CT-REDD is active and is the main player of the REDD-process in Madagascar. Recently, it has reached to other sectors and some representatives of the civil society. While its members have no official status, they have the required capacities and resources to ensure technical coordination of the REDD process. However, the decision-making aspect is lacking. Status changes should be made so that this structure fully plays its role for the REDD+ process.

2. The management arrangement to be implemented

- ***The REDD Technical Committee becomes the REDD+ Platform***:

This entity should be created by law, defining its roles in coordinating REDD+ activities, notably to ensure strategic steering of REDD+ in Madagascar, its members, and its operational approach.

It includes representatives of key REDD institutions, and can appoint resource people in defined expertise areas. Its members include:

- State players: DGF, DGE, Agriculture, Mining/Energy, Transport, Public Estate, Finance, Public Works, Water, ONE, SAGE, MNP,
- Civil society players: CI, WCS, Fondation Tany Meva, FAPBM, WWF, ONESF, SAHA/AIM /DIC, PGM-E, ESSA-Forêts, VOI (local communities representatives, for studies or project assessments in a given region), and
- Potential donors for REDD+, participating in discussions.

For the Technical Committee to become the REDD+ Readiness Coordination Platform (PCPR), sectoral representatives in this structure should be able to make technical decisions relevant to their respective sectors. Technicians currently participating in the committee can continue to play their technical roles, while assisting their supervisors who are automatically members of the Platform. Therefore, designation of PCPR members should take into account purely technical capacities of resources people, to ensure that respective involvement and contributions are not subject to institutional changes.

PCPR ensures that the REDD+ preparation process is integrated in all ongoing discussions under the important initiatives of the forest and environment sectors (development of policies, strategy documents, sectoral programs, etc.).

PCPR is the steering and technical coordination body for the development of the REDD+ strategy and its technical components. It ensures resolution of inter-sectoral conflicts and if needed, brings them to the attention of the CIME. Its functions are to (a) validate and assess all technical works; (b) ensure participation of all relevant sectors, (c) prepare the implementation of the REDD+ intervention directions, and (d) manage the development process of needed reforms to implement REDD+.

Opening the platform to other sectors and stakeholders is guaranteed, so that the structure could provide the essential elements to fulfill its mission. Representation of the civil society and the private sector will be improved, by integrating other associations and/or environmental

organizations, particularly those directly working with local communities living near forest resources.

The same applies to improve integration of regional players. The Regional Forest Commission will relay the Platform at the regional level, from the preparation phase to the implementation of REDD+.

PCPR will be created by inter-ministerial executive order. The mechanism will ensure implementation of the REDD+ strategy in Madagascar, but its mandate will evolve over time.

The members of the PCP-REDD+, summing up 28, are allocated as follow:

- 6 representatives of the public administration (Forests and environment, Agriculture, Livestock, Energy, MATD)
- 3 representatives of the malagasy civil society
- 2 representatives of the community-based federation
- 3 representatives of the private sector
- 5 representatives of the technical and financial donors
- 5 representatives of the national environmental associations
- 2 representatives of regions
- 2 Universities and research institutions

- ***The REDD Trust Agency (AFR)***

The trust agent will be the accounting agent and can be an existing, sustainable, independent, and auditable structure. It manages funding and budget limits based on donor regulations and is in charge of financial reporting. It will ensure compliance with procurement, financial management, and treasury procedures.

This unit manages disbursement and accounting for the program. Its role is to ensure compliance of activity funding with procedures.

Its main tasks include:

- Accounting management,
- Management of planned disbursements,
- Development of budget and expense assessment charts,
- Management of cash flow,
- Production of financial statements, and
- Audit of compliance with procedures at the BER level.

The AFR will be an institution created under Malagasy Law, directly contracted by the donor and recognized for its independence and transparent procedures. It plays the role of financial management office. The structure will be subject to an independent audit, and the audit report will be made publicly available. The AFR will be jointly selected by the administration and the donor, with the following features:

- An independent private or semi-private entity created under Malagasy law,
- It has been active in the environmental sector for at least 10 years,
- It is under private management. It has manuals of procedures validated by the donor and PCPR,
- It is already financially autonomous, and
- It is auditable.

In addition, the AFR:

- Will financially report (treasury, budget) to the PCPR and its donor,
- Will report on accounting to it(s) donor(s).

- ***The REDD Executive Office (BER)***

Roles and Responsibilities

The BER is the body in charge of technical management of the program activities. It ensures that activities and studies apply recognized standards. It commits expenses.

Its main tasks are to:

- Ensure that the REDD preparation program participates in all ongoing discussions under the major initiatives of the forests and environment sectors (development of policies, strategy documents, sectoral programs, etc.)
- For program management:
  - Design and implement all program management tools : manual of procedures, implementation manual, position description, computer tools, communication tools, monitoring tools, budget tools, etc;
  - Participate in development and operational implementation of the financial management handbook of the program;
  - Develop monitoring indicators and ensure validation. Establish monitoring structure;
  - Prepare the annual activity plan including budget, to be submitted to the PCPR and donors;
  - Prepare CIME and PCPR meetings. Monitor and translate decisions into action plan and monitoring plan;
  - Translate the work plan into a quarterly operation plan : technical plan and budget commitment plan, treasury plan, procurement plan, and mission plan;
  - Develop periodical technical activity reports: quarterly, semi-annually, annually; and
  - Develop and regularly update a program chart, to be continuously communicated to PCPR.
- For activity management:
  - Ensure programmatic link between REDD preparation activities and all ongoing initiatives in the environment and forest sector;
  - Technically develop ToRs of planned studies and activities. Consult decision-makers and key players on these ToRs. Have PCPR validate the ToRs;
  - Initiate selection procedures and support evaluation committees. Technically prepare contracting of service providers;
  - Prepare and formalize creation of *ad hoc* committees for the main planned activities. Work on administrative operations of these committees;
  - Monitor service provision: administration, meeting, mission, interim report, contacts with main decision-makers;
  - Monitor indicators and activity milestones. Delegate monitoring at regional level if needed;
  - Administratively validate technical studies. Verify compliance of outputs with requirements;
  - Participate with PCPR on validation of recommendations and proposals; and
  - Ensure dissemination and communication of deliverables and proposals of activities/studies.
- For activity implementation:
  - Participate with PCPR in developing REDD+ strategies and technical components;
  - Participate with PCPR in developing management arrangement to take place after 2013;
  - Participate in discussions for the development of the MRV system; and

  - Participate in detailed assessment of strategy options and final development of REDD+ strategies.

- For interactions with stakeholders
  - Prepare a semi-annual or annual communication plan with budget, to be submitted to PCPR. Have communication tools be prepared in French and Malagasy. Ensure communication of "main results" (decisions, interim documents, etc.) to relevant players. Ensure regional communication through partnerships with local players;
  - Ensure detailed communication to all stakeholders on ongoing activities and studies;
  - Develop a website to share all information on the program and the process; and
  - Represent the program in all technical meetings related to REDD.
- For budget
  - Commit all program expenses;
  - Verify technical truthfulness of accounts in all budget commitments; and
  - Insert budget commitments in the program outlook chart.

Organization

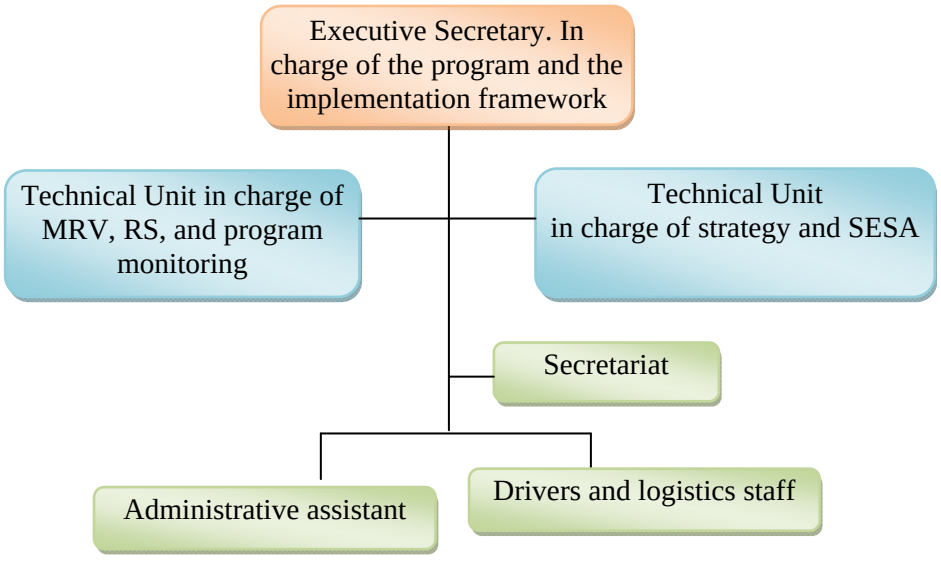
The office is created by inter-ministerial executive order. Its flowchart will be flexible with multi-dimension capacities.

It will be supervised by an Executive Secretary to be recruited by tender. (X) support technicians will be in charge of the various RPP components. There will be administrative assistants, secretaries, and logistics staff.

The BER will be technically and financially independent. An annual activity report will be developed, including:

- The technical progress report of the program, with assessment of prospects and the work plan for the work plan for the following year;
- The support report to CIME and PCPR activities. Communication reports will be described.
- The activity report of the office including tasks and expenses; and
- The report on budget commitment.

The PCPR grants discharge to the activities of the BER.



The Executive Secretary of the REDD readiness (SE)

The Executive Secretary is the technical and budget manager of the program, signing on behalf of the BER and the program.

The SE main tasks include:

- Ensure that the BER plays all its roles;
- Specific technical tasks include:
  - Preparation of the annual work plan. Development of operational quarterly plans,
  - Development of BER technical and budget reports,
  - Support to PCPR in developing the institutional arrangement for the implementation framework,
  - Steering of activities to develop the implementation framework (Component 2c),
  - BER communications, and
  - Supervision of the establishment of management and communication tools of the program
- Provide discharge for studies and services;
- Organize, recruit, and train BER staff;
- Supervise all required technical and administrative tasks;
- Commit expenses. Authorize financial commitments for activities and studies; and
- Represent and commit the program towards third parties and service providers.

The SE is an expert recruited by tender, with the following profile:

- Baccalaureate+ 5 with proven experience in management,
- 10 years of experience in the environmental and/or forest sector. Experience at regional level or with local communities a plus,
- Very good technical knowledge of REDD and climate change processes,
- Very good writing capacities, and
- Good coordination capacity.

Support technicians

Technicians are in charge of the RPP specific components and program supervision. Main tasks include:

- Participate in implementation of all management tools of the programs, specifically for their applicable components: annual plan, operational plan, monitoring indicator, budget, communication, etc.
- Develop activity reports for the components they manage;
- Prepare activities and technically develop ToRs;
- Support the selection, evaluation, and contracting process of service providers;
- Assist all support processes to the activities in their components (committee creation, organization of meetings with other sectors, etc.);
- Monitor services: administration, meeting, mission, interim report, contacts with main decision-makers;
- Monitor indicators and activity milestones;
- Administratively validate technical studies. Ensure compliance of outputs with requirements;
- Participate in the final development of recommendations and proposals;
- Support the Executive Secretary in planning, dissemination, and communication of deliverables and proposals of activities/studies; and
- Support the Executive Secretary in all tasks to implement the program.

There will be two technicians:

- Technician 1 will be in charge of:
  - Components 3 and 4 (reference scenario, MRV) and related consultations and
  - Program monitoring and evaluation (indicators, monitoring system).
- Technician 2 will be in charge of the strategy component
  - Steering Components 2a, 2b, and 2d and
  - Support to the Executive Secretary of Component 2c.

Main management tools of the BER

To ensure autonomous commitment and transparent procedures, tools to be developed for the BER include:

- Technical implementation manual for the supervision of activities planned in the RPP. It includes: roles and responsibilities of each player, framework of planned activities (activities and sub-activities, indicators, objectives, implementation means, global schedule, estimated budget, etc.);
- Monitoring and evaluation system of the program (indicators, milestones, collection forms, etc.) and format of activity chart;
- Budget management, financial management, and procurement handbooks;
- Database software for program documents and information;
- Creation of a website to share all information validated by the BER.

3. Representatives of the various sectors in CIME and the REDD Platform

- *Mining sector*

Representatives of the mining sector will be able to make decisions on behalf of their department and therefore they will be designated by ministerial order. Their mission will be to:

- Ensure integration of the "climate and REDD" dimension in the sectoral policies and strategies, and
- Ensure that all research, exploration, and exploitation agreements and conventions comply with existing standards, laws and regulations on environmental protection (MECIE), and established strategies under REDD, both for small-scale and large mining operations.

- *Energy sector*

The representatives of the energy sector will be able to make decisions on behalf of their department and will therefore be designated by ministerial executive order. Their mission will be to:

- Ensure integration of the "climate and REDD" dimension in the sectoral policies and strategies,
- Ensure compliance with all existing regulations on environment and forests, during delivery of authorizations and conventions,
- Collaborate with the environment and forests sector and the REDD Platform to assess the feasibility of the promotion of large-scale renewable energy in Madagascar, and
- Promote large-scale reforestation for energy use, notably in charcoal production areas supplying the major cities.

- *Tenure and land planning sector*

Representatives of the tenure and land planning sector will be able to make decisions on behalf of their department and will be designated by ministerial executive order. Their mission will be to:

- Ensure integration of the "climate and REDD" dimension in the sectoral policies and strategies,
- Clarify carbon ownership, in relation with the environment and forest sector and CT/REDD, based on tenure,
- Advance in implementing the decentralized tenure reform, and examine community ownership,
- Clarify tenure and management transfer of forest resources, in collaboration with the forest administration,
- Ensure complementarity and synergy between SRAT and forest zoning, and
- Contribute to the prevention of land-use conflicts (*tavy*, pasture, mangrove, agricultural lands, forests, mining, oil, etc.)

- *Agricultural sector (agriculture, livestock, fisheries)*

Representatives of the agricultural sector are able to make decisions on behalf of their department and will be designated by ministerial executive order. Their mission will be to:

- Ensure integration of the "climate and REDD" dimension in the sectoral policies and strategies;
- Ensure compliance of existing regulations on environmental and forest protection, notably surveillance of *tavy* and agricultural clearing;
- Ensure promotion of high-yield rice cultivation: two technical tools, SRI and SRA, have been popularized to improve rice production. This aims at compensating for production deficit (Madagascar still imports rice) but also at providing significant sources of revenues to farmers. However, it has been demonstrated that *tavy* rice production is cheaper than in rice fields (Brand et al, 2002). In addition, rice cultivated on *tavy* is harvested at a time when rice produced using other systems is not available. Therefore, the actual impacts of such techniques on deforestation are unclear;
- Ensure promotion of shade cultivation: driven by the French Cooperation, Madagascar developed its own experience of direct sowing and agricultural soil management, through the GSDM group, including a research center (FOFIFA) and popularization NGOs (TAFA, ANAE,etc). Such arrangements help manage soil fertility and effectively address erosion. Results are encouraging, especially in supervised areas (Highlands, Alaotra...). These techniques have not yet been applied to forest edges;
- Ensure delineation of main production basins away from forest ranges. This is a welcome initiative and will move migration flows towards these basins in the long run. Implemented migration policies for the mid-west region were successful, but insecurity in rural areas is a blocking factor as new migrants are discouraged by raiders;
- Promote better management of pastures, ensuring ownership by beneficiary communities so that they are viewed as crucial actors for the sustainable development of livestock farming; and
- Contribute to the prevention of land-use conflicts (*tavy*, pasture, mangrove, agricultural lands, forests, etc.)

- *Transport and road sector*

Representatives of the transport and road sector will be able to make decisions on behalf of their department and will therefore be designated by ministerial executive order. Their mission will be to:

- Ensure integration of the "climate and REDD" dimension in the sectoral policies and strategies, and
- Ensure enforcement of and compliance with all environmental standards or road construction, at all levels, notably in forest areas.

- *Finance, planning, economy, and budget sector*

Representatives of the finance sector will be able to make decisions on behalf of their department and therefore, they will be designated by ministerial executive order. Their mission will be to:

- Ensure contribution of the government of Madagascar in implementing the REDD+ strategy in Madagascar, notably within the various sectors,
- Facilitate financial management by the AFR, and designate a representative to be a statutory auditor,
- Ensure information sharing on national plans and programs (reference scenario), and
- Ensure availability of socio-economic data relevant for development activities in Madagascar

Annex 1a-2. Relationship between U-REDD, PCP-REDD+ and the BER

Institutional relation

- The U-REDD is member of the PCP-REDD+, moreover it plays the role of secretarial department of CIME during the meetings on the REDD+. The U-REDD intervenes in getting in touch the process REDD+ with the decision-making policy and strategy of the concerned sectors. Its role is to guarantee the issues in coherence of the activities REDD+ with the forest Policy. The U-REDD assures the integration of the decisions taken within CIME in the PCP-REDD+. Members are in permanent contact with CIME, and the constant meetings on the REDD+ can be held every 6 months. The U-REDD is a long-lasting structure whereas the PCPR exists only in a limited time to the REDD+ preparation period.
- The PCP-REDD+ as platform assures the links between the various stakeholders and the sectors concerned on the REDD+, and keeps an eye on their participation.
- The PCP-REDD+ and the U-REDD maintain a regular contact with CIME.

Piloting and coordination of the preparation of the REDD+

- PCP-REDD+ is the entity in charge of leading and coordinating the preparation to REDD+ and the implementation of technical components
- PCP-REDD+ ensures mobilization of technical and financial support
- The PCP-REDD+ ensures the resolution of the cross sector conflicts, and if necessary have them clarified in front of CIME
- The regional forest commissions will relay the PCP-REDD+ at the regional level, from the preparation to the implementation of the REDD+ and keep an eye on the participation of the technical services and decentralized involved communities

Operational aspects of the preparation of the REDD+

- The BER ensures the operational implementation of the activities of REDD+. It sets up an annual planning and reports in the PCP-REDD+, through annual reports.
- The AFR ensures the provision of the necessary funds according to the planning established by the BER and certified by the PCP-REDD+.
- The fiduciary Agent plays the role of accountant and handles finance, makes the procedures relevant. The BER manages allocated funds according to their planning validated by the PCP-REDD+, and keep an eye to its functional use.
- The BER participates together with the PCP-REDD+ in setting up the elements of the REDD+ (strategies REDD+, MRV, management mechanism)

Validation of the outputs

- The PCP-REDD+ approves annual workplan and technical and financial reports
- The PCP-REDD+ ensures the validation of the activities and mobilize the competent expertise.
- THE AFR is audited by an independent entity (external audit), but also reports to the PCP-REDD+

Annex 1b-1. Results of consultations held at central level during the R-PP development

Entity	Issues - Concerns	Answers – Follow-up
CT REDD (startup meeting on the services of the SORITRA and ONFI consulting firms)	Under REDD, which definition should be given to forest in Madagascar, given the numerous definitions used in terms of surface, deforestation aspects, and forest degradation?	The selected definition is the FAO definition of forest, estimating the country's forests at 12 million hectares ;
		The R-PP is based on this definition and differences between deforestation and forest degradation are explained;
		A consensus definition is the foundation for the development of the reference scenario, strategy options, monitoring system, and MRV
	Correctly differentiate and classify deforestation and forest degradation causes: root causes, direct causes, future causes;	Causes are classified based on various criteria and variables in the R-PP;
		Future causes include international causes and climate change and are identified from sectoral strategy plans;
		Root and direct causes are included in and discussed under Components 2a and 2b;
		The MRV component takes future and international causes into account. Monitoring of such causes is partly included in the MRV and partly in an environmental and social monitoring system ;
	Isn't "energy" a full cause, not included in the "unsustainable forest management" cause?	Energy is viewed as a root cause in the RPP. Differences should be made between forest-related causes and external causes;
	What are "REDD forests" and how should effective and efficient actions and interventions be conducted?	"REDD forests" are designated by consensus. Field actions will be targeted;
		For each strategy option, intervention levels are defined: national, regional, local, administration, civil society, private sector, etc.
		Based on the assessment of the existing situation and REDD pilot projects, strategy options will take integrate successes, notably of actions against deforestation;
	Isn't food security a root cause?	Food security is discussed under the issue of dependence on natural resources in the RPP.

	What about causes related to population and poverty?	Population and poverty issues are included in all root causes.
	Are administration weaknesses a root cause?	In the R-PP, the administration weaknesses cause is discussed under governance and insufficient resources and coordination among sectors.
Ministry in charge of Agriculture	The main causes of deforestation and forest degradation are: • Weak agricultural productivity in general; • Unsustainable land uses : Rudimentary agricultural practices, the population living near forests only practices clearing; • Forest pastures and use of fires for pasture renewal; • Collapse of prices of cash crops (East region); • Incentives for corn production (West region); • Prohibited cash crops cultivation in forests (sugarcane for local spirit, indigenous tobacco, etc.); • Global inconsistency at political level (In 1975: "land belongs to its tiller").	The R-PP took all these considerations into account in terms of root causes and under the strategy options.
	Other problems leading to decapitalization of agricultural exploitation: • Rural insecurity; • Settlement of farmers in forest areas; • Social problem related to succession and heritage; • Conflicts between livestock and cultivation farmers; • Access to inputs;	Move towards a green revolution. The sector has strategic frameworks to address: • An agricultural sectoral policy promoting sustainable agriculture and taking the environment into account (to be integrated in all programs/projects); • Development of conservation agriculture by the SDM – FAO group; • National rice cultivation development strategy; • National strategy on seeds; • National strategy on fertilizers.
		This aspect is included in the ToRs of the study detailing deforestation drivers during the development of the strategy
	How should a migration program to displace local populations from forests be conducted (in areas of strong anthropogenic pressure)?	The REDD strategy cannot directly address causes such as migration. It has to analyze them, formulate recommendations for reform, and work in synergy with the relevant sector.

