

**Final Report:
Environmental Management
Support Project (PAGE)
May 24, 1999–July 15, 2002**

September 15, 2002

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Final Report:
Environmental Management Support Project (PAGE)
May 24, 1999–July 15, 2002

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Environmental Policy and Institutional Strengthening Indefinite Quantity Contract (EPIQ)

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Acronyms

AGEX	Agence d'Exécution
AGERAS	Appui à la Gestion Régionalisée de l'Environnement et à l'Approche Spatiale
ANGAP	Association Nationale pour la Gestion des Aires Protégées
CAN	Comité National de Lutte Antiacridienne
CBFM	community-based forest management
CBT	computer-based training
CDM	Clean Development Mechanism
CEAP	Commission d'Audience et d'Enquête Publique
CETEDIE	Centre Temporaire de Distribution d'Information Environnementales
CFE	Comité de Fonds pour l'Environnement
CFSIGE	Centre de Formation aux Sciences de l'Information Géographique et de l'Environnement
CI	Conservation International
CIDE	Centre d'Information et de Documentation sur l'Environnement
CIME	Comité Interministériel pour l'Environnement
CMP	Comité Multi-Local de Planification
CNE	Conseil National pour l'Environnement
CNOE	Comité National pour l'Observation des Elections
CRD	Regional Development Committee
CTE	Comité Technique d'Evaluation
DAF	Directeur Administratif et Financier
DEA	Diplôme d'Etudes Approfondies
DESS	Diplôme d'Etudes Scientifiques Supérieures
DGEF	Direction Général des Eaux et Forêts
DSRP	Document Stratégique sur la Réduction de Pauvreté
EIA	environmental impact assessment
EIE	etude d'impact environnementale
EP	Environment Program
EPIQ	Environmental Policy and Institutional Strengthening Indefinite Quantity Contract
ESSA	Ecole Supérieure des Sciences Agronomiques
FAO	Formation Assiste par l'Ordinateur
FCE	Fianarantsoa Cote Est
FFN	fonds forestier national
FFR	fonds forestier régional
FID	Fonds d'Intervention pour le Développement
GEF	Global Environment Facility

GELOSE	Gestion Locale Sécurisée
GIS	geographic information system
GOM	Government of Madagascar
GTZ	Gesellschaft für Technische Zusammenarbeit (German government corporation for international development)
HIPC	highly indebted poor country
IRG	International Resources Group
LDI	Landscape Development Interventions
MECIE	Mise en Compatibilité des Investissements avec l'Environnement
MEF	Ministère des Eaux et Forêts
MEG	Madagascar Ever Green
MEM	Ministère d'Énergie et des Mines
MinEnv	Ministère de l'Environnement
NEAP	National Environmental Action Plan
NGO	non-governmental organization
ONE	Office National de l'Environnement
PACT	Participating Agencies Cooperating Together
PADR	Plan d'Action pour le Développement Rural
PAGE	Projet d'Appui à la Gestion de l'Environnement
PGEP	Plan de Gestion Environnementale du Projet
PREE	Programme d'Engagement Environnemental
QMM	Qit Fer Minerals Madagascar
REBIOMA	Réseau de biodiversité de Madagascar
SEA	strategic environmental assessment
SIE	Système d'Informations Environnementales
SIGE	Système d'Information et de Gestion Environnementale
TA	technical assistance
TM	Tany Meva
USAID	U.S. Agency for International Development
WCS	Wildlife Conservation Society
WWF	World Wildlife Fund for Nature
ZAES	zone d'activité économique spéciale
ZIE	zone d'intérêt éco-touristique

Section One: The Environmental Management Support Project (PAGE)—Context, Objectives and Expected Results

The Environmental Management Support Project, otherwise known as PAGE (Projet d'Appui à la Gestion de l'Environnement), was an Environmental Policy and Institutional Strengthening Indefinite Quantity (EPIQ) project. The U.S. Agency for International Development financed it, and International Resources Group implemented it during the period of May 1999 to July 2002. At the time the initial contract was signed, the contract value was \$8.1 million.

Designed as a support project, its main objectives were to work with the key environmental institutions to: (i) make sure these environmental institutions are financially autonomous; (ii) improve the integration of environmental issues into national, regional, and local policy, regulation, and decision making efforts; and (iii) make sure that environmental institutions use environmental information effectively to monitor environmental changes.

PAGE's initial contract, effective May 24, 1999, served as the guiding document for preparation of an initial PAGE work plan, submitted sixty days after the team mobilized in Madagascar. That initial contract and work plan included four broad impact areas: (1) sustainable financing; (2) environmental policy; (3) environmental impact assessment; and, (4) ecological monitoring. Before an official approval of this work plan, however, USAID decided to reduce the ceiling price of the contract from \$8.1 million to \$6.2 million. PAGE's contract was subsequently modified in July 2000 and a new work plan was formally approved in October 2000. The revised contract included the same four broad impact areas, but was more tightly focused around a smaller number of potential activities.

Throughout the remainder of this document, the term "PAGE contract" refers to this modified contract of July 2000. Similarly, by the "PAGE work plan" we refer to this work plan approved in October 2000.

Throughout its implementation, PAGE has benefited from a close working collaboration with key environmental partners in country. Our primary clients, ONE, ANGAP and the Ministry of the Environment, have been our closest partners in achieving what we describe below. The Miray Consortium—including PACT, WWF and CI—assisted and collaborated with PAGE at numerous times through implementation of this project. We also worked closely with the Landscape Development Interventions (LDI) Project, implemented by Chemonics International.

A. Expected Impact Areas as per PAGE Contract

As per PAGE's contract, the following broad impacts were expected. The language describing each of the impacts is drawn directly from the revised PAGE contract. The four impact areas are stated as follows:

- (1a) Sustainable Financing: "Increase the Financial and Institutional Capacity of Tany Meva Foundation"
- (1b) Sustainable Financing: "Implement Systems to Increase Revenue and Reduce Management Costs for Environment Agencies"
- (1c) Sustainable Financing: "Ensure Effective Financial Management Systems in Selected Malagasy NEAP Institutions"

- (2) Environmental Policy: “Improve the Integration of Environment Issues into National and Regional Policy Decisions”
- (3) Environmental Impact Assessment: “Ensure Environmental Considerations are Incorporate in the Investment Process—In Particular Through the Application of Environmental Impact Assessments”
- (4) Ecological Monitoring: “Improve Quality, Access and Use of Ecological Information in Decision-making”

B. Expected Results as Per the Final Approved PAGE Work Plan

These broad impact areas were translated in the approved PAGE work plan into 33 specific results across the four primary components. These 33 results are shown in Table 1 below.

In this same work plan, the PAGE team identified seven “cross-cutting operational principles”—or ways of working—that applied to all four of the components. Of these seven principles, only a subset were translated directly into funded activities under the project. Those included the first about making information readily accessible, which we review as Result 34. It also included the goal of promoting a better understanding of the economic value of the environment, which we review as Result 35, and it included the goal of engaging non-governmental environmental constituents more actively, which we refer to and review as Result 36. Three of the principles related to building the capacity of Malagasy counterparts. This general Result area is reviewed as Result 37.

Achievement of the 33 results under the four components, and adherence to the operational principles enunciated in Results 34 to 37, have been the guiding targets of the entire PAGE team during implementation of the contract.

C. Expected Results During the PAGE March–July 2002 Extension

In the first quarter of 2002, USAID decided to extend the contract of PAGE by four months to achieve 29 additional results. In light of the deteriorating political situation in the country, it was decided soon after to modify PAGE’s contract again to reduce the number of results from 29 to 22.

In the second half of this final report, we summarize progress achieved on these 22 extension results. A list of the extension results is included in Table 2.

Section Two: Purpose and Organization of the Final Report

The purpose of this final report is to provide an assessment of PAGE's success in achieving its contractual obligations, in particular the 37 work plan results and the 22 extension period results. In Section Three, we provide a summary overview and assessment by broad category of the project, including the four initial contractual components, plus forest governance, capacity building and information management. Each of the work plan results is then reviewed in turn. For each result, we assess:

- Results achieved in May 2002
- Key deliverables
- Lessons learned
- Post-PAGE issues

For the 22 extension period results, we have simply provided a paragraph summarizing whether the result has been achieved, and in what manner.

This document not intended to be an exhaustive analysis of all the work that has been done towards achievement of each of the results. The vast majority of deliverables referred to under the results analysis are included in the PAGE end-of-project CD-ROM, and reviewed in the regular semi-annual reports and technical reports we have included there. We have tried not to repeat the content of those deliverables.

Section Three: Summary Analysis of the Progress Achieved by PAGE Relative to Its Expected Results

1. Summary Analysis for All PAGE Results

The right hand columns of Tables 1 and 2 present an assessment of the extent to which PAGE achieved the 37 work plan and 22 extension period results. These estimates of achievement are based on an initial assessment of the extent to which target indicator values were met along with a subjective assessment of the intent of the result as originally written.

For both tables we use four categories of completion: 0–25%; 26–50%; 51–75%; and 76–100%. The PAGE team used these same categories in quarterly “Result Review” meetings as the project progressed.

i. Work Plan Results

As the Table 1 shows, 18 of the 37 results were nearly or fully completed. An additional 11 results were between one half and three quarters completed. Three results—the two for Tany Meva (#1 and #2) and the one on ecological monitoring by communities (#30)—did not surpass a 25% completion level. The reasons for the obstacles to completion of Tany Meva results are discussed below, and in extension result #3.

Table 1. Work Plan Results

	Percent Achieved			
	10-25	26-50	51-75	75-100
<i>Results in Sustainable Financing</i>				
1. The value of the TM endowment increases as a result of implementing strategies to increase investment returns and reduce risk to local economic and financial fluctuations	X			
2. More funds are available to finance projects	X			
3. A new fund for parks and protected areas is established and an appropriate fund management entity is selected				X
4. A strategy for financing EP3 is approved.				X
5. One additional environmental financing mechanism (e.g., Climate Change, PL 480, Debt-for-Nature, etc.) is put in place				X
6. A long-term financing strategy for environmental activities is approved				X
7. A financial management improvement plan is created and implemented in ANGAP			X	
8. ANGAP operates according to a business plan management organization		X		
9. Financial management across AGEX's is improved, especially in linking activity control and operational budgeting			X	

	Percent Achieved			
	10-25	26-50	51-75	75-100
10. Better qualified technical and managerial staff in the area of financial management		X		
11. A more formal accountability regime between AGEX, the donors and the Ministry of the Environment is established			X	
12. The strategic plan for MOE is linked to specific results and financial resource management and better cost forecasts			X	
Results in Environmental Policy				
13. The Ministry of the Environment has a clear and realistic business strategy and work program				X
14. The organization responsibilities of key NEAP executing agencies vis-à-vis the Ministry of the Environment are clarified		X		
15. MOE advocates environment-development linkages			X	
16. In one region, decentralized environmental management responsibilities are discussed and proposed				X
17. A model for more transparent participatory forest management is tested				X
18. A direct conservation payments model is tested			X	
19. Institutional reforms needed to achieve significant progress in participatory management of forests are identified				X
20. Senior managers of MOE and ANGAP are capable of undertaking strategic planning		X		
Expected Results EIA				
21. Increase in the proportion of new mining and tourism investments that comply with requirements to conduct EIA/PREE			X	
22. Improvement in the quality of EIA/PREES in tourism or mining			X	
23. The number of consultants capable of leading an EIA/PREE increases				X
24. Improvement in quality and timeliness of EIA/PREE review by the Government				x
25. The public becomes more active in influencing the EIA/PREE process and in EIA/PREE monitoring				X
26. Strategic EIA is used to reduce the negative impact on the environment of investment in one region, and lessons are transferred to other regions				X
Expected Results Ecological Monitoring				
27. The rate of loss of priority habitats, including primary forests, in USAID focal areas is measured				X
28. USAID interventions are evaluated against change in priority habitats			X	

	Percent Achieved			
	10-25	26-50	51-75	75-100
29. Biodiversity conservation priorities are identified in USAID focal area(s) and the results incorporated into regional development plans				X
30. Model(s) for local community involvement in ecological monitoring is tested	X			
31. Key analyses of biodiversity distribution are used by decision-makers in formulating policy			X	
32. ANGAP applies appropriate ecological monitoring techniques to track achievement of strategic conservation goals			X	
33. Malagasy researchers are trained in biodiversity conservation and management				X
Expected Results Cross-cutting Activities				
34. Make information more accessible				X
35. Quantify and communicate the economic value of the environment				X
36. Support environmental involvement by the public				X
37. Strengthen the capacity of environmental professionals				X

ii. Extension Period Results

Because the Results for the 4-month PAGE extension were more clearly defined than those Results for the base period of the contract, it is easier to assess the extent to which they were achieved. During a time fraught with political uncertainties, gas shortages, an impending project closeout and the evacuation of the expatriate team, the Malagasy members of the PAGE team performed an exceptional feat in fully completing 20 of the 22 expected results. And of the two results that were only partially completed, ANGAP specifically requested that one (#7) be put on hold. This achievement of the Malagasy members of the PAGE team under such conditions is remarkable.

Table 2. Extension Period Expected Results

	Percent Achieved			
	10-25	26-50	51-75	75-100
1. A management information system is installed at Tany Meva				X
2. A system for improved management of the revolving fund at Tany Meva is installed				X
3. Tany Meva's current institutional and financial status is assessed				X
4. The processes for further development of a green tax are detailed				X

	Percent Achieved			
	10-25	26-50	51-75	75-100
5. Issues and opportunities are identified for the use of the Clean Development Mechanism in Madagascar				X
6. The next steps to increased use of regional and national forestry fund are identified				X
7. The roles and responsibilities of the ANGAP sustainable financing team are detailed			X	
8. A financial management manual is developed with and for ANGAP			X	
9. A process is proposed for generating guides for capitalizing on environment and development links				
10. Lessons are drawn from the PAGE-funded local forest communication grants program				X
11. A Malagasy-language guide is produced including key elements of forest policy, rights and responsibilities				X
12. Better coordination of communication activities in the forestry sector is promoted and key elements of a forest communication strategy are identified				X
13. A strategy for further development of forest governance, in particular in relation to community-based forest management (CBFM), is developed				X
14. Computer-based training software for preparation of EIAs/PREEs in the mining sector is completed				X
15. EIA informational sessions are held for 70 private sector investors in the mining/tourism sectors				X
16. The EIA Tracking System is improved and strengthened for long-term use at ONE				X
17. Follow-on recommendations are identified from the ZAES/ZIE strategic environmental assessments (SEA), including linkages to individual EIAs/PREEs				X
18. Follow-on recommendations are identified from the eco-toxicological impacts of locust spraying, in particular relating to current locust infestation				X
19. Follow-on recommendations are identified from the QMM public review process and technical evaluation				X
20. The Biodiversity Analysis Platform software is refined, and specialists are trained in its use				X
21. The PAGE-developed biodiversity priority setting methodology is reviewed and assessed				X
22. PAGE's documentation center is transferred to local environmental institutions				X

In the following pages, we undertake a summary analysis of PAGE's progress. The analysis is organized by broad PAGE Work Plan component.

2. Sustainable Finance: Tany Meva

Assessment of Progress

While some progress was made in providing support to Tany Meva, it was nothing near what had been expected at the beginning of the project. Soon after the beginning of the project, PAGE diagnosed a series of actions that had to take place for Tany Meva to increase its endowment and make more resources available for project investment. These recommendations were delivered by PAGE in what was received as an undiplomatic style. Those initial encounters started a period of poor relations between Tany Meva and PAGE for nearly two years. It was only in the final year of the project that better relations were re-established, and PAGE again began to provide support to Tany Meva. In spite of those improvements, Tany Meva remained hesitant to play a more active and leading role in the environment sector, and to understand its role with a broader vision than that of small grant-maker.

Outstanding Issues and Observations

PAGE has argued that the law governing Tany Meva's work must be modified in order for it to play a more active role. But even prior to modifying the law, there are steps Tany Meva can take to fulfill the leadership role they have thus far failed to play. A more complete analysis of Tany Meva's challenges can be found in the extension period Result #3.

3. Sustainable Finance: Cost Reduction and Management

Assessment of Progress

Our efforts to improve financial management and reduce costs was among the most difficult parts of program implementation. Near the end of the first year of the project, a special financial management committee was set up, with membership including the DAF of the Ministry of the Environment, the ONE, ANGAP and the Ministry of Finance. The committee was charged by the Minister of the Environment to find ways of introducing more consistent approaches to managing costs across the NEAP. While that committee met some eight times, it was not successful in making significant headway.

It was at ANGAP (more than at any other partner institution) that work on cost reduction did support achievement of expected results. Early financial management training laid the groundwork later in the project for work on financial management manuals and procedures. Midway through the project, PAGE supported work on a human resources assessment at ANGAP that was intended, among other things, to put human resource costs and allocation in line with ANGAP global objectives. PAGE also worked with ANGAP to assist in projecting costs over a 20-year horizon, an essential step in moving towards both the EP3 and the development of a trust fund.

Outstanding Issues and Observations

While progress was made in this area, it fell far short of what was expected. It was only in the final year of the project—in part as a response to likely reductions in EP funding levels—that

cost management and reduction took on greater interest for NEAP partners. The steps necessary to move forward on financial management are not as complex as in other areas of the project and the capacity exists in-country to undertake the necessary improvements. What is lacking in this area are the will to proceed and the necessary allocation of financial and human resources to make it happen.

4. Sustainable Finance: New Sources of Revenue

Assessment of Progress

Although interest on the part of partners was rather muted for cost reduction and management, it was very keen in the area of finding new sources of financing. Not least because of this interest, PAGE was able to make much more progress in this area than in cost management. Considerable progress was achieved in the areas of trust fund development, long-term development of financing mechanisms (including the work on the international symposium), carbon offset projects, conservation contracts (initially referred to as “direct payments for conservation”) and the marketing and image development for ANGAP. Each of these areas of progress is reviewed in the report below.

Outstanding Issues and Observations

While each of these mechanisms made progress during PAGE, they are long-term efforts that require continued support in order to bear fruit. The trust fund work is being supported already by WWF and CI, along with help from the Germans. The more recent technical development work on green taxes, the forestry fund, and the petroleum fund all now require the active leadership of the ministry responsible for the environment along with both sectoral ministries and the Ministry of Finance. The political uncertainties of the last eight months have rendered forward motion on these results difficult.

5. Environmental Policy

Assessment of Progress

When PAGE began in mid-1999, the institutional context for policy development in the environment was not favorable. The Ministry of the Environment had been generally content to play a passive and disengaged role in policy development. With the naming of a new minister—one that had come from ANGAP—the Ministry was keen to introduce changes to the way the EP was managed, and more generally to the role of the state (as a ministry) in setting policy. As this new perceived role for MinEnv became clear by mid-1999, there were already tensions between it and the ONE.

The request that the PAGE contract be used to provide additional support to the Ministry had been made before PAGE even began, hence the detailed contractual requirements calling for specific material support to the Ministry. With PAGE’s arrival, the Ministry immediately requested that PAGE support its efforts to engage more actively in leading the environmental sector. PAGE TA began working with the Ministry on a review of its strategic planning process, and its overall strategy for managing the sector.

Throughout the first year of PAGE’s implementation, this ONE–MinEnv tension provided the backdrop to policy development work, which advanced more slowly than it otherwise could and should have. And the most tangible reason for the delays was that the Ministry was not taking

full advantage of the capabilities of the ONE. It was not, in other words, managing ONE's capabilities to generate policy outputs, but rather trying to create its own parallel capabilities and authority. PAGE tried to encourage the Ministry to take greater advantage of the ONE, and to work more closely with them, but there was so much resentment on both sides—the MinEnv resenting the ONE because they had always had all the resources, and the ONE resenting MinEnv because they now had the power—that little productive collaboration was achieved.

In spite of the delays relating to this institutional context, PAGE was able to work with EP partners to achieve a number of key results. The development of a strategic plan with and for the Ministry was one of the most important. And the related work of joining this overall strategic plan to financial targets also sets a standard for future work of an environmental ministry.

PAGE also provided support to regional policy development. In the first year of the project, PAGE provided support to the then-developing Regional Development Committee (CRD) in Anosy. There, the *de jure* regional leader was a Committee with little statutory authority. In a second case of PAGE support to regional environmental policy development in Toamasina, the authority was the Autonomous Province of Toamasina itself, which in early 2001 requested PAGE's support—via a request to the Ministry of the Environment—to assist in developing a coherent strategy for addressing environmental issues. This process, like the one at Anosy, generated important lessons learned about the capacity of the regions to undertake such policy development processes.

Outstanding Issues and Observations

The relationship between ONE and the ministry responsible for the environment remains the key outstanding issue to be addressed for good environmental policy development to proceed in the country. The ONE continues to represent a center of excellence that the ministry must work closely with and take advantage of, but the ONE is and will remain limited in the extent to which it can play the leadership role of the Ministry, since it is not a Ministry itself.

6. Environmental Impact Assessment

Assessment of Progress

Targets for EIA development at USAID and at the beginning of PAGE focused on increases in the numbers of projects conducting and submitting EIAs for approval the environmental authorities. So as to remain more focused, PAGE paid particular attention to the mining and tourism sectors. At the time PAGE began, only three mining operations had ever submitted EIAs for evaluation and approval, and only one tourism sector operation had done so. By the end of the project, these numbers had both gone up, in the mining sector significantly, where more than 50 medium-sized operators had submitted environmental engagement plans (PREE) by the project's end. Although progress was visible in both sectors, the number of operators submitting EIAs or PREEs by comparison with the total number of those operators was still very small.