Directorate-General Energy	Root causes of deforestation and forest degradation include: • Production of fuelwood (charcoal and firewood) • Used carbonization techniques (traditional) • Low access to non-wood sources of energy (availability, price, etc.) • Equipment used for fuelwood (traditional braziers) • Illegal logging • Industry organization	The R-PP addresses these root causes under Component 2a One of the 3 strategy options addresses the energy issue
	Experiences and lessons learned show that in the next 10 to 20 years, the most used domestic energy will still be fuelwood as other energy types are not competitive	The "Energy-Forests" Committee will be included as stakeholder for the REDD+ preparation
Directorate-General Mining	Confirmed root causes include: • Illegal operations and rushes • Inconsistent spatial land-planning (overlap of mining and forest resources) • Inherent impacts of mining activities and secondary effects (infrastructure, migration, etc.), mostly in areas where small-scale activities and gold washing are concentrated • Lack of monitoring and control of mining activities • Missing regulations (provision for environmental restoration) • Weak coordination among sectors and between sector/ territory	The R-PP addresses all causes under Components 2a and 2b. The cause "Inconsistency of spatial land planning(overlap of mining and forest resources)" is described as "overlap of mining and forest resources" and analyzed as a constraint for REDD+ and will be developed during preparation to expand the status assessment Enhance inter-sectoral approach (rushes) • The R-PP addresses all causes under Components 2a and 2b. • The assessment done with the national tenure reform program (PNF) has enhanced leads to solve tenure issues (enhance decentralization of tenure management to better manage access to forest soils, an important aspect related to clearing) At the strategy option level: • Enhance integration of the forest dimension into the SNAT and the SRAT • Enhance sectoral approaches; • Standardize spatial planning tools (SRAT and regional forest zoning, etc.); • Continue spatialization of forest areas ; • Continue and enhance relative tenure security (SFR)

Directorate-General Meteorology	The Ministry in charge of Meteorology is the IPCC (Inter Governmental Panel on Climate Change) focal point in Madagascar	• Climate risks in forest areas and reforestation (studies) • Better integration of climate and forests/environment aspects in the SNAT and the SRAT • Studies on opportunities of renewable energy (climate aspect of solar, wind, hydraulic sources of energy) • Establish and /or improve weather stations located in forest areas • Improve and pursue inter-sectoral collaboration
	Under the establishment of the SNAT, such as the forest dimension (reforestation aspect, etc.), the climate dimension is not adequately taken into account.	
	Existing weather stations are very old: they were implemented to serve the transport sector only, but not the development aspect	
Koloharena SAHAVANONA National Confederation	Koloharena are located near forest corridors	Issues discussed for the agricultural sector are confirmed Koloharena issues are handled with the agricultural sector and are already taken into account in the related strategy options • These issues are discussed in Components 1a and 2c of the R-PP
	Objectives: • Agricultural practice without environmental destruction; • Improved techniques ; • Improvement of livelihoods of members	Uncertainties at each methodological level are not explicit. Results cannot be used based on international standards and improvement should be made. The LCM can be used at national level to locate deforestation. There is no carbon legislation but it is assumed that carbon belongs to the land owner.
	Concerns: Areas are not enough for families given their prospective development by 2013, leading to potential leakage	
Directorate-General Forests	For the forest administration, key issues for REDD include: • The management arrangement; • The implementation framework; • The strategy options.	• Priority selection of the definition of forest in Madagascar. • Ongoing: funding of an ESSA-Forêts thesis on the identification of criteria for the definition of forest in Madagascar, a potential basis to select the definition. • The definition should be selected based on both the obtained benefits, by defining a threshold, and the monitoring costs. • The national baseline should be developed with national data and take into account deforestation location and

		quantity. • The cost is too high if the FORECA REDD methodology is applied at national level. All results of REDD pilot projects should be published and shared to capitalize lessons learned for the development of the national scenario.
Conservation International (CI)	Deforestation assessment 1990, 2000, 2005 Projected deforestation (reference scenario) *Methodology*: Supervised classification (manual), LCM, historical trends *Challenge*: selection of variables, insufficient data, perceived deforestation reduction : implementation of protected areas Monitoring of fire points (50m²): number is known but not the burnt surface area. Other point discussed: Carbon legislation	Different years – impossible to compile or compare Regular acquisition of satellite images can be suggested as REDD measure Different processing method based on desired objective Required common basis for REDD. Errors and uncertainties should be specified at each processing level. The evolution matrix is interesting (especially for the MRV system) as it allows monitoring of forest cover area and use changes. Under REDD, ONE can be in charge of the national database due to its structure and capacity.
PGM-E/GTZ	Monitoring and evaluation of all environmental indicators of MAP (SNISE): currently suspended Different definitions of forest : definition : basis for the selection of RED, REDD et REDD+ Extrapolation of the regional baseline - Location Quantity (historical and projected) REDD FORECA Project: a number of methodology results have been or are being published, giving an overview of the locally-based approach. Reduction of deforestation 2000-2005: administrative policy, transfer of natural resources management, auction 2007, Jariala sustainable management), reform of the forest administration.	Methodology proposal at national level: Identification of threats at local level and projection of parameters at national level.

National Environment Office (ONE)	Environmental Outlook (Tableau de bord environnemental (TBE)) TBE : national in 2 versions : 2002 - 2008 TBE of 20 regions Project to update maps every 3 years but acquisition of satellite images remains a major issue Different result for the various analyses by different institutions Vision of deforestation in Madagascar Result of the forest policy in Madagascar: SAPM, management transfer, etc. Degradation/depletion: difficult or even impossible evaluation Image reprocessing 2000-2005 1990 Processing : images from 1989-1993 2000 : images from1999-2000-2001 2005 images from 2005 Statistics of land-use trends Evolution matrices *Establishment of database software in each region* to facilitate data update, to be filled and managed in each region.	Experiences on determining the location of deforestation and revenue-sharing can be used at national level.
Etablissement Supérieur des Sciences Agronomiques (ESSA-Forêts)	Study of ESSA-Forêts with REDD FORECA : thesis of 4 studies: market, socioeconomic, biomass inventory, and GIS Factors : demographics, market, agricultural Challenges: accessibility, reliability and representativeness of sites, Reduction of deforestation: mainly due to environmental policies. Structure and operation of ESSA-Forêts: Associate students in studies (data collection, fieldwork), dissertation or thesis, applied research lab (service provider)	Capitalizing these studies is important as the applied method helps obtain more precise results adapted to Madagascar. Costs/benefits analysis are possible.
WCS	Development methodology of the regional model: LCM, use of various variables considered static: Density, distance to village, Distance to road, permanent watercourse, population, slope, and distance to protected areas. Challenge : Population variable (up-to-date data and reliability) Historical approach	Material, financial, and technical support is required to manage these data. On a methodology point of view, IEFN0 is a good example for the national inventory. A similar inventory to IEFN0 is an option, however costly.

	Reduction of deforestation Durban Vision: creation of new protected areas. Revenue-sharing and application potential at national level : 50% Local communities 15% Administration 25% Management Makira protected area.	To assess land-use trends, the same language and concept should be used at both national and project levels.
WWF Good planet (PHCF)	Development of allometric equations Studies of soil carbon Upcoming: Use of LIDAR to assess degradation.	Currently under restructuring Objective: coordinates the national information system Update of the national map Classification of land uses
Information system directorate (DSI) / Ministry of the environment and forests	Existing data: Several old analog maps IEFN0: systematic approach in 1996 / forest classification in Madagascar (DFS, FTM). IEFN1: DGEF, 2000-2001 sample, Ministry, ESSA - forêts/FTM. National forest estate CI: 2008 (Vegetation 1990-2000-2005): CI - WCS - ONE – FTM. National (2002) and regional (Jariala, 2006) forest zoning Reforestation: Quarterly report MAP 200 ; see large plantations (Haute Matsiatra and Haut Mangoro, railroad) **Issues:** No or very little precision on uncertainties Different methods mainly due to different objectives Different land use classification. Therefore, results are not comparable.	Can play an important role for the training of the GIS technician for the MRV system
Foibe Tao-saritanin'i Madagasikara (FTM)	Participation in the national forest inventories IEFN0 and IEFN 1 Has data and satellite images Current position: FTM is declining : each organization has its own GIS with various languages and concepts (many are not consistent with the national reference) Cause: high cost	Can play a role for the MRV
IOGA	Member of the remote sensing technical committee GIS specialist training	Formation and members of this platform to be reviewed – integration of other non-governmental entities Already considered under the R-PP

		but the river aspect should be enhanced, and not only the terrestrial aspect Can play a role for REDD
ATW Géosystème	Consulting firm specialized in GIS Development of the Amoron'i Mania SRAT Reseller of satellite images	Integration of observations and remarks in the R-PP strategy options (especially strategy option 7 on protected areas) Strategy options on law enforcement will also be integrated both for the Protected Areas component (Option 7) and Option 8 on the improvement of intervention means of the Administration Component 2d on the ToRs of the environmental and social assessment integrates concern on economic feasibility of safeguard procedures All issues will be integrated in Component 2c of the R-PP. This component presents the key principles of the REDD implementation framework, the institutional framework and the strategy measures, carbon governance, roles and sharing of revenues from transactions
Ministry in charge of Transport	Ministerial department to be part of the Coordination Platform for the REDD+ strategy preparation The Ministry and attached organisms have environmental units but need support (financial, human) Sound experience in integrating World Bank procedures in environmental recommendations On strategy options: enhance collaboration between both sectors (Transport –Forests) for the sub-(watercourse), a potential source of degradation (e.g. Pangalanes Canal)	Both options are addressed in the RPP Can play a role for REDD Special focus on studies under Component 2a on Assessment of land-use, forest policy, and governance. The ToRs of the study on the causes of deforestation and forest degradation under this component should assess among other elements the results, efficiency and effectiveness of MECIE, specifically for major works.

		The Ministries in charge of public works and transport currently have a manual of procedures on environmental and social impacts. Environmental management tools and advocacy actions are also planned by both departments.
NGOs and structures working in the conservation/protected areas including MNP, FAPBM, Tany Meva, CI	**On the strategy options related to protected areas** Lessons learned from CI experience in revenue generating activities (direct contracting, grant, etc.) Law enforcement for protected areas– lessons learned from the MAKIRA, CAZ et COFAV protected areas to avoid leakage **On the application of World Bank safeguard procedures**: Outcomes on the creation procedures of protected areas show that such procedures are costly (financially) – what provisions for REDD? **On the implementation framework** Studies / discussions to define the strategy on the use carbon funding in protected areas (new protected areas) and on the carbon revenue sharing mechanism Degradation should be monitored by the protected area manager (tools, etc)	
Directorate for Environmental and Social Impacts (DISE) of the Ministry of Public Works	Proposals on strategy options The ministry has a directorate in charge of environmental and social impacts Main causes of deforestation related to the sector include: • Roads: construction and extension, restoration and maintenance • Quarries and storage areas • Infrastructure This department has carried out several initiatives to integrate the environmental and social dimension: management of complaints, capacity-building, upstream integration of environmental and social aspects	

	before selection of technical options Public investment projects subject to EIA and PREE) : over 60% Currently a manual of procedures on environmental and social impacts is being finalized and advocacy and awareness actions are planned The Directorate also has experience with the World Bank safeguard policies. Strategy options • Support capacity-building of stakeholders (training, awareness, communication) at many levels • Enhance collaboration between both sectors (Public works and forests) especially for restoration • For public investments of major works, it is difficult for the Ministry of Public Works to take charge of the 0.5% of investment fees, to cover fees for EIAs of major infrastructure. Therefore, MECIE has limited application.	

Annex 1b-2. Report of the national R-PP validation workshop

SUMMARY REPORT OF THE NATIONAL R-PP VALIDATION WORKSHOP

ANTANANARIVO, MADAGASCAR, 07/19/2010

A- PARTICIPANTS

About one hundred people from the capital city and the regions participated in the national validation workshop:

Category	Number
Government	42
Local and international civil society	48
International partners	03
Private operator	01

B- OBJECTIVE

This workshop was essential to:

- Present the current content of the R-PP
- Gather suggestions for improvement
- Validate proposals to prepare the national strategy, including:
  - Activities,
  - Approaches and methodologies,
  - Key principles,
  - The institutional arrangement, and
  - Strategy options.

C- PRESENTATIONS

1- ***Objectives and methodology of the workshop*** (Director-General Forests, Co-chair of CT-REDD, Julien Noel RAKOTOARISOA)

- Madagascar commitment to the REDD process
- The progress of the R-PP document based on FCPF deadlines
- Expectations of active participation, for better ownership of the vision
- Consideration of participants' expectations on the content of the R-PP, and collection of comments and suggestions
- Presentation of objectives, methodologies, and agenda.

2- ***The REDD process, including R-PP development*** (Co-chair of CT-REDD, Jean Roger RAKOTOARIJAONA)

An overview of the REDD process was given, focusing on the links between REDD+ and CT-REDD, as well as on the development process of the R-PP.

- On REDD+: The rationale of the process as a compensation mechanism for the reductions of emissions due to deforestation and forest degradation in developing countries was explained. Possibilities, opportunities, and results in Madagascar were also highlighted, and discussed in light of the potential support from FCPF under the R-PP.
- On CT-REDD: member institutions were presented, as well as its main mission to plan, steer, and coordinate the development of the R-PP.
- On the R-PP, the presentation summarized the range of activities and approaches, as well as the place of the R-PP in the REDD+ process, in the planning phase. It was also explained how the R-PP development is based on consultations at both regional and national levels, associated with additional consultations at institutional level.

3- Component 1: Organize and Consult **(Monique ANDRIAMANANORO, CT REDD)**

The presentation highlighted the established institutional and consultation arrangements for the R-PP development, as well as Components 1a and 1b, respectively on the national REDD+ readiness management arrangement and stakeholder consultation and participation. The roles and responsibilities of readiness structures, consultations, selection of levels and location of consultations, the consultation plan and targets, decision-making process in consultations, consultation frameworks and the information and communication strategy in the R-PP phase, and consultations results were explained.

4- Component 2: Prepare the REDD+ strategy (Pierrot RAKOTONIAINA, CT REDD)

The presentation focused on the analyses of the causes of deforestation and forest degradation, opportunities and constraints for REDD+ and 3 strategy options: improving forest governance, managing access to forest areas, and reducing dependence on resources.

5- Components 3 and 4 : Develop a reference scenario at national level and Design a monitoring system –MRV (Charles RAKOTONDRAINIBE, CT REDD)

I. Develop a reference scenario (Component 3)

Two points were highlighted: the reference scenario framework and prospects and the proposed approach to develop the reference scenario. The main suggested assessment criteria were explained.

II. Monitoring system

The presentation discussed the implementation framework for the monitoring system and aspects related to carbon stock assessment: selected technologies, existing and needed capacities, or evaluation of the range and roles of each stakeholder. Proposed approaches to design the monitoring system at different levels (national, regional/local) and monitoring of other benefits were presented.

III. Capacity-building

Various areas of needed capacity-building to implement both components were presented: remote-sensing and analyses of satellite images, analyses/interpretations of LIDAR results, experience in spatial modeling: LCM, etc., and leakage accounting.

D- ISSUES RAISED AND ANSWERS

Category	Issues - Concerns	Answers – Follow-up
Stakeholder Consultation	Difficulty to find resolutions from regional consultations in the R-PP Strategy options: valorize consultation results, develop them for innovation	Follow-up on questions from the regional consultation workshop, national validation workshops, feedback from the review committee, and public consultation are annexed
	Consult at district level, include livestock farmers and ensure that the actual sources of pressure are consulted	Gender aspects are included in the consultation approach. The various actors to be consulted are presented in the consultation part.
	Gender issue: to be integrated in the consultation mechanism and enhanced in the document	
	Information flow (Ex: Morondava was not informed on REDD)	The PCPR members working in the field will be asked to disseminate information at local level during preparation.
	IEC on REDD: translate presentations in Malagasy and simplify	Presentations and tools during regional consultations and national validation were in Malagasy and French. The validated RPP will be translated and widely disseminated.
Implementation framework	Possible revision of the current structure to be more operational and flexible than the CIME	In addition to valorization of existing structures, one of the principles for the creation of readiness management structures is the balance between technical and administrative capacities.
	Structures to be implemented should take into account frequent crises and be depoliticized to the extent possible. UP REDD should be independent from the political context.	
	Specify the role of the Directorate for Information Systems (DSI) within the Ministry in charge of environment and forests	DSI will be asked to contribute to information dissemination on REDD+ on the Ministry website
	COBA (Local communities) must integrate CT-REDD Expand CT-REDD at regional level Regional representatives as CT-REDD members	Representation of the civil society and the private sector in the PCPR will be enhanced, through integration of other associations and/or environmental organizations, notably those directly working with local communities living near forest resources. To better include regional actors, the Regional Forest Commission will relay the Platform at regional level, from REDD+ preparation to implementation

Category	Issues - Concerns	Answers – Follow-up
Lessons learned (governance, pilot projects, etc.)	The forest zoning should be completed for the entire country, for the spatial definition of REDD	Zoning of the 22 regions of Madagascar is complete, and data are being analyzed.
	Vision for forest management in Madagascar: REDD+ could be a way to improve forest governance	These elements were included in the parts on lessons learned and strategy options were revised accordingly
	What if the current introduction of REDD+ does not succeed or has no further outcome like GELOSE, over time? (Based on planning, initial GELOSE contracts should have been renewed after evaluation under the Ministry authority. As such evaluations did not take place, management transfers are still pending).	
	Include lessons learned from GIZC (Integrated management of coastal areas) Valorization of existing mechanisms (e.g. BV, GIRE/integrated water resources management)	
	Cross-cutting REDD: analyze sector policies in relation with deforestation	
	Tenure security Tenure offices: clearly define forest areas	
Early activities	Governance: which strategy will solve the rosewood crisis (illegal logging and export)?	Finalized and ongoing activities are described in the RPP et A support letter describing the governmental firm resolutions to address the illegal logging of precious woods is attached to the R-PP
	VOIs (local communities) are tired of promises : short-term solutions are required	
	Valorize opportunities such as Fast start funding for interim measures and pilot projects	Early activities are planned in the RPP
	Do not focus on money. There are possible actions, such as updating forest policies	RPP activities are of two sorts: activities that can be done in a status quo situation and those requiring resolution of the political crisis
	Get ready with or without the FCPF, identify activities that can be done without the institutional crisis resolution	

Category	Issues - Concerns	Answers – Follow-up
	Identify immediate measures, develop and implement an interim strategy? Develop a framework document to address deforestation /degradation	
Monitoring and evaluation system	Examine the monitoring system based on implementation (carbon, governance, co-benefits, deforestation and forest degradation drivers) and regional level	RPP Implementation is described under monitoring and evaluation The MRV takes into account monitoring of carbon, governance, co-benefits, and deforestation and forest degradation drivers at local, regional, and national levels.
	Which system is the most appropriate, a monitoring system by level or by strategy option?	
	Accountability should be clarified	The readiness phase clarifies roles and responsibilities of involved institutions, including their accountability
	How should leakage be correctly monitored?	Currently, pilot projects consider leakage at regional level: capitalization will take place during preparation
	The monitoring system structure should integrate other observatories (ROR, SIRSA, ONESF, SI MIRALENTA)	Results of existing observatories will be included in the monitoring of deforestation and forest degradation factors
Carbon ownership	Equitable compensation: who deserves to be compensated? Beware of negative incentives that might hold forests hostage	Effectiveness, efficiency, and equitability are criteria to be used in designing the compensation system. The experiences of Makira and other pilot projects were capitalized during the RPP development and will be examined in detail during preparation
	Carbon ownership and revenue-sharing: will the document reconsider distribution in Makira? Clarify or suggest a detailed analysis on "carbon ownership not related to land ownership"	

E- MAIN RESOLUTIONS

Despite a general trend for complaints, the following resolutions were taken:

- From now on, REDD+ is viewed as an opportunity to fund forest protection activities.
- Amendment of the R-PP was suggested based on relevant questions and integration of all interesting suggestions consistent with the principles of R-PP development
- **Proposals in the R-PP version were validated, subject to integration of acceptable recommendations and amendments.**
- The R-PP completion led by CT-REDD can continue.

Annex 1b-3. Comments from the Review Committee and elements of answer

	REMARKS/QUESTIONS/OBSERVATIONS	ANSWERS
Executive Summary	Highlight the specificities of the Madagascar R-PP taking into account lessons learned from PNAE	The executive summary was revised and improved, reflecting all essential points of each component and describing the specificities of Madagascar: biodiversity richness mainly found in forests, environmental management issues, commitment to REDD+.
General Comments	Table classifying issues and solutions and explaining how to address them over time	The R-PP is not the REDD+ strategy but only prepares such strategy. Subjects in remarks are integrated in proposed studies to develop the strategy.
	Which short-term strategy to address the rosewood problem and improve governance – including resources. Better describe the forest governance vision (e.g. current rosewood problems).	The REDD+ strategy cannot be the sole strategy to address traffic. While waiting for the completion of the REDD+ strategy, current efforts should be continued and enhanced. However, forest governance is one of the crucial points in the R-PP as the success of REDD+ depends on governance.
	Uncontrolled fires, insufficient reforestation, weakness of the Malagasy civil society, and lack of support to alternative livelihoods should be taken into account	These are included in the document and define planned studies
	Gender aspect	The gender aspect is taken into account in Component 2c (implementation framework). In addition SIMIRALENTA (gender observatory) is one of the observatories considered in Component 4b.
Component 1		
1a	Should CIME still be considered? What about an adequate structure?	CIME has the merit to be an existing inter-sectoral/inter-ministerial structure. If its operations were previously unsatisfactory, assess why and capitalize on lessons learned to revitalize the structure. The particular responsibility of the Ministry of the environment on CIME

		can only be enhanced. Component 1a/ C
	Simplify and clarify presentation of structures	Done. Structures are presented in tables, including definition of roles. Component 1a/ B
1b	Include remarks of all consultations and clearly indicate where to find them in the document	Done. Annex 1b-3
Component 2		
2a	Highlight lessons learned from REDD pilot projects	Pilot projects listed in part 2b and in annex 2b1; Lessons learned and results in part 2a.
	Describe the approach or lessons learned or documents or mechanism (2a), highlight important points and describe how they will be valorized in the R PP	Ongoing initiatives and lessons learned in the different regions were capitalized and presented as tables in part 2a, highlighting strengths and weaknesses with recommendations for the development of the REDD+ strategy
	Refer to the Environmental Policy Declaration by the Ministry, in 2010	The remark was taken into account.
2b	Describe the origin of the process leading to the strategy options to clarify the link with 2a	This was taken into account and summarized in the introduction of part 2b.
	For sustainable human development, promote GCF, enhance management transfers to valorize ecosystem products and services	Valorization of transfers and delegations of natural resources management are included, notably in Components 2b and 2c. Capacity-building under community management and management transfers are already planned in activity directions
	Highlight the link between human wellbeing and ecosystem wellbeing to demonstrate the integrated approach of the R- PP	This link is already taken into account in the strategic directions
	Address the causes of dd and not the symptoms; recommend effectiveness and efficiency *as selection criteria of the final option*?	Planned in the proposed studies.

	Develop a table classifying issues and solutions and specify how to address them over time;	These remarks are taken into account in part 2a and component 5 as urgent activities.
	Analysis of experiences: the analysis of individual reforestation is missing	Remark included. The related study is proposed and also included in studies on carbon ownership.
2c	Summarize this component	The component has been revised and is more concise.
	National approach vs. Regional approach: valorize experiences / areas such as Makira, CAZ (CH) & baie d'Antongil	These cases are called "REDD pilot projects" in the document and are described and proposed for valorization during implementation.
2d	MECIE does not address SESA	MECIE handles any environmental evaluation in general. EIA is a generic term defining the assessment of predictable environmental impacts of an activity (See Annex 1 of the MECIE Decree)
	Implication of the Ministry in the SESA?	Through its environmental department (DEE), the Ministry is the promoter of SESA.
Component 3 : Reference Scenario		
	No remark	
Component 4: MRV		
4	Timber exploitation for trade and domestic use should be accounted for in time and space before considering the national leakage to be nil (CH) LINK WITH INCLUSION OF PROJETS IN NATIONAL APPROACH	
	What about management of C credits of projects in the national registry?	
	Carbon stocks for different types of forests : ensure it is actually carbon stock and not aboveground biomass volume	Remark included Precision Table 15
	Definition Forests?	Proposed definitions are found in the document and a related study is planned (Component 4)

Annex 1b-4. Maps of location of participants in regional consultations

Annex 1b-5. Synthesis of regional consultation workshops for the RPP development

SUMMARY OF THE MAIN POINTS AND FOLLOW-UP OF THE 7 REGIONAL CONSULTATION WORKSHOPS FOR THE R-PP DEVELOPMENT

F- OBJECTIVES

The objectives of these workshops were to allow regional stakeholders to express their views and concerns on the REDD+ process and the R-PP document, in order to collect elements to amend and improve the R-PP.

G- MAIN POINTS AND ANSWERS

Category	Main discussion points	Answers – Follow-up
Consultations	More effective facilitation by regional players, for several practical reasons: knowledge of local context, local dialect, etc.	Put local PCPR members in charge of consultations organization
	Representativeness of participants	Other related sectors to be considered for the reform of CT REDD
	Needed improvement of presentations and other material (video, maps, etc.) to help understanding of participants with different education levels	Translation in Malagasy and/or local dialect of some tools and material (presentations, etc.)
	Consultations at district level and not only regional	The level of consultation planned in the R-PP document includes districts and regions The PCPR members will be called upon for the local level l
REDD+ and access to production means	Tenure issue in the global sense, related to REDD+ efforts	Enhancement of tenure security is included in the R-PP
	Use of territories of forest community management areas	

Category	Main discussion points	Answers – Follow-up
REDD+ and climate change	Climate change effects are felt by communities	The REDD+ strategy is part of a carbon-efficient development strategy
	R-PP and adaptation strategy to climate change	
Implementation	Strategy/mechanism so that VOIs can benefit from REDD+ funding	The REDD+ funding mechanism includes a local funding system (VOI)
	Needed regional support to monitor REDD+ co-benefits	Support at regional and local level is planned
	Management by VOI of dd mapping, for better local ownership	Anything at local level (VOI) is included in the participatory ecological monitoring framework
	Need to evaluate required capacity-building to implement the regional REDD+ strategy	Included in the development framework for institutional leadership for R-PP implementation
Reference scenario and MRV	Quantification of carbon stocks by region and not by carbon potential unit (forest or biome)	Quantification will be done at national level based on information provided by each project, but monitoring will take place at regional level
	Field monitoring and verification of information	Establishment of focal points to monitor R-PP implementation at regional level
Structural/organizational/institutional aspects	Enhancement of impact studies on forest management/conservation	Development of a strategic environmental and social assessment of the R-PP
		Required environmental and social impacts assessment for any new or extended protected area
	Creation of a REDD+ committee at regional level	This role is played by the regional Forest Commission
	Institutional synergy	Synergy between players in the rural development area to be highlighted, notably for implementation and monitoring
	Continuous awareness raising of local communities	The PCPR will be in charge of awareness/information at regional and local levels
REDD+ governance	Transparency of financial management during the R-PP phase	Financial management will follow a manual of procedures
	Alternative support interim measures	Propose early activities to mitigate pressure on forest resources
	Lessons learned on environmental management /conservation	Assessment of lessons learned during R-PP consultations

Annex 2a-1. Assessment of past deforestation reduction efforts

Results of the assessment of past deforestation and degradation reduction efforts			
Efforts	**Results**	**Strengths**	**Weaknesses**
Environmental sector			
Management delegation of protected areas of the Waters and Forests Directorate to Madagascar National Parks (MNP)	MNP currently manages over 1.7 million hectares of protected areas	Possibility to mobilize national and international funds Effectiveness of this sub-contracting type of management for *in situ* conservation Motivation of agents allowing them to focus on actual conservation issues. Respect on reforms committed by the MNP for its long term vision	MNP cannot count on its own capacities and has to develop a business approach to valorize conservation interest inside protected areas (PA). Repression of offence in protected areas is still a constraint for MNP agents. The code of protected areas has been developed but has not yet been promulgated. The system for funding use still goes through other institutions and causes delays in implementation
Economic incentives for communities on protected areas management	Share protected areas entrance (DEAP) with local populations living near PAs	Job creation for guide services, accommodation, restaurants, construction, craft, etc. Sale of agricultural products to hotels/restaurants visited by tourists; Creation of community enterprises or by community members in areas around PAs	The MNP does not have full command of the ecotourism industry (tourism attraction, infrastructure issues). Employment generated by ecotourism activities has attracted workers from other regions (more adapted to jobs in restaurants and lodging), a source of important migration.
Implementation of the ***System of Protected Areas of Madagascar*** (SAPM)	Initiated in 2005, creation of new protected areas under SAPM highlights the efforts to preserve a unique natural wealth, in harmony with human environment. The	Systemic conservation approach focusing on local communities to: conserve the representativeness of the national network of protected areas, protect species outside of the existing national network of protected areas, conserve viable populations of key species, ensure preservation of ecosystem services and	

Results of the assessment of past deforestation and degradation reduction efforts			
Efforts	**Results**	**Strengths**	**Weaknesses**
	objective announced in Durban in 2003 to triple the surface of protected areas (from 1.7 million hectares to 6 million hectares) has been achieved.	enhance economic management of ecosystems and natural resources for the development of the country, through participation of all stakeholders.	
Ecoregional approach of biodiversity conservation	Activities on regional support to agricultural intensification, environmental education, community management of natural resources, and support to environmentally-friendly enterprises, cf. USAID/LDI	Incentive approach (ecotourism development, community management, link between economic operators and producers, capacity-building of associations) Institutional synergy (selected strategic intervention areas are subject to the presence of qualified partners involved in biodiversity conservation) Use of technical results of other projects Targeting of areas based on economic potential (possible link between conservation enterprises and the market) Relevance of support measures to agricultural intensification, notably agricultural credit, creation of inputs supply center, establishment of technical dissemination center.	There is no scientific method to target the most relevant environmentally-friendly enterprises downstream of the agricultural market channels Intervention costs remain very high and it is uncertain if current ZSI conditions (access, high economic potential, etc.) can be achieved in other regions of potential application.
Conservation agreements Initiated with partners (Conservation International, Durrell Wildlife, etc.) for several years in different regions of Madagascar, always with the objective of	Experience with the 13 Conservation Agreements shows that there are positive impacts in the field, with responsible behavior towards natural resources and populations motivated by the	Benefits are subject to achievement of conservation objectives jointly defined during a participatory process. The agreement is concluded under the equivalent of a contract where each party is responsible of achieving its objectives, in terms of ecosystem conservation and monitoring and evaluation. For CI, compensation takes the form of	***The approach*** Lack of ownership and need to prevent social conflicts. There is no preliminary feasibility study to select projects, so that they actually meet the needs of the beneficiaries while fitting the local reality.

Results of the assessment of past deforestation and degradation reduction efforts			
Efforts	**Results**	**Strengths**	**Weaknesses**
enhancing structuring and ownership of communities in managing forest resources while providing sustainable solutions for the benefit of conservation and populations. A conservation agreement allows resource users, i.e. local communities, to choose resources conservation in exchange of benefits compensating opportunity costs.	incentives to conduct conservation efforts. Such experiences prove that the mechanism could be effective both for REDD+ benefit-sharing and for monitoring and evaluation of deforestation/ degradation. As a matter of fact, enhancement of conservation agreements includes introduction of deforestation and degradation monitoring by the communities themselves.	development assistance negotiated with local communities. If one party does not reach its objectives, the other can nullify the agreement. Conservation actions are paid in the form of direct payment, notably for surveillance patrols, or other in-kind benefits defined by the communities themselves.	Conflict management among members, between members and non-members, taking into account representativeness of micro-project targets, both at socioeconomic and spatial levels. Tenure issues. ***The conservation agreements*** Lack of community preparation to give them the needed autonomy to carry out development and biodiversity conservation actions. ***Organization mechanisms*** Communication and awareness efforts should be enhanced on the recommended zoning in the management plan and the objectives of the micro-projects, notably for members in remote villages and towns. Lack of capacity-building on organization, notably benefit-sharing and financial management.
Support to forest resources **management transfer** to local communities to rational management and valorization of forest resources	1,000,000 ha under management transfer to about 500 CoBa and VOI Over 200,000 ha planned in the **KoloAla** sites	Diversification of players in forest resources management Empowerment of local actors Creation of tangible benefits (jobs and sale of products) to managing communities COBA members are learning the forestry skills	Management is not always effective in the field Benefits are often very limited due to an uneconomic approach Limited management capacities in CoBa and VOI Insufficient support and monitoring by

Results of the assessment of past deforestation and degradation reduction efforts			
Efforts	**Results**	**Strengths**	**Weaknesses**
		Initiatives exist at community level Numerous experiences exist and are capitalized in several regions of Madagascar Existing methodological approach of management transfer Management transfer solves some workforce issues (control, maintenance) to replace the forest service.	the Forest Administration Before being operational, COBA are faced with competition by illegal logging NGOs in charge of transfer of rights are mostly interested by the number of signed contracts rather than their viability. The concept is limited as far as design and effectiveness of management plans are concerned.
Promotion of forest management delegation to private sector players	Management of existing PAs delegated to MNP Management of some new Pas delegated to national and international NGOs Pilot delegation of the Mandaratsy plantation to a private operator	Diversification of players in forest resources management Integration of professional players in forest resources management Creation of links between the private sector and community managers	Standardized procedures of management transfer have not yet been promulgated Contracting insecurity for private operators Lack of monitoring by the Forest Administration of management by operators
Development and implementation of more integrated forest resources management planning	Inter-ministerial order defining the national vision on forest management Forest zoning completed in 5 DREFT covering over 3,000,000 ha of forests	Integration of all stakeholders in forest resources management planning Existing planning tools at various levels Integration of validated zoning plans in the PRD and PCD	Continuing conflict on the protection-production distribution, even within the Forest Administration Lack of quantified objectives for forestry management (surfaces, volumes, etc.) Forest zoning has not yet been institutionalized
Development of clear norms and procedures for forest management and valorization	Attribution by tender of cutting permits and management contracts Tools for forest management and monitoring by the	Transparent and competitive procedures for logging and management contract allocation. Available effective tools for contract management and monitoring of operations	Standards have not yet been promulgated as regulations Many tools have not been mainstreamed or institutionalized

Results of the assessment of past deforestation and degradation reduction efforts			
Efforts	**Results**	**Strengths**	**Weaknesses**
	Administration		
Promotion of reforestation	300,000 ha of pine and eucalyptus plantations	Reduce pressure on natural forests Create employment and benefits	Unfavorable conditions (tenure, price of products, security, etc.) Little impact on clearing
Mining-Oil sector			
- Integration of environmental and social aspects in mining activities: laws and regulations, tools and procedures, structures - Establishment of mechanisms to solve mining-forests conflicts - Availability of the national map on geological resources - Decentralization and devolution of mining resources management, including environmental and social aspects Integration of environmental and social aspects in oil activities	Any mining activity is subject to an environmental assessment[1] SEA for World Bank projects[2] (PRSM and PGRM) on the development and governance of the mining sector Manuals, guidelines and guidance on EIAs for mining activities Regional mining environmental units are operational	Mining sector: one of the first economic sectors in Madagascar integrating environmental aspects Mainstreaming of tools on integration of environmental and social aspects	Lack of consideration of the environmental assessment for areas of high concentration of legal mining and gold-washing operations (strategic dimension) Lack of monitoring and control of environmental and social aspects for small and medium-scale operations Laws and regulations on rebates (general and mining) do not allow for their use for environmental aspects Effective EIAs for gold-washing, quarries, and borrow areas are limited
	Creation and implementation of the Mining – Forests Inter-ministerial Committee (CIMF) to standardize management tools of both sectors and address conflicts	Consultation and participation mechanism to solve PA – Mining or KoloAla – Mining conflicts Alignment of regulations of both sectors: (i) Integration of environmental and social aspects in the mining code and its enacting regulations (ii) New Management Code of Protected Areas (COAP) allowing presence of	CIMF is a consultative committee with limited resources, not a decision-making committee Lack of land-planning scheme (national, regional) Lack of a clear strategy to address illegal mining in general and in forest areas in particular

[1] Or EIA: Environmental Impacts Assessment, or EEP: Environmental Engagement Program for the various types of permits: exploitation, research, small-scale and quarries and gold-washing
[2] PRSM: Mining Sector Reform Project and PGRM Mineral Resources Governance Program

Results of the assessment of past deforestation and degradation reduction efforts			
Efforts	**Results**	**Strengths**	**Weaknesses**
Creation of mechanisms to solve oil-forests conflicts	Manual of procedures to address overlap of mining areas and new protected areas or KoloAla sites Inter-ministerial orders suspending mining permits in some forest areas (since 2004) Data sharing protocols between the 2 Ministries	mining activities in some categories of protected areas under certain conditions Alignment of databases of both ministries	Case-by-case processing of overlap issues with protected areas or KoloAla sites is time-consuming and quite expensive
	Dialogue / participation mechanism on environmental and social aspects in areas of large mining projects are operational Participatory monitoring for areas with large mining projects	Better participation of populations affected by large projects on monitoring aspects Empowerment of local actors Improving governance	Participatory monitoring of mining projects is limited to large operations Resources (human and financial) allocated to monitoring permits or authorizations are very limited
	• Any activity related to oil exploration and exploitation is subject to environmental studies • Better consideration of environmental and social aspects as well as oil-forest conflict management in the new Oil Code (being finalized) • Creation and implementation of the	Widespread application of tools to integrate environmental and social aspects	Limited resources for the Environment-Oil Committee Relatively limited experience in Madagascar on oil exploitation (limiting assessment of efficiency of available tools for conflict management)

Results of the assessment of past deforestation and degradation reduction efforts			
Efforts	**Results**	**Strengths**	**Weaknesses**
	Environment-Oil Committee		
Agricultural sector			
Fertility management: Development of forest valleys. SAVOKA operation in 4 areas. DRS Program. Use of fertilizer. Compost, GOPR, PEM, TAFA	Increase of rice production but not enough to compensate population growth. Stagnant or even decreasing productivity	There are successful alternatives	Does not include forest areas. Is not legally binding Poverty of farmers and land tenure
Dominant archaic cultivation practices. Demand of fertile lands ➔ expansion of clearing. Agricultural extension Various development projects	Observer of rural sector/ rap for data collection. ERI Program, ADRA,	Existing conservation project working on development in forest habitat KoloHarena and their federations, ensuring perpetuation of improved techniques in forest areas	Degrading practices continue Weakness of projects in developing supply channels. Lack of application of existing regulations All local inhabitants are not members of KoloHarena Lack of funding towards the end of the project
Unauthorized cash crop (sugar cane, indigenous tobacco, hemp) Corn in the West and South-West Sugarcane in the East Hemp in the North-East and in the South	Study of the ILO Program (FOFIFA Cornell University) Campaigns against rongony plantations in forests were done in the North (Famafa, Fandio etc.)	The mechanism and the phenomenon are known	Market issue for alternative products Forests are refuges for unauthorized crops Depends on international coffee/vanilla prices Sporadic operations, no sustainable solution
Food security, energy: Promotion of agroforestry and agrobiological soil management EIAs for large farms	Diversification of cash crops Equitable trade Organic products	Microfinance Existing technical tools	No EIAs on individual small-surface farms which are the most destructive In microfinance, loan interest rates are still high

Results of the assessment of past deforestation and degradation reduction efforts			
Efforts	**Results**	**Strengths**	**Weaknesses**
Green revolution Jatropha Introduction of new varieties of sorghum New competitive race			
Bypassing the State to implement large programs	Creation of implementing agencies at national level Creation of regional planning structures	Creation of employment and valorization of capacities (in case of institutional reform) Non-State institution is more flexible and more effective Planning concept is more adapted with substitute institutions More effective technicians (evaluated using performance criteria)	Viability of substitute institutions Weakening of public institutions to the technician brain drain Institutions do not have the needed power to fully play their role and cannot work independently from the State (law enforcement) Learning on the job or through training Bureaucratic reflex still prevails
Implementation of decentralization policy Reform of the Administration Implementation of inter-ministerial arrangements to solve disagreements among sectors Establishment of participation, consultation, and decision-making arrangements and mechanisms	Creation of decentralized structures : 22 regions and communes Reform of the forest sector at three levels : sectoral objectives, sector management, Forest Administration Creation of Forestry Commissions, PRPSE (regional planning and monitoring and evaluation platform) for the 22 regions Establishment of a Mining-Forests Inter-ministerial Committee (CIMF) Organization chart of the	Separation of technical support functions and control functions within the Forest Administration Autonomy of forest control Progress towards better integration of forests in other sectors' baselines Task force against illegal logging of precious woods The Forest Administration focuses more on sovereign functions and accepts decentralization and delegation of forest resources management Role sharing: the Forest Administration is not the sole manager for the sector anymore; other actors are involved such as private operators, local communities, nongovernmental organizations (NGOs), the civil society and decentralized territorial collectivities (CTD), and other sectors.	Current management is faced with decline of resources Many challenges focus on biodiversity assets and financial resources of the FFN Gradual failure to take responsibility due to frustrations caused by orders of hierarchy and frequent freeze of EP2-EP3 funding by donors Unbalanced structural organization (effective ratio / resource declines from central to regions) Low capacity in relation with global management trends (needed recycling) Strong resistance to change among the Administration's agents Administration's reform only covers some sectors Capacities of other actors for forest management and implementation of

Results of the assessment of past deforestation and degradation reduction efforts			
Efforts	**Results**	**Strengths**	**Weaknesses**
	Ministry in charge of Forests based on sectoral objectives	Structural branches in almost all regions of Madagascar Logical institutional reform based on a new policy Familiarization with planning tool (experiences of ESFUM and BV components) of a large part of the staff Improving existing capacities (conservation and valorization) for direct technical management and supervision of community or private management.	strategies to reverse the spiral of degradation are still very limited Formalization of consultation, co-management and/or co-decision making structures is not effective Difficult enforcement Lack of motivation of Administration's agents to carry out their tasks
Tenure and land planning			
New Tenure policy and national tenure program Revision of tenure regulations (reconcile modern law and customary rights) Regularization of illegal settlement Migration policy and program (organized migration with training and support)	Adoption of regulations on relative tenure security Creation of land offices Application and implementation of contractual resources management Implementation of organized migration projects PROJER (Mid-West), Zomandao, Ampamoizankova, Sakay, Ambohimanambola	Recognition of customary rights by the State and international development organizations Existing experience and knowledge on the issue Successful migration in some economically attractive areas	Environmental aspects are rarely included compared to social aspects Lack of a clear national policy on migration Migration programs/projects are not well targeted/ directed in problem areas (forest areas)
Transport sector			
Public infrastructure (roads and transportation) Tools to integrate environmental and social aspects (handbooks, processing of complaints)	Over 60 % of public infrastructure works – (road construction, extension and restoration) comply with the MECIE Capacity building of	First integration of environmental and social aspects in technical construction/extension/restoration procedures for major public infrastructure Experience of restoration of quarries and borrow areas in collaboration with technical	Difficulties experienced by the Ministry of Public Works and of Finances to cover the 0.5% of investment fees to assess EIAs (as required by the MECIE). Therefore, limited EIAs for public investment projects (PIP)

Results of the assessment of past deforestation and degradation reduction efforts			
Efforts	**Results**	**Strengths**	**Weaknesses**
Direction for social and environmental impacts (DISE) within the Ministry of Public Works (since 2003) Environmental and social managers in attached entities (road authorities, civil aviation, etc.) Consideration of environmental and social requirements of financial partners (such as the World Bank) for activities financed by them.	public works companies, territorial collectivities and other directions of the Ministry and awareness of populations affected by the project Experience and training on environmental and social aspects are selection criteria for service providers	services in charge of forests	Limited inclusion of environmental and social aspects in the selection of technical options for major infrastructure The Government is penalized for some non-compliance with environmental and social procedures Difficulty in regulation enforcement Limited resources of the DISE

Annex 2a-2. Terms of reference of studies on deforestation

ToR 2a.1 Vertical and spatial analysis of the causes of deforestation and forest degradation in Madagascar

Objective: Better vertical and spatial analysis of the causes of deforestation and forest degradation, in order to refine strategy options by specifying relevant elements to develop operational strategies adapted to the various, regions, and/or specific intervention areas. The study will also help better understand interactions between the various causes and drivers and their impacts on the extent and spatial distribution of deforestation and degradation.