In spite of slow progress with regards to this indicator, EIA as a strategy for improving links between environment and development in Madagascar in fact moved forward rapidly. And a good measure of this improvement is apparent in the enhanced role of strategic environmental assessments and the assessments of large, public sector programs. Strategic environmental assessments—like cumulative environmental assessments, programmatic environmental assessments and sectoral environmental assessments—are designed to capture impacts

upstream from individual projects. As modified in the MECIE Decree of late 1999, “all plans, programs and policies having a significant impact on the environment” would be subjected to EIAs. At the time that decree came out, not a single public sector or donor program had been submitted to the formal EIA process. (Many donors had conducted EIAs, but none had been submitted to the review process of the government.) Only two and a half years later, with support from the PAGE team, the following public sector programs had undertaken such assessments and submitted them to the Government for review: the Fianarantsoa-Tamatave bypass road; the Isalo ZIE; the Vatomandry ZAES; the FCE re-habilitation investment; and, the Re-CAP road’s project. Correction of environmental errors on these five projects, while not as numerous as hoped for in the USAID and PAGE targets, represents a far more important contribution to improved environmental management than the submission of five new tourism or mining EIAs by they typical private investor.

In addition to improvements in strategic environmental assessments, considerable advances were also made in building capacity for the conduct and evaluation of EIAs, in improving the availability of information for EIAs, and in developing simplified communication materials to explain to public and private sector project proponents their responsibilities in conducting EIAs.

Outstanding Issues and Observations

Although progress has been made, a number of important areas remain to be addressed in order for EIA to become a permanent part of the environmental management process for the country. The roles and responsibilities for managing the EIA review process remain insufficiently clear in the latest MECIE Decree and need still to be addressed. The MinEnv is slated to chair the Technical Evaluation Committees (CTE), but rarely have the manpower to do so, that role falling often to the ONE. In effect, with changes in the new MECIE Decree, the ONE no longer has the authority to offer its own opinion, unless the MinEnv asks for it. In the end, the MinEnv has relegated the ONE to the task of secretary rather than independent technical experts, thus losing the ONE’s ability to contribute to a sophisticated analysis, and reducing their ability to play the objective and independent role expected of them in the Charter of the Environment and in the MECIE of 1995.

The financing of review of strategic environmental assessments, as well as very large project assessments, continues to need attention. The financing of EIAs from the required contribution of 0.5% by investors, while operating for small investments, is not yet working and formalized for larger investments, particularly those that are public. The donor community needs to commit itself more formally to EIA reviews and to the submission of funded projects to the ONE/MinEnv. And the effort to communicate EIA requirements to the private sector in a simplified and coherent manner must continue.

7. Ecological Monitoring

Assessment of Progress

At the beginning of the PAGE project, this component was to have been the means by which USAID tracked progress towards its overall environmental objectives. PAGE was to provide a number of direct services to the USAID environmental portfolio (e.g., measurement of key indicators and feedback on the biodiversity impacts of its activities).

The ecological monitoring component, led by Birdlife International, was able to achieve most of what it set out to accomplish, with the exception of community monitoring support.

Under the component, PAGE formalized a process, proposed to the EP committee, for generating a statistical viable and defensible measurement of forest cover change over time. The approach included specific instructions for everything from selection of remote sensing images to detailed field procedures for conducting ground-truthing. The ONE/PAGE forest cover change study in three eastern forests of the country provided, for the first time in the country, a forest cover change study for a forest of significant size that was fully ground-truthed.

PAGE's work on biodiversity priority setting, developed and applied first in the Anosy Region and later in Moramanga and elsewhere, offered an accessible and yet sound methodology for setting biodiversity priorities that could be (and was) led and managed by Malagasy researchers.

And PAGE's support to the "Plateforme d'analyse sur la biodiversite" (now the REBIOMA—reseau de biodiversite de Madagascar) has provided both a conservation planning tool and a vehicle for repatriating data on Madagascar's biodiversity found outside the country. Other successes, like the targeted studies on biodiversity at Bongolava and the work with ANGAP on ecological monitoring, while not as visible as these major results, also bear mentioning.

Outstanding Issues and Observations

REBIOMA continues to be supported by the WCS and by Princeton University. It has already supported repatriation of some 30,000 data elements, and work continues. The roles of a national NGO to lead the process and other key institutions is getting resolved. It is exceedingly important to continue the work begun under this. The tool, apart from other potential uses, can be used in the future to screen any major project for potentially negative biodiversity impacts.

8. Forest Governance and Civil Society

When PAGE began, it was not envisioned that we would contribute to forest governance or the development of civil society. At the invitation of USAID, PAGE proposed a governance and civil society development program in late 2000 that we implemented during 2001 and 2002. Because the integrated support program for forest governance was not finalized until after the work plan was completed and approved, some elements of the program do not appear in that plan.

Broadly, PAGE's forest governance work included a number of distinct but inter-related activities:

- Civil society strengthening training and grants fund;
- Give support to forest policy development that is focused around good governance;
- Support to both NGOs and the MEF on improvement of forest communication strategies and techniques;
- Testing at field level of these communication and governance approaches in two regions; and
- Support to the establishment of regional forest observatories, designed to engage regional actors in an improved awareness of decisions concerning forest resource allocation.

Assessment of Progress

In its support to strengthening civil society engagement in improved forest governance, the PAGE program represents but a start of all that needs to be done. A number of NGOs have increased both their awareness of and the engagement in, forest governance activities, most notably, CNOE, Madagascar Ever Green, ASOS, Malagasy Mahomby and others. Important communication materials have been developed by the CNOE and other NGOs, with support from PAGE and collaboration of the MEF. PAGE and the MEF have collaborated closely first on a general policy orientations of the institution and more recently on an approach to moving forward on governance as a top priority. The recently completed strategy for improved forest governance provides a roadmap for such improvements.

Outstanding Issues and Observations

The time is ripe for work with NGOs on citizen rights and responsibilities for participating in forest management. The recent elections, and controversies surrounding them, has raised awareness across civil society of not only their rights, but the power and influence they can have when it gets involved. The Government, for its part, has since the early days after the recent election, made transparency and good governance a key mantra. Its willingness to find ways to improve governance, in particular by increasing transparency, has not been seen in Madagascar in recent decades, and perhaps ever. The roadmap for improvements has been proposed, with an important contribution from the PAGE team. But the momentum of these past months should not be lost.

9. Information Management, Technology and Accessibility

Assessment of Progress

In its work plan, PAGE committed itself to ensuring that we would “rendres les informations facilement accessibles.” Programmatically, this translated into our work at our temporary documentation center (the CETEDIE), our web site (www.irgltd.mg), and into the production and distribution of a number of some seven CDROMs designed to make previously inaccessible documents more easily available.

Assessment of Progress

Such CDROMs were produced for the transport EIAs, environmental economics, carbon sequestration, the CFSIGE EIA intern theses, and others. The CETEDIE was put in place, and eventually transferred to the ONE’s CIDE, where it is available today to the public. Nearly a gigabyte of documents have been scanned and made available via these numerous CDROMs, addressing a constraint noted by EIA consultants (and others) at the beginning of the project: that “the first third of any consulting contract is dedicated to what should be the simple task of finding documents and reference materials.”

But PAGE’s effort to manage information and make it available went beyond these specific programmatic efforts. In fact, we incorporated information management throughout our project. We brought in and used Computer Assisted Training technologies (Formation Assistée par l’Ordinateur—or FAO), we supported the development of websites for partners at Tany Meva and at ONE’s MECIE unit, and we actively supported development of the REBIOMA for improved biodiversity planning.

Outstanding Issues and Observations

This project-wide effort to ensure that information is managed effectively has generated a number of notable successes. The FAO programs, now completed for NGO grant development and mining EIA training, now provide sound examples of what can be done to reach a larger number of people than would be possible through direct one-on-one training courses. The REBIOMA, criticized initially for being too complex, has shown that it can facilitate repatriation of data from international centers at the same time as supporting conservation planning. The installation of an EIA Tracking System software at ONE helps to improve management of that process. And finally, the work to transfer PAGE's CETEDIE to the ONE's CIDE—requiring as it did a close collaboration and integration of the two library systems, has now resulted in a library at the ONE which is clearly the leading environmental reference center in the country.

Section Four: Analysis of Expected Outputs based on the November 2000 Work Plan

Result 1: The value of the TM endowment increases as a result of implementing strategies to increase investment returns and reduce risk to local economic and financial fluctuations

A. Results Obtained in May 2002

This result required the creation of a Board sub-committee for investment management. Yet the Board considered the creation of such a sub-committee to be an interference with its prerogatives and rejected any action of the project in this direction. The proposal to move part of the endowment offshore created a thorny legal and political issue. Public authorities were critical of such a proposal since it would limit TM's intervention on the local financial system (Treasury Bills mainly). The only alternative was a "private currency exchange" through a private agreement between TM, who needed strong currency, and a private body who needed Malagasy francs. Such a procedure, although feasible if undertaken under the supervision of the Malagasy Treasury, would have verged on illegality.

Following a letter sent to TM on these difficulties, the Foundation decided that pursuing such recommendations would be too risky. Instead, the Board refocused its request for support from PAGE on supporting "the improvement of internal grant management systems." For lack of anything better, and with a view to developing the Foundation's operational capability, the request was accepted by PAGE and endorsed by USAID.

The effort was therefore focused on:

- Identifying other financing tools for TM;
- Improving internal processing of "dossiers" (from application through decision-making); and
- Establishing a new communication support with both applicants and fund givers.

Consequently, TM accepted the recommendations on the establishment of a revolving fund mechanism downstream to grants, and the execution of environmentally friendly income-generating activities by grantees. TM took into account the recommendations on the improvement of grant processing procedures to better tailor decision-making processes to grantees' actual capacities. This was a major setback to the eligibility of certain recipients who in the past had received funds.

The foundation's website, which promotes transparency for both applicants and fund givers, is now operational, with support from PAGE.

B. Key Deliverables

- Feasibility document on the Revolving Fund prepared and approved
- Grant processing procedure framework established

- Website is available

C. Lessons Learned

Internal effort within TM revealed that the Foundation still faces technical problems that limit its capacity to use all the financial resources at its disposal. Its capacity to raise grants is still limited for several reasons.

D. Post-PAGE Perspectives

Increasing TM's endowment funds would be a good thing. However, in order to avoid problems between TM and its fund givers, the development of its technical capacity to process "dossiers" must be made a priority.

TM *could* play a major role in the EP3 for components related to the sustainability of certain activities. However, the Malagasy not-for-profit law has in effect encouraged TM to follow a "proprietary" behavior and a spirit of "independence vis-à-vis national priorities." In a word, TM has tended to set its own course, often in the absence of other ongoing national priorities. The repositioning of the Foundation may involve a revision of this law.

Result 2: More funds are available to finance projects

A. Results Obtained in May 2002

Improvements in and changes to TM's management system are necessary to secure new funds (particularly at the international level), in particular by giving more confidence to donors. Institutional positioning needs to be revised so that the Foundation's role would shift from that of a simple "financial manager" into that of a "donor." The Board of TM rejected any intrusion on this subject matter, and never accepted that PAGE should intervene in this area. Because of this administrative barrier, and in the absence of an interlocutor for discussion, the project stopped all the activities related to this result.

B. Key Deliverables

No major results.

C. Lessons Acquired

The project intervenes at the request of its clients (TM in this case). If the client does not want such an intervention, it is impossible to obtain the result.

D. Post-PAGE Perspectives

As long as TM maintains this general approach, it will be difficult for USAID or other donors to achieve successful support in this area.

Result 3: A new fund for parks and protected areas is established and an appropriate fund management entity is identified

A. Results Obtained in May 2002

From the beginning of PAGE, the objective was to help put a fund in place for more sustainable financing of part of ANGAP's running costs. As one of the first steps under PAGE support, a Sustainable Financing Commission set up in July 2000 became the key focal point in the process. PAGE followed with a process aimed at helping ANGAP staff and the Commission members learn more about global experience and the fund establishment process (endowments in particular) for Protected Areas. John Pielemeier, the consultant who undertook an evaluation of GEF-funded Trust Funds, came to Madagascar in 2000 and 2001 to share the lessons learned in this area and advise the GOM.

In 2001, PAGE organized and co-financed a study tour for the Commission members to Central America and the United States to meet people responsible for environmental fund management and/or creation. In May 2001, during an international symposium on sustainable financing for protected areas in Antananarivo, the participants decided that a Trust Fund for Madagascar should focus on ANGAP's needs, and potentially on other needs related to the protection of forests outside the protected area



Figure 1. Sustainable Financing Symposium, May 2001

network. It was also decided to submit a request for funds to GEF—through the EP2—and to KfW to cover costs in the next steps. This strategy was reflected in a note submitted by the Commission to the Minister of Environment in July 2001. The note proposed the creation of a steering committee that would be responsible for further developing the objectives, structures and procedures related to a protected area and biodiversity fund.

The Minister and the Prime Minister's office approved the proposal; and ANGAP, with support from PAGE and in close association with WWF and Conservation International, put in place a steering committee recognized by the MINENV and the GOM. In conformity with international experiences, the committee includes representatives of the GOM, NGOs and private sector with specific skills required for the establishment of a successful Trust Fund.

The committee is recognized officially and obtained sufficient pre-financing to hire consultants to prepare basic documents on the Trust Fund. From the moment the committee was put in place, PAGE believed it was no longer necessary to directly support the process. The establishment the Trust Fund and its management structure, probably a foundation, and the reception of a first contribution will likely take a lot of time.

B. Key Deliverables

- Written analyses on the challenges related to the establishment of a Trust Fund
- Study tour
- International symposium on sustainable financing of protected areas

C. Lessons Learned

The creation of a Trust Fund is a very long process that may go beyond the end of a project like PAGE.

PAGE worked closely with ANGAP to improve financial management procedures; develop a business plan; and assess long-term financial needs. Nevertheless, many people ask questions about the justification of very high amounts that ANGAP considers necessary to operate correctly. Others wonder whether ANGAP's internal management and cost control procedures have been sufficiently mastered to convince international donors—private or public—to contribute to an endowment. The answers to such questions will depend ultimately on an open dialogue between Trust Fund managers and the Direction Générale of ANGAP.

D. Post-PAGE Perspectives

Having invested much in this process, and in ANGAP, it is in USAID's interest to find a mechanism that will support the steering committee directly.

Result 4: A strategy for financing EP3 is approved

A. Results Obtained in May 2002

The Sustainable Financing Commission was created in July 2000 and since then PAGE assumed its Technical Secretariat functions. In its role as Technical Secretariat, the project helped the Commission conduct a needs assessment for the EP2. Based on the assessment, PAGE worked with the Commission to identify alternative financing sources to meet financial requirements, which led to the decision to undertake a study tour for the Commission members in April 2001.

During the study tour, the Commission identified the financing mechanisms most appropriate to contribute to each objective of the EP3. Back in Madagascar, the Commission presented the results of the financing mechanism review to the GOM and the key partners.

In September and October 2001, the Commission prepared a strategic financing plan for the EP3. The paper, which is an appendix to the EP3 concept documents, was among the items discussed with donors in November 2001. The strategy highlights the principle of research to enhance complementarities between traditional project financing and funds proper to Madagascar.

It is important to note that the GOM decided to devote public funds freed up through the HIPC initiative to environment management activities. The GOM's financial commitment is a very important step towards the diversification of EP3 financing.

In spite of these developments, the ongoing requirement for a professional approach to the design of the EP3 is something the GOM is still grappling with. Initial documentation has been sketchy and too narrowly defined. Members of the Ministry of the Environment, while on the study tour, realized the extent to which the EP3 design the EP3 financing plan, the Trust Fund, the HIPC initiative and other initiatives such as PADR are intimately linked, especially in their financial strategies.

B. Key Deliverables

- Financial needs assessment (based on the EP2)
- Study tour
- Feasibility study on potential financial instruments
- Sustainable financing strategy for the EP3

C. Lessons Learned

The creation of a Commission under the supervision of the MINENV made legitimate the strategy formulation process. Given the topic's complexity, the decision to set up a committee facilitated the task and helped the agencies develop a common vision of the financing mechanism. The Commission's tendency was to focus mainly on the Trust Fund which, despite its importance, is only part of the strategy. The other instruments of the strategy need to be developed further.

The impact of study tours may be significant on the progress of a "dossier" if structure and outputs are defined clearly from the beginning.

D. Post-PAGE Perspectives

It is recommended to present the results obtained by the Commission directly to the new Minister of Environment and his team, and to propose an extension of the Commission's mandate in order to finish off the preparation of EP3 financing. The details regarding EP3 financing need to be elaborated, in particular the principles of fund complementarity. Several former representatives in the Commission no longer assume the same functions in their respective institutions. Consequently, a reassessment and an update of the list of Commission members might be necessary.

To achieve sustainable financing beyond the EP3, it is also recommended to create a larger platform which includes key sectoral ministries such as the ministries of mines and energy, transport, fisheries, tourism and petroleum. The mandates of these ministries are to control the environmental impact of investments. They also play a role in the identification of other mechanisms to increase government contribution, including targeted royalties or taxes.

A continued improvement in the management of existing funds, in particular the petroleum tax and the Forest Funds, is as important as the raising of new funds.

The decision to allocate public funds from the HIPC initiative involves the definition of an arbitration and monitoring system. The GOM will need support to put a simple and transparent system in place. Once again, the Commission can help realize this key task.

Result 5: One additional investment financing mechanism (e.g., climate change, PL 480, Debt-for-nature) is put in place

A. Results Obtained in May 2002

PAGE pursued the studies and discussions regarding several financing mechanism alternatives, the most important being the Clean Development Mechanism, which is among the tools created for the implementation of the Kyoto Protocol.

In 2001, PAGE and the Direction Générale of the Ministry of Waters and Forests (MEF) launched a pilot project to finance the conservation of natural forests under their supervision with a justification of carbon sequestration. This approach has been tested with success in Central America since 1997, with USAID financial assistance. PAGE team worked closely with the MEF team to ensure that the latter fully understand the key options and issues related to the implementation of a carbon sequestration project.

Between July and November 2001, PAGE and MEF developed a forest conservation and carbon sequestration project in a large forest tract to the North-East of Madagascar, known as the plateau of Mahakiry. The area includes several classified and national forests with high risks of fragmentation and conversion due to *tavy* practice. The project proposal helped establish a strategic partnership between the MEF and Wildlife Conservation Society in view of securing



Figure 2. Overview of Maroansetra potential carbon sink region

funds for project execution. The proposal for a preparatory phase was submitted to Conservation International for financing. CI's Global Conservation Fund and the Critical Ecosystems Partnership Fund indicated their willingness to finance the preparatory phase. ON its side, WCS is developing a marketing paper in order to secure additional funds necessary to implement baseline field studies aimed at quantifying the carbon stored in these old primary forests.

The activity is very promising and it is very likely that a new protected area will be established (with sustainable financing) in the area of Mahakiry.

To supplement this activity, PAGE organized a one-week workshop for about thirty people on CDM projects implementation in Antananarivo in October 2001. All the participants received a CD-ROM containing guiding and scientific documents on climate changes and on the implementation of the Framework Convention on Climate Changes and the Kyoto Protocol; as

well as practical documents such as a guide for the assessment of green gas emissions of projects in several sectors.

Lastly, PAGE submitted to the GOM an analytical paper on how to seize the opportunities offered by the CDM to increase and diversify environmental and sustainable development financing in Madagascar. The analysis steps aimed at securing a favorable niche for Madagascar on the future market of CDM projects.

Recently, PAGE also prepared a feasibility and justification study for a green tax on international tourism. The results of this activity are described in the last part of this report.

B. Key Deliverables

- Study tour to examine carbon sequestration projects
- Training in climate changes and the CDM
- Formulation of a pilot carbon sequestration project in a natural forest
- Analytical paper on additional financing opportunities through the CDM

C. Lessons Learned

The CDM is a particularly well-adapted tool to satisfy the requirements of the energy and afforestation sectors. In this sense, it could be a potential first-rate tool to finance projects with economic, financial, environmental and social benefits.

The MEF demonstrated a good entrepreneurship spirit in deciding to test this tool. The advantages are obvious, however the risks are also numerous, in particular as regards local NGOs' and the GOM's capacity to implement eligible projects according to CDM rules.

On the other hand, technicians are still favorable to the green tax, but they are not comfortable with the policy process to convince those who may be opposed to such a tax. It is essential to ensure that the MINENV fully understand the technical content of the analysis and develops a clear strategy to get support from all the stakeholders in order to maximize the probability of success.

D. Post-PAGE Perspectives

The analytical paper on the CDM should be discussed with the Ministries concerned. USAID should coordinate such a discussion to ensure a good valorization of PAGE's report. It will also make possible to USAID to create future strategic linkages between biodiversity protection objectives and some non-sustainable forest uses, including firewood and charcoal production.



Figure 3. Carbon workshop, July 2001

The CDM provides an opportunity to directly encourage private environmental investments and develop the GOM's capacity to act as

a catalyst in the process. The green tax will very likely increase the GOM's financial contribution during the EP3 two or even threefold. In spite of the political situation, it is necessary to pursue the discussions on this tool and, if necessary, to assist the GOM technically or financially in implementing the mechanism.

Due to time and resource restrictions, PAGE could not pursue other financing mechanisms. Reference is often made to economic tools for environment. In fact, royalties and taxes are very promising tools to directly bind users or pollutants to the financial requirements of resource management. The Commission found out that such instruments were feasible but difficult to implement given the context of Madagascar.

An in-depth feasibility study of specific environmental royalties in the mining and fisheries sectors (in particular shrimp culture in ponds) is highly recommended. Royalties and taxes are levied on these two sectors in other countries. Our recommendation is to call upon international experts recognized in the areas to prepare feasibility studies for the GOM and USAID.

Result 6 : A long-term strategy for financing of environmental activities is approved

A. Results Obtained in May 2002

The objective of this Result was to formulate a very long-term (i.e., 20-year) financial strategy for the environmental sector. As such it was to have gone far beyond EP3. PAGE provided advice and technical assistance to the MinEnv in defining what such a strategy would and could look like. The strategic planning process led by PAGE with the MinEnv was a critical first step in this direction, but the following steps call for a more robust capacity within the MinEnv, better working relations with ONE and other Ministries and better information on the state of the environment. These necessary conditions—all of them beyond the control of PAGE—were not in place prior to the end of the project, and rendered it impossible and unwise to proceed with this long-term goal. As a result, we focused on the EP3 financing goal, which is more urgent and more understandable to the key partners.

B. Key Deliverables

See Result 4.

C. Lessons Learned

See Result 4.

D. Post-PAGE Perspectives

See Result 4.

Result 7: A financial management improvement plan is created and implemented in ANGAP

A. Results Obtained in May 2002

A detailed plan for improving financial management was created by PAGE and approved by ANGAP executives. It was in the process of being implemented in mid-2001. PAGE worked extensively on this Result, to the point of participating in the direction given to TOMATE for the

continuing implementation of TOMPRO and TECPRO. To further support this area, PAGE also worked to implement a USAID-led pilot program for CBT based training.

Later support to ANGAP included decentralization of responsibilities. ANGAP adopted a charter of delegation of responsibilities on several levels, which is expected to ease operational management at the head office. The functions related to these roles were specified in the charter. The repositioning of responsibilities within the financial area was effective.

B. Key Deliverables

- Paper on delegation of responsibilities prepared
- Organizational chart approved
- Specification of changes followed by correction of Tompro (general accounting and cost-accounting) and Tekpro (Activities follow-up) software completed

C. Lessons Learned

The system is complex and margins for improvement are limited. Administrative control on all levels—which are compulsory with the systems—practically increases threefold the processing times and the volume of files exchanged.

In order to receive EP financing, ANGAP must conform with putting such systems in place. Introducing a more private financial management approach is a difficult task, as it requires the adoption of two different modes of thinking by each responsible person: an administrative approach to comply with the EP requirements, and a more pragmatic approach to enhance efficiency. Such a split in approaches would lead to distorted decisions, and in most cases, only urgent matters would be addressed.

D. Post-PAGE Perspectives

For the next 5 years, the question is whether ANGAP will be able to develop its current system (World Bank procedure) into a more private system in view of the post-EP phase where ANGAP will not be subjected to the EP constraints anymore. Without the necessary requirement of an EP constraint, will ANGAP be able to set up a system that will focus on efficiency rather than responding to specific donor needs?

Result 8: ANGAP operates according to a business plan

A. Results Obtained in May 2002

In trying to further The main focus was on “persuasion for the acceptance” of new strategic management tools, which are different from the “development project management” approach adopted during the various phases of the EP. The key steps envisioned in the development of the “new” business plan approach included a financial strategy, the Trust Fund, a marketing plan, a product plan (partly being prepared by a WWF-led initiative) and a communications plan.

Awareness was raised among ANGAP’s management staff on the major challenges related to business plan implementation. A new approach derived from the private sector was suggested to cope with financial difficulties in the post-EP3 phase and implement the process. Strategies

were adopted in many key aspects of the business plan (donor/tourism/science marketing, financial requirements of the PlanGrap, financial instruments to be developed).

Several workshops (in Antananarivo, Antsirabe, Fianarantsoa) were organized with the Direction Régionale to examine those points. This led to the formulation of a consensual strategy which incorporates regional expectations and issues. Implementation concepts and orientations were summarized in a business plan paper. The debates led to the beginnings of a change in ANGAP's Executive Management's vision.

B. Key Deliverables

- Marketing plan developed for donors, ecotourism and sciences
- Financial requirements assessed according to PlanGrap priorities
- Ten-year business plan developed
- A financial business plan is initiated

C. Lessons Learned

The adoption of a new strategic management system involves a behavioral change, which is a very difficult and lengthy process. PAGE initiated the process, but there is a great deal to do.

Difficulties were encountered concerning the "speeds" of change. The project was to deliver its support within a limited time, yet ANGAP needed more time to appreciate advice and assess impacts on its organization. As a result, certain strategies were skimmed over in order to focus on other priorities. In effect, ANGAP did not agree in full to the business plan approach of PAGE, preferring instead to adopt a piecemeal approach to change.

D. Post-PAGE Perspectives

The process of internalization of advanced tools by ANGAP is far from being complete. The implementation of a new management system is a process which requires permanent support. The document prepared by the project is a strategic paper, which necessitates:

- A systematic update to follow context evolution (EP3,)
- The development of several actions which should be implemented.

The logical result is the establishment of a structure at ANGAP to lead the process. Operational difficulties will arise and a proved external assistance would be necessary to accompany ANGAP throughout the process in order to avoid errors and save time in testing the "how to's."

Result 9: Financial management across AGEX's is improved, especially in linking activity control and operational budgeting

A. Results Obtained in May 2002

The effort was focused on the energizing of tools to address and provide solutions to the EP's major financial management issues. To that end, a DAF committee composed of all the DAFs of AGEXes was created. At PAGE's instigation, the committee:

- Proposed an action plan to the Minister of Environment for the improvement of EP financial management
- Recommended a new definition of the tasks of the EP Comptroller
- Dealt with cash-flow problems between the Coordination and AGEXes

As part of the EP3 preparation process, the project developed a cost-reduction strategy, which was incorporated in the EP3 pre-feasibility document, and was discussed with donors who accepted its principles.

One of most acute problems of the EP is the delay in disbursement. The project prepared a paper that exposes the problems and makes recommendations. The paper was discussed during the CFE, and donors approved some of the recommendations. This set out the procedure of application for an increase in the initial program deposit.

B. Key Deliverables

- Financial management committee set up and motivated to deal with generic problems related to EP2
- Cost-reduction strategy paper elaborated and incorporated in the EP3 pre-feasibility documents
- Manual on cash-flow procedures developed and used during the discussions with donors (CFE)

C. Lessons Learned

The issue of the EP financial management is substantial. For several years, attempts have been made to improve the system. However, it is obvious that difficulties arise partly from the fact that donors impose procedures. In addition, the approach adopted is that of development projects. System improvement (as it is the case in the private sector for example) will require a new cost management approach and less bureaucrat procedures.

D. Post-PAGE Perspectives

The challenge of the EP3 is sustainability. Consequently, a new approach different from that of development projects and closer to the private sector vision is necessary. The approach's focal points include:

- Efficiency of procedures
- Human resources capacity (as regards know-how and versatility)
- A sound cost-management strategy compared to what is being done on the international level

Result 10: Better-qualified technical and managerial staff in the area of financial management

A. Results Obtained in May 2002

PAGE focused its training efforts in two primary areas:

- Sensitization of financial managers to improve management as such
- Training of trainers using Computer based Training (CBT) tools

In this context, 5 training sessions were given to the Working Group of DAF of the EP on key themes including: organizing key financial indicators within an agency; automating the link between technical activities and financial expenditures; activity-based accounting; monitoring of planned expenditures; and methods of financial management for technical programs. During these sessions, models were developed and proposed and certain rules of EP management were discussed so as to support better inter-agency understanding.

The CBT was developed within ANGAP as a pilot agency. The software was installed, and two point people were identified and trained within ANGAP's main office. It is now ANGAP's role to diffuse use of the software. It is expected that the tool will be used to train regional ANGAP staff in use of the new procedures manual.

B. Key Deliverables

- Five training sessions of AGEX financial managers
- Two modules of computer-based training
- A program of training-of-trainers in the CBT tool

C. Lessons Learned

PAGE expended a considerable amount of time and resources to convince the AGEX of the importance of developing decentralized training in financial management. Within the AGEX, however, it appears that staff has the necessary competency to apply good financial management. What is missing is the technical support aspect and a strong motivation to follow what are at times cumbersome financial procedures of the EP.

After numerous discussions with local training institutions, it also became apparent that, while there were many technicians with necessary financial capability in Madagascar, there remains an important shortfall in trainers and "pedagogues" that are capable of properly transmitting such training on a large scale.

D. Post-PAGE Perspectives

The conditions for putting in place good financial management tools and training depends upon a number of issues. First, new and less cumbersome approaches to the financial management of the EP3 need to be developed. Such approaches need to be more proactive, and give a more important role to financial managers in linking technical objective to underlying financial resources. Secondly, more effort should be placed on ensuring that training is delivered in a decentralized manner, ideally through a training-of-trainers approach.

Result 11: A more formal accountability regime between AGEX, the donors and the Ministry of the Environment is established

A. Results Obtained in May 2002

AGEX's financial accountability is compulsory vis-à-vis the Ministry of the Environment (MinEnv), which is the representative of the GOM and the signatory of the country's commitments. The MinEnv has to impose its leadership in this area.

PAGE focused its activities at giving leadership to MinEnv, and went far beyond the financial aspect. This result is therefore consistent with the other activities for the MinEnv. The main results included:

- Clarification of MinEnv's roles in the EP. To this end, several workshops and meetings were held for the Ministry to establish its financial authority during the EP3 preparation process. The project assisted the Ministry in developing a vision consistent with the process.
- Support to the internalization of a clear strategic vision at the MinEnv so that the latter has a thorough knowledge of the subject and rule on financial disputes, if any.

B. Key Deliverables

- Preparatory meeting on EP3 financing according to the objectives, under the direct supervision of the MinEnv
- Control of financial data compiled by the EP Financial manager

C. Lessons Learned

From the beginning, the program developed its financial system independently from the MinEnv. Repositioning the MinEnv's financial leadership, and ensuring that AGEX's are accountable to the Ministry for results obtained, will be an arduous task under the EP3.

D. Post-PAGE Prospects

The EP3 document should reaffirm MinEnv's leadership in an explicit way. The Ministry must ensure that this takes place during EP3 preparation process.

Result 12: The strategic plan for MOE is linked to specific results, financial resource management and better cost forecasts

A. Results Obtained in May 2002

Achievement of this result is closely linked to Results 13 and 14, noted below. During the discussions and meetings leading to those Results, a cost reduction strategy and budget tracking approach was also discussed in detail. In fact, the strategic plan of the MinEnv, as finally approved, included a cost management strategy.

B. Key Deliverables

- The strategic plan of the MinEnv included a cost management strategy
- The MinEnv had an annual activity plan with specific costs associated with them, and became a functional and financed actor in the EP

C. Lessons Learned

Although many problems remain at the MinEnv, the challenge remains for it to become a key actor in the EP.

D. Post-PAGE Perspectives

The use of specific performance targets and resource allocations is a useful means of ensuring that the MinEnv play its full and necessary role in the EP, and should be considered for the third phase.

Result 13: The Ministry of the Environment has a clear and realistic business strategy and work program

A. Results Obtained in May 2002

The strategic planning with the MinEnv (led by PAGE) was a critical first step toward achievement of this result, a result which has been facilitated by the trust established between PAGE and the MinEnv. PAGE devoted considerable time to the development of a work program for and with the MinEnv. Working closely with the Ministry, PAGE also prepared the second set of work plans that were eventually discussed at the CFE in 2001.

Building on these work plans, and in association with them, a strategic plan was developed which defines clearly the MinEnv's roles and mandates, and specifies priorities for the next 10-15 years. The strategy was developed and discussed with the Direction Générale and executive staff during two team-building sessions that took place in October and November 2001; and with the EP2 AGEXes directors in November/December 2001. The draft strategic plan was presented to donors through the EP2 monitoring committee in November 2001. The final proposal from PAGE was submitted to the Ministry in January 2002.

An organizational audit of the Ministry of the Environment was undertaken in October 2001, and was validated during the team-building sessions. A strengthened team spirit emerged from those sessions on the basis of discussions on functional and structural distortions brought to light during the audit, in particular the basic issues related to high absenteeism rate.

On this basis, an institutional strengthening plan was developed and discussed with the staff and key technicians. It was officially submitted to the Ministry in January 2002. The organizational charts and tools proposed will improve the Ministry's performance for good governance. The institutional strengthening plan will be implemented in two phases: first, a



Figure 4. Provision of equipment to the Ministry of the Environment, January 2002

phase of preparation to the change focused on training and management tools transfer; and second, a phase of monitoring and assistance during the period of organizational change.

Two future organizational models were developed for the MinEnv with PAGE's technical support to the Ministry at the former's request.

In parallel, PAGE also provided extensive support to improve management and implementation capacities at operational and technical levels (computing skills, international travels, etc.).

An annual work plan for June 2001 through June 2002 was developed with PAGE's support and approved by the EP2 Environment fund committee. For the first time, the Ministry will receive resources from the EP2 in this work plan.

B. Key Deliverables

- Joint report on the strategic plan prepared by Henri Raharijaona and Guy Razafindralambo in January 2002. The report resumes R. Leblanc's report of August 2001
- Report on the organizational audit and the institutional strengthening plan prepared by Olivier Randrianarison in November/December 2001
- Organizational chart proposals developed by Robert Leblanc sent by mail together with Solohery Rakotovao's comments to relevant ministries
- Final version of the MinEnv's Annual work plan submitted on hard copy and CD-ROM to the Ministry

C. Lessons Learned

It is possible to clarify ONE's and MinEnv's mandates at the operational level.

A strategic plan on a horizon beyond the NEAP could be developed and used as a guiding document during post-NEAP negotiations in less than five years.

It is very difficult to develop strategic activities when such activities are of limited interest to donors.

D. Post-PAGE Perspectives

- To support a broad communication/discussion of the strategic plan
- To follow-up organizational changes at the MinEnv to capitalize organizational charts proposals discussed, and to proceed by trial and error
- Secure funds to assist the MinEnv in developing its institutional strengthening plan
- To help the Ministry better manage its annual work plan

Result 14: The organizational responsibilities of key NEAP executing agencies vis-à-vis the Ministry of the Environment are clarified

A. Results Obtained in May 2002

PAGE made significant contributions to this (somewhat thorny) issue. Following the recommendations made by the successive evaluations, the proposals for ONE restructuring to improve its performance at the end of EP2 and during EP3 were initiated and finalized in 2002. One of PAGE's key concerns in accepting to finance the study was to achieve an organizational and institutional synergy between the ONE and the MinEnv: reduction of hierarchy; independence of the service in charge of MECIE "dossier" evaluation; and functional relationships with the MinEnv.

Functional relationships were established between the ONE and the MinEnv through several working groups, which became operational in November/December 2002. Three joint working groups ONE/Ministry of the Environment, namely MECIE, Environmental policies, and Information systems, were set up and met six times from October to December 2001 in the presence of moderators from PAGE. Several "dossiers," which have been passes backwards and forwards from the ONE to the MinEnv for five months, could be processed within a few days.

A brief report on responsibility sharing between MinEnv, ONE and other ministries was prepared during the training of ministerial environment units. As a result, a summary assessment of progress made by sectoral internalization policies was undertaken; and priorities and responsibilities could be defined better in January 2002.

See also Result 13 on MinEnv strategy for issues related to this result.

B. Key Deliverables

- Report on ONE restructuring prepared by the consulting firm performance, and exchange of e-mails with the firm regarding PAGE's position
- Report on the workshop in Antsirabe
- Minutes of thematic groups' meetings, and summary report prepared in view of the CFE of November 2001
- Incomplete draft reports on environmental cells training in January 2002

C. Lessons Learned

A clear definition of mandates was undertaken and tested with support of PAGE. The MinEnv plays a political role (which is not that of an observer) in the guidelines, the promotion and the validation of ONE's outputs. ONE plays an operational role in output design and realization. The scenario of exclusion or merger of the two institutions is to be avoided.

A firm and sustained willingness to cooperate from both the ONE and the MinEnv can be obtained from individuals with partnership experience, and with donors' support, without distortion to the benefit of one of the parties. This is a political problem that requires a political solution by the GOM.

D. Post-PAGE Perspectives

- To finalize the report on environment units training
- To learn more lessons from activities undertaken
- To resume working groups between the two institutions

Result 15: MOE advocates environment/development linkages

A. Results Obtained in May 2002

PAGE supported this result, primarily through technical advice given to the SG of MinEnv. Independently, the progress on environmental economic case studies—and the clear environment-development linkages suggested in them—offers an initial opportunity for the MinEnv to advocate these linkages. Although there have been many occasions when PAGE provided TA on this issue, the progress has not been adequate. The major reason is the inability to marshal the necessary technical capacity to provide the in-depth analysis required. A more productive scenario is being tried with the technical support of ONE.

Although these attempts were made, the linkages between environment and rural development or poverty reduction were not addressed formally. Conversely, the linkages between the various ministries' strategies and the environment were brought to light in a brief report, the first of the kind. The MinEnv, with the PAGE's support, prepared a report on the process and tools used during the workshop at CNEAGR in January 2002.

B. Key Deliverables

- Report on the workshop at CNEAGR

C. Lessons Learned

The linkages between environment and development are not restricted to technical tool (guide) design but rely essentially on an inter-sectoral dialogue on strategies, whose responsibility is mainly political, i.e. within the competence of the Ministry of the Environment. The participants in the training workshop firmly sustained that the MinEnv's political role must be effective, if only through institutional anchoring of environment units.

D. Post-PAGE Perspectives

- To discuss proposals that emanate from the workshop (in particular the decree relating to the creation of environmental cells, mining's political communication strategies)
- To launch activities related to the DSRP or PADR guide

Result 16: In one region, decentralized environmental management responsibilities discussed and proposed

A. Results Obtained in May 2002

PAGE made important headway in getting on the “front burner” the issues associated with the “provincial” management and execution of environmental programs. We worked extensively with regional offices of the MinEnv and has helped them (and their head-office supervisors) to re-define their role. PAGE worked with the provincial president in Tamatave to prepare a consultancy to help define the models that could be used by provincial governments in executing environmental programs, and we facilitated discussions with the SG of the MinEnv (later Senator) about the Senate’s role in this issue. Under the responsibility of the Ministry of the Environment and the Commissariat Général de l’Environnement in the autonomous province of Tamatave:



Figure 5. Tamatave decentralization planning

- Provincial environmental indicators were determined with ONE support, and the main indicators were agreed upon by contract in December 2001 with the Commissariat Général de l’Environnement of Tamatave to respond to priority needs for strategic steering. These indicators derived from indicators commonly used at the national level, but also include indicators tailored to information and environment monitoring needs specific to the province, such as hydrocarbon pollution indicators, etc. A team composed of technicians from the province was created to quantify these indicators in November 2002.
- A provincial environmental strategy was developed with technical input from AGERAS Toamasina. The strategy was discussed with the key technical actors in the province in December 2001. It describes the main environmental priorities of the autonomous province of Tamatave for the next five years, and was elaborated on the basis of the existing regional studies. It includes an analysis of the major resource management constraints and their evolution, as well as the solutions provided by institutional strategies. It describes the key priorities and the modes of intervention. About fifty actors from various regions, from deconcentrated governmental services major and from NGOs working in the province took part in the strategy validation discussions which were held in Tamatave in November 2001.
- A legal guide on key environmental management competences and responsibilities transferable to autonomous provinces was prepared with the support of a researcher from the CNRE. The guide was presented to the key actors in the province of Tamatave in December 2001. It is a critical strategic tool in the negotiation of transfer of competences, either directly with the ministries or through inter-provincial conferences set out by the texts relating to the autonomy of provinces. The legal proposals result from a detailed analytical comparison of the law on the autonomy of

provinces and the texts on environmental management that had been issued first (Forest Law, GELOSE, MECIE decree, Tourism Code, Water Code, Mining Code, industrial pollution, fisheries and aquaculture, protected areas). The guide also includes an assessment of pros and cons for various models of widened dialogue mechanisms on the regional environmental arena (CRD, CNE, CIME, etc.).

B. Key Deliverables

- Report on provincial environmental performance indicators prepared by the Central Department of SIE
- Report on the provincial environmental strategy prepared by ONE/AGERAS Toamasina
- Legal guide on roles and mandates prepared by Ms. Saholy Randrinambinintsaoatra
- Report on the analysis of pros and cons for various forms of provincial environment commission prepared by Ms. Saholy Randrianambinistsaoatra

C. Lessons Learned

There remains an important possibility for the ONE and the MinEnv to work together on environmental decentralization. In this process, the Commissariat Général de l'Environnement can, and must, play a key role in any provincial strategic strengthening dynamics.

Although the mandates potentially transferred to provinces are numerous; it is urgently necessary to set priorities according to the objectives of the regions and the resources available to them for implementation, which are presently almost non-existent.

Finally, it should be noted that a provincial environmental strategy is possible even if the province is divided into several ecological areas overlapping other provinces.

D. Post-PAGE Perspectives

- Validation of Ms. Saholy Randrianambinistsaoatra's report at national and provincial level
- Broad discussion on the provincial strategy

Result 17 : A model for more transparent participatory forest management is tested

A. Results Obtained in May 2002

On one hand, PAGE identified the various actors in the sector, and started discussions on management models. At the end of the discussions, PAGE and the actors concerned identified and proposed a number of models, in accordance with the regional background and the provisions of applicable texts. Throughout the process, PAGE provided a support to technical awareness activities. A model was proposed but could not be tested because of the political situation. It is based on the concept of good governance with transparency, participation and empowerment of all the stakeholders.

Through the grant program for a better “réflexe environnementale,” PAGE allocated grants to seven Malagasy recipients (five NGOs and two consortia of NGOs and organizations) that were to develop and test communication activities and tools in order to promote participation of local inhabitants in forest management. A common approach for the 7 NGOs consisted in educating local populations about their rights and duties as regards forest management, and encouraging them to exert such rights and duties. PAGE grantees worked in different sites in the provinces of Toamasina, Fianarantsoa and Tolagnaro. Their activities were spread out over a 10-month period, i.e. April 2001–February 2002. In May 2002, PAGE organized a capitalization workshop that was attended by all seven grantees. Subsequently, PAGE’s forest communication team developed a “Guide for the Development of Forest Communication Tools” which summarizes the lessons learned from the 10-month communication activities undertaken by the seven NGOs; and makes recommendations for similar activities in the future. The guide was distributed to the seven grantees and to all the stakeholders in the forest sector.