Expected results:

- Identification and precise location of the areas most affected by deforestation
- Identification and classification of stakeholders based on the importance of their deforestation-related activities
- Detailed assessment of the various identified causes at regional level, with interactions and relative significance in terms of real impacts on forests
- Detailed description and specific characterization of apparent causes and root causes based on all gathered data
- National mapping of the significance and geographic distribution of the main drivers and root causes of deforestation and forest degradation.

Methodology:

- Identification and definition of the most representative areas in terms of deforestation, based on the studies of deforestation trends 1990-2000-2005
- Assessment by types of players and priority definition of their deforestation-related interactions based on studies on market channels
- Review and assessment of existing knowledge on the main causes of deforestation and forest degradation at regional and/or local level
- Classification and stratification of areas based on significance and extent of deforestation and degradation
- Sampling and surveys in the various areas (50 communes) based on the identified classes. This aims at obtaining quantitative and qualitative information on:
    - Management history of sites, types, and management arrangements
    - Main economic activities and other speculations
    - Cultural aspects, specific identity, ways and customs
    - Social dynamics
    - Tenure aspects: local tenure ownership practices, land access terms, distribution of land resources, etc.
    - Agricultural practices and global typology of farms
    - Usage and management of forest resources, etc.

    The various surveys and consultations carried out during this study will focus on all relevant levels of players: central administration authorities, involved nongovernmental organisms and institutions, decentralized territorial collectivities and administrative division, nongovernmental entities directly

working in the field, local traditional authorities, and local communities living near resources.

- Data processing and analysis, including on the main interactions influencing the significance and extent of impacts on resources
- Extrapolation, weighting, and mapping at national level.

ToR 2a.2 Assessment of the political economy of degradation and deforestation in Madagascar

Objective: Determine the main interests and stakes related to deforestation and forest degradation, in order to identify and anticipate the main bottlenecks to needed reforms for REDD+.

Expected results:

- Identification of the advantages and drawbacks of deforestation and forest degradation for each relevant category of stakeholder
- Definition and assessment of the main stakes, interests, and concerns of the various involved entities
- Assessment of strategies adopted by the various categories of stakeholders
- Definition of the main bottlenecks in the REDD+ process and suggested solutions (mediation, negotiation, arbitration, compensation, etc).

Methodology:

- Typology and exhaustive listing of all entities relevant to deforestation and forest degradation
- Review and assessment of existing knowledge on political economy and the main stakes of deforestation and forest degradation, at regional and/or local levels
- Surveys and field investigation on various stakeholders: for each interlocutor, define the advantages and drawbacks of the issue, interests at stake, concerns, and adopted strategies
- Data analysis and synthesis of results with an identification of the main stepping stones of the REDD+ process
- Development of proposals to solve bottlenecks and help implement REDD+ in Madagascar

ToR 2a.3 Assessment of efforts and international experience on operational strategy

Objective: Identify the most efficient and/or promising operational strategies (techniques and approaches) to really address issues and challenges identified in the spatial analysis of deforestation/degradation.

Expected results:

- Detailed assessment and analysis of all previously or currently adopted strategies and approaches in Madagascar. Such strategies should not be limited to those directly applicable to the forest and environment sector. Strategies in all relevant sectors should be capitalized on.
- Identification of the most convincing and effective international practices and experiences, for the various relevant sectors. Global assessment of their feasibility in Madagascar.
- Determination of the most promising and effective operational strategies in each relevant area/sector.

Methodology:

- Literature review and analysis to gather lessons learned from national experiences
- Additional data collection and institutional consultation at various levels
- Research on international experiences and of innovative strategies that were effective in other countries
- Various analyses and evaluations, list of selected operational strategies recognized as effective and/or promising.

ToR 2a.4 Assessment of the economic contribution of the forest sector

Objective: Evaluate the economic contribution of the forest sector at various levels to contribute to discussions on the development of the REDD+ strategy. The analysis will provide quantitative and relevant evidence to allow comparison with other possible land uses and valorization.

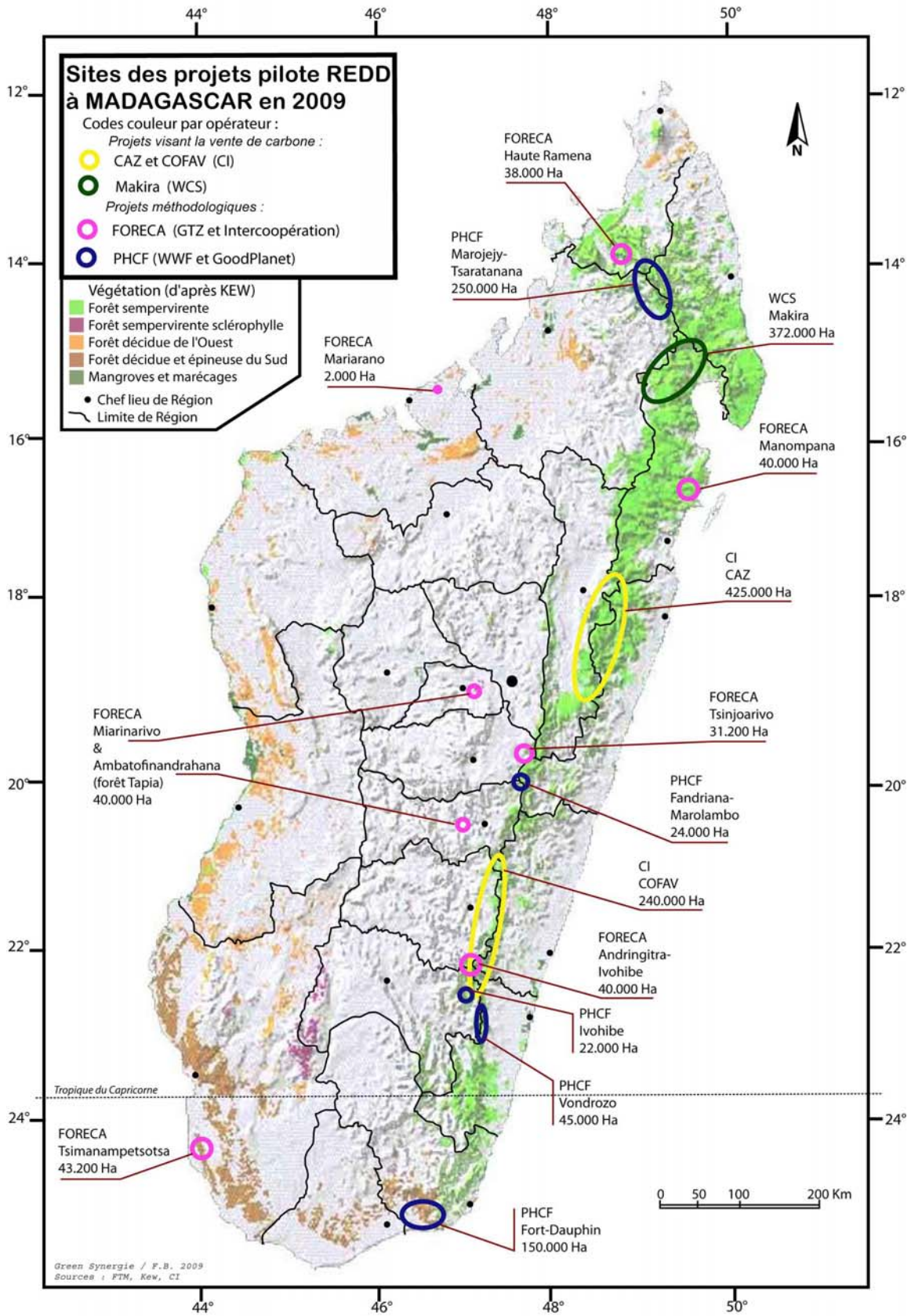
Expected results:

- Base economic data to assess the economic benefits of forest conservation and sustainable management of forest resources
- Global assessment of the economic contribution of the forest sector, in terms of goods and services, to the national economy
- Proposals and recommendations of optimal strategies to increase the added value generated by the sector.

Methodology:

- Literature review and analysis to gather lessons learned from the existing economic studies and collection of base data for calculation
- Additional information collection from various institutions to complete and verify information and base data
- Development of needed hypotheses for the economic analysis
- Data processing, analysis and interpretation of results
- Prospective analysis and recommendations.

Annex 2b-1. Location map of the five REDD pilot projects in Madagascar



Annex 2b-2. Lessons learned from Malagasy REDD pilot projects

Pilot projects	Status	Assets	Weaknesses	Recommendations
Ankeniheny Zahamena Corridor and COFAV	Project perimeter corresponds to the perimeter of protected areas, currently under temporary status Project Document Design phase Development and management plans finalized Environmental management and social safeguard plans finalized Convention between the Ministry in charge of environment and forests and Conservation International to implement projects	Strong involvement of experienced partners Farmer associations and organizations are structured around protected areas Existing technical and financial partners to ensure implementation of development and pressure mitigation actions with local communities Existing local management tools with communities Existing support and micro-subvention management tools for both projects, exploitable for REDD revenue management Diversification of players for the management of forest resources Integration of professional players in the management of forest resources Creation of links between the private sector and community managers Integration of all stakeholders in	Lack of funding to support field activities Lack of ownership especially to avoid conflicts There is no preliminary feasibility study to select projects, so that they actually meet the needs of the beneficiaries while fitting the local reality. Uncontrolled conflict management Complexity of tenure issues Lack of monitoring by the Forest Administration of management by operators Lack of monitoring and control of environmental and social aspects for small and medium-scale operations Laws and regulations on rebates (general and mining) do not allow for their use for environmental aspects	Ensure institutional rooting Common and coordinated efforts of all partners Establish an experienced multi-disciplinary team Valorize available biophysical and socioeconomic data Learn from the advantages and drawbacks of methodology approaches of projects Prepare communities to be autonomous in their development and biodiversity conservation. Improve communication and awareness of members in remote towns and villages. Capacity-building on organization, notably revenue-sharing and financial management Development of a toolbox, ensuring links among tools Support consideration of

		forest resources management planning		interests of civil society members and local collectivities for the development of the REDD+ national strategy Implement tools and methodology approaches in sites that are representative of ecosystems and at national level
FORECA	Data collection and analysis to develop the following methodology proposals: • Carbon estimation, with a methodology for the national biomass inventory (an international publication was produced), a methodology to establish a baseline at local or regional level, and a monitoring approach for reductions of emissions from deforestation and forest degradation. • Socioeconomic analysis to clarify direct causes of deforestation and application of these causes in developing "carbon accounting" (an international publication is underway) • Incentive system to clarify compensation for ecosystem services, needed at different levels (from national to local) to reduce	FORECA aligns the national development process with the development of UNFCCC international policies. This local implementation of REDD, integrated in development activities in Madagascar, clarifies key elements on the potential and the limits of a future REDD mechanism, both for climate change mitigation and sustainability of rural development. The project has partnerships to enhance the negotiation power of local communities in decision-making on natural resources management in general and REDD in particular.	Tool development was limited in sites where the Swiss and the German Cooperation were present, which are not representative of the country's ecosystems The proposed carbon quantification approach is not efficient at national level Developed methodology approaches have not been tested in real situations Difficult implementation of multi-institutional arrangement including rural development projects, scientific research institutions, local and international institutions It is difficult to maintain the interest of local communities for a methodology research	

	emissions • Governance mechanism including elements such as natural resources governance and incentive mechanisms (clarifying benefit redistribution and responsibility sharing) Ongoing : 1. Document on lessons learned on multi-institutional arrangement and integration of the program in the national R-PP development process 2. A summary document on developed products 3. A REDD Toolbox for Madagascar	The project enhances management of local capacities through its partnership with the Malagasy University.	project with few concrete activities	
MAKIRA	Agreement between MEF and WCS for the management of carbon sale from the Makira Project Delineated site, such as the surface of the Protected Area Effective carbon sale with private investors through the voluntary market Existing revenue-sharing mechanism, the major part going to the local communities to enhance their commitment to sustainable	Capacity-building of communities in natural resources management Improvement of governance and local population capacity for sustainable economic development Integration of the importance of ecosystem services as crucial and guaranteeing the local and regional economic development l Revenue-sharing system has been developed at the level of local	Persisting pressure on biodiversity	

	management of the protected area 50% to the local community, 25% to the manager, 15% to the Ministry of environment, and 10% for monitoring. PDD is being finalized (baseline, leakage, additionality, etc.)	communities. Integrated approach reducing deforestation and forest degradation Multiple benefits: climate, biodiversity, human wellbeing		
PHCF	**Ecosystems**: Rainforests and southern spiny forests - 5 allometric equations developed on 5 sites - Lidar cover mission realized - Stratification of soil use types completed - Study of the historical deforestation completed - Capacity-transfer between partners, notably between Stanford University and the program team is continuous.	TGRN activities to restore degraded forest landscapes have been adopted by local populations. Creation of new PA, reforestation Successful partnership with various institutions: Stanford University, CIRAD, ESSA-Forêts, LRI, etc. Financial resources of the program are secure.	Administrative complexity for final designation of new protected areas Conveying the REDD message to local communities is not always easy given the global level of education of the rural population	

Annex 2b-3. ToRs of specific studies for proposed scenarios

Objective:

Determine to what extent each identified scenario can really impact the reduction of emissions from deforestation and forest resources degradation. Additional studies are needed on selected and technically validated scenarios to gather additional information for adjustment, both for feasibility and sustainability.

Expected results:

- Integration and impacts assessment within sectoral programs
- Analysis of sustainability options
- Assessment of management arrangement needs both at national and decentralized levels
- Creation of a monitoring and surveillance system for the proposed strategic mechanism.

Methodology

- Review and analysis of sectoral policies in relation with identified scenarios
- Assessment of risks and evaluation of existing capacities in relation with policies, institutional arrangements, and socioeconomic realities, to aim at the sustainability of the system
- Literature review and analysis to gather lessons learned from existing economic studies and collect base elements for calculation
- Development of hypotheses for the impacts evaluation *per se* on the reduction of emissions from deforestation and forest degradation
- Carry out an institutional analysis addressing the objectives of each identified scenario
- Additional information collection from various institutions to complete and verify information and base data.

Annex 2b-4. ToRs of studies for the development of REDD+ strategies

ToR 2b.1 Evaluation of potential impacts and benefits of operational strategies

Objective:

Determine to what extent each identified operational strategy can really influence the reduction of emissions from deforestation and forest resources degradation. The evaluation will include a spatial analysis of the potential reduction of deforestation and degradation, in order to identify priority areas to implement each operational strategy.

Expected results:

- Identification and estimation of potential impacts with an assessment of the level of effectiveness of each operational strategy for the reduction of emissions due to deforestation and forest degradation
- Evaluation of the potential benefits of each operational strategy (socio-cultural benefits and other co-benefits: biodiversity preservation, poverty reduction, contribution to climate change adaptation, etc.)
- Spatial definition and location of priority areas for the implementation of each operational strategy.

Methodology:

- Link between operational strategies and the spatial definition of the causes of deforestation and forest resources degradation
- Location of potential implementation areas of each operational strategy
- Review and analysis of existing knowledge on potential impacts and benefits of previous strategies
- Development of hypotheses for the impact assessment *per se* on the reduction of emissions due to deforestation and forest degradation
- Identification and estimation of potential benefits of each strategy
- Spatial definition and priority-setting of areas of implementation of each operational strategy.

ToR 2b.2 Feasibility assessment of the implementation of operational strategies

Objective:

Identify socioeconomic, political, and institutional risks from the implementation of each strategy option according to their implementation areas and identify needed adjustments and enhancements to ensure their success.

Expected results:

- Determination and characterization of socioeconomic, political, and institutional risks related to each operational strategy
- Assessment of compliance of strategies with REDD+ specific criteria such as effectiveness, efficiency, and equity
- Recommendations for needed revisions or adjustments to ensure consistency between the strategies and existing frameworks (political recommendations, structural and institutional improvement plans, legal and regulatory framework, etc.).

Methodology:

- Assessment of risks and evaluation of existing capacities in relation with policies, institutional arrangements, and current socioeconomic conditions
- Consultation of all relevant entities to identify risks and defaults that might hamper implementation of operational strategies
- Analysis to assess compliance of strategies with REDD+ specific criteria such as effectiveness, efficiency, and equity
- Summary of results and comparison with the stakes, interests, and potential bottlenecks identified in the assessment of the political economy described in 2a ;
- Development of recommendations on required measures.

ToR 2B.3 Assessment of economic costs and benefits of operational strategies

Objective:

Obtain detailed economic information related to the implementation of each operational strategy in their respective area. Such information is essential for the next-step choices and scenarios.

Expected results:

- Detailed cost assessment of the implementation of each operational strategy, including investment costs, opportunity costs, and transaction costs
- Assessment of potential economic benefits related to the implementation of each operational strategy: carbon credit sale, productivity increase, creation of alternative sources of revenues, etc.
- Comparison of the economic costs and benefits of each strategy.

Methodology:

- Literature review and analysis to gather lessons learned from existing economic studies and collect base information for calculation
- Additional information collection from various institutions to complete and verify information and base data
- Development of needed hypotheses to complete missing data for the economic analysis
- Economic projections, analysis and interpretation of results
- Comparison between costs and benefits and development of main conclusions.

Annex 2c-1. Needed studies related to the implementation framework

Studies are required on (i) needed institutional and legal reforms and (ii) carbon governance.

(i) Studies on required institutional and legal reforms:

They will include, although not exhaustively:

- An assessment of the regulatory framework and design of the institutional arrangement
- Analysis and development of management tools adapted to communities to implement the REDD+ approach.

Outlines of terms of reference, to be detailed during the initiation of such studies are:

ToR 2c.1 Analysis of the regulatory framework and options for institutional reforms and design of the institutional framework for the REDD+ process

The objective is to identify institutional mechanisms to be implemented for the long term management of REDD+ in Madagascar.

The main activities relate to various aspects on the carbon sale and revenue management and governance, **based on institutional organizations**:

- Analysis of the regulatory framework for each of the main steps of the REDD+ process, identifying aspects related to carbon sale
- Analysis of national and regional coordination options, including of applied mechanisms to involve regional and local players (SRAT, PRPSE, etc.)
- Analysis of needed management mechanisms for REDD+ in Madagascar, based on selected spatialized strategies. This analysis includes the selected carbon governance principles
- Proposed prevention and conflict arbitration mechanism
- Scenario development on the institutional arrangement, including roles and responsibilities, main objectives and indicators, and institutional analysis of structures to be included in the arrangement
- Analysis of the financial sustainability of the implementation framework
- Proposed reform plan and establishment plan
- Support and facilitation of negotiations among stakeholders and with decision-makers on the arrangement scheme
- Development of regulations for the REDD+ global framework
- Development of regulations for structural adjustment and reform processes
- Development of a monitoring system on performance and transparency of the global implementation framework. Implementation cost assessment.
- Proposed funding mechanism of the implementation framework based on carbon revenues governance and other long term funding sources.

The study will take into account resolution of unavoidable conflicts between priorities and political objectives among various sectors, however negotiable and manageable for potential conflicts (specific and occasional), and will analyze the feasibility of the following process:

- First, discussions will take place within the National Monitoring and Mediation Structure including the main decision-makers from the various sectors;
- Only if needed, conflict arbitration will be managed by the Environmental Inter-Ministerial Committee (CIME).

At the regional level, existing initiatives and structures such as those in charge of the Regional Land Planning Schemes (SRAT), the Regional Planning and Monitoring and Evaluation Platforms (PRPSE), and Forestry Commissions will be considered to ensure coordination and alignment of the REDD+ strategies and political measures.

The main results of the study will be gathered in a document to include:

- The REDD+ management arrangement and the reform plan
- The proposed regulations on the implementation framework
- Proposals for the sustainability of the implementation framework.

ToR 2c.2 Adapted community management tools for REDD+

The objective is to suggest necessary adjustments to community management tools for the REDD+ approach and/or to develop new tools adapted to the communities.

Based on experiences of pilot projects, the main activities will be to:

- Analyze the main community management tools applied in Madagascar. This will include regulatory aspects, establishment and monitoring process, results, and impacts. This includes, without being exhaustive:
  - GCF and GELOSE
  - Ecosystem services agreements with local populations
  - Dina and unconventional contracts targeting forest resources management.
- Suggest an adjustment scheme of these tools for REDD+, including on regulatory and technical aspects
- If needed, suggest new appropriate tools, if existing tools are proven to be inappropriate or cannot be adjusted
- Suggest an institutional management arrangement for these tools, including a permanent performance monitoring system. Assess the sustainability of the arrangement
- Propose a development plan.

ToR 2c.3 Design a surveillance system of deforestation and degradation factors

This study is carried out under Component 4 (as this system is included in the MRV system).

This aims at creating a surveillance mechanism or system, allowing for quick change or correction of the entire system based on the evolution of the causes of deforestation or new conditions.

- In relation with the MRV system, design a system to:

- Monitor the evolution of root causes and deforestation and degradation drivers, both for quantitative and qualitative and forest cover aspects
- Mobilize stakeholders to correct the MRV system as needed.

- Suggest processes to:
  - Adjust the REDD+ implementation framework (regulation, institution, coordination and arbitration structure, etc.), based on the evolution of deforestation and degradation drivers
  - Correction or adjustment of performance indicators for those who contribute to reduce deforestation/degradation
  - Continuous improvement of spatialized operational strategies, including consultation of relevant parties
- Jointly with the MRV databases, develop a collection, management, and information-sharing mechanism to contribute to the monitoring of the implementation framework.

(ii) Studies for "carbon governance"

Several analyzes will be performed for the National Monitoring and Mediation Structure, to recommend and negotiate the main elements of carbon governance. Planned activities include:

- Preparation of stakeholders on carbon governance principles
- Development process of the carbon-revenue sharing arrangements
- Development of the management arrangement for carbon revenues.