B. Key Deliverables

- The seven NGOs recipients of PAGE’s grants designed and tested the following tools:
 - ◊ Posters
 - ◊ Brochures and leaflets
 - ◊ Comic strips
 - ◊ Guides
 - ◊ Teaching cards
 - ◊ Newspaper and magazine articles
 - ◊ Comparison visits
 - ◊ School camps
 - ◊ Radio programs and ads
 - ◊ Meetings and roundtables
 - ◊ Training courses
 - ◊ Conferences
 - ◊ Village theaters
 - ◊ Puppet shows
 - ◊ Poems
 - ◊ Radio contests
 - ◊ Sketches



Figure 6. Puppets used for civil society awareness of forest management, December 2001

- One-day seminar for experience sharing between the recipients of PAGE's forest governance grant program, 3 July 2001
- Workshop of presentation and validation of communication tools developed by PAGE's grantees, 27–28 September 2001
- Workshop of capitalization of PAGE's grant program, 7–10 May 2002
- Guide for the development of forest communication tools
- Workshop on good governance strategy in the forest sector, 14–15 May 2002, and keys recommendations on:
 - ◊ Awareness actions
 - ◊ Information exchange
 - ◊ Setting-up of a monitoring structure

C. Lessons Learned

The time frame available for NGOs to conduct communication activities was too short. They should have lasted 18 months at least. The participatory approach based on the exercise of rights and duties as described in the Guide for the Development of Forest Communication Tools has not been explained in a simple and clear way to NGOs at the start-up the grant program. Consequently, the tools developed did not come up fully to PAGE's expectations. In the future, it will be necessary to find better ways of supervising NGOs and increasing awareness among them on topics and subjects selected. While the seven NGOs have gained a better understanding of legal texts thanks to the training they received, they do not yet have a perfect command of those texts. Lastly, PAGE should have pursued other alternatives or collaborate with other projects in the presentation and realization of activities on technical solutions.

D. Post-PAGE Perspectives

In the future, it would be necessary to finalize the model, in association with regional partners, by specifying the terms of reference and the structure's form, organization and official (or non official, at start up) establishment. Subsequently, the model should be tested and adjusted to regional conditions, as the model for Toliara or Fianarantsoa may be different from that of Toamasina depending on specific regional dynamics.

As regards communication activities, we are planning to disseminate the approach developed and tested by PAGE and its 7 grantees so that other NGOs and projects as well as the MEF staff may test it in turn, if they wish to do so. For that, the solution would be to train PAGE's grantees to become training institutions which would in turn train those NGOs and projects. The 7 institutions should be further trained in order to gain full control of the legal texts and the Guide for the Development of Forest Communication Tools. The other NGOs and projects trained by the 7 training institutions would be able to use the approach, and the guide may be updated periodically to include the latest experience.

Result 18 : A direct conservation payments model is tested

A. Results Obtained in May 2002

The discussions between PAGE, the MEF, the ONE and the donor community on the feasibility of conservation contracts in Madagascar led to the formulation of a specific proposal, approved by the MEF, for the realization of preliminary field studies. The selection of field study sites was based on the existence on site of a technical partner who is already interested in testing the mechanism. Thus, during the period of extension of its contract, PAGE organized a small workshop in Antananarivo, which was attended by representatives from the ONE, the Wildlife Conservation Society, WWF Madagascar and Durrell Wildlife Madagascar. Workshop participants reviewed in detail the principles of such a mechanism, and developed workplans for field data collection in the three study sites.

PAGE entered into an agreement with WCS and Durrell for the realization of the studies. The feasibility reports were submitted to PAGE and ONE in mid-May. A workshop of presentation and discussion was held in Antananarivo end May. Representatives from the Direction Général des Eaux et Forêts also attended the workshop. NGOs prepared a comprehensive study on how to establish conservation contracts with local residents for each site. They also assessed the amounts to be paid per hectare under the conservation contract, which were estimated at \$1–\$55 per hectare per year (provisional figures, for information only). The studies also addressed the legal and institutional framework for contract management.

The representative of the ONE was assigned the responsibility of preparing a summary report on the discussions took place during the workshop of presentation. PAGE prepared a brief analytical paper for USAID on the implications of these studies in EP3 formulation.

B. Key Deliverables

- Small workshop on conservation contracts in Antananarivo, attended by representatives from the ONE, Wildlife Society Conservation, WWF Madagascar and Durrell Wildlife Madagascar
- Feasibility reports prepared by WCS and Durrell
- A workshop of presentation of feasibility reports in Antananarivo, end May
- Continued work by ONE on a possible generalization of the direct payments model as an instrument of financing in the EP3

C. Lessons Learned

The concept itself of conservation contracts will still take more time to be understood by traditional and more conservative actors in the environment sector. During the workshop at which initial results were presented and discussed, a tentative plan for implementing the process was discussed and many potential pitfalls were identified. One especially important area of attention needs to be the linkage between conservation contracts and existing projects. Are they executed in isolation from one another? By the same parties?

D. Post-PAGE Perspectives

More awareness raising sessions should be held to explain the mechanism, and to clarify that it is NOT intended to replace existing projects, but is rather a specific and focused alternative appropriate in a small subset of situations where rare biodiversity is threatened.

Result 19 : Institutional reforms needed to achieve significant progress in participatory management of forests are identified

A. Results Obtained in May 2002

The workshop on good governance strategy in the forest sector defined the strategic orientations for good governance in forestry sites. Taking into consideration governance issues in the forest sector, lines of action and strategic orientations could be drawn to promote participation; develop the legal framework and improve administrative procedures; and strengthen the institutions concerned.

The strategic orientations mainly relate to:

- Update of texts
- Creation of operational control and awareness structures
- Multiplication of motivation forms
- Rational use of FFN/FFR
- Making forest operators more professional by creating or stimulating training centers, by defining a training syllabus for each institution, and by developing a professional code
- Development of partnership with other ministries, in particular the Ministry of Justice

B. Key Deliverables

- Paper on the “Contribution to good governance strategy in the forest sector”
- Paper by Bob Winterbottom on forest management and governance (2001)
- Workshop on good governance strategy in the forest sector, 14–15 May 2002
- Workshop recommendations, in particular on the issue of regional adaptation

C. Lessons Learned

It is necessary to involve all the stakeholders and economic operators, and to center discussions on realities in the ground.

Working with partners makes it difficult to get everyone mobilized and rely too much on others. Although decisions are made together (on time limits, methods, etc.), many partners do not respect them, or else reminders are necessary, which is not always appropriate.

Good governance is easier said than done, and is even frightening in fact, particularly when certain personal interests or practices are at stake.

Good governance can be effective only as a whole, not in one sector only. It should associate several sectors.

D. Post-PAGE Perspectives

To continue the discussions on other activities in the sector; to draw up lines of action and strategic orientations from the issues. A comprehensive good governance strategy should be developed on the basis of all these lines of action, and accompanied by the necessary institutional reforms.

To undertake the same activities at the local or regional level: identification of actors; presentation of good governance components; involvement and training of field actors.

To multiply activities in order to expand and develop a basis, all the more so as we begin to understand better and see more clearly.

Result 20 : Senior managers of MOE and ANGAP are capable of undertaking strategic planning

A. Results Obtained in May 2002

PAGE made considerable progress in achieving this result. ANGAP was in the process of developing its own logical framework and strategic assessment. The MinEnv and its AGEXes successfully undertook a difficult CFE based on strategic planning and operational re-engineering. Both were interested in putting into place a strategic plan or a business plan, and were set to fully participate in its development.

The MinEnv received the largest portion of technical advice in this area. Two team-building sessions designed for the MinEnv executive staff made it possible to conduct two strategic planning exercises:

- In-depth analysis of the MinEnv's strategic plan
- In-depth analysis of the MinEnv's mandates, organization and institutional strengthening plan

The MinEnv's executive staff was given the responsibility of steering the training workshop for ministerial environment units.

B. Key Deliverables

- Detailed report on the two team-building sessions

C. Lessons Learned

Very useful for executive staff who are responsible for supervising the preparation and follow-up of the NEAP's five-year phases.

Very high attendance rate of executive staff, which demonstrates a willingness to improve the service.

A common vision of the MinEnv's missions is a pre-requisite to a strategic planning exercise.

D. Post-PAGE Perspectives

Dissemination of the team-building report.

Result 21: Increase in the proportion of new mining and tourism investments that comply with requirements to conduct EIA/PREE

A. Results Obtained in May 2002

The main activities completed relate to:

- The realization of public awareness campaigns on MECIE in general, and awareness-raising and information exchange sessions in the mining and tourism sectors in particular (information breakfast, debate topics for round tables).
- Capacity-building for resource persons from the Administration (ONE, MinEnv, Members of environmental cells of the Ministry of energy and mines and the Ministry of Tourism); and resource persons from the public sector (consulting firms, consultants, CFSIGE and ESSA students,) through training in environmental assessment (in-country) and training workshops and conferences (overseas). Those training workshops and conferences relate partially or totally to the mining or tourism components.
- Development and dissemination of environmental assessment tools in general, and for the mining and tourism sectors in particular: guidelines and guides, CBT, CD-ROMs (EIA/PREE, posters, leaflets, folders). Within the 18-month period, at least 1000 CD-ROMs on EIA/PREE were developed and updated 4 times.
- Developing the Administration's material capacities (ONE, MinEnv, Environmental cells); training institutions (CFSIGE, ESSA, IST,); and private institutions (Consulting firms, Consultants) by making tools available (documents on environmental assessments in the mining and tourism sectors and other tools).
- The organization of capitalization workshops (QMM assessment, strategic impact studies) and capitalization sessions following the training.

B. Key Deliverables

Reports and minutes

Awareness in the mining and tourism sectors

- Report on the public awareness campaign/ONE
- Minutes of the information breakfast on awareness-raising in the tourism sector/PAGE

- Minutes of the information breakfast on awareness- raising in the mining sector/PAGE
- Minutes of the CBT promotion session/MEM

Training FID/ONE/NGO Lalana

- Training report/ONE
- Methodology guide /NGO Lalana

Training in EIE/Savaivo

- Report on EIE training for environmental cells members in Antananarivo city/SAVAIVO
- Report on EIE training for sectoral ministries, communes and consulting firms in the other five provinces/SAVAIVO
- Report on post-training assessment in the case of Antananarivo/SAVAIVO

Training in “Mining-Environment”/Canada

- Report on the training organized by Tecult/ONE

Conference in Hong-Kong

- Presentation of the ZIE/PAGE

DESS thesis or others (see Deliverables for Result 3)

Roundtable

- Report on the 1st roundtable/GLW
- Report on the 2nd roundtable/GLW

SIA

- Report on the strategic impact assessment of the ZIE–Isalo
- Report on the strategic impact assessment of the ZAES

Consultants’ reports

FAO

- Report on CBT prepared by Randrianarisoa Oné

SEA capitalization

- Report on SEA capitalization prepared by Lalaniriana Rasoandrianina

Tools

- Report on the establishment of the website (www.mecie.mg) by Randriamanamihaja Andry
- ONE report posted on the website

Other tools

- EIA/PREE CD-ROM
- CD-ROM on CBT: The environmental dimension of small-scale mining operations
- CD-ROM compiling DESS theses
- Website: www.mecie.mg; now www.pnae.mg/mecie
- MECIE folders, leaflets, posters
- These tools are also available in English

C. Lessons Learned

Awareness-raising and promotion activities:

- Sectoral awareness-raising activities have better impacts compared with general ones
- To better reach the private sector, awareness-raising session should not exceed two hours
- Existing structures

Legislative and regulatory texts:

Despite some inconsistencies in legislative texts on environmental assessment in general, and those relating to the mining sector, the institutional structure in place in this sector is better fit to text application, in particular in the fields of PREE and impact assessment study monitoring (EIA and PREE). This observation applies to the tourism sector. Thus, the SEA of the ZAES recommends a monitoring structure (point which responds better to SEA requirements).

Capacity-building: See Lessons Learned for Result 3

It was observed that “access to information” is one of issues facing people working in the field of the environmental assessment in general, and those from the Malagasy private sector in particular. Consequently, the development and dissemination of tools (CD-ROMs, guidelines and guides, studies, consultants’ reports, ...), the donation of specialized documents to the ONE and the environmental cells contributed to this component.

D. Post-PAGE Perspectives

- Information and awareness-raising among national decision-makers regarding the importance and the need for environmental assessment
- Development and execution of an awareness/education program for actors involved by environmental assessment procedures (including monitoring) for those two sectors in Antananarivo and in the autonomous provinces (decentralized communities, local population, consulting firms, consultants, private and associative NGOs, ...)
- Formalization of environmental structures (environmental cells at central and regional levels) in each ministry to better capitalize the assets (development of capacities and tools)
- Preparation and rapid adoption of application texts for:
 - ◊ MECIE application decrees, in particular the PREE, achieving conformity, monitoring costs
 - ◊ At the Ministry of Tourism, for infrastructures that are listed in neither appendix 1 nor appendix 2, the institution must develop the appropriate environmental management
- Establishment of a system that promotes a transparent management of documents and information within each environmental unit and at the ONE
- As for the mining sector, the tourism sector should also put databases in place for general tourism “dossier” management through incorporation of environmental assessments
- Training sessions: see Perspectives for Result 23
- Tools for impact assessment study realization and/or evaluation:
 - ◊ Realization, duplication and diffusion of the guide for elaboration EIAs of mining activities, of compliancy studies (mining and tourism), environmental audits as well as the framework for the evaluation of EIA, PREE, achieving conformity and other studies
 - ◊ Continued update of the tools developed (EIA/PREE, CD-ROM, CBT, ...)

Result 22: Improvement in the quality of EIA/PREES in tourism and mining

A. Results Obtained in May 2002

The main actions realized focused on:

- Contribution to the establishment of a platform for technical discussion or Association of environmental assessment professionals through the organization of round-tables

- Intervention of national and international consultants during realization (ZIE, ZAES) and evaluation of impact assessment study (case of QMM) which contributes to experience enhancement and sharing
- Development of capacities (training and material) of administrative institutions (in the quality of an evaluator, support institution for the promoter) and private institutions (see Result 1)

B. Key Deliverables

- Reports and minutes
 - ◊ Report on PAGE contribution to the creation of the Association of environmental assessment professionals and specialists/PAGE
 - ◊ Report on the strategic impact assessment of the ZIE/Isalo by the study team (consulting firm, consultants...)
 - ◊ Report on the strategic impact assessment of the ZAES/Vatomandry by the study team (Consultants, MEM, students and PAGE)
- Reports of QMM consultants
 - ◊ TOR for QMM's SEIS by Pierre Légaré
 - ◊ Support to the ONE in the preparation of the assessment methodology and process/Mark Hardin
- Consultant reports: SEA Case: see Result 21

C. Lessons Learned

Establishment of a technical discussion platform

The existing structure in Madagascar does not allow an easy access to environmental assessment information. The organization of the two round-tables with participation fees supporter the participant (the first of the kind in Madagascar) was attended by over 175 people, with a higher attendance rate for the private sector compared to the public sector. Currently, the integration of "the public sector" as an active and qualified actor in the environmental assessment procedures and process is more than desirable.

Recourse to international consultants

In the absence of environmental assessment experts and specialists databases at the national level (in some fields), and to meet certain international requirements (QMM assessment), it is highly recommended to call upon international consultants. However, added value optimization at institution leve (through the preparation of a report on the consultant's intervention, or an exchange meeting for sectors concerned) was quite nonexistent.

Absence of national consultants of international exposure

The existing structure does not promote a valorization of national competences.

D. Post-PAGE Perspectives

- Create and effectively put in place the Association of professionals or the Technical discussion platform. The existence of the discussion platform will improve the quality of impact assessments.
- For that, set up the restricted working group which will define its objectives and its operation system while taking into account the roles of other bodies (actors) which are integral part of the environmental assessment procedures and process in Madagascar.
- However, the major objectives of the technical discussion platform/association should not be deviated too much from the following:
 - ◊ Interface private/public sector to promote cooperation (text development, adoption and application, and tools development)
 - ◊ Develop capacities (training, conference, exchanges, awareness campaigns)
 - ◊ Develop national specialists
- For institutions benefiting by consulting works of national or international specialists, the current practice shows that in most cases, the consultants prepare the reports on their interventions by themselves (to satisfy donors' requirements in particular). In view of optimizing the interventions of those resource persons, it is recommended:
 - ◊ That the recipient institution also prepares a report not for donors but to be used as an analysis and working tool for the institution itself
 - ◊ That a restitution and/or capitalization meeting between recipients, consultants and donors (and perhaps other entities concerned) take place
- Lastly, in the majority of cases, the recipient does not know "the cost of the consultant's intervention" (typically determined by donors). For the sake of optimization, it is critical that the recipients know the cost of intervention.

Result 23: The number of consultants capable of leading an EIA/PREE increases

A. Results Obtained in May 2002

Three-hundred seventy resource persons from administrative institutions such as the ONE and the government ministries, decentralized communities, consulting firms, consultants and students were supported by the project through the strengthening of environmental assessment capacities in general. Capacity-building activities include training, conferences, and the contribution to the preparation of higher education theses.

Training courses in various areas (environmental assessment and community activities; the environmental assessment process; ISO 14000 standard; strategic environmental assessment; environment and mining; public participation) were delivered in several regions of Madagascar (Antananarivo, Toliara, Mahajanga, Antsiranana, Fianarantsoa and Toamasina) and overseas (Canada and Bénin). In the same way, about ten people attended international conferences. For

training delivered in Madagascar, speakers include resource persons from consulting firms, government agencies or sectoral ministries, as well as national and international consultants.

For the academic years 2000–2001 and 1999–2000, the project also contributed technically (subject development, supervision) and financially by providing support to a score of students (at least Bac+4) in the preparation of their thesis.

A computer-based training course (approximately 400 Mo) was also developed jointly with the Ministry of Energy and Mines. The training course will be implemented at provincial land registry



Figure 7. Roundtable for EIA professionals

offices, and is designed for small-scale mining operators who will be held to follow the training course as a conditionality to permit extension. To date a hundred CD-ROMs were distributed.

Locust control activities during the emergency period also made it possible to national specialists (ecotoxicologists in particular) and several relevant institutions (ONE, University of Antananarivo, ...) to take into account and better consider the environmental dimensions of locust control. An asset capitalization workshop (the first of its kind) was organized.

Lastly, although indirectly, the existence national and international consultant pools

during the evaluation of QMM's dossier helped develop capacities among the resource persons involved (CTE, CEAP, consultants). It should be underlined that the requirements of an "international evaluation" were brought to light and taken into consideration during the evaluation of QMM's dossier.

B. Key Deliverables

- Training report FID/ONE/ONG Làlana (see Deliverables for Result 1)
- EIA training report/SAVAIVO (see Deliverables for Result 1)
- Report on the meeting on EIA training restitution/evaluation/ONE
- Report on ISO 14000 training by Rasolomanana Harizo with a course support appendix
- Report on training and participation in the 6th International conference of French-speaking impact assessment specialists in Benin/Andriamboavonjy Evah—Rakotoary Jean Chrysostome, with a course support appendix
- Report on Environment and Mines training in Canada/Hanitra Randrianarivelo and Rakotobe Henri
- Report on environmental assessment training in Quebec/Paul Andrianaivomahefa

- Presentation of the ZEI in Hong Kong
- Course support during the training of the Public Hearing and Survey Commission (CEAP)/André Delisle and ONE
- Report on PAGE contribution to the realization of DESS theses and others/Andriamboavonjy Evah
- Theses:
 - ◊ Identification of tourist investment areas using geographical information system (GIS) in the region of Morombe / Randrianoelinoro Herilala Fabrice
 - ◊ Environmental impact assessments of tourism development in Manambato / Randrianarifetra Sitraka
 - ◊ GIS design and establishment in the management of tourist land reserves in the South-West of Madagascar—Case of Saint-Augustin, Toliara / Andriamaholisoa Ratsimba Simone
 - ◊ Concept on compliance of environment and hotel infrastructure: case of the hotel complex in Kimony, Morondava / Rakotoarivony Honorat
 - ◊ Implementation of a “cleaner production program in a hotel establishment” / Rakotosolomalala Vahatriniaina
 - ◊ Environmental impact assessment of the installation of reception facilities in the forest station of Ivoloïna–Toamasina / Andriatsalama Voahirana
 - ◊ Comparative analysis of the legal framework of environment management tools (EIA) applied to the tourism sector in Indian Ocean countries / Ranindriana Ranjanavalona
 - ◊ Use of EIS to assess the impact of the installation of hotel complexes to coastal ecological biotope vulnerability: case of mangroves and coral reefs / Rasolofoniaina Mejah
 - ◊ Strategic environmental assessment in the Zone d’Activité Economique Spéciale (ZAES) Vatomandry—Water Component / Randriamananazy Gilles
 - ◊ Strategic environmental assessment in the Zone d’Activité Economique Spéciale (ZAES) Vatomandry—Socio-economic Component / Razafitsalama Anja Tovo
 - ◊ Use of EIMS in environmental assessment of mining projects in Zone d’Activité Economique Spéciale (ZAES) Vatomandry / Ramanohison Hary
 - ◊ Monitoring and control of the scopes of work which emanate from the environmental assessment of Nosy Ranjakely project / Abdallah Ahmed Soilihi
 - ◊ Contribution to the establishment of an Environmental Information and Management System (Système d’Information et de Gestion Environnementale/SIGE) applied to impact assessment studies and

- environmental monitoring of mining activities—Case of the gold-mining area of Andavakoera Ambilobe Madagascar / Rakotozafy Randriamahajamanana
- ◇ Monitoring and control of the scopes of work for the ecolodge “Nature Lodge” in Amber Mountain / ISSA ABDILLAH Mohamadi
 - ◇ Environmental assessment of the establishment of a participatory community management in a marine environment: Case of Nosy-Ve, Anakao / Ramanantsialonina Zanoa
 - ◇ Assessment of impact of tourist facilities in the area of Tolagnaro / Ranarijaona Tiana Hasina
 - ◇ Environmental impact assessment of water supply in the development plan of the Isalo Ecotourism Development Zone (ZIE) / Ranjatoelina Noro
 - ◇ Use of satellite imagery during the impact assessment of railroads on the transport sector—Case of the corridor between Ranomafana and Andringitra / Ramasinjatovo Nirinjaka
 - ◇ Use of 2 Landsat images and GIS for forest degradation mapping along the RN2 and TCE railroad—Part of the forest corridor between Zahamena and Ankeniheny / Rakotomamonjy Jeanne Andréa
 - ◇ Assessment of the cumulative impacts of hotel facilities—Case of Ambatolaoka, Nosy Be / Mohamed Hamidou Ali
- CD-ROM compiling the theses
 - Computer-based training in the environmental dimension of small-scale mining operations
 - Locust control:
 - ◇ Environmental monitoring of locust control activities / Ralph Peveling
 - ◇ Environmental monitoring of locust control activities / Faculty of Science—Antananarivo
 - ◇ Report on the asset capitalization workshop on the environmental dimension of locust control activities / ONE
 - ◇ CD-ROM on the environmental dimension of locust control activities
 - ◇ CD-ROM on environmental dimension and the road sector
 - QMM consultants:
 - ◇ Report on the rapid evaluation of QMM’s SEIs / François Lampietti
 - ◇ Final report on the evaluation of the modeling aspects of QMM’s ilmenite project impact assessment / François Lampietti

C. Lessons Learned

Financial support to DESS theses made it possible to:

- Contribute to students' own contribution to their training
- For institutions which propose topics, to obtain results for their own database
- Possibly obtain results at lower cost compared with consultants' work

Realization of a computer-based training course on small-scale mining:

- As it was designed, the tool is well appreciated by the target public despite some imperfections.
- Rather innovating computer-based training in the field.

Training in environmental assessment for environmental cells and regional sectoral ministries:

- Training in administrative procedures of Administrative evaluation was carried out. However the environmental unit is not steady (this applies to unit members and the organization chart as well) because changes occur frequently.
- Despite their training, trained people still lack practice.

Capacity-building through participation in training programs and conferences overseas:

- Based on participants' reports and questionnaires, the added values of the participation in conferences and training programs are often restricted to the participating resource person only. Added values for each institution are not obvious.
- In the majority of cases, course support documents or other documents distributed and/or developed during the training program or related to the conference attended are not available at the institution (documentation center) for which the participant works.
- Even after 10 years of environmental assessment practice (MECIE), Malagasy specialists and experts are often considered as resource persons to be trained, rather than trainers as is the case in other countries

To date, no system allowing an update of knowledge exists in Madagascar.

Furthermore, it is observed that no consultants' directory or databases is available at the national level in this field.

D. Post-PAGE Perspectives

"Practice" should be emphasized, in particular at regional sectoral ministries level, during the training in administrative procedure and environmental assessment process. It might prove useful to involve regional resource persons as CTE and monitoring team member in the evaluation of impact assessment dossiers to the extent possible.



Figure 8. EIA training in Tulear, September 2001

It is necessary to update the knowledge of resource persons working in this area and to share experience. This may be done during regional or national seminars or conferences on environmental assessments.

More specialized training in the technology required for a sustainable development of tourist and mining activities need to be organized.

Computer-based training should also be tested in the tourism sector.

For this purpose, ministerial environmental cells should develop a training program which takes into account

thesis preparation requirements (Bac+4 at least).

The use of monitoring indicators in the training program is recommended.

Recommendations should be made and measures taken, possibly by those institutions which finance the training programs, so that upon completion of individual capacity-building, the institution also benefit by the added values.

The establishment of a network of specialists in this field will make it possible to follow the evolution of the number of consultants; and better remedy “the lack of specific experts” by selecting more carefully the training courses offered on several levels.

Result 24: Improvement in quality and timeliness of EIA/PREE review by the government

A. Results Obtained in May 2002

The impact assessment tracking system is now in place and operational at ONE. PAGE’s support was essentially material (computers), technical (database creation and establishment, feeding the database). PAGE also contributed to develop capacity by training system users (resource persons from the evaluation unit) and persons responsible for future system extension.

The system contains approximately 80 impact assessment “dossiers.” PAGE’s support started with a contribution to the setting-up of a system (including administrative and technical aspects) using a binder for EIA “dossiers” in order to facilitate follow-up and control. The binder was subsequently converted into a tracking system.

The website www.mecie.mg (now www.pnae.mg/mecie) was designed initially for public consultation during the environmental evaluation of QMM project. The website is functional but is not updated yet (impact assessment “dossiers” under evaluation are not posted on the website, nor are the scopes of work relating to environmental permits issued). The website was established to facilitate access to environmental information (regulatory texts, tools developed, administrative procedures, monitoring).

Building individual capacities of resource persons from the administrative institutions (ONE, Ministry of the Environment, Ministry of Energy and Mines, Ministry of Tourism) through training programs, conferences and consultants' interventions (administrative and technical) in particular during QMM project evaluation.

Development of institutions' material capacities (documents, CD-ROMs, and tools developed).

B. Key Deliverables

- Report on the tracking system/Razafindrazaka Haja Joela
- Report on tracking system use/ONE
- Report on the tracking system for environmental impact assessment "dossiers"/Onisoa
- Tools developed:
 - ◊ MECIE brochure
 - ◊ General guideline for the elaboration of environmental impact assessments
 - ◊ Sectoral guide for textile projects
 - ◊ Sectoral guide for tourism projects
 - ◊ Sectoral guide for aquaculture projects
 - ◊ Sectoral guide for road projects
 - ◊ Sectoral guide for textile projects
- Report on the website: see Deliverables for Result 1
- Reports of QMM consultants:
 - ◊ Elaboration of evaluation grids/Pierre Légaré
 - ◊ Analysis of the Administration's environmental evaluation process in the case of the ilmenite project/Pascal De Guidici
 - ◊ Coordination and evaluation report on QMM ilmenite project/Andrianelison José



Figure 9. Evaluation of QMM EIA, July 2001

- ◊ Coordination and evaluation report on QMM ilmenite project/Rasoanandrianina Lalaniriana
- ◊ Training of surveyor-commissioners—public participation phase/Jean Louis Michard
- ◊ Training of surveyor-commissioners/Andre Delisle
- ◊ Report on asset capitalization for QMM evaluation/ONE
- ◊ Support to ONE, the coordination committee and the technical evaluation committee during QMM evaluation/Mahatsanga Ranja

C. Lessons Learned

The establishment of the tracking system improved the organizational structure within the ONE and its partners (MinEnv and other sectoral ministries). The database was created and is updated in real time. Effectively, during database creation, several physical elements were not found in the binder, and at times it was even impossible to track those elements.

The results of the training in tracking system use (in particular for users from the EIA review unit) are not very encouraging, even if the training schedule was decided by common agreement by the entities concerned.

Between August 2001 and May 2002, the website (designed as a real time information media) has not been updated. This is due in part to the responsible institution's internal organization.

D. Post-PAGE Perspectives

Given the internal structure within ONE, it would be necessary and useful (to enhance system operation efficiency) to use the tracking system in a network. In the same way, a spatial presentation and a presentation by type of activities should be integrated into the system.

The system is designed for EIA “dossiers,” not for PREE “dossiers” with a view to identifying environmental challenges at regional level,

- The ONE, together with sectoral ministries concerned, must put in place and/or improve the inter-institution data transfer system so that at least one database (probably located at ONE) containing the impact assessments (including achieving conformity studies) exists, works and is updated. The database will be also useful for strategic impact assessments.
- Except for the mining sector where approximately 400 PREEs are now deposited and a database for “dossier” management and follow-up exists, no sectoral ministry has a similar system. It would be necessary to develop PREE “dossier” management tools within some ministries (industry, tourism, aquaculture, forestry).



Figure 10. Training in EIA sectoral environmental cells, February 2001

Steps should be taken to ensure that electronic version is made available for the EIA dossiers deposited, as well as the terms of reference.

Result 25: The public becomes more active in influencing the EIA/PREE process and in EIA/PREE monitoring

A. Results obtained in May 2002

The project supported the “public participation” component of the environmental evaluation of QMM through training and assisting Public Hearing and Enquiry Commission (Commission d’Audience et d’Enquête Publique/CEAP) and creating the website. A strong mobilization of local populations was observed during public hearing sessions (in particular in the area of Fort-Dauphin). Many local NGOs (regardless of their position in the project) were involved in the evaluation to defend citizens’ interests and conduct awareness-raising and mobilization activities.

This component was among the items discussed during the capitalization workshops of the SEIS evaluation.

A public awareness campaign on MECIE was carried out in October and November 2001 in 7 Malagasy cities. The meetings draw approximately 250 people of which 20% are representatives of the provincial government and the decentralized communities, or are resource persons involved in the implementation of public participation whatever its form (responsible for informing population in its district in particular) and project monitoring (in accordance with regulatory requirements). In addition, a grant was allocated to an NGO in Tamatave (ONG MITIA) to support and test MECIE education tools.

B. Key Deliverables

- Training of surveyor-commissioners—Public participation phase/Jean Louis Michard
- Training of surveyor-commissioners/Andre Delisle
- Report on asset capitalization for the evaluation of QMM/ONE
- Report on MECIE information and awareness-raising sessions/ONE
- Technical report on the MECIE education project of the NGO MITIA



Figure 11. Meeting of the QMM EIA Public Commission. September 2001

C. Lessons Learned

During the phase of realization of the SEIS, given the project scale and the time required to conduct the study, the promoter QMM S.A. invested much in the organization of meetings and surveys with the public affected directly by the project. This is why local residents and NGOs were intensely involved in the process.

For the first time in Madagascar, it can be said that public surveys and hearings were professionally conducted and well managed. Resource persons from the CEAP thus acquired the organizational and technical capacities required for public surveys and hearings.

However, the operation modalities of the CTE and the CEAP, the key two actors of environmental evaluation, need to be reviewed for a better synergy in conducting environmental evaluation.

Considering the degree of information of local inhabitants on the socioeconomic impact study of QMM's ilmenite project, they will be integral part of the "proximity monitoring" of this case.

Awareness is low among decision-makers and local government at project site a regards environment evaluation in general; therefore, their participation and integration in the evaluation process is insufficient.

D. Post-PAGE Perspective

The example of local NGOs working partially or fully in the environment sector in Fort-Dauphin must be applied in other regions of Madagascar in order to include the public in the list of active actors of environmental evaluation. For that, a development of organizational and financial capacities of those NGOs is necessary to enable them to:

- Realize awareness-raising, promotion and mobilization activities
- Participate in the environmental evaluation process
- Be among monitoring actors

For certain type of project or plan or policy, a "public participation" process initiated by the promoter is highly recommended. For that, the related terms of reference are the only tool for recommendations.

However, the "technical evaluation committee" should also launch at least "public surveys" (even if it will increase the evaluation costs) in certain cases: rehabilitation of the FCE, environmental evaluation of the PADR, ...

A score of resource persons members of the CEAP received a training, and were able to implement the "public consultation" component as part of the asset capitalization process. These resource persons intend to set up a core reference group in this field. This core group will need to be developed, in particular from the organizational point of view.

According to regulatory texts, decision-makers as well as the local government are held to inform the public on the existence and the realization of a public participation process. For the QMM project, awareness raising and information on the administrative procedure were not successful. Awareness-raising, promotion and capacity-building activities (tailored to this target group) must be carried out.

Result 26: Strategic EIA is used to reduce the negative impact on the environment of investments in one region, and lessons are transferred to other regions

A. Results Obtained in May 2002

The strategic impact studies supported by the project include:

- Development plan in the Isalo Ecotourism Development Zone (ZIE). Study results are directly used by the Ministry of Tourism through the approval of Decree 2000/847 relating to the development plan in the Tourist Land Reserve of Isalo and the existence of the environmental directions for each batch.
- Mining activities in the Zone d'Activité Economique Spéciale (ZAES) of Vatomandry where modalities are proposed for the management of study and rehabilitation funds (first proposal by the MEM for all mining activities). In the same way, a handbook of environmental clauses is reserved to each permit holder (small scale or industrial mining), as well as procedures adapted to the application of environmental measures, control and environmental monitoring.
- Analysis of the impacts of the railway system Fianarantsoa East Coast on the regional economy.

And, if we refer to other definitions:

- Follow-up to the ecological impacts of the chemical control of locusts on non-target fauna in the area of Malaimbandy is also included in this area.

Finally, despite the absence of specific regulatory texts and tools (directives, guidelines) concerning studies of strategic impacts or the application of results, several studies have been carried out in Madagascar (PST SEA, PADR SEA, RECAP, ...) with donor contributions in all instances (USAID and the World Bank). Therefore, a one-day seminar on SEA capitalization (the first of the kind) was organized in order to have a better vision of a SEA and better define its role; to better determine assets and issues; and to compare with what is being done on a global level.



Figure 12. Illegal building on the site of Isalo EIA

B. Key Deliverables

- Report on the strategic impact assessment of the Isalo ZIE development plan / Cabinet Performance

- Environmental impact assessment of water supply of the Isalo ZIE development plan / Ranjatoelina Noro
- Report on the strategic impact assessment of mining activities in Vatomandry ZAES/MEM
- Strategic environmental assessment in Vatomandry ZAES—Water Component / Randriamananazy Gilles
- Strategic environmental assessment in Vatomandry ZAES—Socioeconomic Component / Razafitsalama Anja Tovo
- Use of SIGE in the environmental evaluation of mining projects in Vatomandry ZAES / Ramanohison Hary
- Summary report on the SEA capitalization workshop / Rasoanandrianina Lalaniriana

C. Lessons Learned

Despite the initiative of the Ministry of Tourism and its partners, the SEA of Isalo ZIE was not evaluated as required by the MECIE decree. The same applies to the ZAES; although the MEM submitted the TOR to the responsible institutions (ONE and MinEnv, and CTE members were already appointed), no feedback was received from the concerned parties. This is a major gap (which needs to be filled) of the administrative procedure for EIA review.

Concerning the ZEI, no bidder met the Scope of Work's requirements. A revision of the environmental note will probably be necessary.

For both the Isalo ZIE and the Vatomandry ZAES, the local government (Deputy Prefect, Mayors, ...) and the public (villagers, mining operators, ...) are involved directly or indirectly (through information and exchange meetings) in the study. It is hoped that the contribution of such "proximity government" will be effective, in particular for the monitoring component.



Figure 13. Small-scale mining in Vatomandry SEA region, October 2001

An international consultant participated in both studies (at coordination level in particular). The exchanges which took place during the study helped develop capacities in the private sector (consulting firms) and the MEM environmental unit (even though it is not the first approach in SIE).

The inconsistencies of environmental texts were brought to light.

D. Post-PAGE Perspectives

- Finalization of regulatory texts relating to SEA

- Setting-up of a think tank (administrative institutions, consultants, decision-makers) for the elaboration of texts and tools
- Awareness-raising among decision makers

Result 27: The rate of loss of priority habitats, including primary forests, in USAID local areas is measured

A. Results Obtained in May 2002

With technical assistance from USGS, PAGE conducted a study of the rates of primary forest loss in two of the five USAID priority areas, and in a control corridor where no USAID action had been undertaken. The results showed clearly that the rate of primary forest loss was much higher in the area where no USAID action had been undertaken. This analysis was then refined using different altitude classes and forest management types to contribute to the NEAP biodiversity indicator.

B. Key Deliverables

- Report on forest cover change in the three corridors Zahamena-Mantadia, Anosibe An'Ala, Ranomafana-Andringitra prepared by Ned Horning and Frank Hawkins is available both in English and in French.
- A report on the results of ground validation including the methodology used prepared by consultants and Pierre O. Berner entitled "Accuracy Estimate of the Assessment of Forest Cover Change—Guidelines for Field Teams."
- Use of the results obtained by the study in the measure of NEAP biodiversity indicator.

C. Lessons Learned

Once the detail of the methodology of analysis of satellite imagery and ground validation is established (as has been done in this case), there are few impediments to having a reasonably accurate assessment of forest cover change. The most important step, however, is the presentation of results so that they are interpretable for management, and this has proved to be a greater challenge than expected. In particular, presentation of results by altitude range and by forest management type required access to GIS polygons that were not in the public domain. In addition, the presentation of the results required a lot of discussion of the most effective manner for transmitting a potentially politically sensitive result.

D. Post-PAGE Perspectives

Measure of same indicator in other USAID priority areas, in particular Anosy, Antsiranana and Bongolava, with the same methodology used for forest cover change assessment and ground validation. To supplement the studies, one overflight of imprecise areas on satellite images and areas inaccessible during ground validation will be necessary.

Result 28: USAID interventions are evaluated against change in priority habitats

A. Results Obtained in May 2002

In the Anosy region, a series of workshops conducted with local biodiversity specialists resulted in the identification of a series of concrete biodiversity conservation recommendations, using a methodology developed with these specialists. The recommendations are included in the options development phase of the Regional Development Plan and have been the subject of detailed budgeting and feasibility studies. The Fianarantsoa and Moramanga corridors have been evaluated using the same methodology. The manual developed during the Anosy workshops has been considerably developed and refined and now can be used by specialists in any region of Madagascar.

B. Key Deliverables

Reports of conservation priority-setting workshops in Fort-Dauphin; maps and zoning guidelines produced for integration into the Regional Development Plan; manual for regional biodiversity priority-setting; results of Moramanga priority-setting workshop, produced in collaboration with Conservation International.

C. Lessons Learned

Getting the biodiversity conservation priorities identified is the easy first step. Making sure that the results thereof are understood and, in particular, the results are put in their potential economic context (for example for conservation investment) is an essential part of the process. There may be reluctance to accept wide-scale proposals for biodiversity-based actions even when they relate mostly to zoning for community management, as was the case with the Anosy recommendations. The implications of the recommendations need to be supported and defended by those who propose them right through the planning process.

D. Post-PAGE Perspectives

Further follow-up on progress on biodiversity priorities for the Fianarantsoa and Moramanga corridors.

Result 29: Biodiversity conservation priorities are identified in USAID focal areas and the results incorporated into regional development plans

A. Results Obtained May 2002

Satisfactory even if the area of Daraina and the wetlands to the West were not studied. Biodiversity conservation priorities are identified in USAID priority areas.

Activities realized for this result consist in supporting the various regional structures in developing a strategy for an appropriate and sound management of regional natural resources, especially the biodiversity. Efforts were centered in three priority areas: Anosy, Zahamena-Mantadia or Moramena, Ranomafana-Andringitra-Ivohibe.

In Anosy, activities are part of PAGE's support activities to the Comité Régional de Développement for the development of the Regional Development Plan. Results obtained after the successive workshops include: habitats and priority sites identified and biodiversity management actions proposed. A priority-setting manual was prepared upon completion of

activities in Anosy. The methodology proposed in the manual was used for similar activities in the corridor between Zahamena and Mantadia, in association with Moramena CRD and Conservation International; and in the corridor between Ranomafana-Andringitra-Ivohibe in association with the Comité Multi-Local de Planification (CMP) of Fianarantsoa and MIRAY.



Figure 14. Biodiversity priority setting in Anosy region

B. Key Deliverables

Five workshops in Fort-Dauphin; one large workshop in Andasibe; one large workshop in Ambalavao; a report for each region; a CDROM compiling workshop reports for the three regions; a summary report of workshops; a priority-setting manual for regional biodiversity which was revised and validated by partner institutions.

C. Lessons Learned

A prior capitalization of information on the study area is critical for better results. The objective is achieved as regards the process used in the activities: easy, understandable and realistic, with effective participation of specialists from the study area; a sustainable biodiversity management does not depend on results obtained on conservation priorities only; it is also necessary that similar activities be undertaken on the socio-economic level as the two components are interdependent for regional development plan.

D. Post-PAGE Perspectives

Monitoring of integration of recommendations drawn from activities undertaken in the three regions by partners, who are currently using study results, particularly MIRAY.

Result 30: Model(s) for local community involvement in ecological monitoring tested

A. Results Obtained May 2002

A contract with a local NGO, Mateza, in the center-east Fenoarivo region, was established in order that the perception of local communities of the relative importance of natural resources was evaluated. This was compared in a series of workshops with the experience of local farmers from the far south of Madagascar, and many interesting lessons learned. In particular a synthesis of the potential points of misunderstanding between projects and local communities was made.

B. Key Deliverables

- A report on Fort-Dauphin workshop entitled "Information workshop on the knowledge about ecological monitoring system among peasants in Androy and Betsimisaraka"

- A report on the case study conducted by ONG MATEZA entitled “Setting-up of a community monitoring system for Firariana –Zahamena forest”
- Several reports on fieldwork and field trips

C. Lessons Learned

This activity was among the most difficult to manage of all PAGE’s actions. The reason was that it seemed difficult to translate the notion of the external value of biodiversity through a development-oriented filter at the level of the implementing NGO. Their preoccupation was with the transfer of management rights from the government to the local community, not the impact of that action on biodiversity. Thus the indicators that were proposed for monitoring by the NGO related more to socio-economic success than biodiversity conservation success. There has been some reorientation on this point but the level of understanding of the priority of the funder is still moderate. This will be a very important issue to resolve when it comes to implementing (for instance) conservation contracts or private reserves, with funding from external investors who are much more preoccupied with biodiversity and much less capable of close follow-up. Another important blockage was the difficulty of transferring money to the organization. While the money had been sent, it was not apparently detected by the organization for about three months, either because the local bank had not received it or because the local organization did not know it was there. More follow-up on money transfers would seem like an aid to efficiency.