There will be a special focus on complementarity with studies planned in ToR 2c.1.

ToR 2c.4 Preparation of stakeholders on carbon governance principles

The objectives are to:

- Raise awareness among stakeholders on carbon governance issues and aspects
- Collect preliminary opinions on current sensibilities.

Main activities include:

- Development of the main carbon governance principles in a form understandable by all levels of stakeholders. An awareness and communication toolkit will be developed.
- Development of a draft in Malagasy and French. Develop a strengthening mechanism.
- Development of a communication plan
- Communication activities and collection of opinions, along with field visits to assess causes of deforestation and degradation
- Summary of current opinions, and development of ToRs of studies on revenue sharing and management.

ToR 2c.5 Support the development process of carbon revenue sharing

The objective is to establish a concerted carbon revenue sharing and monitoring mechanism.

The main planned activities include:

- Assess the current carbon ownership situation, on regulatory and political levels. Use international information to complete knowledge
- Project potential revenues based on various concerted assumptions

- Assess existing revenue-sharing mechanisms under REDD pilot projects. Analyze existing mechanisms in other sectors (management transfers, mining sector, protected areas, oil, fisheries, etc.)
- Analyze needs and suggest funding options for REDD implementation: operation of the management and monitoring arrangement, implementation of operational strategies, information management, incentive and compensation mechanism, funding management, cross-cutting transparency and accountability operations (communication, etc.)
- Recommend a process to ensure financial sustainability for the whole
- Propose a mechanism to convert performance indicators to a funding level, either as incentives, or as privation
- Suggest and conduct a consultation process on negotiated and concerted sharing of carbon revenues. Carry out sustainability simulations and projections throughout all negotiation phases. Summarize and disseminate results and decisions to all stakeholders
- Draft a policy and implementation document on revenue-sharing. Suggest a monitoring and traceability system of revenue use. Propose an implementation manual describing the various planned tools for revenue sharing
- Propose the regulatory changes needed to implement these mechanisms
- Propose an implementation plan, with preliminary conditions.

ToR 2c.6 Support the development of a management and monitoring arrangement for carbon revenues

The objective is to establish a framework and a management and monitoring arrangement for revenues, as transparent and effective as possible.

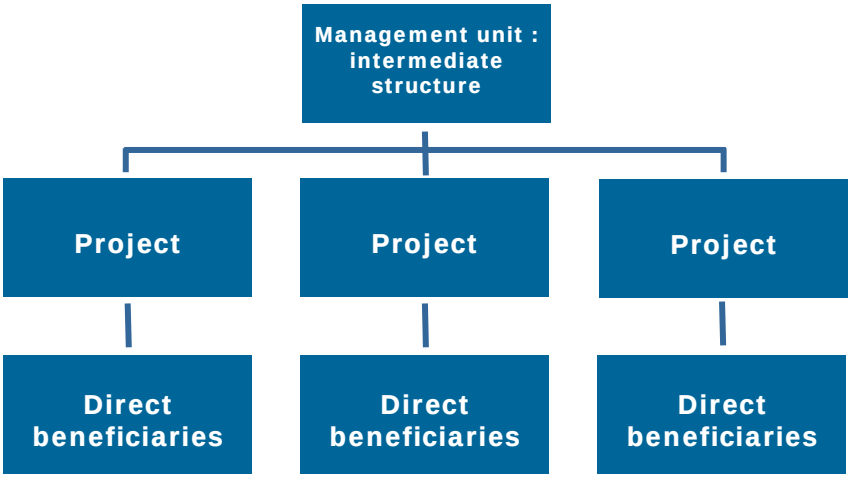
Main activities include:

- Assess all options, including participation and transaction modalities, carbon sale rights, services provided by national institutions, creation of a national carbon registry. Evaluate efforts done under REDD pilot projects. Project investment and operation needs of these options
- Assess opportunities for, interest, and role of a carbon fee
- Propose a monitoring system on the use of carbon revenues (market revenues or international payments). Establish performance criteria and enabling conditions for such monitoring system.
- Analyze, evaluate, and develop institutional options for the management of REDD+ funds. Support the political and technical discussion process. Synthetize and communicate with stakeholders on the progress of decisions.
- Suggest a charter of responsibilities, integrating the national, regional, and local levels for all stakeholders
- Develop a financial sustainability strategy for the revenue-sharing mechanism
- Suggest necessary regulatory changes, structural and institutional modifications, and reforms to create the management arrangement.

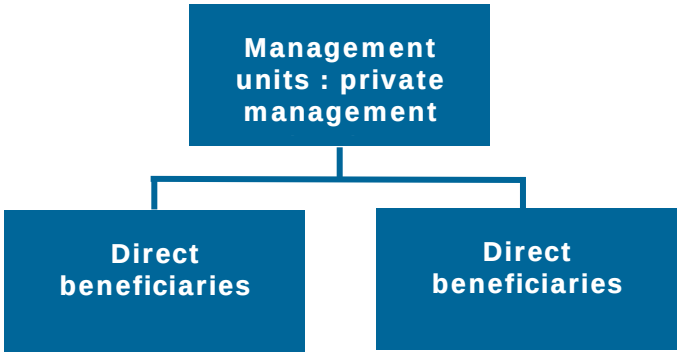
Annex 2c-2. Revenue-distribution models

Currently, the following options are proposed by REDD pilot projects.

- *Direct funding at project or regional activity level*: if the future international market framework or international REDD+ funding allows, payments will be directly transferred to managers and stakeholders of REDD activities. A potential REDD+ fund (to be created) could serve as a transfer system. Variations of this approach are already applied by some REDD pilot projects in Madagascar, targeting the voluntary carbon market, e.g. the Makira Forest. In its revenue-sharing system, an important part (half) is allocated to development and conservation initiatives implemented by local communities. The other half is divided between the management structure of the protected area, capacity-building of the government on mitigation, CO2 emission reduction, and deforestation monitoring, and funding of management fees for a designated structure for fund management and disbursement.

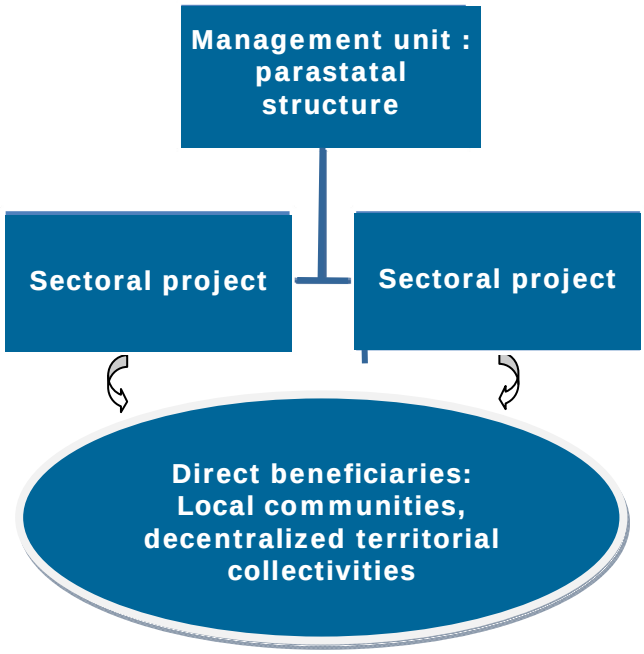


- *A national independent REDD+ fund separated by the governmental structure with an independent administrative and decision-making structure*: This model will be similar to independent conservation trust funds and is applied in Madagascar by the Foundation for Protected Areas and Biodiversity and the Tany Meva Foundation. The model proposed by the Tany Meva Foundation in its community reforestation projects is an example of this independent model. Local communities are the main beneficiaries, supported by local authorities. Payments take the form of "compensation" based on the state of plots planted and maintained by the communities. Communities are partners and stewards for the reduction of CO2 emissions. Another part of the revenues is allocated to the fund management structure, also in charge of marketing, promotion, and monitoring. The management structure can also use its funds to recruit service providers to provide technical support or training to communities.



Direct funding scheme to beneficiaries

- *A national REDD+ fund within the governmental administration* could use existing capacities of the Administration, but will be under separate and independent financial management. Several sectoral funds in the environmental and forest area exist (national and regional forestry funds). The REDD FORECA project proposes the following mechanism:



Funding scheme using governmental structures

A gradual transfer of responsibilities and funds, from a fund management entity to national forest funds (FFN) or regional forest funds (FFR) is possible. Responsibilities and funding will be decentralized and/or devolved to collectivities and technical services in two possible ways: (i) transfer for essential actions in order to establish favorable institutional and social conditions for a regional REDD+ initiative. Transfer will not vary based on carbon stock trends, and (ii) transfer to reward various stakeholders based on the evolution of the carbon stock.

(i) Transfer for essential actions includes:

- ✓ A series of relatively fixed transfers over time for permanent management and control activities (monitoring, supervision of implementation activities, etc.),
- ✓ A series of transfers to fund temporary actions or projects viewed as base investments
- ✓ A series of transfers for support and capacity-building, also temporary.

(ii) Reward transfers include:

- ✓ Rebates to communes and royalties to the State or the region (through tax centers); certificates of emissions will be viewed as commercial forest products and therefore taxed. Rebates paid to communes will serve to promote executive and political efforts of mayors. On the other hand, royalties will fund forest management-related regional or national-level activities.
- ✓ A series of payments to communes, which will transfer them to local implementing organizations; such transfers will fund projects or actions to potentially enhance sustainable economic growth in accordance with REDD+ objectives.

The three proposed schemes should be analyzed and developed. Quoted examples are only illustrative as they are not necessarily in accordance with planned schemes.

In any case, dynamics created by the "natural resources management transfer to communities" (GELOSE, GCF) developed since PEII and continuing to gradually extend should be capitalized: management transfer, promoting empowerment of local communities, help them become real partners in their role as both key players and beneficiaries. From lessons learned (capitalization of positive lessons and avoidance of errors) from these experience, other apparently unrelated investment projects (e.g. the Ambatovy project on nickel-cobalt mining) have adopted the same approach. In Madagascar, one of the first countries to initiate community management of natural resources in the 1990s, the role of local communities is becoming increasingly essential and recognized. This aspect is a key factor for the success of REDD+. Furthermore, new involvement/interest of operators other than from the environmental sector might positively influence the entire funding and revenue-sharing mechanism.

Finally, revenue-sharing could take example on the mechanism applied by Madagascar National Parks to manage entrance fees in protected areas (DEAP Fund), half of which is allocated to development activities for neighboring populations. The adopted mechanism is the Direct Funding to Beneficiaries (FDB): Beneficiaries can include villages, groups of villages, Fokontany, Communes, or legally established farmer organizations. The fundamental principle is that any potential project for funding should be one of the priorities of the Communal Development Plan (PCD) of the relevant community and/or the Village Development Plan (PVD). This strategy focuses on effective decentralization, partnership, and empowerment of all relevant parties, including the local civil society, which has the mission to defend and lobby for the interests of the PA and the neighboring population under any local, regional, and national planning.

Sharing of net revenues from the sales of the Makira credits (WCS)

(i) 50% to support local neighboring populations though the Makira Forest Project for the management of their natural resources, and initiatives on forest conservation and community development. A local management structure is established under Malagasy law and implemented in collaboration and consultation with the delegated manager of the Makira Protected Area,

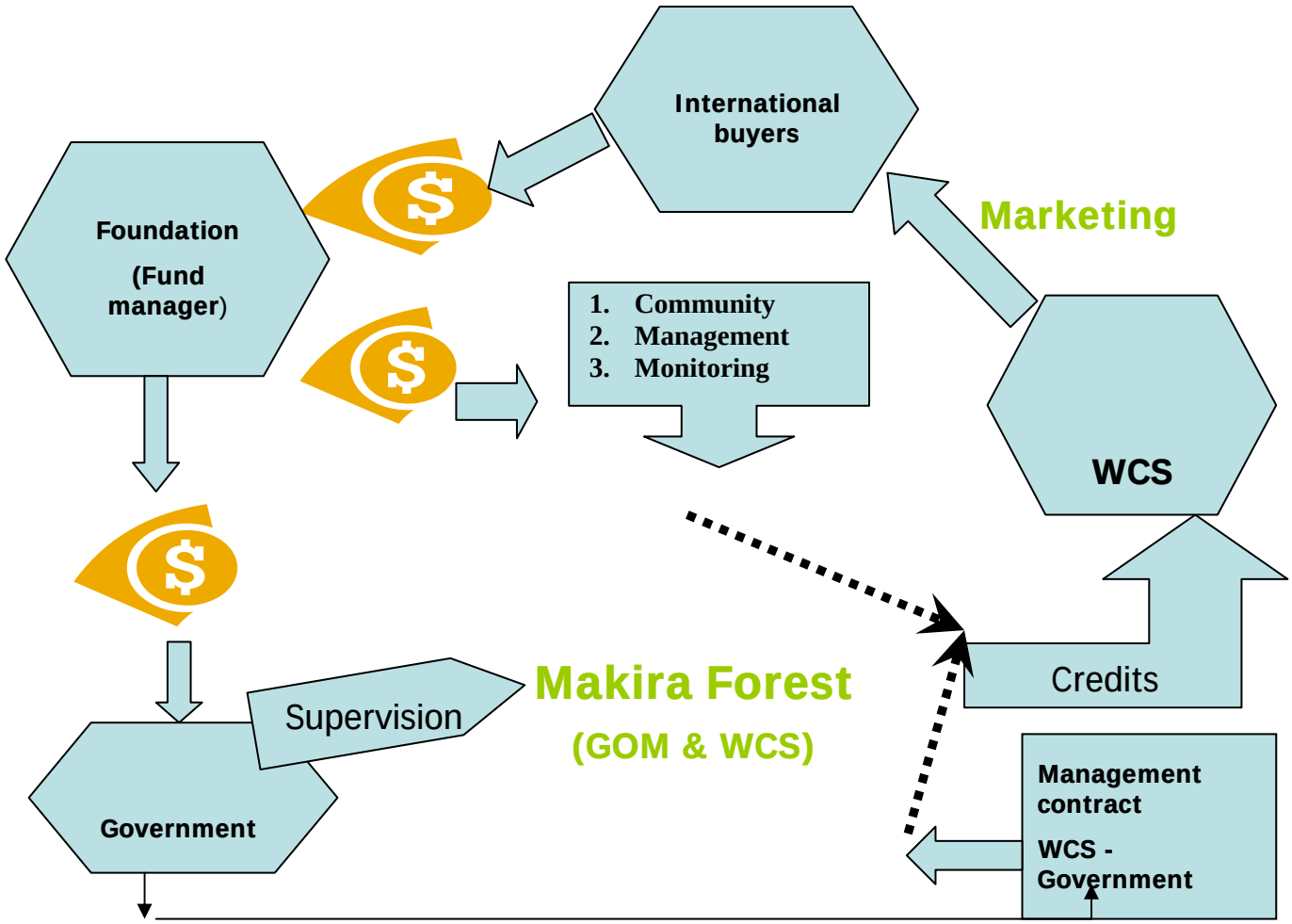
(ii) 25% to the delegated manager of the Makira Protected Area to support the management of the PA under a Management delegation contract or any other relevant existing agreement,

(iii) 15% to the Ministry of Environment, to support a series of activities including technical capacity-building and mitigation of climate change, and to develop a national carbon reduction strategy and national monitoring capacity,

(iv) Up to 5% to reimburse the company for fees related to trading and sale of allocated carbon credits (as well as management of such trade and sale),

(v) Up to 2.5% based on what is fixed by the company, potentially for monitoring, verification, and third-party certification of the absence of deforestation. Any unused part of the 2.5% could be allocated to (i) or (ii), and

(vi) Up to 2.5% to a foundation or any other entity designated by the State (the « designated foundation ») to cover operational costs of funding management and disbursement under the current agreement; allocation of the 50% of net revenues mentioned under (i) will be defined by a steering committee within the Designated Foundation in collaboration and consultation with the delegated manager of the Makira Protected Area.


International buyers
Foundation
(Fund manager)
Marketing
1. Community
2. Management
3. Monitoring
WCS
Credits
Supervision
Makira Forest
(GOM & WCS)
Government
Management contract
WCS - Government

Revenue-sharing: TANY MEVA Foundation

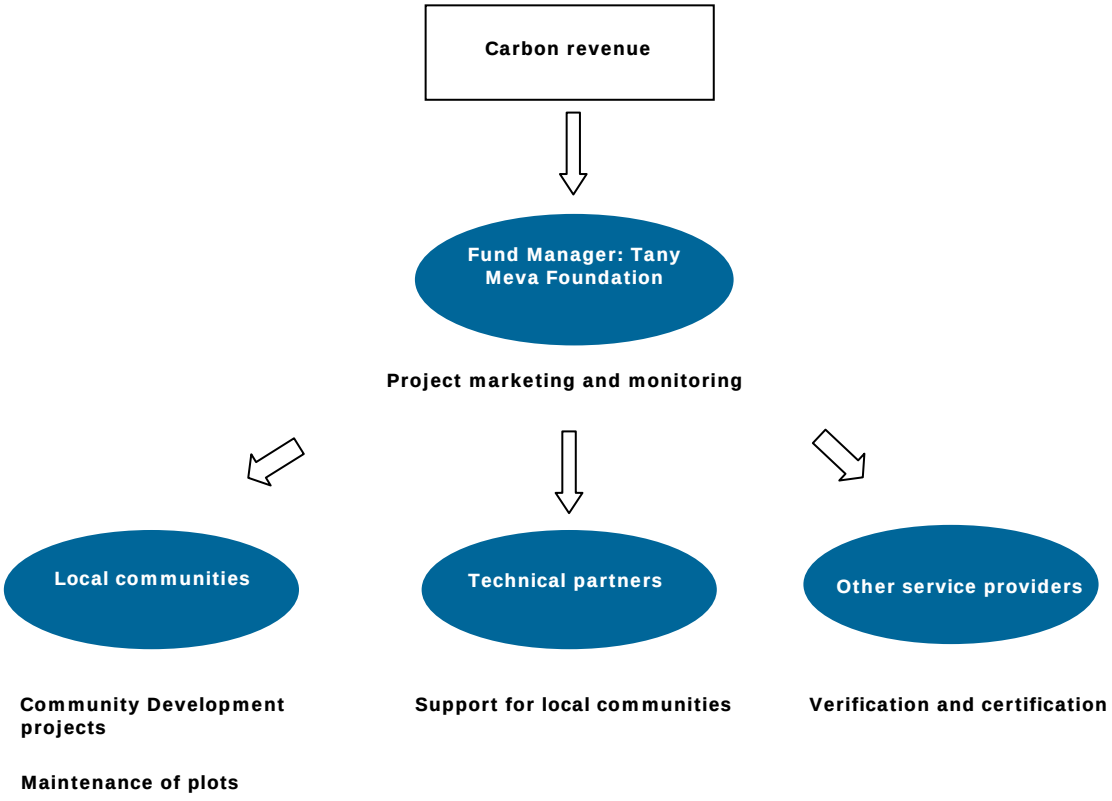
- **Projected benefit-sharing scheme**: Ankotrofotsy (Menabe) and Antanetikely (Analamanga) reforestation projects.

- **Main beneficiary**: Local communities
  - ✓ Community development projects for those who really participated to the project: projects are validated by local communities and local authorities (Mayor's office)
  - ✓ Maintenance of plantations

- **Other beneficiary**: Fund manager for
  - ✓ Project marketing, monitoring
  - ✓ Investment based on PDD
  - ✓ Verification/certification
  - ✓ Various services to support communities and to ensure sustainability of plantation plots.

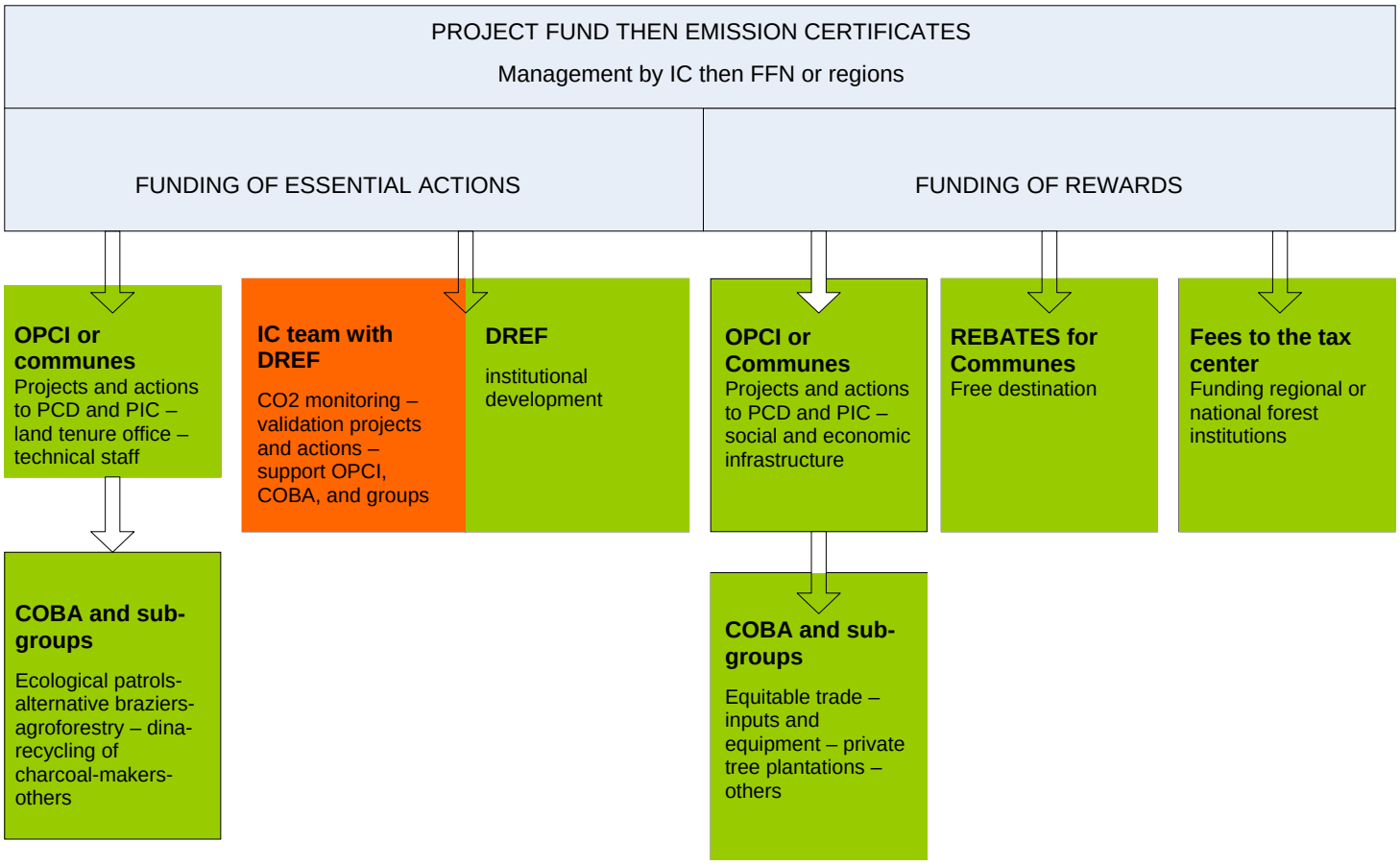
Highlights:

- Beforehand, communities are informed of payment arrangement, i.e. compensation based on the state of plots;
- A major part of the revenues goes to the communities as they are the stewards of the carbon;
- Revenues distributed to communities and service providers are deducted from preliminary investments by the fund manager, including for the development of the PDD.



Revenue-sharing proposed by FORECA

- Proposal based on:
  - Demand approach
  - Empowerment of DTC (vs. Central government)
  - Result-based payment



Funding scheme of micro-projects with DEAP (entrance fees in protected areas): Madagascar National Parks

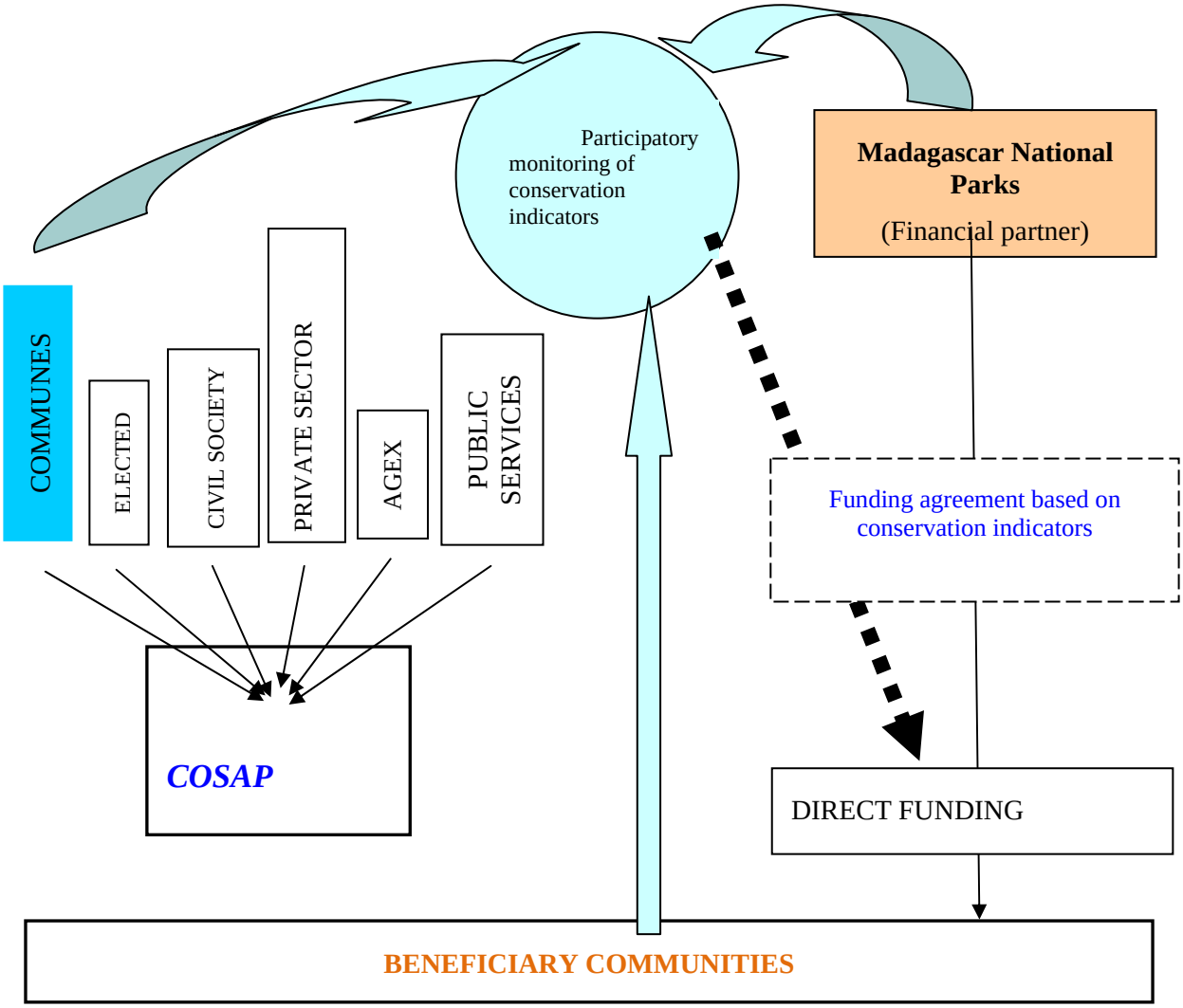
Based on the Rio Convention, people living near protected areas (PA), as conservation partners, should benefit from positive results of PA management.

In accordance with the Convention, the Board of Directors of Madagascar National Parks decided to allocate 50% of the revenues from entrance fees in protected areas (DEAP) to fund development activities to benefit the populations living near protected areas.

COSAP (Committee for the Direction of and Support to the Protected Area) aims at defending and lobbying for the interests of the PA and the neighboring population under any local, regional, and national planning. COSAP is representing all activity areas of the civil society at local level. Under the new system, communities are the direct beneficiaries of the DEAP funds. Madagascar National Parks plays the role of "financial partner" through its inter-regional directorates, with an essential role in the Direct Funding to Beneficiaries (FDB) mechanism.

- A large part of the funding **(90%)** is allocated to **communes and Fokontany adjacent** to the national park, to fund projects from PCD and validated by COSAP.
- An annual allocation of **5% (out of the 50%)** is attributed to **Regions**, for EQUALIZATION, for communal projects **OTHER THAN those in the adjacent Communes**.
- The remaining **(5% out of the 50%)** could be allocated to **reimbursable funding** for investments or AGR in adjacent communes;
- The project to be financed should be one of the priorities of the Communal Development Plan (PCD) of the relevant Commune and/or the Village Development Plan (PVD).

The adopted mechanism is the **Direct Funding to Beneficiaries** (FDB) based on the PCD/PVD and the PA's Development Management Plan (PGD). Potential beneficiaries include villages, groups of villages, Fokontany, Communes or legally established farmer organizations.
The funding convention between MADAGASCAR NATIONAL PARKS and the beneficiary includes a provision on a **conservation indicator** to be guaranteed by the beneficiary (e.g. zero fire).
The end of the project assessment is carried out by an ***ad hoc* committee** including the Commune, COSAP, and MADAGASCAR NATIONAL PARKS. Assessment mainly focuses on the conservation indicator.


Participatory monitoring of conservation indicators
Madagascar National Parks
(Financial partner)
COMMUNES
ELECTED
CIVIL SOCIETY
PRIVATE SECTOR
AGEX
PUBLIC SERVICES
Funding agreement based on conservation indicators
COSAP
DIRECT FUNDING
BENEFICIARY COMMUNITIES

Annex 2c-3. Funding allocation for permanent reductions of emissions from deforestation/degradation

REDD+ potential revenues – from either carbon markets or international funds – will be generated based on a result-based mechanism. These revenues require investments and incentives in all sectors related to deforestation: on one hand, operational and institutional costs to implement strategies, and on the other hand opportunity costs of stakeholders (e.g. local communities) who will have restricted access to or conversion of forest areas.

Once generated, a major part of the REDD+ benefits will be reinvested to support effective and sustainable incentives, either for key players, or for involved sectors. Efforts, contributions, and investments of the various players, as well as their compensation, should be perceived as equitable and effective by all stakeholders.

Quantifiable and verifiable reduction of deforestation will allow generation of carbon revenues at international level, which will compensate preliminary expenses and potentially generate additional funds. The distribution system of REDD+ funds will first serve at defining investment and incentive needs, before revenue-sharing.

In addition to the assessment of governmental players and the management arrangement for the implementation framework, analyses during the readiness phase will examine how non-governmental actors can be best encouraged to contribute to deforestation reduction. They include rural communities, traditional authorities, managers of regional REDD+ activities, NGOs, and the private sector (e.g. mining, logging, and agricultural companies). Several experiences are ongoing in the field with 5 REDD pilot projects in Madagascar. Assessment of the outputs of these pilot projects will be needed before carrying out studies on funding allocation.

Communities will be affected by the majority of opportunity costs as they currently depend on deforestation for subsistence. Incentives and compensations will not be limited to cash and/or various benefits (agricultural support, social services, etc.) but can also take other forms such as conservation agreements, service contracts, local community development projects, and spatialized actions related to quantifiable performance indicators.

User rights and verifiable results are essential for all actors/institutions contributing to the implementation of the REDD+ strategy, who will benefit partly from the generated carbon credit.

Under a REDD+ system allowing for project development, regional activities could directly generate carbon revenues under a favorable international funding framework. Without direct access to market or to international funds, direct compensation of such activities by the government should be considered, based on their relative contribution to the reduction of emissions from deforestation. To ensure effective use of these funds, additionality, reference scenario, and leakage issues should be assessed for each compensation scheme for regional activities.

Annex 2d. Needed capacities and capacity-building for the SESA implementation

Available capacities in environmental assessment in Madagascar

The first decree on EIA came into force in 1992. Since 2004, the year ONE became the sole office for EIAs in Madagascar, about 300 environmental permits have been granted. About 20 SESAs were carried out, including:

- The strategic environmental assessment of a logging area (KoloAla) in 2008
- The environmental and social assessment of the Integrated Growth Poles Project (PPIC) in 2005
- The environmental assessment of the phase 3 of the environmental program (EP3) in 2003
- The governance program for mineral resources (PGRM) in 2003 and its extension in 2005
- The environmental assessment of the transportation sectoral program (PST)
- The environmental assessment of the rural development action program (PADR) in 2001
- The Isalo area of ecotourism interest (ZIE) in 2000
- The special economic activity area of Vatomandry (ZAES) in 2002.

Therefore, Madagascar has national consultants (consulting firms, consortium of individual consultants) who have the capacity of carrying out consulting work on the REDD SESA. However, support of an international consultant is required for the following aspects:

- Integration of the SESA process in the REDD+ strategy development process: tools and charter of responsibilities
- Integration of some criteria in the SESA process
  - Sustainability : definition of sustainability criteria, assessment based on these criteria
  - Public participation
  - Monitoring and improvement: Indicators and mechanisms for sustainability monitoring and assessment
- Support to information dissemination and communication on the process and SESA results and to capacity-building

These aspects have not been adequately handled in previous SESAs in Madagascar[3].

[3] Inventaire des meilleures pratiques et proposition des directives pour les EES à Madagascar, ONE, juin 2006

Capacity-building and training on SESA

Targets	Training objectives	Content	Location / Contributor
Ministry in charge of forests Ministry of environment REDD Executive Office CT-REDD Consultants hired for the SESA Academic community NGOs Existing REDD projects Civil society Territorial managers	Standardize understanding of SESA and its role in the strategy development process	• SESA concept (objectives and main functions of SESA, legal framework, international practices) • Different SESA phases and charter of responsibilities of involved actors • Role of SESA in program, plan, or policy development • REDD case: main stakes and challenges, implementation schedule, role of SESA • Public consultation and participation in SESA: objectives, process, decision-making	Tana Contributors: - International consultant - ONE
Decision-makers of sectoral ministries, REDD Operational Office	Involve decision-makers and sectors affected by REDD+ in the SESA process	• Awareness on SESA • Role of SESA in the REDD+ strategy development process: objectives, influence on decision-making	Tana Ministry in charge of forests Ministry in charge of environment ONE with support from consultants
CIME	Involve decision-makers and sectors affected by REDD+ in the SESA process	• Awareness on SESA • Role of SESA in the REDD+ strategy development process: objectives, influence on decision-making	Ministry in charge of forests Ministry in charge of environment ONE with support from consultants
ONE Environmental units of ministries	Build ownership of SESA and gain command of the assessment of SESA	• SESA concept (objectives and main functions of SESA, legal framework, international practices) • Different SESA phases and charter of responsibilities of involved actors • Role of SESA in program, plan, or policy development • REDD case: main stakes and challenges, implementation schedule, role of SESA • Public consultation and participation in SESA: objectives, process, decision-making • Assessment of SESA: objectives, tools, process,	Tana - International consultant ONE
Regional authorities Devolved technical services	Standardize understanding of SESA and its role	• SESA concept (objectives and main functions of SESA, legal framework, international	Regions

NGOs and projects Civil society	in the strategy development process	practices) • Different SESA phases and charter of responsibilities of involved actors • Role of SESA in program, plan, or policy development • REDD case: main stakes and challenges, implementation schedule, role of SESA • Public consultation and participation in SESA: objectives, process, decision-making	Contributors: - Consultants - ONE

Assessment of compliance of proposed activities for the development of the REDD+ strategy with the applicable and already applied safeguards in Madagascar

In general, proposed activities in the R-PP strategy components include:

- Studies and analyses;
- Capacity-building of various actors affected by REDD and/or existing or planned structures
- Development of required tools (legal, technical, organizational/structural) for strategy preparation and implementation of the strategy itself.

The principle underlying all these activities is based on consultation of various actors from many sectors/entities at different levels (national, central, regional, and local).

Support from the World Bank to develop the REDD+ strategy requires that all activities comply with this institution's safeguard policies. The Bank makes use of a set of operational policies requiring that some potentially adverse environmental impacts and some social impacts selected based on their strategic nature, and related to the Bank's investment projects, should be identified, prevented or mitigated where feasible.

In addition, the World Bank safeguard policies should be aligned with the operational framework for the national and the FCPF safeguard process. Therefore, safeguard guidelines for REDD+ should be developed, integrating all aspects to be considered in the various safeguard frameworks, mentioned above, in accordance with the MECIE decree, the legal framework for environmental assessment in Madagascar.

Annex 3-1. Changes in forest cover area for the 22 regions

Deforestation assessment 1990 – 2000 – 2005 (Source: CI)

Regions	Surfaces regions (ha)	Year	Forests in Ha	Regions	Surfaces regions (ha)	Year	Forests in Ha
Alaotra-mangoro	2 741 279	1990	560 980	Boeny	3 031 115	1990	456 691
		2000	502 630			2000	414 198
		2005	468 754			2005	403 960
Amoron'i Mania	1 655 218	1990	61 902	Bongolava	1 796 044	1990	8 586
		2000	44 814			2000	8 584
		2005	37 662			2005	8 561
Analamanga	1 736 130	1990	62 665	Diana	2 036 252	1990	664 796
		2000	53 260			2000	617 857
		2005	45 096			2005	589 091
Analanjirofo	2 193 766	1990	1 203 640	Haute Matsiatra	2 089 450	1990	77 358
		2000	1 110 666			2000	59 801
		2005	1 092 415			2005	57 764
Androy	1 865 736	1990	473 597	Ihorombe	2 611 339	1990	156 925
		2000	469 015			2000	152 834
		2005	453 561			2005	130 464
Anosy	2 969 782	1990	530 815	Itasy	649 364	1990	628
		2000	509 361			2000	69
		2005	476 987			2005	44
Atsimo-Andrefana	6 672 411	1990	1 825 281	Melaky	4 084 521	1990	577 096
		2000	1 790 209			2000	556 118
		2005	1 702 795			2005	537 720
Atsimo-Atsinanana	1 654 777	1990	338 991	Menabe	4 901 473	1990	958 788
		2000	281 525			2000	906 159
		2005	253 591			2005	874 915
Atsinanana	2 210 263	1990	416 125	Sofia	5 141 981	1990	870 322
		2000	354 312			2000	779 277
		2005	327 445			2005	761 177
Betsiboka	2 961 604	1990	72 047	Vakinankaratra	1 805 139	1990	37 471
		2000	66 665			2000	26 854
		2005	65 186			2005	11 318

Vatovavy-Fitovinany	2 076 357	1990	233 958	National	59 263 558	1990	10 507 347
		2000	168 157			2000	9 755 305
		2005	152 219			2005	9 294 237

* This table is associated with the map of forest cover trends, published on June 19, 2007, with an error on forest surface for 2000. The figure has been corrected for this table.

Changes in area of different forest types 2000 2000 – 2005 (Source: ONE)

Regions (Ha)	Year	Moist forests	Dry forests	Tapia forests	Xerophile thickets	Artificial forests	Mangroves
ALAOTRA MANGORO	2000	568 582				16 860	
	2005	516 327				9 400	
AMORON'I MANIA	2000	64 598		3 752		18 367	
	2005	60 654		3 742		17 015	
ANALAMANGA	2000	68 726				16 757	
	2005	65 650				16 584	
ANALANJIROFO	2000	486 799				14	
	2005	812 873				14	
ANDROY	2000		165 666		215 833		
	2005		152 932		208 598		
ANOSY	2000	224 580	80 790		234 013	110 059	
	2005	200 893	74 711		223 202	110 007	
ATSINANANA	2000	523 892				970	
	2005	504 789				951	
BETSIBOKA	2000	11 832	67 546				
	2005	11 285	53 793				
BOENY	2000		553 847				130 088
	2005		521 149				130 088
BONGOLAVA	2000		677			18 367	
	2005		644			17 015	
DIANA	2000	368 153	138 001				46 697
	2005	355 327	125 289				46 104
HAUTE MATSIATRA	2000	104 306	6 638	1 954		40 396	
	2005	103 914	6 597	1 948		39 176	
IHOROMBE	2000	171 508	27 047	82 321			
	2005	168 076	26 403	82 229			
ITASY	2000			7 194		10 997	
	2005			7 166		10 378	
MELAKY	2000		531 836				49 212
	2005		521 310				49 189
MENABE	2000		873 815				31 727
	2005		821 996				31 626

SAVA	2000	801 217	13 421				1 853
	2005	779 550	12 891				1 741
SOFIA	2000	601 837	744 550				26 645
	2005	515 997	703 461				24 380
ATSIMO ATSINANANA	2000	365 215					
	2005	355 600					
ATSIMO ANDREFANA	2000		1 168 480	58 652	801 464	397	8 905
	2005		1 113 138	58 024	777 232	420	8 903
VAKINANKARATRA	2000	9 374		1 982		7 095	
	2005	9 123		1 897		6 689	
VATOVAVY FITOVINANY	2000	265 282					
	2005	259 277					

CI and ONE used the same Landsat images and adopted the same methodological approach for image processing. However, due to their respective goals, definition and identification of ecosystem types differed.