D. Post-PAGE Perspectives

As noted, it will be essential to learn lessons from this experience when new conservation funding options such as private reserves, conservation concessions and conservation contracts are explored. The connection between the investment and the conservation of biodiversity must be paramount and this should be made transparent right from the start.

Result 31: Key analyses of biodiversity distributions are used by decision-makers in formulating policy

A. Results Obtained in May 2002

PAGE contributed substantially in the increased capacity to understand and exploit patterns of biodiversity distribution, through the development of user-defined tools such as the Plateforme d’Analyse and also through contributing to the definition of zoning parameters (such as value for biodiversity) in the National Forest Zoning project led by the Ministry of Water and Forests, and by analysis of the distribution of threatened species and habitats within the national parks network. The development of the national policy for the management of biodiversity used PAGE analyses of priority habitats and recommendations for action. The mid-term review of the second phase of the NEAP profited from a review made by PAGE of the key issues relating to biodiversity conservation.

B. Key Deliverables

- Report on the activities completed up to Module 3 by Claire Kremen and her team
- Two reports by of David Lees including a report on the training session organized in Fianarantsoa and a report on the lessons learned during the workshop in Ambalavao

- The tool under Arcview 3.2 with the users' manual is already available along with
- A report on the workshop of capitalization of results of PDA works

C. Lessons Learned

It has proved quite difficult to develop technical capacity in biodiversity distribution analysis, partly as there has been rather a lack of demand for this type of operation. One notable exception has been that of ANGAP, who have been able to base their strategy for network development on it, and are keen that regional and park-level managers have access to the analyzed data and also receive training in the analysis methods. There has been relatively little discussion of the importance of biodiversity data in the forest zoning process, which however is being relieved to some extent by the analyses of biodiversity priority at the regional level. The mid-term review of biodiversity management issues was not used fully as it was part of a bundle of other documents that were considered too inflammatory for distribution.

One reason that biodiversity distribution patterns are not considered a high priority for policy formulation is that there is still a remarkably low (but steadily increasing) perception of the economic value of biodiversity as a lever for development, for instance in attracting external investment for biodiversity conservation and sound environmental management. PAGE has contributed greatly to the rising profile of this issue, but a lot more work is needed to link more closely the biodiversity with the economics. One major gap is the lack of popular political perception of why it is the donors keep talking about Malagasy biodiversity. This must surely be something that could be overcome by sophisticated communication.

D. Post-PAGE Perspectives

Technical and institutional establishment of the new management structure will be necessary in the future. The continued improvement of system operation with the finalization of the Visual BASIC version will make further use more readily accessible to Malgache.

Result 32: ANGAP applies appropriate ecological monitoring techniques to track achievement of strategic conservation goals

A. Results Obtained in May 2002

PAGE started this activity by looking at the way in which conservation targets were identified and monitored in ANGAP protected areas. A series of regional workshops was held to investigate the ways in which ecological monitoring contributed to management. Since that point, activities in park ecological monitoring have been oriented strongly towards developing a network-wide system for tracking the achievement of ANGAP's mandate. There are three components to this system, not yet all completed—the Conservation Management Plan, the Ecological Monitoring toolset and the Park Information System. Developed with PAGE and MIRAY/WWF support, the ANGAP Conservation Management Plan will enable ANGAP to define strategic roles for all its parks, for each region and for the overall network. Within the Conservation Management Plan manual are specific toolsets relating to ecological monitoring allowing each park to follow the impact of management on key species and habitats. The Conservation Management Plan system is under development as a computer-based training package, with all context information on presence of threatened species and representation of important habitats built in. The results of the conservation management plan, in terms of the contribution of each park to the conservation of key species and habitats, will be synthesized

into the Park Information system which will provide indicators on progress in relation to the mandate of ANGAP.

B. Key Deliverables

ANGAP research plan, reports of 6 regional workshops on ecological monitoring, Tables of presence of threatened species by protected area, presence of biodiversity-rich habitats by protected area, priorities for management in a range of priority parks, draft conservation management plan handbook with model ecological monitoring methods handbook.

C. Lessons Learned

The original goal was to develop model ecological monitoring plans for parks within the first year of work. It soon became clear that without an evaluation of why the parks existed in the first place, and what the habitats and species were that most justified their existence, there would be little point in establishing a monitoring system. We are still some way from completing this task, and much work is needed in developing tools that aid parks in identifying priorities and monitoring them. However the outputs from an ecological monitoring process that will permit the ensemble of the ANGAP network to prove that it has achieved its mandate are clearly visible. Implementation of a training program network-wide, with results of monitoring incorporated into a tailored data management system to report on indicator against progress is still at least one to two years off.

D. Post-PAGE Perspectives

It will be necessary to continue development of computer-based training modules for implementation of conservation management plans and ecological monitoring. In addition, efforts should be made to support design and implementation of a protected area information system.

Result 33: Malagasy researchers are trained in biodiversity conservation and management

A. Results Obtained in May 2002

Eight Malagasy students from the Agronomy School of the University of Antananarivo received financial and technical support in writing their master's theses on subjects related to biodiversity conservation. These included: effects of grazing on vegetation regeneration in protected areas, sustainability of non-timber forest product use in the peripheral zone of protected areas, sustainability of use of forest palms in community forests, and the ecology of critically threatened lemurs. A class of masters students at the University of Toliara were given courses in biodiversity evaluation, ecological monitoring and ornithology.

Under the certificate course with ENSA (Water and Forests Option), two students completed their studies in the area of Daraina with study topics related the conservation of *Propithecus tattersali*, an endemic endangered animal species. Two others went to Tampolo-Fénérive Est to study non-woody species; and the last four students completed their field work in the National Park of Andohaëla in Fort-Dauphin with study topics related to assessment of pressures in and around the Park.

With PAGE's support, students in fifth year at the Faculty of Science of Tuléar followed theoretical and practical training courses in biodiversity assessment, ornithology and ecological

monitoring. The courses followed by these students were part of their theoretical examination to obtain the Diplôme d'Etudes Approfondies (DEA).

B. Key Deliverables

- Eight internship reports to obtain the diploma of water and forest engineer
- A paper on a training module on aquatic ecosystem

C. Lessons Learned

It proved difficult to ensure timely delivery of student projects for several reasons: the excessive USAID grant administration requirements; the multitude of other activities being undertaken at the agronomy school, and in particular excessive time taken by students in preparing theses due to lack of computer access. A supplementary program aimed at increasing the exposure of teachers at the institute to debate within the NEAP was never implemented at all, largely due to a lack of interest from the teachers. In the final analysis, the subjects that the students undertook were not really the most important ones to have pursued in the context of developing capacity for future natural resource managers in the NEAP, and this method of producing such specialists is not therefore very efficient.

The students could not respect the deadlines for the preparation of their thesis due to the insufficient materials to prepare their reports at the university, and the non-availability of their professors for correction. The topics of the theses satisfy the ESSA-Forets for their originality but they contain only few elements which could be used by environment managers. In the future, training topics should respond to the Environmental Program's needs, and students should be supervised by specialists.

The training should not be offered only to students preparing their diploma but to all teacher-researchers who lack time to update their knowledge. This initiative was planned for this activity but the training of trainers did not take place because some teachers were not interested.

D. Post-PAGE Perspectives

Proposals for more specialized training modules tailored to NEAP needs in order to fill biodiversity management information gap.

A more supple and less administratively heavy program of grants to a range of institutions might be a more effective use of grants money, perhaps on the basis of responses to a tender for courses in particular subjects (conservation biology, natural resource management, national parks management, etc.).

Result 34 : Make information more accessible

A. Results Obtained in May 2002

A number of important pieces of work were completed to make information more accessible. These included an intensive collection of documents on:

- Environmental impact assessment
- Ecological monitoring

- Sustainable financing
- Environmental policy
- Environmental economics

In all, 948 documents were collected through exchanges, purchases, gifts or downloads from websites. In addition, PAGE undertook to:

- Create a database accessible to the public
- Collaborate for the establishment of a website, and update of the website based on the reports prepared by PAGE experts
- Collaborate for the creation of CD-ROM on Environmental Impact Assessment by PAGE

After transferring the PAGE library to ONE, PAGE provided ONE training in the use of the reference database.

B. Key Deliverables

- Bibliographical catalogue
- CD-ROMs on Environmental Impact Assessment and other subjects
- Website—IRG/PAGE

C. Lessons Learned

A more effective transfer to achieve the expected result should be accompanied by more training.

D. Post-PAGE Perspectives

The ONE, the institution to which CETEDIE transferred its collection, should maintain close relationships with PAGE partners, in particular USAID, in order to update their common database.

ONE extranet must be maintained and updated on a regular basis to provide information to visitors.

Result 35: Quantify and communicate the economic value of the environment

A. Results Obtained in May 2002

In 2000, through a partnership with an economist from the ONE and in association with the



Figure 15. In the target region for environmental-economic modeling of train prioritization imports, June 2000

University of Antananarivo and CFSIGE, PAGE launched a training and applied research program in the field of environment economics. The key objective was to build capacities in environment economics and to communicate to decision-makers the important contribution of environment and natural resources to local and national economy. Such a contribution is often undervalued by the government. Some people believe that environment is only of interest for the international community.



Figure 16. Case studies presented, October 2001

The program endeavored to communicate environment values at household level, and the importance of developing investment programs which incorporate such values.

The program helped young researchers and economists realize economic studies on the environment. To ensure the quality of this program, PAGE called upon the teaching and technical support of a specialized international expert, Bruce Larson.

The program offered an intensive training course for a score of researchers. It monitored and financed the realization of 10 field case studies in Madagascar. The research topics selected reflect the need for information on the contribution of natural resources to the country's economy.

The case studies were completed within a 9-month period. Study results were discussed during several conferences in Madagascar. The 10 studies were put on a CD-ROM which was distributed to about fifty institutions working in Madagascar.

In October 2001, ONE and PAGE organized a workshop of valorization of the case studies.

B. Key Deliverables

- Study on environment economics by Bruce Larson
- Intensive training course
- 10 case studies on environment economics
- Compilation of the 10 studies on a CD-ROM
- Workshop of valorization of the case studies

C. Lessons Learned

Individuals with a rather advanced basic training can quickly acquire the specific competencies necessary to formulate and undertake a study on environment economics.

The training in environment economics delivered at the university is centered on theoretical aspects, while quantitative analysis aspects or methods receive less attention.

Data interpretation and recommendation formulation skills are however difficult to acquire. This limits the possibility of fully utilizing the results of the economic studies, and communicating them to decision-makers.

The existence of a pool of qualified people which can undertake economic studies will probably be very useful to the ministries, which will have to call upon such experts for project formulation.

The communication of relevant messages derived from environment economics research is still inadequate within the key institutions concerned.

D. Post-PAGE Perspectives

In the absence of a specific project to develop the contents of training courses offered at the university, it is recommended to continue to finance specific training activities within the EP3. Such training programs may include environmental economics courses, but may also be extended to include study interpretation and communication. This communication step is key to achieve the objective of integrating the environment into the economic development of the country.

Result 36 : Support environmental involvement by the public

A. Results Obtained in May 2002

Within the framework of its grant program, PAGE worked with Malagasy NGOs and associations to promote the participation of local inhabitants in environment management, and more particularly forest resource management. See Result 17 for more details. In addition to that, PAGE provided training to 20 NGOs on how to submit grant proposals to obtain funds to carry on environmental activities which, for the majority, involve other non-governmental organizations.

B. Key Deliverables

- See Result 17 for forest communication activities
- A CD-ROM, entitled "Support tool for submitting grant proposals," which contains a computer training tool
- PAGE also undertook three training programs concerning how to submit grant proposals, including a training of trainers program.

C. Lessons Learned



Figure 17. Training in grant management

PAGE's support to the "Reflexe Environnementale" was evident across a number of our activity areas, including, especially, the forestry grants program and the EIA public review. In both



Figure 18. Training led by PAGE and CNOE in Anosy, August 2001

cases, the efforts to engage the public began well after PAGE had started, and, in general, they did not leave sufficient time for impacts to be perceived before the project was completed.

D. Post-PAGE Perspectives

The area of public involvement with environmental management received a boost with the change of government in the spring of 2002. Any efforts that might build on these initial successes should be pursued. Such efforts are particularly pertinent to potential democracy and governance support activities.

Result 37 : Strengthen the capacity of environmental professionals

A. Results Obtained in May 2002

PAGE attempted to improved Malagasy capacity in three ways, as per work plan's enunciated "operational principles." First, we tried to "emphasize learning by doing through in-country training." Second, we tried to "engage existing educational institutions, such as universities and training institutes, as partners in PAGE implementation." And third, we attempted to "facilitate rather than do" reflecting a common concern amongst Malagasy partners that earlier efforts to provide technical assistance had worked alone rather than working together with local counterparts.

PAGE's total budgeted amount for training was \$575,710, all of which was used. Of this, 65% was used in country. PAGE's training support, however, greatly exceeded what was spent against this line item, as most of PAGE's TA undertook training activities as a part of their contracts. Indeed, it was a required clause under PAGE TA activities. It was never envisioned that PAGE would finance long-term degree studies of Malagasy professionals, this because of the very short length of the initial PAGE base period contract. PAGE therefore focused on other types of training and capacity building than long-term overseas training.

Evidence of our focus on in-country training can be seen in the efforts to build capacity for using "Formation Assiste par Ordinateur," or FAO. Initially used to develop an interactive training package for ANGAP's regional offices and park managers, these FAO tools were later applied to develop training modules for interested NGO grantees as well as small to medium scale mining operators needing to learn about environmental issues and permits.

While the vast majority of funds were indeed spent in country, we were far less successful in our attempts to engage existing training centers and universities in such training. Over a period of six months, we engaged INSCAE in a dialogue their taking a lead on capacity building. We had hoped that they would play the primary pedagogical role for the PAGE team, in particular in the area of sustainable finance. In spite of considerable hours of discussions, a formalized Terms of Reference, and even discussions of cost, they were not sufficiently responsive for us to give them the role we had hoped.

PAGE had also hoped that ESSA-Foret would play a key role in building capacity in the area of ecological monitoring. But in spite of working with them to prepare a grant to cover costs of student training, they did not have the administrative facilities to receive the grant funds. In short, it took them months to create a separate bank account in which to receive and manage grant funds.

In another technical area of the project, PAGE had hoped to support the University of Antananarivo in the area of environmental economics and environmental valuation. Although the university initially expressed interest, and indeed participated in initial training exercises, the universities' role gradually declined until they had little to do with the program. In the end, the capacity building efforts under the economics program were sustained more by ONE than by the University.

We had greater success working with CFSIGE in the funding the theses of some 19 students in the EIA and monitoring professional degree programs. CFSIGE was very open to collaboration from the earliest discussions, and was a very fruitful partner. In the end, the funding of these theses provided an excellent and cost effective means of enlarging the capacity of EIA technicians in the areas of mining and tourism, one of the PAGE work plan results.

Whether we "facilitated" achievement of results rather than "doing them ourselves" is a difficult result to assess. Looking across the full range of PAGE technical support activities, however, it is hard to find too many examples of us undertaking work without close participation from Malagasy PNAE counterparts. This was certainly true in some of our major efforts, such as the environmental economics program, the strategic environmental assessments of Isalo and Vatomandry, the stocktaking work, the marketing plan work at ANGAP, and others. There are some exceptions, however, as we have noted above. In our support to the QMM evaluation, for example, the urgencies of the EIA timing required us to deliver products that did not perhaps have sufficient Malagasy participation.

B. Key Deliverables

- See the stagiaire theses funded under PAGE's joint program with CFSIGE for EIA support and the theses from collaboration with ESSA Forests.
- Various CD-ROMs
- FAO training tools

C. Lessons Learned

By and large, universities were not disposed to provide professional level training of the kind needed by PAGE, and more generally by the PNAE.

D. Post-PAGE Perspectives

A higher-level engagement with the universities is urgently needed to improve long-term human capacity development. Without a more business-oriented approach on their part to conducting capacity building, it will not take hold and provide the experts needed under the EP3 period.

Section Five: Analysis of Expected Results during the Period of Extension from March through July 2002

Result 1: An information management system is set-up at TM

The purpose of this effort was to support the smoother processing of grant proposals. PAGE developed and supported validation of a procedures manual—a document that improved the grant proposal framework, grids and decision-making process. The manual takes into account new financing instruments such as the “revolving fund.” PAGE helped fix deadlines for treatment of proposals, and simplified proposal processing procedures.

PAGE also completed specification of the software to be used for this new procedure. Links to website for automatic update of information were specified.

By putting such procedures in place, PAGE has paved the way for a greater transparency of TM’s activities both for applicants and fund givers. The internalization and implementation of the manual, however, will take some time for TM to achieve.

Result 2: A system is installed at TM for better management of the revolving fund

The purpose of this effort was to make it possible for TM to continue grant allocation, while ensuring sustainability for each grant. The initial grant allocated by TM will be self-generated by the grantees themselves, which will create a longer-term impact. The feasibility of putting in place such a mechanism, which is similar to micro-finance under the banking law and the Foundation’s statutes, was clarified by PAGE. A generic tool for managing a revolving fund was developed, but it needs to be tailored to each grant type. The mechanism was introduced in the manual of procedure (noted above).

The concept is developed and should be tested with a concrete case. A project was identified and discussions were under way when PAGE ended. PAGE launched an approach which promotes new tool design, and TM should now be able to develop others.

Result 3: A diagnosis of TM’s institutional and financial situation is completed

A document was prepared and discussed with responsible persons at TM. This document gives an explanation on the issues related to TM’s positioning in the environmental arena, and proposes solutions which involves revision of some provisions of the non-for-profit law, and a new thinking different from that of TM founders. At the time of PAGE’s closing, TM did not express interest in such a vision.

Result 4: The process for potential introduction of a green tax is detailed.

A feasibility and justification study for a green tax was prepared and submitted to USAID and PAGE’s key partners in Madagascar including ONE, ANGAP, CI, WWF, and the World Bank. The study proposes that the GOM introduces a tax which targets international tourists in order to secure additional funds for sustainable environmental management, and to ensure that tourists keep on choosing Madagascar as their a destination. USAID should take over this dossier as soon as the political situation gets back to normalcy.

Result 5: Issues and opportunities regarding Clean Development Mechanism (CDM) application in Madagascar are identified

Further to support activities related to the CDM in 2001, PAGE prepared a thorough paper on the opportunities of attracting investment for sustainable development through this mechanism. The paper was submitted to the MinEnv and other ministries concerned as well as AGEXes for review.

The paper examines key issues on climate changes; incentive tools created under the Kyoto Protocol and opportunities of raising specific funds. It also proposes actions to the GOM so that the country can attract CDM implementation investments. There is still a lot to do, but a critical action would be the signature of the Kyoto Protocol by the GOM. Then the country will be qualified for certified CDM projects.

Result 6: The next steps to facilitate national/regional forest funds (FFN/FFR) application are identified

PAGE prepared an analysis of risks related to the application of the law approved in 2001 regarding the creation of provincial and regional forest funds.

The analysis was submitted to the DG of the Ministry of Water and Forests (MEF) in April. It is not clear to what extent the DEF will follow the recommendations of the analysis. It is said that the DEF is working out changes in the legislation on FFN/FFR management. PAGE believes that changes proposed are necessary, yet transparency and technical capacity issues for forest fund management are still real. It is recommended that USAID seeks financing to support the DEF in this process, and mostly to prepare district offices to the difficult task of managing the forest funds directly.

Result 7: The roles and responsibilities of ANGAP's sustainable financing team are detailed

The first draft of the sustainable financing plan is completed. In order to go the next step, PAGE argued that the implementation of long-term financing strategies for ANGAP would require an internal re-organization at ANGAP. But before PAGE could start such a review, ANGAP financed and undertook an overall review of its structure and an organization audit, a last phase of which was to review the sustainable financing plan. Because ANGAP's own activity was set to end in July 2002, it was no longer necessary for PAGE to carry on this activity.

While PAGE thus stopped support to this Result at ANGAP's request, we continue to believe that PAGE's vision of the financing plan go much further than an organizational overhaul.

Result 8: A financial management manual is developed with and for ANGAP

Prior to the extension period, PAGE had already provided support to ANGAP in developing its financial decentralization strategy and its organization manual. A manual of financial management procedures was developed during the extension, and responsible persons were trained. The manual covers the following areas: general accounting and cost-accounting, staff management, asset management, cash management, equipment management (vehicles ...), general administration and taxation. A number of responsible persons were trained and are expected to share their experience with other ANGAP staff members. It would have been useful

to put this manual on a CBT (computer-based training) system, but this was not possible due to time constraints.

Result 9: A manual for the preparation of guides which capitalize on linkages between environment and development is proposed

PAGE developed this guide and submitted it to the MinEnv and the ONE for review. The document provides a useful entry point for exploring how the PADR and the EP3 might collaborate, and also how other sectoral programs could be supported by the EP3.

Result 10: Lessons on local forest communication are learned from PAGE's grant program

PAGE's grantees (NGOs ASOS Fort-Dauphin, ASOS Brickaville, KMF/CNOE, Malagasy Mahomby, AGED Fivoarana, MITIA, Madagascar Ever Green "MEG") acquired extensive experience during their forest communication activities. In spite of time constraints and the political situation prevailing in Madagascar, these NGOs managed to realize the activities set out in their work plan with PAGE's support. Each NGO developed communication tools designed to increase awareness by local residents of their rights and duties for sound forest management. In May 2002, at the end of the grant program, PAGE organized a workshop of capitalization of NGOs' experiences in order to draw conclusions and make recommendations on a project, on activities and on forest communication tools. The recommendations include the need to extend the duration of a communication project, since the ten-month period was considered too short for the realization of communication activities aimed at changing behavior. In addition, it will be necessary to better determine project objectives according to the communication activities to be undertaken. Effectively, it was observed that grantees met difficulties in trying to create links between project objectives and the results expected for certain communication tools developed. Subsequently, PAGE's forest communication team developed a "Guide for the development of forest communication tools" which summarizes the lessons learned in ten-month of communication activities by the 7 NGOs. The guide also includes relevant recommendations for the execution of similar activities in the future. The guide was distributed to the seven NGOs and to all the stakeholders in the forest sector.

Result 11: A guide in Malagasy on the key elements of the forest policy, rights and responsibilities is available

To facilitate understanding of legal texts on forestry by non-governmental stakeholders, PAGE developed two forest communication tools, in close association with KMF/CNOE. First, a compendium of legal texts on forestry was developed with a simplified transcription of texts, in order to avoid using complicated legal terms that are difficult to understand. This document is presented in the form of questions and answers on key points related to sustainable forest resource management. Second, PAGE elaborated a very simplified guide describing the main rights and duties of local populations as regards forest management. These two working tools should be useful to people working in the forest sector. PAGE distributed several copies inside the binder containing the Forest Law and official texts of application prepared by the MEF, Intercoopération, GTZ and MIRAY.

Result 12: Better coordination of forest activities is promoted, and key elements of forest communication strategy are identified

This process was started at the Ministry of Water and Forests (MEF), PAGE's main government partner. However, the political situation prevailing in the country created many difficulties during implementation. The objective is twofold. On the one hand, to promote a better coordination of forest communication activities undertaken by forest sector stakeholders in order to avoid replication and duplication in resource use, and to encourage experience sharing. On the other hand, to provide support to the MEF in developing a more efficient system for communication activity coordination and smooth information flow within the Ministry; and to help the latter better assume leadership in the coordination of communication activities in the sector. A meeting between all the services involved in the process was organized at the MEF. There was general agreement on the need to better coordinate information flow within the Ministry, and between the MEF and the other decentralized services. PAGE elaborated a proposal for the coordination of communication activities, which was sent to all the stakeholders to get their feedback, and subsequently build a consensus to address the issue. The proposal was only a first step to initiate discussions. PAGE analyzed and summarized the comments received, which indicate a general consensus on better coordination, although proposals on how to achieve such a result are quite different. In order to ensure the continuity of this activity upon completion of PAGE, the proposal was sent to the DGEF, as the main government partner, which will take over the organization of exchanges of view between the stakeholders. From now on, the DGEF will receive correspondences and will organize coordination meetings until the adoption, by all the parties concerned, of a solution which promotes forest communication activities.

Result 13: A strategy for improved forest governance, particularly in relation to forest management, is developed

The first draft of the document entitled "Contribution to good governance strategy in the forest sector" is available. The document draws from bibliographical studies and research at several sites, as well as discussions with field technicians and responsible persons from ministries and AGEXes. This document was the main working paper during the workshop on good governance strategy. The workshop results and recommendations were incorporated to reflect realities before document finalization. The document is expected to give a common idea of good governance and its components, and describes the strategy of forest management activities proposed. It presents the strategic axes of forestry development, the only topic which could be discussed during the workshop. Other topics including afforestation; management transfer; application of forest legislation; transparency, participation and empowerment issues as well as the lines of work were presented quickly. The strategic axes were not defined as they call for a dialogue with all the partners, which did not take place yet.

Nevertheless, the document provides a general direction for good governance in the forest sector. One of the workshop recommendations is a large diffusion of the document to various actors for review and comments in order to refine the strategy before actual implementation.

Result 14: A basic training in the application of CBT technique for the preparation of EIA/PREE in the mining sector is organized

The computer-based training (CBT) on the environmental dimension of small-scale mining was finalized. A promotion meeting took place and a hundred copies of the tool are now available. This CBT of a capacity of 340 Mo (for learners) is divided into 8 modules as follows: Introduction

to Environment; Legal Framework; Institutional Framework; Small-Scale Mining Methods; the Environmental Issues; Environmental Management; Exploitation Closure and Site Reclamation; and Environmental Commitment. The training lasts about 80 minutes and contains 36 exercises. In addition to the promotion of the tool, there were also exchanges on the integration of the environmental dimension in the mining sector, in particular the definition of sensitive areas and the linkages between forestry development and mining. A number of resource persons from the MEM were also trained on the use of the software "Tactic" through a transfer of knowledge.

Result 15: EIA information sessions are organized for 70 private investors in the tourism and mining sectors

Several information and awareness-raising breakfasts on the MECIE in general and mining and tourist activities took place. A score of mining operators and a dozen tourist operators as well as resource persons from LDI attended each meeting (lasting about 90 minutes). In contrast to the public awareness campaign conducted 2001, the information breakfasts were organized by the MEM and the LDI respectively. ONE is among the guests who made presentations. The distribution of tools during each meeting was appreciated by the assistance. Salient points include the continuation of awareness-raising and exchange meetings; issues related to review costs for achieving conformity, the definition of sensitive areas; EIA/PREE and achieving conformity procedures.

Result 16: The tracking system is improved and developed for long-term use at ONE

To date, the tracking system contains approximately 80 dossiers. A few organizational improvements were made on the internal organization of the ONE and the Ministry of the Environment (particularly on the routing of copies of correspondences). System networking is still to be realized.

Result 17: Appropriate recommendations are made based on the environmental evaluation of strategic areas (ZAE/ZIE), including linkages between individual EIA/PREE

A one-day workshop of capitalization (the first of the kind) on Strategic Environmental Assessment (SEA) took place on 22 May 2002. Eight presentations divided into 3 parts were made: a first theoretical part to present SEA definitions, principles and approaches; a second part during which professionals shared their respective experience regarding the execution of regional or sectoral EA (PDD Anosy, ZIE, PADR SEA, PST SEA, ZAES); and a third part during which two sectoral departments (PST and ONG Làlana) demonstrated the place of SEA in their decision-making process. Exchanges—which lasted approximately 120 minutes—made it possible to participants to identify the following issues and make the following recommendations:

- Revision of the MECIE (inter-sectoral collaboration)—decree of application level
- Definition and classification of SEA with reference to practices and directives of the World Bank, USAID, etc.
- Continuation of SEA dynamics during project implementation
- Elaboration of SEA terms of reference

- Definition of an SEA procedure to enhance planning quality which will save the costs of an EIA for a specific project
- Definition of indicators on different scales for monitoring and control
- Management of incompatibilities of sectoral measures to general laws
- Respect of the scope of application of texts during SEA

Result 18: A new series of recommendations on the eco-toxicological impacts of locust control operations is developed

A workshop of capitalization of assets (the first of the kind) as regards environment and locust control was organized in May. According to the Comité National de Lutte Antiacridienne (CNA), the current locust situation is similar to the situation during the last invasion (1996-1997). According to reports confirmed, 300,000 ha are potentially impacted. The main issues and recommendations of the meeting included the following:

- In order to face the locust situation, it will be necessary to continue requesting for an extension of CNA's budget schedule
- Is the Government able to respond to the needs identified at convenient time?
- Are decision-makers sensitized enough on this critical situation?
- To date, chemical control seems to be the only most effective means (compared to biological control). It is therefore clear that the less there are locust control treatments, the less there will be negative impacts. It will be necessary to keep locust situation below gregarization threshold
- Environmental monitoring methodologies for several components (pesticide application techniques, eco-toxicology, human health) are more or less proved
- Once the operations related to this emergency situation are over, national competences as regards environmental monitoring will be available

Result 19: Recommendations are made following the public and technical review of QMM

The discussions which took place during the workshops of capitalization (2,5 days) were centered on 2 topics: "Evaluation actors" and " Evaluation approaches and tools." Workshop results will be used to refine future approaches for EIA dossiers; and to ensure monitoring of the QMM dossier. Lastly, for the Environmental Management Plan (PGEP) monitoring component, if the promoter is well advanced with his organization, it was decided that the ONE will prepare a memorandum for government members. The latter will make decisions regarding the financing modalities of related activities.

Concerning public evaluation:

- Public Review Commission (CEAP): The evaluation showed that the Commission acquired technical and organizational capacities for public hearings and surveys. The committee's resource persons can set-up together a core reference group on the

subject. However, government and public awareness of the principle and the realization of a public consultation still need to be developed. In the same way, advertisement on public hearing should be developed further both on the website and in the actual hearing rooms.

- Local NGOs actually played a role in the defense of citizens' interests. The quality of the NGOs' organization in order to involve the public affected by the project should be pointed out.

Concerning technical evaluation:

- Although the evaluation was completed within the deadline set, the 6-month period is too short for a project of this scale. The important number of CTE members (20 ministries, with two representatives for each ministry) and thematic consultants particularly made decision-making and structure organization a very complex process. However, the exchanges which took place during this technical evaluation helped develop the capacities of actors.
- For other actors (international organizations and institutions), their role was restricted to the provision of technical information on the various challenges related to the project. A more effective involvement is recommended in the future.

Result 20: The software of the Plateforme d'Analyse en Biodiversité (PDA) is improved, and specialists are trained to use it

Continued technical improvement of the Plateforme d'Analyse to was pursued by PAGE to obtain a simple, easy to understand and reliable system for national and international use. The objective was to facilitate data repatriation which has historically been a very complex process. The most recent version in Arcview 3.2 is now available, together with a user's manual. The Visual BASIC version for those who do not have Arcview is finalized but needs still to be tested before diffusion.

Although broad scale training did not take place because of the unstable situation in the country, a capitalization workshop was nonetheless held to demonstrate the technical usefulness of the PDA to specialists. The workshop was also useful as a means of bringing all the institutions concerned to the same level of information on this tool and to lobby for the continuation of activities. A report on the workshop is available.

Result 21: The methodology on biodiversity priority-setting developed by PAGE is revised and evaluated

The results of the regional biodiversity priority-setting effort were validated during a closeout and capitalization workshop. The methodologies used in the manual elaborated by PAGE were also revised. Institutions working on biodiversity were represented by their biodiversity specialist. Knowledge and experience sharing led to recommendations for the improvement of the methodology suggested in the Manual for regional biodiversity priority setting. PAGE also made available a summary report on activities realized in the three regions on CD-ROM. The CD-ROM compiles all the documents on priority-setting activities.

Result 22: PAGE's documentation center is open to local environmental institutions

In closing out this activity, PAGE targeted an institution (the ONE) for transfer of the CETEDIE collection. Additional training of librarians from the Valorization Unit of ONE's Direction of Environmental Training (assignment of a new responsible person for documentary management and treatment hence the new request for training) was conducted. And PAGE then worked closely with the ONE to ensure that the full library was transferred and fully available at the ONE.

Requests for documents were received from other institutions including EPI/Majunga-Pact; Ministry of Tourism; Ministry of Energy and Mines; BODEV; SAVAIVO. PAGE consented to a number of those requests, distributing documents and materials of direct relevance to the requesting institutions.

Annex 1: Home Page of PAGE End-of-Project CD-ROM

Projet d'Appui à la Gestion de l'Environnement

PAGE EPIQ IRG



The Project

Intervention Areas

- Sustainable Financing
- Environmental Policy
- Environmental Impact Assessment
- Ecological Monitoring
- Environmental Economics
- Forest Governance and Civil Society

PAGE Resources

EPIQ Contract # PCE-I-00-96-00001-00
Task Order # 829

Welcome
Bienvenue
Visualiser en Français

This web site contains information on the Projet d'Appui à la Gestion de l'Environnement (PAGE) and on its contributions to Madagascar's Environmental Program 2. It also includes various resources gathered by the project throughout its execution, such as reports, maps and photos.

This site may be used by projects, organizations and individuals who have or will have areas of intervention similar those of PAGE, and who may thus benefit from lessons learned by PAGE.

Annex 2: Deliverables and Resources by Project Component

Documents Pérennisation Financière

<i>Maroantsetra Carbon Project: Trip Report October 30 – November 15, 2001</i> Par David Meyers	Rapport Consultant International	Meyers Carbon Trip Report, Nov 2001. PDF
<i>Carbon Sequestration : Maroantsetra Carbon Project Progress Report</i> Par Pierre Berner and David Meyers	Rapport Consultant International	Berner Meyers Maroantsetra Carbon Reports, Sept 2001.PDF
<i>Summary Results of Technical Assistance for Preparation for a CDM Workshop</i> Par Matthew Mendis	Rapport Consultant International	Mendis CDM Workshop Trip Report, Aug. 2001.PDF
<i>ANGAP : Plan Pérennisation</i> Par David Meyers	Rapport Consultant International	Angap- Plan Perennisation Juin02.zip
<i>Carbon Sequestration : Maroantsetra Carbon Project Progress Report</i> Par David Meyers and Pierre Berner	Rapport Consultant International	Berner Meyers Maroantsetra Carbon Reports, Sept 2001.PDF
<i>Draft marketing script for fundraising brochure for Madagascar National Parks</i> Par Brigitte Carr-Dirick	Rapport Consultant International	Carr-Dirick Draft Angap Mktg Brochure, Mar 2001.PDF
<i>Feasibility Issues for a Biodiversity Trust Fund in Madagascar</i> Par John Pielemeier	Rapport Consultant International	Pielmeier_Trust_Fund_Feasibility_Report_April_2001.PDF Pielmeier_Fonds_Fiduciaire_Rapport_Avril_2001.PDF
<i>Movement Forward on Environmental Sustainable Finance in Madagascar</i> Par John Pielemeier	Rapport Consultant International	Pielmeier_Sust_Fin_Final_report_July_2000.PDF
<i>Sustainable Financing Instruments</i> Par Glen Anderson	Rapport Consultant International	Sustainable financing instrument.PDF
<i>Draft Feasibility Study P.L. 480 Mechanism Contributing to Environmental Sector Sustainable Finance</i> Par Bill Kaschak	Rapport Consultant International	Kaschack_PL_480_Final_report_May_2000.PDF
<i>Makira Forest Project</i> Par David Meyers	Rapport Consultant International	Makira Forest Project report in English.PDF
<i>Projet Forêts de Makira</i> Par David Meyers	Rapport Consultant International	Rapport sur le projet forêts de Makira.PDF
<i>Amélioration de la Gestion de la Trésorerie du PEII</i> Par Cabinet Mpanazava	Rapport Consultant National	Mpanazava_Final_Report_March_2001.PDF
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<i>Analyse de l'évolution de la couverture forestière entre 1990 et 1996 : Rapport final</i> Par Rabenandrasana, Clarck	Rapport Consultant National	Annexe 5. Méthodologies de monitoring de la forêt.PDF
<i>Connaissance sur la biodiversité du couloir forestier Ranomafana-Andringitra-Ivohibe</i> Par Ratovonomenjanahary, Aro et Rasamy, Jeanne	Rapport Consultant National	Rapport final 12.12.01 1er et 2e partie.PDF
<i>Madagascar Biodiversity Analysis Platform Development : Report on Module 3 for PAGE</i> Par WCS	Rapport par sous-traiteur	Kremen Module 3 Report, Jul 2001.PDF
<i>Visite Ornithologique et Evaluation de l'Etat des Forêts de Basse Altitude à Fitsialanana et à Firariana – Zones Périphériques de la RNI de Zahamena</i> Par Zicoma	Rapport par sous-traiteur	Zicoma_rapport_final_zahamena.PDF
<i>Evaluation de la Faune Aviaire dans les Zones Humides entre le Park de Ranomafana et celui d'Andringitra</i> Par Zicoma	Rapport par sous-traiteur	Zicoma_rapport_final_Ranomafana-andringitra.PDF
<i>Inventaire Complémentaire de la Faune Aviaire et Evaluation de l'Etat des Blocs Forestiers aux Environs de Daraina Vohemar</i> Par Zicoma	Rapport par sous-traiteur	Zicoma_rapport_final_Daraina.PDF
<i>Effets de Fragmentation de Forêt Humide sur les Populations des Oiseaux et des Lémuriens dans le Corridor Mantadia-Zahamena</i> Par Conservation International/Zicoma	Rapport par sous-traiteur	Zicoma_rapport_final_fragmentation.PDF
<i>Utilisation de deux images landsat et du SIG pour la cartographie de la dégradation forestière en fonction de la distance de la route nationale 2 et du chemin de fer Tananarive-Cote Est (Une partie du corridor forestier Zahamena-Ankeniheny)</i> Par Rakotomamonjy, Jeanne Andréa	Rapport par stagiaire	Mémoire Andrea.PDF
<i>Application du traitement d'images satellitaires dans le cadre d'une étude d'impacts du transport ferroviaire sur la forêt. Cas du corridor Ranomafana-Andringitra</i> Par Ramasinjatovo, Nirinjaka	Rapport par stagiaire	Mémoire Nirinjaka.PDF
<i>Contribution à l'étude des menaces anthropiques sur le comportement alimentaire de Propithecus tattersalli dans la région de Daraina</i> Par Andrimanaitra, Setra	Rapport par stagiaire	Gana2.PDF
<i>Etude comparative de l'habitat de l'espèce Propithecus tattersalli dans la forêt humide et dans la forêt sèche de Daraina</i> Par Tafita	Rapport par stagiaire	Mémoire de find'étude_Tafita.PDF

<i>Contribution au développement de méthodes d'évaluation et d'utilisation des produits non-ligneux dans la forêt classée de Tampolo</i> Par Lauret, Ange	Rapport par stagiaire	Version elec.PDF
<i>Proposition d'une approche de conservation de l'Intsia bijuga et de Uapaca thouarsii dans la forêt classée de Tampolo avec la participation villageoise</i> Par Rabeson, Daniel	Rapport par stagiaire	DANITOUT.PDF
<i>Priorisation des habitats pour la conservation de la biodiversité dans la région d'Anosy</i> Par Frank Hawkins, Luciano Andriamaro, Bernard Randrianarisoa	Rapport par personnel PAGE	Priorisation des habitats Finale (2).PDF
<i>Manuel pour la priorisation des habitats pour la conservation de la biodiversité</i> Par Frank Hawkins, Luciano Andriamaro, Bernard Randrianarisoa	Rapport par personnel PAGE	Manuel standard +.PDF
<i>Forest Cover Change in USAID and Control Areas: A Preliminary Evaluation and Report to USAID and Partners</i> Par Frank Hawkins et Ned Horning	Rapport par personnel PAGE	Horning Hawkins Final report Forest Cover, May 2001.PDF
<i>Madagascar Biodiversity Mapping Project</i> Par Frank Hawkins	Rapport par personnel PAGE	Madagascar Biodiversity Mapping Project, Oct 2000.PDF
<i>Synthèse des travaux sur la priorisation de la biodiversité régionale. Anosy-Zahamena-Mantadia, Ranomafana-Andringitra-Ivohibe</i> Par Luciano Andriamaro et Julie Ranivo	Rapport par personnel PAGE	Ju(2).PDF
<i>Forest Cover Loss in Anosy an'Ala-Ranomafana Corridor Between 1993/1994 and 1999/2000</i>	Carte	Forest lost ANOS-RAN stat.bmp
<i>Forest Cover Loss in Mantadia-Zahamena Corridor Between 1993/1994 and 1999/2000</i>	Carte	Forest lost MANT-ZAH stat.bmp
<i>Forest Cover Loss in Ranomafana-Andringitra Corridor Between 1993/1994 and 1999/2000</i>	Carte	Forest lost RAN-ANDR stat.bmp
<i>Impacts des Efforts de Conservation des Forêts Naturelles du Programme Environnemental à Madagascar</i>	Carte	Carte couvert forestier A1 French.jpg
<i>Les Forêts Denses Humides de Basse Altitude de l'Est de Madagascar : Un Trésor Ecologique et Economique Menacé</i>	Carte	Carte foret basse altitude A1 French.jpg
<i>The Environment Program and USAID: Helping Conserve Madagascar's Natural Forests</i>	Carte	Carte couvert forestier A1 English.jpg
<i>Madagascar's Eastern Lowland Humid Forests: An Ecological and Economic Treasure Under Threat</i>	Carte	Carte foret basse altitude A1 English.jpg
<i>Etablissement des Priorités de Conservation de Fianarantsoa : Réseau de Communication et Réseau Hydrographique, Altitude, Administration, Ecologique</i>	Carte	priority sitting Fianar1.zip