Filtering criteria were also different (for ONE = 1Ha, CI = 2.5Ha)

Changes in different types of forest cover area at national level 2000 – 2005 (Source: IEFN)

CLASSES	SURFACE IN (HA) IEFN 0	SURFACE IN (HA) IEFN 1
Out of area	658.06	658.06
Littoral forest	52 314.14	56 731.88
Lowland evergreen humid dense forests	1 987 415.13	2 423 729.41
Lowland secondary and/or degraded evergreen humid forests	233 064.94	246 889.56
Mosaic of agricultural lands, fallows, forest fragments	3 501 429.84	3 481 610.09
Coastal grasslands, savannas and pseudo steppes with woody vegetation	2 342 970.12	2 250 034.48
Coastal grasslands, savannas and pseudo steppes without woody vegetation	1 230 851.09	1 373 492.40
Savannas and/or pseudo steppes with woody vegetation	778 485.23	722 821.07
Savannas and/or pseudo steppes without woody vegetation	4 494 705.76	4 610 366.80
Montane sclerophyllous dense forests	965.84	2 566.36
Degraded and/or secondary montane sclerophyllous forests	100.37	135.92
Mid-altitude sclerophyllous woodlands	11 056.42	11 056.42
Montane sclerophyllous thickets	1 057.10	1 088.69
Alti-montane grasslands, savannas, and/or pseudo steppes with woody vegetation	59 801.22	63 399.17
Alti-montane grasslands, savannas, and/or pseudo steppes without woody vegetation	209 875.76	217 257.97
Dalbergia, Commiphora and Hildegardia dense dry forests	2 580 344.27	2 889 984.48
Dalbergia,Commiphora and Hildegardia degraded dry forests	858 274.91	854 170.73
Didieraceae dense dry forests	591 392.57	610 442.38
Didieraceae degraded and/or secondary dry forests	269 443.70	256 796.97
Xerophile thickets	927 190.88	941 433.73
Degraded and/or secondary xerophile thickets	568 291.50	569 584.70
Mangroves	303 814.84	304 630.80
Riparian forests	1 436 539.89	1 452 107.85
Swamp formations	566 863.54	576 189.35
Anacardium stands	8 720.89	8 720.89
Eucalyptus stands	81 095.32	82 877.25
Pine stands	118 340.75	118 346.69
Mixed stands	6 983.47	6 990.31

Rice fields	899 720.58	903 435.25
Sugar cane	28 495.96	28 663.31
Sisal	20 229.47	20 646.92
Oil Palm		
Clove	71.65	180.58
Cocoa	37 553.69	37 449.27
Other or mixed	34 967.82	48 444.23
Bare soils or sand	209 246.84	208 927.90
Water surface	17 873 260.28	17 882 302.23
Constructed areas	16 260.19	16 192.76
Unclassified/cloud (shade)	3.06	
Mid-altitude dense evergreen moist forests	2 463 788.53	2 870 741.61
Mid-altitude degraded and/or secondary evergreen moist forests	41 609.56	55 277.79
Mosaic of agricultural lands, fallow lands, forest fragments	236 832.60	208 462.54
Mosaic of agricultural lands, fallow lands, forest fragments	1 357.06	587.56
Mid-altitude dense sclerophyllous forests	138 895.63	139 551.84
Mosaic of agricultural lands, fallow lands, forest fragments	29 846.65	29 027.70
Savannas and/or pseudo steppes with woody vegetation	393 979.45	395 323.80
Savannas and/or pseudo steppes without woody vegetation	6 244 531.54	6 250 506.26
Mosaic of agricultural lands, fallow lands, forest fragments	744 719.86	745 431.36
Savannas and/or pseudo steppes with woody vegetation	5 265 629.41	5 499 386.17
Savannas and/or pseudo steppes w/out woody vegetation	13 767 975.78	13 461 417.20
Mosaic of agricultural lands, fallow lands, forest fragments	376 073.89	371 601.39
Savannas and/or pseudo steppes with woody vegetation	913 876.08	900 054.27
Savannas and/or pseudo steppes without woody vegetation	1 640 526.51	1 638 115.65
Cloud	1 852 569.36	608 227.11

Area of different forest types in the 22 regions (Source: KEW)

Regions/ecosystem type	Surface in Ha
Alaotra Mangoro	
Anthropic, Cultivated Areas	106 722
Bare Soil/Rock	151
Degraded Humid Forest	397 499
Humid forest	540 378
Plateau grassland-wooded grassland mosaic	1 104 462
Tapia forest	279
Water	21 565
Western Dry Forest	1 732
Wetlands/Marshlands	88 461
Wooded grassland-bushland	478 707
Amoron i Mania	
Anthropic, Cultivated Areas	20 610
Bare Soil/Rock	220
Degraded Humid Forest	15 319
Humid forest	61 094
Plateau grassland-wooded grassland mosaic	995 447
Tapia forest	510
Water	3 898
Western Dry Forest	743
Wetlands/Marshlands	737
Wooded grassland-bushland	555 385
Analamanga	
Anthropic, Cultivated Areas	138 261
Bare Soil/Rock	4
Degraded Humid Forest	1 404
Degraded south western dry spiny forest	3
Humid forest	66 624
Plateau grassland-wooded grassland	1 209 754

Regions/ecosystem type	Surface in Ha
Bongolava	
Anthropic, Cultivated Areas	24 775
Bare Soil/Rock	10
Humid forest	3 862
Plateau grassland-wooded grassland mosaic	1 423 720
Water	1 743
Western Dry Forest	47 587
Wetlands/Marshlands	14 037
Wooded grassland-bushland	279 801
Diana	
Anthropic, Cultivated Areas	87 127
Bare Soil/Rock	13 861
Clouds	140
Degraded Humid Forest	13 181
Degraded south western dry spiny forest	9
Humid forest	349 831
Mangroves	40 544
Plateau grassland-wooded grassland mosaic	344 286
South western dry spiny forest-thicket	4
Unknown	156
Water	20 626
Western Dry Forest	259 045
Wetlands/Marshlands	18 770
Wooded grassland-bushland	848 551
Ihorombe	
Anthropic, Cultivated Areas	31 858
Bare Soil/Rock	910
Degraded Humid Forest	4 145
Degraded south western dry spiny	582

mosaic	
Water	12 955
Western Dry Forest	1 928
Wetlands/Marshlands	8 014
Wooded grassland-bushland	294 354
Analanjirofo	
Anthropic, Cultivated Areas	330 973
Bare Soil/Rock	26
Degraded Humid Forest	752 444
Humid forest	977 693
Littoral forest	1 190
Plateau grassland-wooded grassland mosaic	19 768
South western dry spiny forest-thicket	20
Unknown	10 601
Water	7 227
Wetlands/Marshlands	12 505
Wooded grassland-bushland	62 961
Androy	
Anthropic, Cultivated Areas	69 881
Bare Soil/Rock	6 817
Degraded south western dry spiny forest	190 679
Humid forest	69
Plateau grassland-wooded grassland mosaic	959 860
South western coastal bushland	42 116
South western dry spiny forest-thicket	444 805
Unknown	3
Water	326
Wetlands/Marshlands	556
Wooded grassland-bushland	151 653
Anosy	
Anthropic, Cultivated Areas	50 555
Bare Soil/Rock	2 730
Degraded Humid Forest	131 249

forest	
Humid forest	142 600
Plateau grassland-wooded grassland mosaic	1 175 422
South western dry spiny forest-thicket	2 573
Tapia forest	59 944
Water	4 557
Western Dry Forest	2 161
Western humid forest	10
Western sub-humid forest	13 744
Wetlands/Marshlands	7 749
Wooded grassland-bushland	1 164 519
Itasy	
Anthropic, Cultivated Areas	46 161
Humid forest	3 419
Plateau grassland-wooded grassland mosaic	527 419
Tapia forest	8 496
Water	5 696
Western Dry Forest	5
Wetlands/Marshlands	9 003
Wooded grassland-bushland	46 970
Matsiatra Ambony	
Anthropic, Cultivated Areas	23 845
Bare Soil/Rock	443
Degraded Humid Forest	852
Humid forest	72 432
Plateau grassland-wooded grassland mosaic	1 293 544
Tapia forest	3 266
Water	4 670
Western Dry Forest	5
Western sub-humid forest	3 114
Wetlands/Marshlands	11 804
Wooded grassland-bushland	674 351
Melaky	

Degraded south western dry spiny forest	2 212
Humid forest	226 616
Littoral forest	2 130
Plateau grassland-wooded grassland mosaic	1 520 761
South western dry spiny forest-thicket	284 833
Unknown	17
Water	12 457
Wetlands/Marshlands	2 849
Wooded grassland-bushland	722 539
Atsimo Andrefana	
Anthropic, Cultivated Areas	197 996
Bare Soil/Rock	204 788
Degraded south western dry spiny forest	341 556
Humid forest	28
Mangroves	8 423
Plateau grassland-wooded grassland mosaic	2 288 345
South western coastal bushland	131 232
South western dry spiny forest-thicket	1 101 968
Tapia forest	56 871
Unknown	51
Water	56 327
Western Dry Forest	54 777
Western humid forest	7 201
Western sub-humid forest	322 668
Wetlands/Marshlands	41 023
Wooded grassland-bushland	1 837 466
Atsimo Atsinanana	
Anthropic, Cultivated Areas	75 148
Bare Soil/Rock	314
Clouds	253
Degraded Humid Forest	480 441
Humid forest	332 852

Anthropic, Cultivated Areas	143 396
Bare Soil/Rock	25 130
Humid forest	17 200
Mangroves	33 112
Plateau grassland-wooded grassland mosaic	2 741 234
Unknown	66
Water	37 867
Western Dry Forest	589 953
Wetlands/Marshlands	80 202
Wooded grassland-bushland	401 347
Menabe	
Anthropic, Cultivated Areas	152 804
Bare Soil/Rock	146 934
Degraded south western dry spiny forest	283
Humid forest	28 351
Mangroves	26 484
Plateau grassland-wooded grassland mosaic	2 252 587
South western dry spiny forest-thicket	102
Unknown	54
Water	34 611
Western Dry Forest	790 535
Western sub-humid forest	61 476
Wetlands/Marshlands	42 742
Wooded grassland-bushland	1 349 107
Sava	
Anthropic, Cultivated Areas	98 816
Bare Soil/Rock	5 070
Clouds	25
Degraded Humid Forest	875 543
Humid forest	815 857
Littoral forest	8 679
Mangroves	1 471

Littoral forest	3 861
Plateau grassland-wooded grassland mosaic	110 905
South western dry spiny forest-thicket	3
Unknown	32
Water	8 658
Wetlands/Marshlands	5 351
Wooded grassland-bushland	636 015
Atsinanana	
Anthropic, Cultivated Areas	139 330
Bare Soil/Rock	3 001
Clouds	6
Degraded Humid Forest	1 528 873
Humid forest	382 912
Littoral forest	5 659
Plateau grassland-wooded grassland mosaic	42 776
Unknown	56
Water	22 757
Wetlands/Marshlands	21 271
Wooded grassland-bushland	55 407
Betsiboka	
Anthropic, Cultivated Areas	95 989
Bare Soil/Rock	12 295
Degraded Humid Forest	175
Humid forest	21 048
Mangroves	41
Plateau grassland-wooded grassland mosaic	2 164 961
Tapia forest	2 296
Water	24 294
Western Dry Forest	99 223
Wetlands/Marshlands	7 870
Wooded grassland-bushland	524 894
Boeny	
Anthropic, Cultivated Areas	214 117
Plateau grassland-wooded grassland mosaic	141 211
Unknown	56
Water	10 583
Western Dry Forest	50 148
Wetlands/Marshlands	3 886
Wooded grassland-bushland	355 290
Sofia	
Anthropic, Cultivated Areas	222 812
Bare Soil/Rock	7 122
Degraded Humid Forest	133 050
Degraded south western dry spiny forest	2
Humid forest	468 128
Mangroves	36 002
Plateau grassland-wooded grassland mosaic	1 848 776
Unknown	32
Water	26 738
Western Dry Forest	611 627
Wetlands/Marshlands	68 566
Wooded grassland-bushland	1 673 974
Vakinakaratra	
Anthropic, Cultivated Areas	15 427
Bare Soil/Rock	37
Degraded Humid Forest	6 143
Humid forest	66 564
Plateau grassland-wooded grassland mosaic	1 167 960
Tapia forest	191
Water	6 601
Western Dry Forest	1 474
Wetlands/Marshlands	3 827
Wooded grassland-bushland	536 830
Vatovavy Fitovinany	
Anthropic, Cultivated Areas	48 187
Bare Soil/Rock	1 859

Bare Soil/Rock	98 843
Humid forest	2
Mangroves	52 789
Plateau grassland-wooded grassland mosaic	1 273 388
Unknown	145
Water	52 211
Western Dry Forest	673 483
Wetlands/Marshlands	60 986
Wooded grassland-bushland	557 100

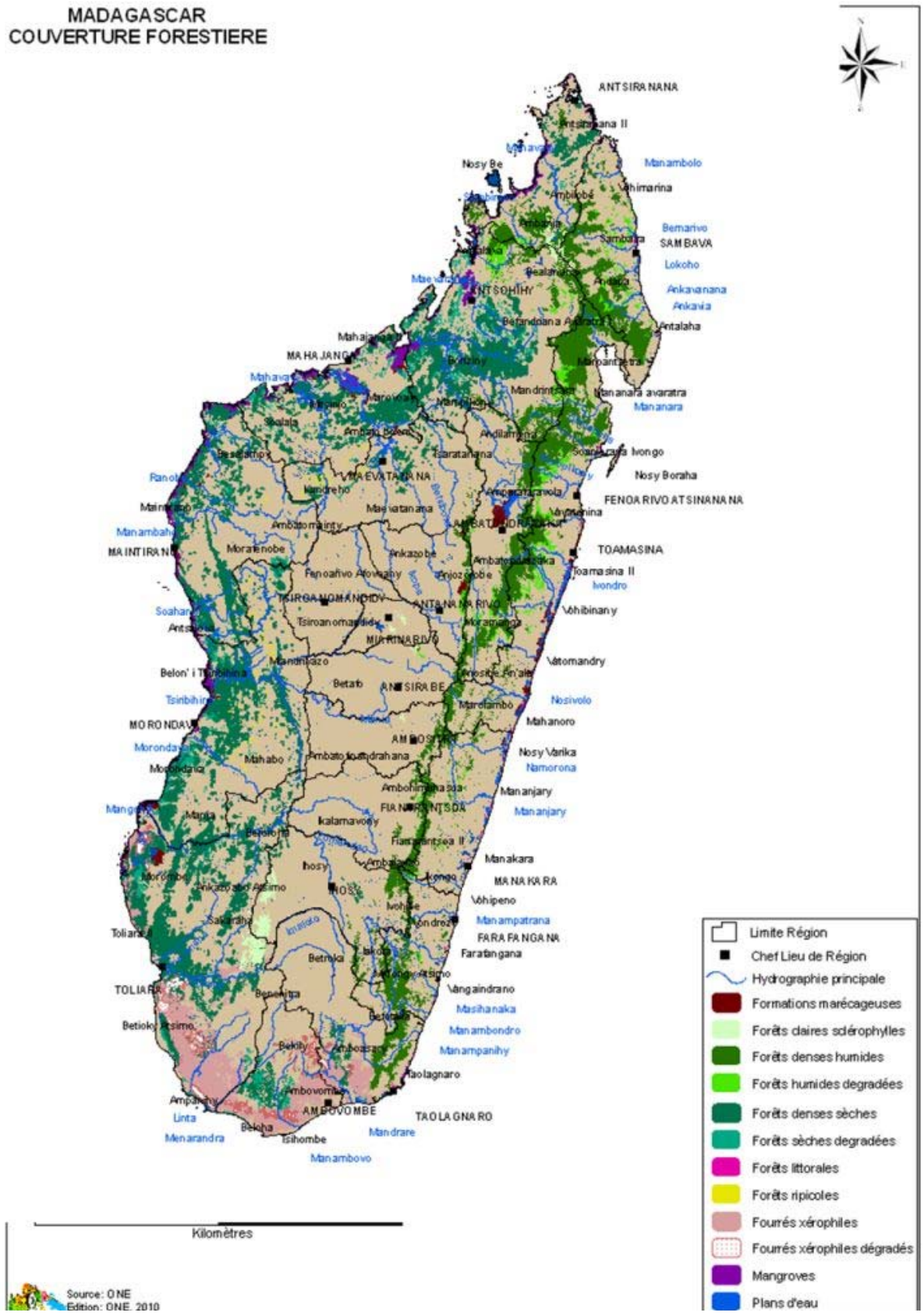
Degraded Humid Forest	1 439 126
Humid forest	178 370
Littoral forest	3 849
Plateau grassland-wooded grassland mosaic	21 846
Unknown	144
Water	11 376
Wetlands/Marshlands	32 700
Wooded grassland-bushland	335 242

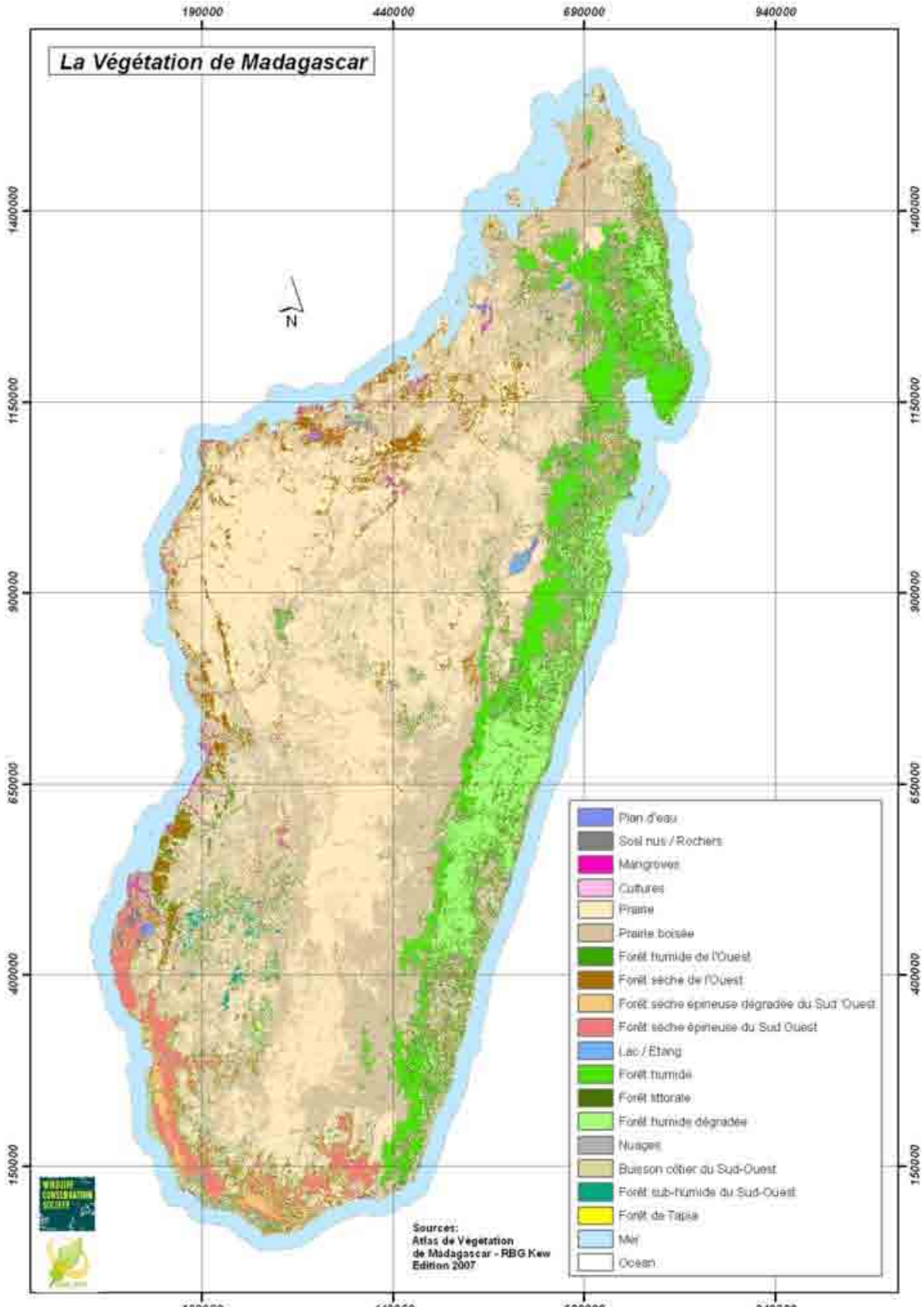
Annex 3-2. Summary of methodology approaches used by pilot projects

STEPS				CI	WCS	ESSA - Forêts	WWF/GP (PHCF)
1-REMOTE SENSING		Software used	Image processing/GIS	X	X	X	X
			CLASlite				X
2-INVENTORY	COMPONENTS	Software used to calculate the number of required plots	Plot Calculator	X	X		
		Aboveground biomass		X	X	X	X
		Belowground biomass (root)		X		X	X
		Litter			X		X
		Dead wood		X	X		
	FIELD INVENTORY METHODOLOGY	Organic soil carbon					X
		Adopted method	Standard by Winrock International	X	X	Minimal area	
			Destructive				X(partial)
		Plot	Non destructive	X	X	X	
			Temporary	X	X		
			Permanent			X	
3-PROCESSING		Scale of the study	Local (project level)	X	X	X	X

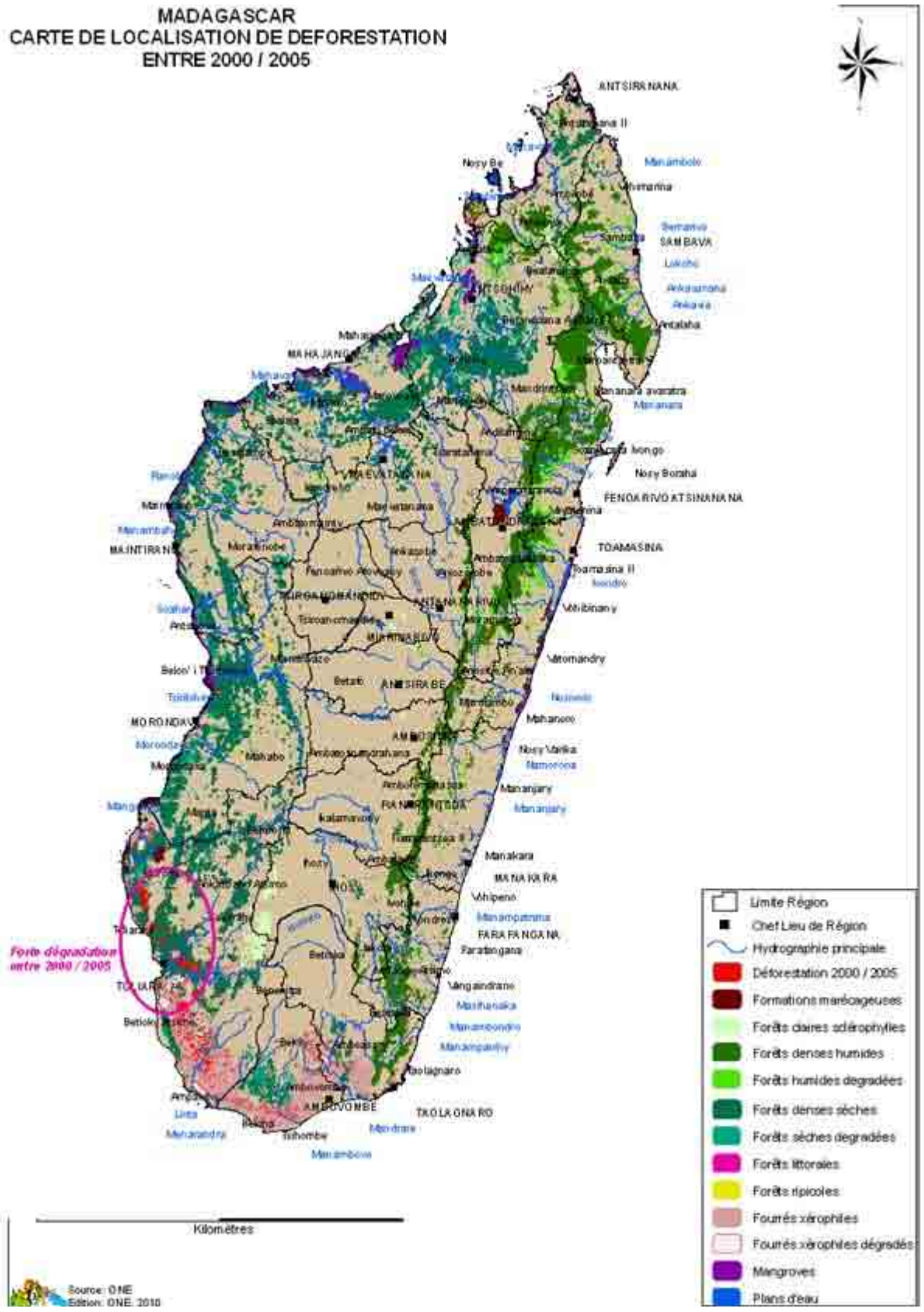
	Equations used	**Standard allometric equations**	**X**	**X**		
		Local allometric equations			**X**	**X**
	Method/software used for carbon quantification	**Plot Calculator**	**X**	**X**		
		LIDAR				**X**
4-MONITORING AND CONTROL	**Reference scenario**				**X**	**X**
	Field survey			**X**		
	Remote sensing			**X**	**X**	**X**

Annex 3-3. Maps of Madagascar ecosystems

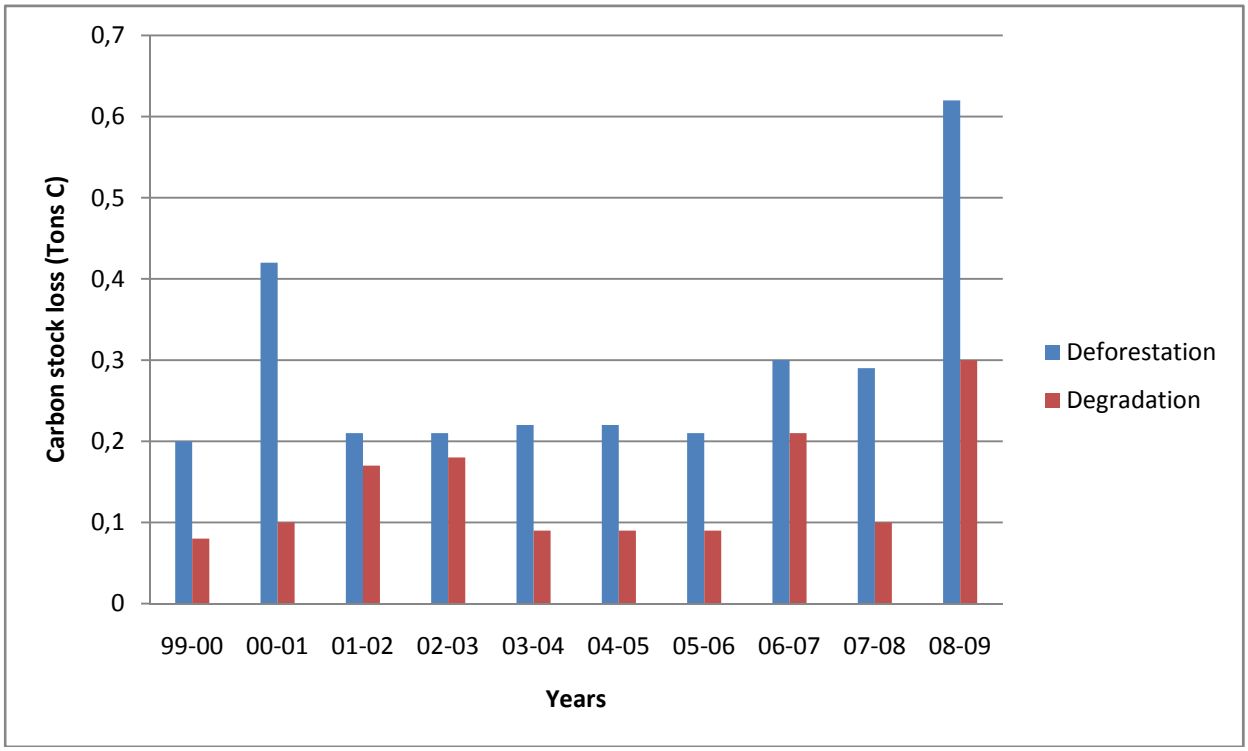

MADAGASCAR
COUVERTURE FORESTIERE
ANTSIRANANA
Nosy Be
Manambolo
Bemarivo
SAMBAVA
Lokoho
Ankavanana
Ankanka
Antalaha
MAHAJANGA
Mananara avaratra
Mananara
Nosy Boraha
FENOARIVO ATSINANANA
TOAMASINA
Toamasina II
Ivondro
Vohibinany
Vatomandry
Nosivolo
Mahanoro
Nosy Varika
Namorona
Mananjary
Manakara
MANAKARA
Vohipeno
Manampatrana
FARAFANGANA
Farafangana
Vangaindrano
Masihanaka
Manambondro
Manampanihy
Taolagnaro
TAOLAGNARO
Mandrare
Manambovo
Limite Région
Chef Lieu de Région
Hydrographie principale
Formations marécageuses
Forêts claires sclérophylles
Forêts denses humides
Forêts humides degradées
Forêts denses sèches
Forêts sèches degradées
Forêts littorales
Forêts ripicoles
Fourrés xérophiles
Fourrés xérophiles dégradés
Mangroves
Plans d'eau
Kilomètres
Source: ONE
Edition: ONE, 2010


La Végétation de Madagascar
190000
440000
690000
940000
1400000
1150000
900000
650000
400000
150000
N
Plan d'eau
Sol nus / Rochers
Mangroves
Cultures
Prairie
Prairie boisée
Forêt humide de l'Ouest
Forêt sèche de l'Ouest
Forêt sèche épineuse dégradée du Sud Ouest
Forêt sèche épineuse du Sud Ouest
Lac / Etang
Forêt humide
Forêt littorale
Forêt humide dégradée
Nuages
Buisson côtier du Sud-Ouest
Forêt sub-humide du Sud-Ouest
Forêt de Tapia
Mer
Ocean
Sources:
Atlas de Végétation
de Madagascar - RBG Kew
Edition 2007


MADAGASCAR
CARTE DE LOCALISATION DE DEFORESTATION
ENTRE 2000 / 2005
ANTSIRANANA
MAHAJANGA
TOAMASINA
FIANARANTSOA
TOLIARA
Kilomètres
Limite Région
Chef Lieu de Région
Hydrographie principale
Forêts en 2005
Déforestation 00 - 05
Mangroves
Plans d'eau
Source : Conservation International
Edition: ONE, 2010


MADAGASCAR
CARTE DE LOCALISATION DE DEFORESTATION
ENTRE 2000 / 2005
ANTSIRANANA
Nosy Be
SAMBAVA
MAHAJANGA
TOAMASINA
FENOARIVO ATSINANANA
MAINTIRANO
MORONDAVA
MANAKARA
FARAFANGANA
TOLIARA
TOLAGNARO
AMBOVOMBE
Forte dégradation entre 2000 / 2005
Kilomètres
Source: ONE
Edition: ONE, 2010
Limite Région
Chef Lieu de Région
Hydrographie principale
Déforestation 2000 / 2005
Formations marécageuses
Forêts claires sclérophylles
Forêts denses humides
Forêts humides degradées
Forêts denses sèches
Forêts sèches degradées
Forêts littorales
Forêts ripicoles
Fourrés xérophiles
Fourrés xérophiles dégradés
Mangroves
Plans d'eau

Annex 3-4. Relative significance of emissions from deforestation and from forest degradation



Source: Carnegie Institution for Science, Stanford University, 2009.

Annex 3-5. The SEAS-OI Project.

The **SEAS-OI Project (Satellite-Assisted Environmental Surveillance in the Indian Ocean)** aims at implementing an excellence pole in spatial remote sensing for the management of the territories of the south-west Indian Ocean region. This pole includes a direct reception antenna of very high-resolution radar and optical satellites such as SPOT, ENVISAT, etc. associated with a center on image processing and geomatics, focused on the observation of Earth for the sustainable management of natural resources and territories of the Indian Ocean.

The program is based on a close partnership between **the State, the Reunion Region, IRD, and the University of La Reunion** under CPER-PO 2007-2013.

The project will lead to:

- The establishment of a technological reception (X band and L band) and data processing platform, and a building to host research teams from scientific structures. This involves strengthening methodological fields and extending research thematic areas.
- The development of observatories through spatial environmental analysis aiming at sustainable development in the South-West Indian Ocean, through regional cooperation with institutions from regional countries.

Located in La Reunion, this direct reception structure will acquire images taken by some satellites over the antenna's coverage area, or a circle of about **2,500 km of radius**, including:

- The States of the Indian Ocean,
- The Mozambique Canal, Mayotte, and the Scattered Islands,
- Mozambique,
- Malawi,
- Swaziland,
- The south-east quarter of Tanzania, and
- A north-east part of South Africa.

This multi-satellite reception station will receive from optical and radar satellites such as SPOT, Pléiades, ENVISAT, and RADARSAT for operational applications such as surveillance of exclusive economic zones (illegal fishing) and mapping of land use trends (in partnership with Madagascar for tenure, forest, and coastal area monitoring). Reception of other satellites data such as CBERS (Brazil, China) and IRS (India) will help ensure access to important series of images at various resolutions to meet long term needs of environmental data.

Policies involve cost-free data access to enhance the excellence pole and its attractiveness, develop regional cooperation in priority areas of the IOC countries, and promote innovation.

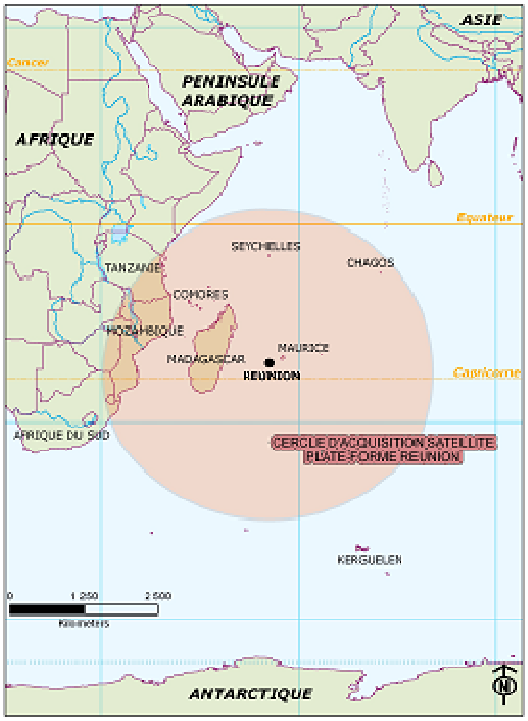
Associated with the reception station at Kerguelen Islands, it will complete the surveillance of the southern EEZs of France.

The SEAS-OI Project will lead to:

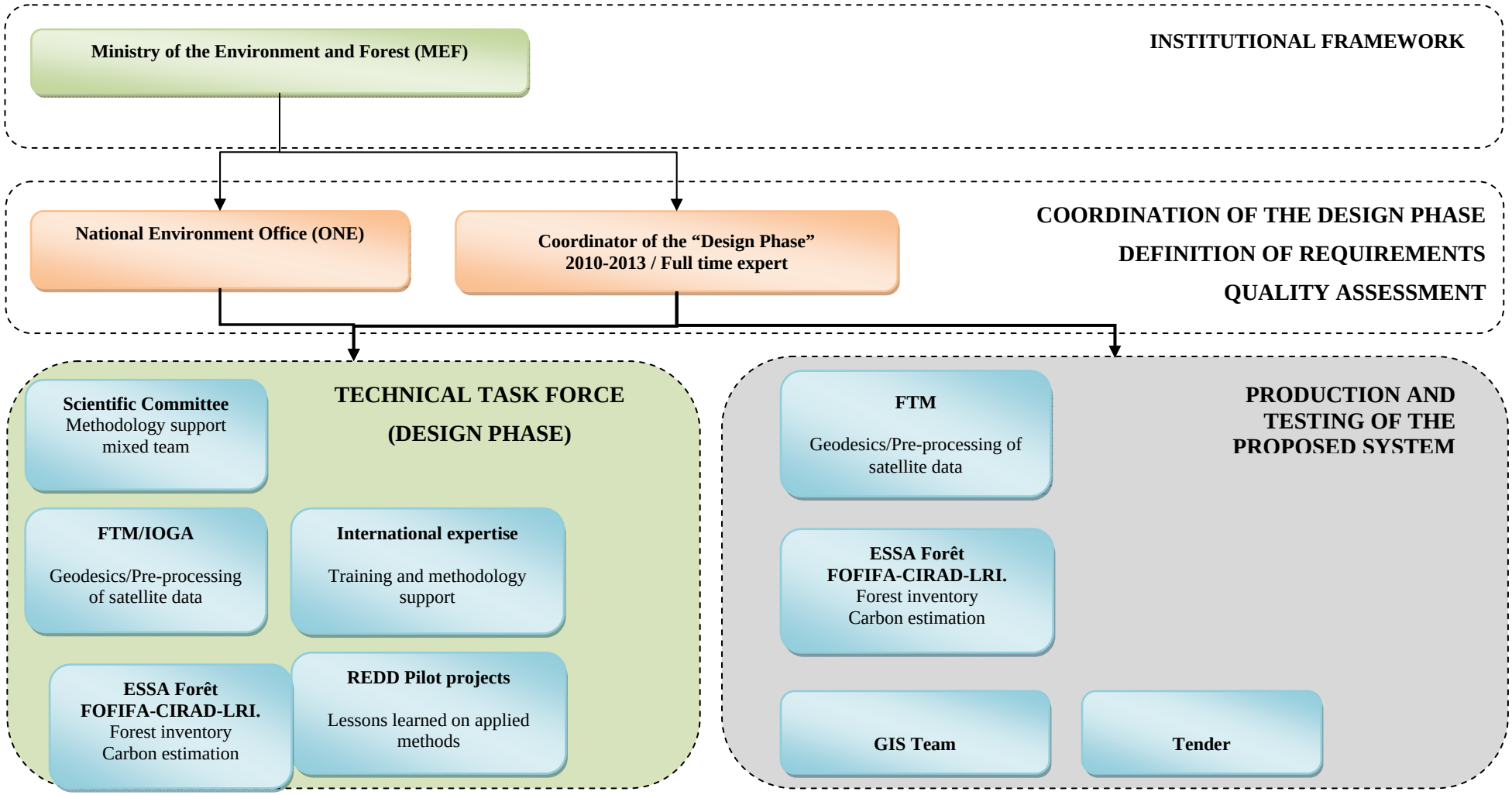
- Professional training in La Réunion for remote sensing and spatial analysis experts, for the entire area
- Transfer of knowledge to regional countries. One of the priorities of the tool is to enhance cooperation agreements between IOC partners and southern and eastern African countries. La Réunion will become a major player in the international network of observatories that is being implemented under regional, national, European, and international initiatives (GMES, GEO/GEOSS, AMESD, etc.)
- Transfer to the economic sector through a solid partnership between the private sector and the various stakeholders of the project (spatial agencies, territorial collectivities, industries of the space sector, environment players), to be reflected by support to creation of innovative enterprises (in relation with regional incubators) in geomatics, remote sensing, environmental and territorial observation.

On the scientific level, this project will be completed with capacity-building of local teams and establishment of regional programs on research and pilot applications. This will be reinforced by hosting French and foreign experts (including from IOC). The following areas will be developed: land planning, agriculture, forest management, monitoring of marine and coastal habitat, epidemiological surveillance, risk management, etc.

Resources mobilized by this project will be allocated to the installation of a reception system of satellite images and implementation of structures for remote measure, processing, analysis, construction of an infrastructure for associated research (building and equipment) on the Terre Sainte University Campus at Saint-Pierre.



Annex 4a-1. Roles and responsibilities for the MRV system design phase

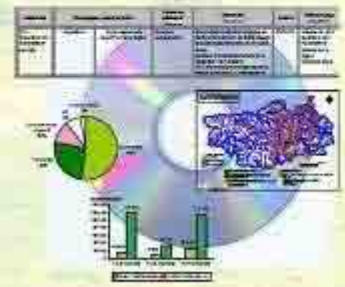


Annex 4a-2. Environmental Dashboard and Social Dashboard

Office National Pour L'Environnement

Tableau de Bord Environnemental

- TBE -



OBJECTIFS

Le **TBE** est conçu comme l'outil de suivi de l'état de l'environnement et de son évolution, qui devra permettre :

- une plus grande sensibilisation des acteurs de la vie économique aux questions environnementales
- d'évaluer les impacts environnementaux des différentes politiques et activités économiques
- et d'orienter la politique des décideurs et les activités des différents acteurs

THEMES

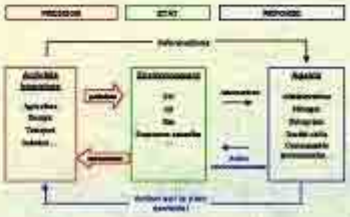
- **La biodiversité**
- **Le sol et le couvert végétal**
- **Le littoral**
- **Les eaux continentales**
- **Le climat et les changements climatiques**
- **L'environnement urbain**
- **Les facteurs socio-économiques**
- **Le Programme Environnement**

DISPONIBLES

- Différentes bases de données relatives à chaque thème du TBE
- TBE National : 2001, 2002, 2003, 2008
- TBE Provincial: Antananarivo (2002), Fianarantsoa (2002), Toamasina (2001), Toliara (2003), Mahajanga (2003), Antsiranana (2003)
- TBE Régional : Menabe-2004, DIANA-2006, Anosy-2005, Vakinankaratra-2005, Melaky-2006, Androy-2009, Atsimo Atsinanana-2009, Atsimo Andrefana-2008, Alaotra Mangoro-2009, SAVA-2009, SOFIA-2009, Amoron'i Mania-2007, Matsiatra Ambony-2007, Vatovavy Fitovinany-2009, Analanjirofo-2009, Atsinanana-2009, Itasy-2008, Bongolava-2008, Ihorombe-2007, Boeny-2006
- TBE sous-régional (Mangoro-2004)

INDICATEURS

Les indicateurs du TBE sont organisés selon le cadre méthodologique basé sur la trilogie Etat-Pression-Réponse (OCDE)



POURQUOI UN TBE ?

- Evaluer le progrès et la gestion de l'environnement et des ressources naturelles
- Moderniser les outils de suivi et d'analyse de l'état de l'environnement
- Intégrer les décisions économiques et environnementales
- Associer développement régional et gestion durable des ressources naturelles
- Améliorer l'efficacité des interventions de l'Etat
- Orienter les investissements

POUR QUI ?

Le TBE est un outil d'aide à la décision destiné aux décideurs et acteurs économiques à tous les niveaux ; les gestionnaires de l'environnement ; les universités et centres de recherche ; les bureaux d'études ; les étudiants et élèves ; les touristes ; les journalistes et tous les autres faiseurs d'opinions.

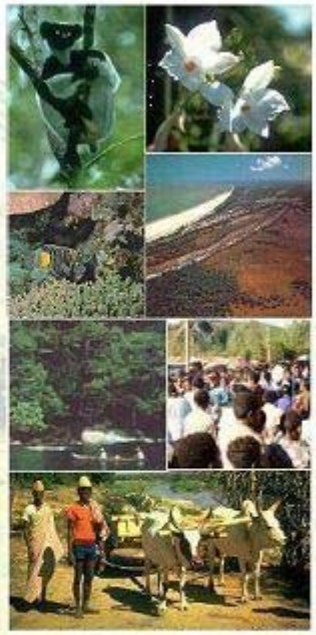
PRINCIPES GENERAUX

- L'élaboration du TBE est participative
- L'identification des indicateurs et l'élaboration du TBE partent des besoins des utilisateurs
- Les indicateurs environnementaux régionaux expriment les spécificités et préoccupations environnementales régionales
- Le TBE est évolutif et interactif
- La valorisation et la promotion des outils sont primordiales

COMMENT Y PARVENIR ?

Le système d'informations basé à l'ONE consiste à :

- rassembler les informations à travers un réseau thématique et/ou régional.
- concevoir et développer les indicateurs permettant un meilleur suivi de l'environnement.
- diffuser les informations par le biais des rapports périodiques sur l'état de l'environnement et des kits pédagogiques.
- produire des informations et analyses géospatiales concernant l'état des écosystèmes naturels à partir de l'exploitation des images satellite
- élaborer un système statistique devant aboutir à une comptabilité de l'environnement pouvant être éventuellement intégré à terme dans la comptabilité économique nationale.



Direction des Informations Environnementales
ONE, BP 822 Antaninarenina, 101 Antananarivo

e-mail : die.one@pnae.mg
url : http://www.pnae.mg/tbe
Tél : (261.20).22.259.99
Fax : (261.20).22.306.93

SOCIAL DASHBOARD (TBS)

It is a monitoring tool using various social indicators mentioned in the PRSP and in the declaration of the United Nations Millennium Development Goals (MDG).

The Social Outlook also includes all economic, social, and environmental sectors and highlights the various aspects of the country's life on a spatial and temporal level. However, it is far from being exhaustive as some socioeconomic aspects are not included. Continuous efforts from the various economic actors to design and update the document are welcome, to contribute to poverty reduction.

Objective The TBS is a social measure and monitoring tool of development and poverty in Madagascar. It also aims at gathering, aligning, and valorizing existing information and making them available to users. In addition, it should be integrated in the national and regional statistics system and contribute to complete any missing data.

Structure. TBS includes an introduction on the collection methods with a definition of the main indicators. The second part summarizes the indicators at national level and analyses temporal trends for the various sectors. The last part indicates the detailed indicators according to sources of information.

***Processed indicators include*:**

- Population and demographics
- Macroeconomic network
- External trade
- Human development
- Access to water and electricity
- Health
- Education
- Agriculture, livestock, and fisheries
- Justice
- Infrastructure
- Employment
- Transport
- Livelihoods
- Tourism
- Environment
- Mining
- Security
- Justice

Available TBS

TBS

- TBS 2003
- TBS 2002
- TBS 2001

Regional TBS (TBSR)

- TBS 2002 for Toamasina
- TBS 2002 for Fianarantsoa

Annex 4b. Participation typology

Form/level of participation	Characteristic features
Nominal participation	Membership in the group
Passive participation	Being informed with decisions (post facto), or attending meetings and listening in on decision-making, without speaking up.
Consultative participation	Being asked an opinion in specific matters, without guarantee of influencing decisions
Activity-specific participation	Being asked to (or volunteering to) undertake specific tasks
Active participation	Expressing opinions, whether or not solicited, or taking initiatives of other sorts
Interactive (empowering) participation	Having voice and influence in the group's decisions

Source: Agarwal (2001).