<i>Etablissement des Priorités de Conservation de Fianarantsoa : Massifs Forestiers, Localisation Sites, Zonage, Zones Humides</i>	Carte	priority sitting Fianar2.zip
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<i>Final Trip Report, PAGE Project Valuation Case Studies, January 2001</i> Par Bruce Larson	Rapport Consultant International	Larson_Case_Studies_Jan_2001_Trip_Report.PDF
<i>Final Trip Report, PAGE Project Valuation Case Studies, August 2000</i> Par Bruce Larson	Rapport Consultant International	Larson case studies Aug 2000 Trip_report.PDF
<i>Valuing the Benefits of Environmental Protection in Madagascar: Background and Recommendations for the ONE-CFSIGE Case Study Program</i> Par Bruce Larson	Rapport Consultant International	Final_Larson Report 1Apr00.PDF
<i>Evaluation économique des services écologiques dans un contexte de bassins versants forestiers et de rizières irriguée dans la région de Maroantsetra, Madagascar</i> Par Randrianarisoa, Jean Claude et Brand, Jurg	Rapport Consultant National	Method revise(1).PDF
<i>Programme d'Evaluation Economique des Ressources Naturelles à Madagascar : Résumé des Résultats des Etudes de Cas</i> Par Andy Keck et Josiane Rarivoarivelomanana	Rapport Etudes de Cas	Résumé des résultats des études.pdf
<i>Evaluation économique des impacts sur site de la conservation de sols sur la productivité agricole</i> Par Lalaina Randrianarison	Rapport Etudes de Cas	Résumé (.pdf) Rapport (.pdf)
<i>Valeurs économique des produits forestiers autres que les bois: Cas de la région d'Ambohitantely</i> Par Haja Andrianjaka	Rapport Etudes de Cas	Résumé (.pdf) Rapport (.pdf)
<i>Les impacts de la déforestation sur les ménages ruraux à Madagascar: Application de la méthode de coût de déplacement</i> Par Timon Jules Rakotondraibe et Josiane Rarivoarivelomanana	Rapport Etudes de Cas	Résumé (.pdf) Rapport (.pdf)
<i>Valeur d'une ressource forestière et gestion durable: Cas du Cedrelopsis. (katrafay)</i> Par Fano Ramaromanana	Rapport Etudes de Cas	Résumé (.pdf) Rapport (.pdf)
<i>Domage hors site de l'érosion: les effets de l'ensablement sur la production rizicole. Etude de cas dans le Commune d'Ambohitrarivo</i> Par Julie Joceline Solonitomboarinony	Rapport Etudes de Cas	Résumé (.pdf) Rapport (.pdf)
<i>Valeur économique de l'alimentation en eau urbaine : cas de la ville de Fianarantsoa</i> Par Ramy Razafindralambo	Rapport Etudes de Cas	Résumé (.pdf) Rapport (.pdf)
<i>Evaluation économique du parc national d'Andasibe. Application de la méthode d'évaluation contingente</i> Par Tiana Rabeloma	Rapport Etudes de Cas	Résumé (.pdf) Rapport (.pdf)

<i>Valeur de l'amélioration de l'alimentation en eau dans les communautés rurales : Cas d'Isalo</i> Par Zaza Burton Randriamiarana	Rapport Etudes de Cas	Résumé (.pdf) Rapport (.pdf)
<i>Impacts de l'utilisation des combustibles en bois et de la pollution atmosphérique à l'intérieur des maisons sur la santé à Madagascar</i> Par Bako Nirina Faliniaina	Rapport Etudes de Cas	Résumé (.pdf) Rapport (.pdf)
<i>Le stockage de carbone : cas des forêts à basse et moyenne altitude de l'Est de Madagascar</i> Par Josiane Rarivoarivelomanana	Rapport Etudes de Cas	Résumé (.pdf) Rapport (.pdf)
<i>Programme Economie de l'Environnement</i>	CD-ROM	

Documents Gouvernance Forestière et Société Civile

<i>Activités de Formation de Formateurs portant sur la préparation de dossiers de requête de de subventions pour des organisations agissant dans le domaine de l'environnement et contribution aux efforts de gouvernance et communication forestière du programme PAGE</i> Par Juan Sève	Rapport Consultant International	SEVE Grant Training Report, August 2001. PDF
<i>Analyse Préliminaire de Tolagnaro en tant que Site Candidat pour une Meilleure Gouvernance dans le Secteur Forestier</i> Par Roy Hagen	Rapport Consultant International	Hagen_Proposition_Gouvernance_Tolagnaro_Final.PDF
<i>Organisation et réalisation de deux stages de formation portant sur la préparation de dossiers de requête de petites subventions dans le cadre du programme PAGE</i> Par Juan Sève	Rapport Consultant International	Seve_Grants_Training_Final_report_Fd_01.PDF
<i>Réflexions sur l'Amélioration de la Gestion des Ressources Forestières à Madagascar</i> Par Bob Winterbottom	Rapport Consultant International	Bob W June 01 Rpt Fr (2).PDF Winterbottom Forestry Report, June 2001.PDF
<i>Forest Governance and Communications nder PAGE: Rationale and Strategy</i> Par Philip DeCosse	Rapport par personnel PAGE	DeCosse PAGE Forest Gov Pgm, Oct 2001.PDF
<i>Contribution à la stratégie de bonne gouvernance forestière</i> Par Françoise Ravaoarimalala et Ahmad Abdillah	Rapport par personnel PAGE	Gouvforet.PDF
<i>Guide d'Elaboration d'Outils de Communication Forestière</i> Par Holisoa Rasamoelina et Ahmad Abdillah	Rapport par personnel PAGE	Guide Outils Communication Forestiere.pdf
<i>Rapport de l'atelier sur la stratégie de bonne gouvernance forestière- 14 et 15 mai 2002</i> Par Françoise Ravaoarimalala et Rodin Rajaonahsoa	Rapport par personnel PAGE	rapportatel.PDF
<i>Schéma de développement régional de l'Anosy</i> Par ONE	Rapport par sous-traiter	PDD_ANOSY.zip

<i>Résumé des projets subventionnés par PAGE</i> Par Zo Rakotomalala	Rapport par personnel PAGE	RESUME DES PROJETS SUBVENTIONNESPAGE.doc
<i>Atelier de subventions</i> Par COEF, Zo Rakotomalala, Ahmad Abdillah	Rapport par sous-traiteur	Atelier de subvention PAGE.doc
<i>Outil d'Aide à l'Elaboration d'un Dossier de Demande de Subvention</i>	CD-ROM	

Annex 3: PAGE Deliverables by Type

Documents par des Consultants Internationaux

<p><i>Maroantsetra Carbon Project: Trip Report October 30 – November 15, 2001</i> Par David Meyers</p>	Meyers Carbon Trip Report, Nov 2001. PDF
<p><i>Carbon Sequestration : Maroantsetra Carbon Project Progress Report</i> Par Pierre Berner et David Meyers</p>	Berner Meyers Maroantsetra Carbon Reports, Sept 2001.PDF
<p><i>Le Potentiel des Contrats de Conservation pour Contribuer à la Conservation de la Biodiversité à Madagascar</i> Par Joanna Durbin, Aristide Andrianarimisa et Philip DeCosse <i>Note: Ce rapport contient la version anglaise The Potential of Conservation Contracts to Contribute to Biodiversity Conservation in Madagascar</i></p>	Durbin_Consevation_Contracts_Nov_2001. PDF
<p><i>Atelier de zonage du corridor forestier Ranomafana-Andringitra-Ivohibe</i> Par David Lees</p>	Lesson learned Atelier Ambalavao.PDF
<p><i>Analyse du processus d'évaluation environnementale par l'Administration dans le cas du Projet Ilménite – Fort Dauphin de la société QMM</i> Par Pascal de Giudici</p>	Rapport coordination CTE PDG, Oct 2001.PDF
<p><i>Etude d'Impacts Stratégique de l'Exploitation Minière dans la zone d'activités Economiques Spéciales, ZAES de Vatmandry</i> Par Pascal de Giudici</p>	ZAES – Vatmandry-EIES_4b_6.PDF
<p><i>Aide Mémoire : Formation des Commissaires-Enquêteurs Phase Participation du Public</i> Par Jean-Louis Michard</p>	Michard QMM Report, Sep 2001.DOC
<p><i>Summary Results of Technical Assistance for Preparation for a CDM Workshop</i> Par Matthew Mendis</p>	Mendis CDM Workshop Trip Report, Aug. 2001.PDF
<p><i>Evaluation du rapport d'ÉSIE de QMM : compte rendu de mission effectuée à Madagascar</i> Par François Lampietti</p>	Lampietti QMM2 Report, Aug 2001.PDF
<p><i>Carbon Sequestration : Maroantsetra Carbon Project Progress Report</i> Par David Meyers et Pierre Berner</p>	Berner Meyers Maroantsetra Carbon Reports, Sept 2001.PDF
<p><i>Activités de Formation de Formateurs portant sur la préparation de dossiers de requête de de subventions pour des organisations agissant dans le domaine de l'environnement et contribution aux efforts de gouvernance et communication forestière du programme PAGE</i> Par Juan Sève</p>	SEVE Grant Training Report, August 2001. PDF

<i>Rapport de Mission : Appui Technique à la Coordination et la Supervision de l'Evaluation du Dossier Ilmenite de QMM</i> Par Pascal de Giudici	Giudici QMM Trip Report, Aug 2001.PDF
<i>Evaluation Rapide du DOSSIER d'EIE de QMM</i> Par François Lampietti	Lampietti QMM1 Report, Jul 2001.PDF
<i>Project Report : Computer-Based Training</i> Par Geneviève Corriveau	Corriveau CBT Report French, Aug 2001. PDF Corriveau CBT Report English, Aug 2001.PDF
<i>Rapport de Mission : Consultation Publique, Projet Ilménite QMM</i> Par André Delisle	Delisle QMM Trip Report, Jul 2001.PDF
<i>Ground Truthing for Forest Cover Loss Analysis</i> Par Roy Hagen	Hagen Ground Truthing Report, Jul 2001.PDF
<i>Coordination et supervision de l'évaluation du dossier ilménite de QMM.SA</i> Par Pierre Légaré	Fichiers_compiles_légaré .PDF
<i>Draft marketing script for fundraising brochure for Madagascar National Parks</i> Par Brigitte Carr-Dirick	Carr-Dirick Draft Angap Mktg Brochure, Mar 2001.PDF
<i>Feasibility Issues for a Biodiversity Trust Fund in Madagascar</i> Par John Pielemeier	Pielmeier_Trust_Fund_Feasability_Report_A pril_2001.PDF Pielmeier_Fonds_Fiduciaire_Rapport_Avril 2001.PDF
<i>Analyse Préliminaire de Tolagnaro en tant que Site Candidat pour une Meilleure Gouvernance dans le Secteur Forestier</i> Par Roy Hagen	Hagen_Proposition_Gouvernance_Tolagnaro _Final.PDF
<i>Organisation et réalisation de deux stages de formation portant sur la préparation de dossiers de requête de petites subventions dans le cadre du programme PAGE</i> Par Juan Sève	Seve_Grants_Training_Final_report_Fd_01. PDF
<i>Report on forest cover change from 1993/94 – 1999/2000 for two forest corridors in eastern Madagascar</i> Par Ned Horning	Horning Forest Cover Report Eng, Feb 2001.PDF
<i>Rapport sur le changement de la couverture forestière entre 1993/94 et 1999/2000 dans deux couloirs forestiers dans la partie orientale de Madagascar</i> Par Ned Horning	Horning Forest Cover Report Fr, Feb 2001.PDF
<i>Final Trip Report, PAGE Project Valuation Case Studies, January 2001</i> Par Bruce Larson	Larson_Case_Studies_Jan_2001_Trip_Repo rt.PDF
<i>Environmental Monitoring of Locust Control Operations in Malaimbandy, Madagascar</i> Par Ralf Peveling	Peveling Locust Control Final Report Mar 01.PDF Peveling Locust Control Rapport Final Mar 01.doc

<i>Réflexions sur l'Amélioration de la Gestion des Ressources Forestières à Madagascar</i> Par Bob Winterbottom	Bob W June 01 Rpt Fr (2).PDF Winterbottom Forestry Report, June 2001.PDF
<i>Mapping Forest Cover in Madagascar</i> Par Lucy Foley	Foley_Forest_Cover_October_2000 Trip_report.PDF
<i>Final Trip Report, PAGE Project Valuation Case Studies, August 2000</i> Par Bruce Larson	Larson case studies Aug 2000 Trip_report.PDF
<i>Movement Forward on Environmental Sustainable Finance in Madagascar</i> Par John Pielemeier	Pielmeier_Sust_Fin_Final_report_July_2000.PDF
<i>Sustainable Financing Instruments</i> Par Glen Anderson	Sustainable financing instrument.PDF
<i>Suivi Environnemental des Activités de Lutte Antiacridienne à Malaimbandy, Madagascar</i> Par Ralf Peveling	Peveling_Locusts_Final_Report_Aug_00.PDF
<i>Gestion Conservation et valorisation de la de la biodiversité ou comment sauver la poule aux œufs d'or</i> Par John Whiting, Saholy Rabelisoa et Guy Suzon Ramangason	Rapport final volet1.PDF
<i>Draft Feasibility Study P.L. 480 Mechanism Contributing to Environmental Sector Sustainable Finance</i> Par Bill Kaschak	Kaschack_PL_480_Final_report_May_2000.PDF
<i>Intégration de l'Evaluation Environnementale Régionale (EER) et de la Planification Régionale : Assistance Technique pour le Développement d'une Méthodologie d'Evaluation Environnementale Régionale</i> Par Partidario et Eggenberger	Partidario Eggenberger SEA Final Report French.PDF
<i>Valuing the Benefits of Environmental Protection in Madagascar: Background and Recommendations for the ONE-CFSIGE Case Study Program</i> Par Bruce Larson	Final_Larson Report 1Apr00.PDF
<i>Evaluation de l'Opportunité de la Mise en Place d'un Système de Rapport sur l'Etat de l'Environnement pour la Région d'Anosy</i> Par Pierre Légaré	Legare_SOER_March_April_00.PDF
<i>Validation de la Directive Générale d'Etude d'Impact, du Guide sur le Tourisme et Documentation sur les Normes Environnementales</i> Par Pierre Légaré	Legare EIA Guidelines rapport de mission. March-April 2000.PDF
<i>Analyse des Impacts du Système Ferroviaire FCE sur l'Economie Régionale, Volume 3/3 : Résultats des Recherches Qualitatives</i> Par Karen Freudenberger	FCE_Vol 3.PDF
<i>USAID/Madagascar: A Review of the Impact of the KEPPEM Program on Environmental Policy in Madagascar; Lessons and Future Directions</i> Par Asif Shaikh	Shaik_Report_Sept_99.PDF

<i>Evaluation des Enjeux et Opportunités au Niveau de l'Evaluation Environnementale à Madagascar</i> Par Pierre Légaré	Legare_Report_Sept_99.PDF
<i>Hydrology Section of Madagascar, Isalo ZIE EIA</i> Par Philip Brown	Brown Hydrology Isalo ZIE, May 2000.PDF
<i>Report on formations at Fianarantsoa 28-30 November 2001</i> Par David Lees	Report on formation Fianarantsoa.PDF
<i>Makira Forest Project</i> Par David Meyers	Makira Forest Project report in English. PDF
<i>Projet Forêts de Makira</i> Par David Meyers	Rapport sur le projet forêts de Makira.PDF
<i>ANGAP : Plan Pérennisation</i> Par David Meyers	Angap- Plan Perennisation Juin02.zip

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<i>Evaluation externe du PNAE et PE2</i> Par Ramangason, Guy, Randrianarivelo, Benjamina, Ravohitrarivo, Clet et Andriantseho, Balisama	Rapport final volet1.PDF Rap_fin_volet2.PDF Rapport-final-volet3.PDF
<i>Rapport sur le Déroulement de la Préparation des Données (oiseaux) pour Alimenter la Plate-forme d'Analyse (PDA)</i> Par Raminoarisoa, Voninavo et Razakanaivo, Vero	Raminoarisoa Rapport sur PDA, Avr 2000.PDF
<i>Analyse des Impacts du Système Ferroviaire FCE sur l'Economie Régionale, Volume 1/3 : Synthèse de l'Analyse Qualitative et l'Analyse Coût-Bénéfice</i> Par Ratsimbazafy, Jean Claude, Manantsara, Benoit, Randrianasolo, Lala Nirinantenaina, Rakotozafy, Maminirina, Adera, Ambinina Mavolahy, Jerfin, Bedel Vahoho et Rasoarilala, Nivohelisoa	FCE Vol 1.PDF
<i>Analyse des Impacts du Système Ferroviaire FCE sur l'Economie Régionale, Volume 2/3 : Résultats de l'Analyse Coût-Bénéfice</i> Par Ratsimbazafy, Jean Claude, Manantsara, Benoit, Randrianasolo, Lala Nirinantenaina, Rakotozafy, Maminirina, Adera, Ambinina Mavolahy, Jerfin, Bedel Vahoho et Rasoarilala, Nivohelisoa	FCE Vol 2.PDF
<i>Etude d'Impact Environnemental Stratégique du Plan d'Aménagement de la ZIE Isalo</i> Par Cabinet Performance	Isalo2.PDF
<i>Suivi des Impacts Ecologiques de la Lutte Chimique Contre les Criquets sur la Faune Non Cible Région de Malaimbandy</i> Par Ramilijaona, Olga, Rakotondravony, Daniel, Raholijaona, Ravoninjatovo, Andry, Randimbison, Landisoa, Rakotoarivony, Hanta Liss, Rafanomezantsoa, Jean Jacques, Raveloson, André, Ranaivoson, Nicolas, Rakotomianina, Lantosoa, Rakotondravelo, Mamy, Bezaka, Suzy et Ravomiarana, Ranaivosolo	Suivi_eco_final.ZIP

<i>Document de synthèse - Capitalisation sur les évaluations environnementales stratégiques</i> Par Rasoanandrianina Lalaniriana	EES.ZIP
<i>Amélioration de la Gestion de la Trésorerie du PEII</i> Par Cabinet Mpanazava	Mpanazava_Final_Report_March_2001.PDF
<i>Compte Rendu : Première Table Ronde sur l'Etude d'Impact à Madagascar du 16 Janvier 2001</i> Par Rakotoarison, Levy et Ranjatoelina, Guy Alain	Compte_Rendu_EIE_Table_Ronde_1_Janvier_2001.PDF
<i>Compte Rendu : Deuxième Table Ronde sur l'Etude d'Impact du 31 Mai 2001 à Nanisana Antananarivo</i> Par Rakotoarison, Levy et Ranjatoelina, Guy Alain	Compte_Rendu_EIE_Table_Ronde_31_Mai_2001.PDF
<i>Tracking System: Dossier de Spécifications Générales</i> Par Razafindrazaka, Haja Joela	Tracking system dossier logiciel.PDF
<i>Analyse des Droits d'Entrée dans les Aires Protégées Malgaches</i> Par Rambeloma, Tiana et Keck, Andy	Rambeloma Keck Entry Fee Study Final, Nov 2001.PDF
<i>Coordination et supervision de l'évaluation du dossier ilménite de QMM</i> Par Andrianoelison, José	Andrianoelison QMM Report, Oct 2001.PDF
<i>Rapport d'intervention, coordination et supervision de l'évaluation du dossier EISE – QMMSA ilménite de Fort Dauphin</i> Par Rasoanandrianina Lalaniriana	Rasoanandrianina QMM report, Oct 2001.PDF
<i>Rapport de Consultance de Ranja MAHATSANGA sur l'évaluation du dossier Ilménite de QMM S.A du 12/06/01 au 20/11/01</i> Par Mahatsanga, Ranja	Mahatsanga Suivi QMM Report, Dec 01.PDF
<i>Evaluation Ecologique et Valeur de la Biodiversité dans les Reliques de Forêts Sèches sur le Plateau de Bongolava Entre Port Bergé et Mampikony</i> Par Rabenandrasana, Marc, Rakotonirainy, Elysé Odon, Raminoarisoa, Maminandrasana, Ratelolahy, Félix Jean, Randrianarisoa, Mihajamanana, Virginie, Marie Clémentine et Sam The Seing	Plan Rapport Final PAGE Bongolava f(1).PDF
<i>Etude Préable sur la Gestion du Fonds MECIE</i> Par Rasolofo, Robin et Raharinaivo, Gaston	Rasolofo Raharinaivo Fonds MECIE Report, Aug 2001.PDF Rasolofo Raharinaivo Fonds MECIE Summary, Aug 2001.PDF
<i>Evaluation économique des services écologiques dans un contexte de bassins versants forestiers et de rizières irriguées dans la région de Maroantsetra, Madagascar</i> Par Randrianarisoa, Jean Claude et Brand, Jurg	Method revise(1).PDF
<i>Méthodologie de monitoring de changement de la couverture forestière : Rapport final</i> Par Rabenandrasana, Clarck	Annexe 1 – Analyse de la couverture forestière.PDF
<i>Makira Forest Conservation-Based Carbon-Offset Project. Biomass Part-II. Methodological guidelines for estimating and monitoring carbon storage</i> Par Pierre Berner	Annexe 2 – Summary on estimating biomass.PDF

<i>Méthodologie pour l'estimation des différents types de forêts et monitoring des pertes pour le projet de piégeage et de conservation du corridor de Makira-Anjanaharibe-Sud</i> Par Rakotomaro, Ndriatsimaniry Joel	Annexe 3. Evaluation de biomasse.PDF
<i>Estimation de la biomasse de référence pour le projet de piégeage et de conservation du corridor de Makira-Anjanaharibe-Sud</i> Par Rakotomaro, Ndriatsimaniry Joel	Annexe 4. Méthode d'inventaire de biomasse.PDF
<i>Analyse de l'évolution de la couverture forestière entre 1990 et 1996 : Rapport final</i> Par Rabenandrasana, Clarck	Annexe 5. Méthodologies de monitoring de la forêt.PDF
<i>Connaissance sur la biodiversité du couloir forestier Ranomafana-Andringitra-Ivohibe</i> Par Ratovonomenjanahary, Aro et Rasamy, Jeanne	Rapport final 12.12.01 1er et 2e partie.PDF
<i>Revue stratégique du programme de l'USAID dans le domaine de l'environnement à Madagascar</i> Par Randrianarivelo, Benjamina	MAG_Strat_Review.PDF
<i>Rapport : Conception Affiche et Dépliant MECIE</i> Par Randrianarison, Olga	Randrianarison Affiche et Dépliant MECIE Report.PDF
<i>Rapport Stocktaking USAID: Appui documentaire et base de données trackers</i> Par Rafanomezantsoa, Justin Samuel, Rahaingo Razafimbelo, Marie Marcelline et Raharijaona, Nivo	Rapport PAGE tracker.PDF
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